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Preface

Education provides us with insights and understanding in facing the stream of life. An education process which is indicated by feedback or input from education user is one of many factors that could be used in reflection for improving education. As a vessel which contains aspects and values of education, characteristic or identity of education always emerges in every era. Ideal characteristic of education would emerge as an answer towards the need of education process.

Local wisdom, one of important aspects of culture, needs to be maintained and employed as learning material because it embodies noble values that could be introduced in the education world. Local wisdom could be employed as a worldview, providing learners with knowledge regarding exemplary customs which could be adopted. A reformation in learning is needed in order to facilitate advancement and innovation. Ineffective, underperforming aspects of learning should be improved so that on the whole learning will produce learning outcomes which embody values, messages and knowledge which could be applied in society.

The importance of the quality of learning which is based on process, action and outcome undoubtedly requires proper, applicable learning strategy and model. Targeted learning outcome serves as an indicator that learning should be systematically structured. The role of education should provide solution and advancement in the education world so that every problem present could be handled faster.

Any phenomenon in life may be used as basic input for learning. Any advancement and refinement of education should be based on directed input and consideration, therefore producing necessary feedback for improving the quality of education. One learning method based on the Industry Revolution 4.0 is collaborating learning with learning technology. The effective usage of technology in learning makes learning process more effective, efficient and applicable in daily life.

The need of technology in learning is inevitable. Thus, every educator is obliged to adapt himself/herself with its current development. Since technology could be used for fulfilling human needs and education, it should be continuously developed and improved. Local wisdom which upholds noble values and lessons may also be included in learning. Collaboration between local wisdom and learning technology in the era of Industry Revolution 4.0 should provide a clear illustration that any embodiment of local wisdom could be applied in any learning content.

Kudus, August 20th, 2019
Chairman of ICONECT

Dr. Irfai Fathurohman, M.Pd.
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The Implementation of School-Based Management on Encouraging Student Achievement

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Abstract. National education standards mandate that the quality of education in Indonesia needs to be improved. One form of business undertaken is the application of SBM in the school environment. SBM is a form of school management based on community collaboration related to schools to realize superior quality education in schools throughout Indonesia. The implementation of SBM has not been implemented properly because there are still obstacles to its implementation. SBM which is described in SBM components is expected to be able to encourage student achievement which is the main target of education. Student achievement that is developed not only on academic achievement but SBM also needs to pay attention to the contribution of non-academic achievement in advancing the quality of education and developing students' interests and talents.

Keywords: School-Based Management, student achievement

1. Introduction

Education is a basic need for every human being to give birth to future generations who are able to develop their potential. Education is the main priority of the central and regional governments and even becomes one of the elements of the Millennium Development Goals (MDGs). In order to achieve these goals, the government has developed a variety of service standards, both those that are the authority of schools and local governments. The education standard is assigned in PP No. 19 of 2005 concerning National Education Standards (SNP) which confirms that in the framework of improving the quality of education eight national education standards were established.

The acceleration of improving the quality of national education is carried out by implementing School-Based Management (SBM) in all education units. SBM or often also called School-Based Quality Improvement Management is a management model that gives greater autonomy to schools and encourages participatory decision-making that directly involves school members to improve school quality based on national education policies [1]. The main basis for the use of School-Based Management is the educational decentralization paradigm that is applied to solve the ineffectiveness of the centralistic education paradigm that was previously applied in Indonesia. The form is giving authority of school autonomy in determining school policies according to the rules related to the National Education System [2].

SBM refers to the increasing involvement of parents, students, teachers, officials, school principals, and beneficiary groups from local communities and organizations. The participation of various parties is aimed at increasing the independence, responsibility, and
accountability of schools. The main characteristics of SBM focus on improving student academic achievement and other school results. The application of SBM in school activities allows the local communities involved to conduct closer monitoring of school staff, better student assessment, compatibility between school requirements and policies, and effective use of resources [3].

SBM aims to achieve the highest quality and relevance of education, with benchmarks for assessing outputs and outcomes rather than the methodology or process. Quality and relevance are a unity of substance, meaning that the results of quality education are at the same time relevant to various needs and contexts. Quality refers to the achievement of specific goals by students (graduates), such as test scores or other achievements, while relevance refers to the benefits of what students get through education in various scopes or life demands that are in line with market needs (lifeskill). Thus, the motivation of schools in creating high quality and highly competitive students needs to be fully supported by all parties involved [4].

Coaching the potential of students must be carried out continuously. Educational institutions that implement school-based student management, schools are given full discretion for the development and coaching of students. Included in terms of potential intelligence and special talents which is an increase in achievement for students and schools. However, in reality, some students have high special intelligence potential, but their achievements in school are low. Therefore, schools must strive to not only improve student achievement but also balance the potential of students.

This paper will try to present theoretical views related to SBM in promoting student achievement. At the end of this paper, the author will explore some alternative ways that can be enhancing the maintenance of SBM to encourage the student to excel.

2. School-Based Management (SBM)

2.1 SBM as the Implementation of Laws and Regulations

SBM is a real form of the desire of the Indonesian people, in general, to lead to a better, democratic and humane system of education [5]. The main basis for implementing SBM in Indonesia is the way of life of the Indonesian people, the values of togetherness originating from the socio-cultural values contained in the family and community environment and religious education. Those reasons are reinforced by several juridical foundations:

a. UU No. 20 of 2003 concerning the National Education System, article 51 paragraph 1 "The management of early childhood education, basic education and secondary education is implemented based on minimum service standards with the principles of school/madrasah based management."

b. UU No. 25 of 2000 concerning the National Development Program 2000-2004 in chapter VII concerning the part of the development program in the field of education, in particular, the target of the realization of educational management based on schools and communities.

c. Kepmendiknas No. 044 of 2002 concerning the establishment of the education board and school committee.

d. Kepmendiknas No. 087 of 2004 concerning school accreditation standards, specifically regarding school-based management.

e. PP No. 19 of 2005 concerning national education standards, specifically school management standards, namely School-Based Management.
2.2 SBM as an Effort to Improve the Quality of Education

SBM is a form of education management autonomy at the elementary and secondary education level units applying school-based management as indicated by independence, partnership/cooperation, participation, openness, and accountability. Thus, the management of the school council of education, especially the principal works closely with the school community.

The application of school-based management (SBM) technically aims [6]:
1. Improve the quality of education through the independence and initiative of schools in managing and empowering the resources available.
2. Increasing awareness of school citizens and the community in the administration of education through joint decision making.
3. Increase the responsibility of education to parents, schools and the government regarding the quality of schools.
4. Empowering the potential of existing schools to produce graduates who are effective and efficient

2.3 SBM Components

School-Based Management includes several school components that must be managed properly [7], including:
1. Management of Curriculum and Teaching Program
2. Management of Educational Personnel
3. Management of Student
4. Management of Financial and Financing
5. Management of Educational Facilities and Infrastructure
6. Management of School Relations with the Community
7. Special Service Management

2.4 SBM and Its Challenges

The implementation of SBM in schools does not always run smoothly. There are various kinds of obstacles that hinder the practice of implementing SBM. Educational studies generally find various obstacles to implementing SBM in 34 provinces throughout Indonesia [8].
1. Implementation of curriculum management faces 4 obstacles (planning; implementation; evaluating learning; and PAKEM).
2. Implementation of student management faces 8 obstacles (data collection; PPDB; orientation; coaching; extracurricular; special services; supervision, evaluation and reporting; and fostering excellent achievements).
3. Implementation of the management of educators and education staff faces 7 obstacles (needs planning; recruitment/procurement; placement; coaching and development; providing motivation; work rotation; supervision, performance evaluation, and reporting).
4. Implementation of facilities and infrastructure management faces 5 constraints (needs analysis and planning; procurement; distribution and utilization; maintenance; and elimination).
5. Implementation of financing management faces 5 obstacles (preparation of RKS / RKJM / RKT, RKAS; resource extraction; bookkeeping; use according to laws and regulations: transparent, accountable; supervision, evaluation, and reporting).

6. Implementation of public relations management faces 3 obstacles (compilation of programs; division of tasks of executors; and implementation of activities).

7. Implementation of cultural and environmental management faces 3 obstacles (planning program activities; socialization of program activities; and implementation of program activities).

3. Student Achievement

3.1 Two Dimension of Student Achievement

Achievement is defined as the result of effort. Achievement is obtained from a series of efforts that have been made. Self-achievement obtained by someone is the result of a series of efforts that have been done by relying on all the potentials and abilities. Thus, student achievement can be defined as the whole result of the efforts made by a student. Student achievement is mostly linked to the existence of students in the educational environment, the school. Student achievement can consist of academic or learning achievements and non-academic or extracurricular achievements.

Academic achievement is the result of learning activities to determine the extent to which someone mastered the subject matter being taught and reveals the success achieved by that person. Thus, academic achievement achieved by students is the result of their efforts due to learning in the class [9]. This refers to the ability of students to capture information, then pour it back for evaluation. Academic achievement is the intellectual ability of students which is fundamental in the learning process. Students' intellectual abilities or intelligence can be seen from their interests, special talents, motivation for achievement, attitudes, physical and mental conditions, academic self-esteem and independence. These abilities need to get support and continuous nurturing so that student achievement can reach a maximum point [10].

Non-academic achievement is an achievement in terms of student participation and achievement, both in research, scientific work competitions, sports, and art. In contrast to academic achievement, the non-academic achievement is difficult to measure with certainty because there is no right or wrong value. Non-academic achievements emphasize talent strengthening, communication, emotional control, organizational skills, strong personality formation, and independence. Nevertheless, several achievements can be obtained by students by participating or winning various non-academic competitions, both organized by educational and non-educational institutions [9].

Schools that have potential students should support them. Permendiknas No. 34 Tahun 2006 is a regulation that strives for getting students who have achieved top achievements in science and technology, aesthetics, and/or sports, at the level of the education unit, district/city, provincial, national, and international, motivate as many students as possible in general to also compete to achieve optimal achievement in accordance with the potential and strengths of each, so that coaching is not only able to produce students with peak performance, but also improve the average achievement of students, and develop a culture of appreciation for achievements in education.

3.2 Factors Affecting Student Achievement
There are several factors affecting student achievement, including personal factors, interactions factors (with parents, teachers, and staff), and the other factors outside (school location, neighborhoods, local economy, political policy, and multicultural relations). Bronfenbrenner’s bio-ecological model categorized the factors in 4 (four) level but still interacted one with another and build a holistic network [11]:

**Microsystem factors** are several factors that appear on the characteristics in students and their interactions with others such as teachers and other students. These factors are known to have a significant impact on learning and student involvement in school. Microsystem factors can be in the form of student resiliency, individual student abilities, health and attendance, student’s readiness for skills development, social and moral development is embedded in the culture of the family and community [11]. Microsystem also refers to the student’s family, school, religious institutions, neighborhood, and peers who give a direct impact on student development [12].

**Mesosystem factors** are the interactions that exist around the student and directly impact student achievement. Mesosystem factors can be in the form of school climate, parent training and partnering, professional development for teachers, leadership capacity building in teachers and staff, teacher evaluation, and teacher’s peer culture and achievement [11]. Mesosystem also can be described as interconnections among microsystem factors. The interaction between two or more microsystem factors forms another complex relationship [12].

**Exosystems factors** are the factors from the larger community that surround the student. Exosystems factors involve social factors that indirectly impact to the student achievement [11].

**Macrosystems factors** are the climate or culture where the student lives, such as socioeconomic status within schools, ethnicity, and daily lifestyle [11] [12].

4. **SBM on Encouraging Student Achievement**

Management of student potential has been included in the implementation of SBM which must ensure students become motivated by achievement, both academically and non-academically. Academically, student achievement is shown from learning outcomes, while non-academic achievements can be demonstrated through the participation of students in school extracurricular activities or other non-learning activities.

SBM through the implementation of its management components can be directed to encourage student achievement:

1. **Management of Curriculum and Teaching Program**

   Management of curriculum and teaching programs are including planning, implementing, and evaluating curriculum activities related to the smooth development of teaching and learning activities. This activity strives for the curriculum that is managed in schools to run well so that the learning process is optimal.

2. **Management of Educational Personnel**

   The management of educational personnel aims to empower teachers effectively and efficiently to achieve optimal results. The role that must be carried out in this field includes the procurement, utilization, and coaching of students so that the existing human resources in schools can support in achieving school goals and student achievement, both academic or non-academic.

3. **Management of Student**

   Management of student is the arrangement and regulation of activities related to students, from entry to exit of students from a school. Student management aims to develop
personality attitudes and social-emotional aspects in addition to developing students' knowledge. This regulation helps the student improve their cognitive, affective, and psychomotor aspect.

4. Management of Financial and Financing
   The financial and financing components of a school are the components of production that determine the implementation of teaching and learning activities in the school together with other components. The management of the financial component must be carried out properly and thoroughly from the stages of budgeting, use, supervision, and accountability by applicable regulations so that all school funds are truly utilized in a clear, transparent, effective and efficient manner.

5. Management of Educational Facilities and Infrastructure
   Educational facilities are equipment and equipment that are directly used and support the educational process, such as buildings, classrooms, desks, chairs and teaching tools and media. While educational infrastructure is a facility that indirectly supports the course of the education process. The management of educational facilities and infrastructures is directed at the maintenance which is the responsibility of all school members so that they can be used optimally.

6. Management of School Relations with the Community
   The public relations activities carried out are providing information, information, and understanding to the wider community about the tasks and functions carried out by educational institutions to create a harmonious relationship between the school and the community.

7. Special Service Management
   Specific management services include library management, health, and school safety. A complete and well-managed library will support the development of students in terms of the development of knowledge. UKS (Usaha Kesehatan Sekolah) facilities are also needed to ensure the health of students.

5. Conclusion
   Student achievement can be in the form of academic achievements and non-academic achievements. During this time there is an imbalance between academic achievement and non-academic achievement because academic achievement is given more attention. Even though the quality of a school is also supported by the progress of its non-academic activities. Therefore, non-academic activities also need attention to encourage student achievement holistically.

   The implementation of SBM to encourage student achievement is done by keeping the standards contained in each component of management and fixing the deficiencies found. It is recognized that the implementation of SBM in various regions is still not perfect, but continuous improvement efforts continue to be made to improve the quality of education, both independently in schools and nationally.

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References
Preparation of Learning Materials For Listening Skill

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Abstract. Language Scientists have confirmed that listening skill are the most important skills in teaching foreign language, because listening is a fundamental activity of communication between humans and the way to acquire other language skills (speaking, reading and writing) because with it the human acquires vocabulary and learns to make the sentences and receives the ideas and the concepts. Therefore, encourage institutions interested in the teaching of the foreign language to exercise the skill of listening in the language to be learned, and to impart the skills of listening to students is need of specialized learning materials so that the teaching of listening skill is effective because the learning materials categorized and organized this in the best form of teaching and learning with logic, efficient, interest, realism and comprehension. It helps the teacher and the learner to reach the proposed goals. In this article, the researcher would like to write about the preparation of learning materials for the material of listening skill.

Keywords: Learning Materials, Listening Skill.

1. Introduction

In the educational process, there are three main general areas are cognitive, emotional and skill, and in the field teaching of language, concepts and procedures belonging to these three areas.[1] But in the field of language teaching and learning is not limited to this extent, but learning the language requires practice because the language is skill, and the dimension of skill or psychomotor most important in the field of language learning and teaching. Human learns such as swimming, driving, sports and others. Such areas can not be learned from a book that memorizes its information and memorizes its rules, but it is imperative to practice. The best forms of practice are at the workplace, or in the area of actual practice language that one prepares, or creating a linguistic environment.[2]

Listening is one of the four skills (listening, speaking, reading, writing) in language fields teaching, it is natural and it plays a role in all foreign language teaching. Because listening is an essential activity of communication between humans, it is the window through which the human view of the world around him, through which he receives the oral message. And the means to acquire other language skills (speaking, reading and writing) because through listening skill man acquires vocabulary and learn patterns of sentences and structures and receive ideas and concepts, translate patterns, sentences and others into meanings and semantics.[3]

2 Ibid, p. 6.
3 Ibid, p. 183.
Based on the above, we found that the teaching of listening skill is imposed in any institution that is interested in teaching the Arabic language. To facilitate the teaching of this skill, the author wishes to write a scientific article in the preparation of learning materials for a subject listening skill.

2. Learning Materials

It is known in the general educational process that the elements of education are three: a teacher, a learner and learning materials. Abdul Rahman Ibrahim considered that the textbook is the most important learning materials. Hence, educators recommend the preparation of care, especially those materials that deal with teaching the language to non-native speakers. And recognizes the importance of the textbook does not need a report, despite what has been said and said about educational technology the new tools and instruments, the textbook remains unique in the educational process. The teaching process of any kind, style, material and content depends heavily on the textbook (as a learning materials).\[4\]

The learning materials are materials that are categorized, organized, and arranged in the best form of teaching and learning with logic, simple of thought, interest, realism and understandability. It is the best kit, and as a weapon to deal with the problems of life. Benefit the learner from studying in the development of his abilities to absorb more facts, ideas and skills.\[5\] Which are used to help teachers implement the education process towards pupils to reach the desired goals. And the textbook of learning materials its Information, tools, and texts for teachers and trainers to plan and implement the learning process.\[6\]

Teaching materials are a key component of most language programs. Its generally form the basis of the language inputs received by learners, and the basis form for language practice occurring in the classroom. Teaching materials are also a kind of training for novice teachers. It provides ideas on how to plan and teach lessons. Many of the language teaching in the world today cannot take place without the widespread use of commercial teaching materials.\[7\]

The learning materials are one of the most important sources in distance learning. It includes the knowledge to be acquired by the learner, and contains the objectives set, the content, exercises and self-tests, and therefore must pay careful attention to the preparation of teaching materials.\[8\]

The learning materials have an important role in the implementation of the educational process because the educational process is not without learning or teaching materials. It facilitates teachers in the establishment of education and facilitates pupils to learn. The presence of appropriate materials, the educational process will be interesting, it is a machine to measure the outcome of education, and help students to learn good, It assists the teacher in

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\[5\] Ibrahim Basyuni Amirah, \textit{Al-Manhaj Wa Anaasiroh}, (Suwhaaj: Dar Alma'arif, 19910, p. 160.


\[7\] Ibid, p. 281.

making plans and designing lessons and teaching methods used in the classroom with an integrated vision.9

The role of teaching or learning materials in language teaching can be summarized as follows: It is a source of material (spoken and written) used in the provision of teaching language. It represents a source of activities for linguistic practice by the learner and a source of communicative interaction. It is also a reference for learners with respect to grammar, vocabulary, pronunciation and others. It is a source of ideas for classroom activities. And textbook of learning materials Provides support to teachers who need to gain more confidence.[10]

3. Foundations of learning materials

There are four important aspects that form the basis for the launch of any teaching or learning material. These aspects are:

3.1 The Psychological Aspect

When developing a basic learning material to teach language to non-native speakers, it should take into the psychological and cultural characteristics of learners, distinguishing between what is offered to young people and what is offered to adults. And take into account the differences between the tendencies and interests and purposes of learners of language learning. Also to stimulate learners' desire and willingness to learn the language, increase their knowledge and satisfy their curiosity towards their culture through activities and practices.[11]

3.2 The Cultural Aspect

There are a number of foundations that make culture an integral part of foreign language learning. It became necessary to pay attention to providing the teaching or learning material with the features of the basic culture, and then the basic similarities and differences between this culture and the cultures of learners, and that in the study of language and culture, there is a religious purpose and political, commercial, functional and scientific purpose, and this requires that the multiplicity of culture in the learning material multiple of these purposes.[12]

3.3 The Educational Aspect

The educational aspect conclude in educational principles areas: the learning material have to control the number of vocabulary so as to provide the number sufficient to provide the required text without reducing or multiplying. And the text expresses an Islamic culture, the material should be economical in the time it takes, and in the material cost that required effort of the teacher and the student with the availability of efficiency and effectiveness. And the structures move from simple to complex.[13]

9 Zayd Sulayman Al'udwaan Wa Muhammad Fuad Al Hawamidah, Tasmim Attadris, (Dar Al Maysiroh), p. 165.
12 Ibid, p. 65.
13 Ibrahim Basyuni Amirah, Al-Manhaj Wa Anaasiroh... p. 162.
3.4 The Linguistic Aspect

The summarization of the linguistic principles that should be taken into account in the design of the basic subjects for teaching language learned to non-native speakers; the article begins with words and sentences and not in letters. The material should be based on commonly used compositions, and avoids ambiguous forms that difficult to understand and rarely used.\[14\]

4. Preparation of learning materials

The preparation of instructional materials herein means the total of the author's processes for the preparation of learning materials, whether they are researches, tools he has prepared or texts he has consulted, or an experiment he has done, before it is finalized and put to use in the language classes.\[15\]

To prepare learning materials we have to pay attention that the intellectual content of learning materials should be Islamic directly or indirectly, selection of common words and easy structures for teaching or learning materials,\[16\] increasing the various types of exercises and making an attempt on the continuous evaluation. Furthermore, using of images because they are a sensory element that clarifies the material presented and brings it closer to the minds of learners, the integrity of the material submitted from linguistic errors and focus on the short dialogues required by everyday situations.\[17\]

5. Listening Skill

5.1 The Undertaking of Listening

Linguists and language specialists agree that the understanding of listening will be clear only after knowing the distinctions of listening: that there is a hearing, listening.\[18\]

Hearing is intended simply to receive ear vibrations from a particular source without being given deliberate attention. As a hearing to the birds chirp and sounds of noise in the street or as the sound of air coming out of the air conditioner, without aiming at it. It is, a process that relies on the physiology of the ear and its ability to pick up these sound vibrations. This is something that man does not learn, because he does not need to learn.\[19\]
Listening is a more complex skill. It's more than just hearing, it's a process in which the listener pays special attention and intentional attention to the sounds his ear receives.[20] Listening is about voice recognition, understanding, analysis, interpretation, application, criticism, and evaluation. It is about focusing attention on what a person hears for a specific purpose.[21] Finally, Hearing According to the previous explanation is not learned by man, and the skill that should be learned is listening.

If this is a matter of listening in human life in general, listening is another matter in the life of the foreign student. This is intended as a listening skill in second language instruction. It is a skill that is almost uninterrupted even after he left the country (where language learned) in which he lived or the program he contacted. For this reason, listening, followed by reading, has a special place in second language programs, of course without underestimating other skills.[22] And listening is one of the most important arts of the language, because it is a basic language skills. If he acquires this skill, students will be able to advance their speaking, reading and writing skills.[23]

To be concluded that listening is a process of listening to interpreting spoken symbols.[24] The skill required to learn is to listen, because it is a process that allows attention to the speaker, ask and discuss what he says, and judge, and make a decision on it.[25] It is a prerequisite for linguistic skill development in general.

Listening is an art that involves processes that are complex in nature, a process in which the listener is given special attention. Attention is intentional because of the voices received by his ear, and therefore includes: Awareness of spoken language symbols through auditory, understanding the meaning of these symbols, recognizing the communicative function or message contained in symbols or spoken speech.[26]

Listening skills are the skills of reception, and reception requires additional activity in order to grasp the facts and understand the meanings and ideas and respond to them and interact with them on the background of prior knowledge and experience, with a view to listening, understanding and interpretation.[27]

It is also the skill required to learned, that pays attention to the speaker, and question and discuss, judge, and decide on it. Thus, learners should be trained since the beginning of their learning of the language learned, because of its importance in controlling the language and functional control. Listening is one of the most frequently used communication skills in everyday life and plays a big role before learning other skills.[28]

Listening involves multiple skills that vary from one field to another. The most important listening skills are: Attention for a long time, Understanding the basic and sub-ideas of the

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20 Ibid, p. 75.
21 Rushdi Ahmad Tu’a’imah, Almarja’ Fi Ta’lim Allughah Al-Arobiyah Lila’atiqin Bilughati Ukhraa, p. 419.
25 ’Ali Ahmad Madkur, Tadris Funun Allughatu Al Arabiyyati, p. 76.
28 Ahmad Fuad Mahmud ‘Alhan, Al-Maharaat Al-Alughawiyatu Ma Haiatuha Wa Tharaiq Tadris, (Ar-Riyad: Darul Muslim Linasr Wa Tauzi’), p.66.
Understanding the meanings of the vocabulary in their sentences and understanding the message interaction with the speaker or reader.

5.2 Teaching Listening Skill

Each language art has its own curriculum and time allocated to it in the study schedule. This requires the development of the curriculum of teaching the listening and learning it, so that it has its specific objectives and its own content and methods of teaching, teaching and evaluation. This curriculum should include a set of programs that vary from one grade to another depending on the types of learners, their levels of development and their needs.

Also the teacher hoped to be understanding of the importance of the listening and its skills, also able to teach and practice them, because the individual cannot understand his language unless he has mastered all of its skills, and since listening is a skill of the language so must be taught since very beginning.

In order to reach the students who want to be able to master the aspects of this skill we suggest: to prepare students for a listening lesson and explain to them the nature and purpose of what they will listen to. And the students have to discuss what they have heard by asking specific questions, which are related to the object, and evaluating their performance to see how they progress.

To succeed in the formation of good listening habits, the learner must first to know their level in this skill, by enable to answer the following questions: Can he recognize the words heard? Does the student distinguish the difference of the words heard? Can he distinguish similarities, differences, first, middle and last sounds of words? Does he listen attentively to interesting conversations and short stories? Does he listen to a story or article for a special purpose?

6. Characteristics of Listening Skill Material

The characteristics of the listening material or the content of the listening curriculum is: a set of facts, standards and values, and the concepts, skills, experience and language activities offered by the teacher to its students, which is expected to occur the required language changes in the behavior of students, according to the goals already set.

The content of the listening program should be aware of its goals and a presentation of some teaching and evaluation methods. It then includes a large variety of literary, artistic, political, social, economic and educational topics that can train students on listening skills through listening to topics by teacher or recording devices, and provided that the topics chosen for the book appropriate to the level of students or the level they are going through.

32 Ibid, p.34.
34 Mahmud Kamil Al-Naaqah Wa Akharuna, Al Kitab Al'asasiu Lita'lim Allugha Al 'Arabiyyah Lilnaatiqin Bilaghath Ukhra,.. p. 137.
35 'Ali Ahmad Madkur, Tadris Funun Allughatu Al Arabiyati,.. p. 97-98.
36 Rahman Al-Hashimi Et Al., Tadris Maharaat Alistima’ Min Mandzur Waaqii,.. p.141.
And to choose a topic that is appropriate for students' mental and linguistic maturity, appropriate to their experiences and interests, and then reads them when they are listening. After reading, ask them a series of questions to check how well they have mastered the skills already presented and how well the goals have been met.[37]

There are criteria for selecting the contents of the listening program: The subjects should be accessible to the learner's abilities intellectually and expressively, attached to the student's life and his interest. The subjects should help him to gain the satisfaction of others, such as knowing how to deal with his colleagues successfully. The subjects should achieve the principle of collective action. The subjects should relate to the student's faith and relate to family topics.[38]

Each training program requires the preparation of special materials appropriate to the goals of the program, and here the preparation that program needs: Training topics related to students' competencies. Practical training related to program topics and vocabulary. And last thing to be prepared is educational facilities (blackboards, cinema, loudspeaker, etc).

7. Conclusion

After presenting the theories about teaching materials and listening skill, we concluded that to prepare teaching or learning materials for listening skill, we must take into consideration four foundation aspects and should be integrated, namely the cultural, psychological, educational and linguistic aspects. Learning materials consist of topics, exercises and vocabulary.

The materials contain a range of literary, artistic, political, social, economic, educational, natural, human and animal sciences that can train students in listening skills through listening to it’s by the teacher or recording devices, and the subjects chosen are appropriate for the level of students.

References


37 Ibid, p. 142.
38 Ibid, p. 139.
[18] Rushdi Ahmad Tu'aimah, Almarja' Fi Ta'lim Allughah Al-Arobiyyah Lilnaatiqin Bilughati Ukhraa, (Dar Al Maysiroh).
[19] Zayd Sulayman Al'udwaan Wa Muhammad Fuad Al Hawamidah, Tasmim Attadris, (Dar Al Maysiroh).
Moral Dimension of Javanese Forgiveness in Serat Wedhatama and Serat Nitiprana

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Abstract. This paper aims to critically analyze the moral dimensions of Javanese forgiveness in Serat Wedhatama by Mangkunegara IV and Serat Nitiprana by R. Ng. Yasadipura. Data analysis using Dilthey's hermeneutic method, and interpretation of results using Javanese Ethics theory from Frans Magnis Susena and Ethics theory from Driyarkara. The results of data analysis show that the nature of Javanese forgiveness in a moral perspective is the embodiment of virtuous human character. Forgiveness for virtuous humans comes from inner peace. Someone who has inner peace is not only able to overcome or at least control negative emotions and evil desires (not revenge), but also able to do good (compassion) to the wrongdoers. Forgiveness for virtuous people who have inner peace is a process or the result of a thoughtful process, the right decision, and persistent and resilient in application

Keywords: Moral Dimension, Javanese Forgiveness, Virtuous Human Character, Inner Peace

1. INTRODUCTION

Forgiveness or in Javanese is called by various terms, such as "aksama (ngaksama), pangaksama, pangakamsi, pangupaksama" or "apura, sépura, ingapura, pangapura, pangapuntên" [1] by the thinkers (philosophers) especially among ethicists (moral philosophy) are recognized as objects of philosophical study which are increasingly popular and fairly sexy, but also are recognized as controversial and dilemmatic. Some thinkers argue that forgiveness in an ethical perspective is categorized as one type of virtue or at least part of the virtue of mildness [2]–[6]. Some other thinkers (philosophers) argue that forgiving too quickly or forgiving without involving certain conditions, such as the dignity of the victim, apologies from the perpetrators, and the presence of other moral values are at risk of morally reprehensible; human mark is weak, dwarf (mental slave), and even considered useless (useless) because it is not effective as a means of overcoming anger or hatred [7]–[9].

The controversy about the moral status of forgiveness - on the one hand is considered good and on the other hand can be mined in humiliation or bad - is also portrayed clearly in the context of Javanese culture and has a strong influence on the daily lives of Javanese people. The controversy about the moral status of forgiveness in the context of Javanese culture can be found easily at the level of ideas or thoughts or at the level of concrete behavior. Disagreements at the level of ideas about the moral status of Javanese forgiveness can be found among a variety of written and unwritten literary works. The Mahabharata story especially in the Bharatayudha war section is one of the phenomenal examples of no
forgiveness or forgiveness is morally blamed. The Kaurava as a symbol of evil humans; bad or morally corrupt is considered worthy of destruction, destroyed, and must be crushed to the roots [10]. No forgiveness is considered the right and morally best choice when evil desires (nafsu angkara) are rampant; self-interest or selfishness takes precedence, and the interests of others are ignored, even intentionally taken away or eliminated. In short, wrongdoers cannot be forgiven when their actions violate the values of humanity, justice and the prosperity of living together. Mulder argues that in wayang stories there is no forgiveness and only one choice; win or lose and die [11].

Other examples of forgiveness at the level of ideas appear in the form of folklore, such as the story of Mangir Wanabaya (rewritten in the form of a novel by Pramoedya Ananta Toer, 2000) and the story of Keris Empu Gandring. The folklore of Mangir Wanabaya and Keris Empu Gandring seemed to give a moral message that the most extreme punishment in the form of loss of life (murder), could be carried out by sadistic ways to the wrongdoers. Sadistic retaliation to wrongdoers can be justified or at least understandable when aiming for the defense of self-respect and or preservation of institutional authority [12]. Humiliation of personal honor (ora diwongé) or feeling that one's existence as a human being is not valued (dianggêp wis didu manungsan) for Javanese means to lose everything. The existence of oneself as a person with dignity is decayed or destroyed and disappeared without a trace. "Aji Godhong Jati Garing" is a Javanese proverb to describe the state of life (kahanan urip) without self-worth. Loss of dignity (self-esteem) because it is mistakenly treated by others is used as a justification (legitimacy) in retaliation by justifying all means.

The assertion that forgiveness is morally considered not the best choice in responding to the mistakes of others arises in the form of proverbs (paribasan, bêbasan; unèn-unèn) and among them which are quite popular in the daily life of Javanese people, are as follows; "utang lara nyaur lara utang pati nyaur pati, dadi godhong êmoh nyuwêk, dadi banyu êmoh nyawuk, ilang-ilangan éndhok siji, tijitibèh; mati siji mati kabêh, tumpês kélor, sêdumuk bathuk sênyari bumi diréwangi toh pati dilakoni" [13]. Mistreatment from others should not be condoned, not be excused, not be forgotten, not be justified, not be forgiven, or not be pardoned. Retaliation is an obligation (must) or at least is permitted (not prohibited) and is not taboo if done in more cruel ways. Revenge becomes the antidote to hurt; considered the best way to restore dignity. Feelings of satisfaction and joy when offenders suffer are the energy behind revenge. Javanese proverb "wong nandur bakal ngunduh" or "ngunduh wohing pakarti"; good deeds give birth to good or vice versa bad deeds give birth to ugliness are the basis of justification for retaliation.

The reality or facts of revenge are easily found in the practice of everyday Javanese society. One phenomenal example of revenge - no forgiveness - in the form of termination of social relations is "jothakan; nêgnêngan". "Jothakan; nêngnêngan" is silence (termination of communication) and accompanied by circumvention (termination of interaction) and can last a lifetime and may even be passed on to children and grandchildren because their dignity is insulted, humiliated or abused by others [14]. "Jothakan; nêngnêngan" aims not only to isolate (exclude) but also to erase the existence of the offender from the psychological life of the victim. A saying "dadi godhong émoh nyuwêk, dadi banyu émoh nyawuk" is a description that contains a message for anyone that hatred because of self-humiliation (hurt) will never shift or transform into feelings of love (seneng, tresna). In other words, the breakdown or fracture of social relations due to self-humiliation (hurt) is difficult or impossible to be repaired or reconnected. Mass killings or massacres of followers of the Indonesian Communist Party (PKI); especially in the regions of Central Java and East Java are other examples of revenge (no forgiveness) for those who have done wrong or are considered guilty. Massacres or
killings of followers of the Indonesian Communist Party and have a very strong nuance as a form of revenge - expressions of hatred and anger are very strong - predicted to reach 500 thousand people [15].

The above description gives a glance information that forgiveness does not seem to be fully appreciated as the best choice in responding to the mistakes of others. The moral status of forgiveness (apart from religious perspectives) is still doubtful because it can be interpreted as the embodiment of a weak character (asor bebudene). Forgiveness shows moral deficiency or weakness rather than showing admirable or commendable moral quality. The elements of forgiveness, such as the ability to overcome or at least control negative emotions and evil desires and willingness to do good to the offender are considered not virtue but a personal image of a dwarf soul (slave mentality) and require moral flattery. The nature of forgiveness may still be considered synonymous with condonation, excuse, forgetting or even justification for mistakes. Recognition of the wrongdoings of other parties without retaliation is considered to be a form of conformity to crime or non-compliance with justice and social order. No retaliation or claim for compensation for the wrongdoing of another party (forgiveness) is considered a form of selfishness; one's own welfare takes precedence while shared prosperity is ignored.

Based on the consideration that forgiveness is still open to the possibility of negative moral status; morally bad or despicable because it is considered a picture of human character is weak (do not care or remain silent when self-respect is harassed by other parties), and also do not care about other moral values, such as justice and social order, then a critical study of the moral dimensions of Javanese forgiveness in Serat Wedhatama and Serat Nitiprana get its urgency. The purpose of this study is to analyze the moral dimensions of Javanese forgiveness in the Serat Wedhatama and Serat Nitiprana. The findings are expected to provide a more substantive picture of the moral values of Javanese forgiveness so that the hurt because self-respect is being harassed by others does not become a trigger for revenge but rather opens up space to continue to do good. Forgiveness is a very strong humanitarian energy to create a civilized life; overcome the past full of anguish and break the cycle of endless revenge, for the sake of the present and a better future; the happiness of life for yourself and others.

2. THE MORAL TEACHING OF JAVANANESE FORGIVENESS

The idea of forgiveness as a good moral teaching (pitutur luhr) in Serat Wedhatama by Mangkunegara IV and Serat Nitiprana by Raden Ngabehi Yasadipura) are as follows [16]–[19]:


(Big negative emotions and evil desires (anger) are entirely on the person himself, which includes three kinds of nature, if negative emotions and evil desires are allowed to create physical and mental misery. In contrast to people who are already interested in a calm atmosphere of inner life, all attitudes and behavior signify forgiveness to others who do wrong, all-patience that comes from a good heart, cold, calm or virtuous)
Sabarang tindak tanduk, tumindaké lan sakadaripun, Den ngaksama kasisipaning sêsami, Sumimpang ing laku dur, Hardaning budi kang ngrodon (Pupuh Gambuh bait 74)

(All acts or deeds carried out must not be haphazard or rushed. Act modestly or according to ability and forgive others who do wrong, avoiding disgraceful actions, release a big evil character)

Jroning Kitab Sipatul Ngulaki, tandhaning wong kang kurang budinya, ana pratandha awaké, solah pangucapipun, kang kanggonan jatining budi, yén katékunan balak, ing sariranipun, winêlas ing kabêcikan, mring kabuka marang ing sasami-samí, wong luput ingapura (Pupuh Dhandhanggula bait 07)

(In the book Sipatul Ngulaki, the sign of a person who is humble, there is a sign in his body, all his words, and a virtuous person, when he experiences disaster because of wrongdoing by other parties, he responds with kindness, open hearted to all people, wrong person forgiven).

The term forgiveness in the Serat wedhatama is "ngaksama", while in the Serat Nitiprana is "ingapura". The terms "ngaksama" or "pangaksama; pangaksa; pangupaksama" comes from the basic word "aksama" (Kawi language), and the terms "ingapura" or "pangapura; pangapunten" comes from the basic word "apura; sepura". The terms "ngaksama" and "ingapura" in principle are no different because the two terms are identical, that is "dilunasaké kaluputané (wrongdoing has been removed); lunasé paukumane panggawé ala (the punishment for bad deeds has been removed); ora diukum (not punished), ora dipidana (not convicted), ora dipidenda (not fined)" [20]. If the term "ngaksama" or "ingapura" is understood literally (according to the dictionary meaning), then the meaning of the two terms (ngaksama; ingapura) refers to a psychological response or certain behavior so that the mistake (sin) or bad deeds of the other party are eliminated or destroyed without a trace. If the other party's mistake is like a debt and must be paid, then forgiveness becomes a substitute for the debt. In other words, forgiveness makes all the consequences of wrongdoing, whether in the form of punishment (criminal; torture) or compensation payment that must be borne by the offender deemed to have paid off. In short, forgiveness is the cleansing of mistakes (sins) or the elimination of bad deeds so that the wrongdoers are free from moral defects. The wrongdoers can again appear morally clean and deserve to be re-valued as human beings (personal) with dignity.

The personal characteristic of good character (bêcik) or virtuous (luhur bebudêné) in the Serat Wedhatama and Serat Nitiprana is its willingness to forgive the mistakes of others. This willingness to forgive is a distinguishing characteristic between a person with bad character (ala, candhala) or low-minded (asor bebudêné) and a person of good character (bêcik) or virtuous. Willingness to forgive is evidence of the ability to overcome or at least control the lusts of desire (such as the desire for revenge) that surges in him because of the mistaken or bad treatment of others. In other words, forgiveness for virtuous individuals is a very significant sign that silence or inner calm as the source of life's happiness has been firmly planted and becomes its most valuable possession. In contrast to personal bad character or low-minded (asor bebudêné); not forgiveness but revenge is the best choice when he is mistreated by others. Suseno (1993: 140), a person with a bad character in the sense that he is still dominated by negative emotions or evil desire (angkara murka) can be read from the whole attitude and behavior, such as; want to appear dominant or have to be the first person (nêpsu ménangé dhéwè), the truth is claimed to be only his (nêpsu bênére dhéwè), and his own
needs are championed (népsu neededé dhéwé) [21]. The desire to harm others and rejoice when others suffer is another characteristic of the nature of arrogance [22].

Humans of bad character have harsh feelings and egoistic. Expressions of rough (harsh) feelings (or negative emotions), such as anger, hatred, malice or envy, or sadness and egoistic expressions such as feelings of dislike and desire to harm others (evil desires) can be read from the whole attitude and behavior. Certain behaviors (behavioral traits) that signify and express harsh feelings and egoistic through facial expressions (polathan), for example pouting (mbêsungut, njabrut, njêkêrut), grim (pêtêng, nyurêng, sirung, njêmbrung); through certain words or words that are demeaning, threatening, and insulting (nylékit, braok, saru); through hand movements, or ways of sitting, and ways of walking aimed at making trouble (jail, métakhil, kakêhan polah, kêmaki, kêmlinthi, rivil; ora jênjêm, durung mênêm). If this turmoil of lusts is left out of control; not overcome or not controlled, it is not happiness but disaster will come and befall.

Humans with bad character contradict their attitude and behavior with virtuous person. Silence, serenity, and harmony of the mind or atmosphere of spiritual life that is calm because it is able to overcome or at least control arrogance - rough and egoistic feelings - is a source of happiness or the ultimate goal for virtuous persons. The wrong or bad treatment of others is not an obstacle to keep doing good to the wrongdoers. Forgiveness is not limited to overcoming or controlling evil desires, such as anger or hatred, and other negative emotions, but also fostering kindness to wrongdoers. Forgiveness for virtuous people is a guarantee that relationships between human beings are not interrupted by mistakes made and hatred or moral anger felt. The perpetrators of wrongdoing for individuals of noble or praiseworthy character are fellow human beings who will never be permanently denied their existence let alone be destroyed.

There is no permanent refusal or vicious retribution is evidence of the ability and willingness to survive (not fall) and try to get away from bad living conditions. Forgiveness means requiring in advance certain psychological conditions in order to be arrogant; desires for revenge or requests for compensation can be overcome or at least controlled so that they are not wildly expressed or out of control. This means patience (sarwa sarèh), sincerity, nrima, rila as a mirror of humility (andhap asor lan lêmbah manah) and followed by doing good deeds as a mirror of compassion (wêlas asih; ambêg wêlasan; ambêg paramarta) are prerequisites of forgiveness. Suseno quoted the opinions of Geertz (1981), Koentjaraningrat (1969), de Jong (1976), and Soetrisno (1977), explaining the notions of patience, sincerity, nirma and rila as follows [23]:

"Patience is a sign of a good human being (leader): he advances with caution, steps with trial and error, as if he stepped on a board whose strength is unknown. Patience means having a deep breath in the awareness that in due course good fortune will arrive. Nrima means accepting everything that comes to us, without protest or rebellion. Nrima should not be interpreted as the ability to swallow everything apathetically, but rather accept the conditions of life that are bad and in difficulty continue to react rationally by not falling (collapsing) and also not resisting in vain. Nrima demands strength to accept anything that cannot be avoided without allowing itself to be destroyed by it. Nrima's attitude gives endurance to also suffer bad luck. For those who have that attitude, it's a disaster to lose their misery. He remains happy in suffering and and concerned in joy. Ikhlas means "willing" or able to let go of his own individuality and fit into the great harmony of the universe as determined. Rila means the willingness to relinquish property rights, abilities and results of one's own work if that is the responsibility or fate demand ".

So patience, sincerity, nrima and rila is a state of mental life (inner life) that is able to help overcome or at least control arrogance. Patience as a prerequisite for forgiveness is a psychic space that contains the hope that bad conditions due to wrong treatment of other parties can shift, change or transform into a good state even better. Patience means not limited to suppressing or controlling arrogance, but also trying to overcome them, that is, brave stepping carefully to release the grip of arrogance. Nrima in the context of forgiveness is the ability to accept and admit sincerely the mistakes of others and be able not to retaliate or ask for compensation for those mistakes. Acceptance of wrong treatment and its bad effects (nrima) does not mean that mistakes are left (turning a blind eye to mistakes), mistakes can be tolerated, mistakes are intentionally forgotten (allowed to pass over time). Patience and nrima is a psychic space to keep thinking clearly about the main elements of forgiveness, such as acknowledgment of mistakes, the ability to choose the right response to mistakes, and the ability to release negative emotions and evil desires. Ihklas is a psychic space associated with the belief that there is involvement of divine power in human life. Ihklas refers to psychological conditions that do not revolt when self-dignity or self-respect as the most valuable possessions are demeaned by others. Ihklas is a sign of the ability to accept his nature as an imperfect human being; can do wrong to others or vice versa is treated wrong by others. Rila is a psychological condition that allows the victim personally to be willing to give up his rights, such as the right to be treated well and fairly by other parties.

Prerequisites for forgiveness also involve the ability to do good; generous or compassion (wêlas asih; ambêg wêlasan; ambêg paramarta) to the wrongdoer. Generosity does not refer to pity to other parties especially to those who have done wrong or bad. Generosity or compassion does not refer to moral superiority; morally feel better, more noble, more praiseworthy than other parties, especially in front of those who are considered inferior, bad, evil, despicable because of their status as offenders. Serat Nitiprana teaches that the image of a virtuous human being (luhur bebudèné) is read and emanated from the kindness of sincere attitude and selfless actions based on patience of the heart [24]. The patience of the heart facilitates the attainment of inner peace (purity of heart) and inner peace radiates personal goodness (purity). Kindness from within the person will emit a light of kindness to others so that the punishment (doom) for mistakes (escape; escape) or bad perks (panggawé ala) can be rejected or removed. So generosity or compassion - doing good to others who have done wrong - is sourced or arises (mrêntul) from inner calm (purity of heart).

Generosity or compassion; the result of calmness, serenity, and harmony of the heart (purity of heart) is clear (bëning) - not polluted or dirtied by selfishness - so as to create coolness (ngasrêpi) and also radiate warmth. Generosity (wêlas asih) means transcending pity; a positive feeling that arises because it is triggered by the presence of bad life conditions in the form of suffering or misery of others. The desire to feel and be motivated to help ease the burden of suffering in others is the main energy of pity. Generosity is not only in the form of sympathy for the misery or misfortune of others, but encouragement of good will, namely; in the form of feelings of love (sênêng, трéšna) to others as human beings. Generosity in the context of forgiveness means a sense of self to take responsibility or to be actively involved in presenting coolness; calm, serene, peaceful, and warm; happy and excited so as to create an atmosphere of harmony based on respect for others as humans. Generosity as a personal expression of forgiving character (ambêg paramarta) shines concern for the welfare and happiness of fellow human beings without conditions. A compassionate person who is forgiving does not need an apology; marks of remorse and requests for compensation; a sign of repentance to the wrongdoer. In other words, forgiveness does not require violators to experience suffering or misery first. Generosity in the form of the ability to forgive sincerely -
arising from good intentions - for the mistakes of others is a sign of a plenary personal or true knight [25]–[26].

Concrete forms of generosity (compassion) as a sign of forgiveness in the practice of everyday Javanese society are displayed in various ways. Ability to greet (sapa aruh), say certain words, both orally and in writing, such as, "It's okay, I have forgiven your mistakes" (orapapa, salahmu wis tak ngapura), "that which has passed let it pass" (sing wis ya wis), "don't repeat it again" (aja dibaleni), "calm appearance" (anêng) and shady faces decorated with sincere smiles", and "hospitality" (anjangsana, silaturahmi, sanja) are some examples of expressions of compassion (doing good) to the wrongdoers. The intrinsic meaning of the term "it's okay" (orapapa) when used at the beginning of the utterance or sentence "I have forgiven your mistakes" (salahmu wis tak ngapura) is "not despicable" (ora nista) or "not bad" (ora ala) [27]. So the meaning of the term "orapapa" which means "ora nista" refers to the recognition of a mistakes, but the mistakes does not lead to adverse effects; trigger retaliation or demand for compensation. This means saying "orapapa" in recognition of the mistakes of others is a moral message that functions to self-affirmation that the impact of mistakes does not make self-dignity, or self-respect fall into disrepute. Kaesang's writing on his Twitter account is "yo ora popo (ora papa). Maafkan wae" is concrete evidence of the use of the term "ora papa" in recognition of the mistakes of others and retaliation or request for compensation is not the best choice of response type for the error.

Identical to the words "orapapa", calm appearance and shady facial expressions decorated with smiles are also used as an effective way of affirmation to remain strong so that they are able to think clearly and not dissolve in pain, sadness, anger, and hatred. The reason behind calm apperance and shady facial expression decorated with smile is a form of sincere acknowledgment that others mistakes or bad deeds are not a kind of permanent crime or a type of moral disability without room for improvement or recovery. Calmness, coolness, and smiles are a mirror of hope (optimism) for a better and more promising condition of life; present and future. This means that the wrong treatment of the other party is considered insufficient and also improper when responded only with pain, cry, and anger. Calmness, coolness, and smiles also give a strong message that the existence of the offender can still be accepted. In other words, calmness, coolness, and smile are a sign of the existence of the offender can still be accepted. In other words, calmness, coolness, and smile are a sign of sincerity. A smile for the Javanese is a way of salvation (dalan rahayu) [29].

Forgiveness in the form of concrete actions, other than through speech and body language (facial expressions), which is commonly practiced in the daily life of Javanese people is the ability to go on or stay in touch. The term anjangsana refers to visits to release longing or to stay in touch (to tie a cord of friendship or brotherhood), for example to a neighbor's house, family, old friend or friend [30]. Anjangsana or hospitality in Javanese is known as "sanja" and its meaning refers to visiting (madhayoh) to a neighbor's house with the aim of talking to each other (omong-omongan) [31]. So anjangsana or silarurahmi (sanja) is a sign of harmony and at the same time a clear proof of mutual respect between two people (two parties) who are bound in a cord of friendship or brotherhood. The principle of harmony and the principle of respect for Javanese people is the basic rule for all forms of social interaction [32]. Harmony is a guarantee that peace (no conflict) in the level of social life is maintained, while respect is a
guarantee that hierarchical order in the structure of social life is maintained [33]. So the ability to stay in touch in the context of forgiveness is evidence of good intentions to restore the atmosphere of harmony and mutual respect which could be damaged or interrupted due to the mistakes of others. The hospitality gave a guarantee that the hurt was healed and negative emotions were successfully controlled.

So the essence of the moral teachings of Javanese forgiveness in Serat Wedhatama and Serat Nitiprana is the embodiment of virtuous human character. Forgiveness as a response to the mistakes (bad deeds) of the other party, is lived and understood by virtuous humans as a way of struggle in the sense of testing and proving the quality of personal morals which are oriented to a state of inner life that is calm, serene, and balanced. Ability to overcome or at least control infidelity; negative emotions and evil desires as expressions of positive moral attitudes; patience, nrima, sincerity, and rila, and the ability to do good as an expression of generosity (compassion) is a prerequisite for forgiveness. Means forgiveness that refers to repayment, deletion or fusion (destruction without trace) mistakes or bad deeds of another party, or penalties in the form of criminal (torture) or demand for compensation as a consequence of mistakes considered to have been paid (paid in full) in principle is the result of calm mind and purity (purity) of the heart. Inner peace and purity of heart for virtuous persons is a form of true happiness and the main measure of happiness is to create peace, serenity, and harmony of life for themselves and radiate out giving warmth (creating joy), and giving coolness (creating peace of mind) for others human.

3. CRITICAL ANALYSIS OF THE MORAL DIMENSION OF JAVANESE FORGIVENESS

Driyarakara said that the degree (dignity) of humans can be lifted as high as possible because of their intellect, but also open space can fall into humiliation as low as possible because of his intellect. Javanese forgiveness, especially in the Wedhatama Fiber and in the Nitiprana Fiber is the fruit of inner calm so that with patience, sincerity, nrima and rila can overcome or at least control the carelessness and at the same time encourage to do good to others who have done wrong. Concrete forms of forgiveness can be expressed through a variety of ways, both in the form of speech, self-delivery, and also concrete actions. Given the expression of forgiveness arising through physical signs, the possibility of misunderstanding about the substance of forgiveness itself is natural and understandable. To avoid the negative impact of misconceptions about the moral dimensions of Javanese forgiveness, the following below outlines the criteria for an action (forgiveness) that can be rationally justified [34].

First, Forgiveness is not a spontaneous act and is also not an obligation especially for the types of mistakes that are classified as serious or severe, but rather a choice among other possibilities in responding to mistakes. Forgiveness as a choice must be understood in the context of the process or the results of the research process and careful consideration of the three main elements of forgiveness, namely (a) acknowledgment of a mistake (bad behavior), whether intentional or unintentional mistake (b) the choice not to respond to others mistake with revenge or requests for compensation as a form of punishment, and (c) overcoming (or at least trying to control) negative emotions and evil desires, such as anger, hatred, malice, and so forth. In this first stage, the forgiving person must examine and carefully consider the difference between "recognition of mistakes" as the main element of forgiveness and "excusing, or condoning, or justifying, or pardoning, or forgetting" a mistake. Forgiveness is not identical with condonation, excuse, justification, pardon, and forgetting [35]–[36].
The victim has the right to punish the offender as a form of retaliation or request for compensation, but the victim deliberately chose not to use that right. Not punishing perpetrators is a form of respect for human dignity and solidarity with fellow human beings as weak creatures; open to doing wrong [37]–[38]. Forgiveness is a manifestation of awareness that the perpetrators as fellow human beings may not be used as objects of vengeance. Forgiveness is also interpreted as a form of awareness that all human beings can basically make mistakes so that forgiveness helps humans escape the cycle of revenge. Mistakes in the context of Javanese culture are a form of ignorance (durung ngerit), so the right response to the mistakes or bad deeds of others is to forgive, not punish. The ability to overcome the negative emotions and evil desires (angkara murka) and the ability to do good must be sincere (pure); must come from the deepest heart and be based on logical reasons so that it is morally worthy of praise. Creating a calm state of inner life is a reason that is morally praiseworthy as a basis for forgiveness. So the success of correctly understanding the main content of forgiveness determines forgiveness is morally commendable or conversely the failure to understand appropriately the main content of forgiveness makes forgiveness morally despicable and should be avoided.

Second; research and consideration of forgiveness must not be prolonged or protracted and must end with the decision to forgive. The decision to forgive must be right and wise and its size lies in freedom (independence) in making the decision. Independence in the decision to forgive is not due to blind desire without reason (as long as there is a will), but must be based on good will. A good will must contain a balance between knowledge of the contents of forgiveness and the actions that will be displayed. For example, the decision to re-establish social relations (hospitality) as a sign of forgiveness is not because of the inconvenience of feeling uncomfortable (shy), but because of reasons to learn to be a human being that is not controlled by evil desires and selfish attitudes. So forgiveness decision making is morally right and wise when born from a healthy mind (interior silence) and sincerity.

The act of forgiveness means practicing forgiveness or embodying forgiveness in a concrete action and the process often finds various obstacles that are difficult. Difficulty overcoming obstacles in the practice of forgiveness triggers doubts or doubts. Feeling confusion - uncertain - triggers to choose to retreat or cancel forgiveness. To retreat means to feel helpless and proof that there is no firmness and tenacity in facing and overcoming difficult obstacles. A person who has inner silence (mind), even though he is doubtful, even though he feels doubtful, even feels afraid, but does not retreat [39]. The virtuous person - having inner silence - remains alert, remains steadfast and resilient and continues to forgive and incarnate it in concrete actions. So the act of forgiveness in practice must be understood in the context of continuous testing and verification of the quality of personal morals, namely the determination and tenacity in facing and overcoming various difficult obstacles. In short, forgiveness for a noble person is a form of determination and tenacity; not giving up when faced with difficult obstacles and must be practiced continuously in the reality of concrete life.

4. CONCLUSION

The essence of the moral teachings of Javanese forgiveness in Serat wedhatama and Serat Nitiprana is the embodiment of virtuous human character traits. Forgiveness for virtuous humans is lived and understood as a way of struggle to test and prove themselves as individuals who have entered the level of inner life that is calm, serene, and balanced. The ability to overcome or at least control negative emotions and evil desires (anger) as a manifestation of positive moral attitudes; patience, nrima, sincerity, and rila are forgiveness
that comes from inner calm, although it is realized that this ability is still not enough as a condition of forgiveness with a positive moral status. Forgiveness for virtuous individuals must be perfected by doing good to the wrongdoers. Concrete manifestation of forgiveness for virtuous humans can be displayed in various ways, such as speech, writing, facial expressions or body movements (olah carry), and concrete actions. If the act of forgiveness is based on careful consideration and research (alleged prayoga), making appropriate decisions (empan boards), being steadfast and resilient in its implementation, then forgiveness helps realize the nature of virtuous human character to the highest degree, otherwise open forgiveness acts space can plunge humanity into humiliation as low as possible when done spontaneously (quickly); not mature in research and consideration, inappropriate in decision making, and hesitant in implementation.

REFERENCES

Development of Guided Inquiry Models on Cooperative Learning Using Vocational School Materials LKS

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Abstract. This study aims to develop a guided inquiry model in cooperative learning using the vocational school of Science. The data of this study are the results of the validation of the validator and the results of the trial analyzed with descriptive qualitative and quantitative techniques. The results of the validation showed that the development worksheet was in the good category. Process skills improve so it can be said that the developed worksheet is feasible and effective.

Keywords: guided inquiry model, cooperative learning, LKS

1. PRELIMINARY

Teaching and learning process is essentially a pattern of interaction between teachers and students and between students in an educational situation. In the teaching and learning process students play an active role in efforts to find knowledge, concepts, theories and conclusions is not an effort to gather information or facts. In order for this process to be carried out, the teacher's role is needed as a guide for teaching and learning activities so that students not only gain knowledge but are also able to build knowledge for themselves, so that student-centered learning is not teacher-centered (Depdiknas, 2006).

Facts on the ground based on the results of self-reflection as a teacher show that the learning process has not proceeded as desired as described above. The role of the teacher is still more dominant than students in science learning activities. The old learning paradigm centered on the teacher is still heavily carried out by the teacher, not much has shifted to constructivist views that involve more students. The teacher has not yet renewed the conventional science and technology learning methodologies that are commonly practiced by IPA teachers.

One learning approach that requires active student involvement in the learning process is the inquiry approach. Eggen & theses from the results of the experiment and students can overcome the difficulties and obstacles during conducting the experimental activities.

Improving the concept of science can also be enhanced by guided inquiry learning, such as research conducted by Endang (2006). Guided inquiry learning will be easier for students if it
is integrated with cooperative learning. Like research conducted by Bilgin (2009) which states that learning using guided inquiry combined with cooperative makes students more active in learning. With cooperative learning students will more easily find and understand difficult concepts if they can discuss each other's problems with their friends (Slavin, 1994). In line with research conducted by Okhee (2006) states that the inquiry method can improve student learning outcomes of low ability students on the subject matter of science evaporation. Manzoor (2009) states that teaching with an inquiry approach makes students interested in finding hypotheses on the results of experiments. With inquiry students can also find concepts (hypo-Kauchack (1996) stating inquiry is one of the effective ways that can help students improve thinking skills by using higher mental processes and critical thinking skills. In learning with inquiry, students in addition to mastering the concept of science, is also trained to research and solve a problem or question with existing facts, the statement is supported by the opinion of (Sadeh, 2009) stating that students who experience open inquiry can define phenomena, ask questions, hypotheses and plan. In their inquiry, it is likely that they will be more dynamic, based on inquiry learning that is suitable for students in vocational high schools is guided inquiry, which is in line with research that has been done before, namely research conducted by Ali (2011) that implements inquiry learning and feedback on science learning journals, da can improve the performance ability of students of class X SMK Kudus.

Another study was conducted by Christina & Yovita (2006). In this research explained that guided inquiry combined with EIMA can bring up students' initial ideas, involve students in the learning process, involve students in exploring and reflecting on their ideas. Guided inquiry such as Patrick's research, et al (2009) can increase student motivation in learning science.

2. METHOD

This research was conducted at the Holy Vocational School. The form of this research is descriptive research with qualitative and quantitative data analysis. The development of this learning tool refers to the R&D model with the 4D instructional design proposed by Thiagarajan (1974). 4D design consists of 4 stages, namely defining, designing, developing, and disseminating. This research is limited to the development stage. The scenario of the trial implementation implements the One Group Pretest-Postest Design (Tuckman, 1978) with the following pattern:

O1 X O2

Information:
O1: Preliminary test, aims to measure students' learning abilities before learning takes place
X: The process of teaching and learning oriented to guided inquiry
O2: Final test, aims to measure students' learning abilities after learning takes place.

3. RESULTS AND DISCUSSION

The experimental activities carried out by students are contained in the Student Worksheet (LKS) on guided inquiry in cooperative learning. Where in guided inquiry learning students are actively involved in learning and discovering concepts through their own construction
(constructivist learning theory). Cooperative learning is used because it is in accordance with Piaget's theory that students are encouraged to discover their own knowledge through interaction with their environment. The text "Student Worksheet" is written in all capital letters, times new roman font, font size 12, black (bold), and placed in the middle of the top. The titles of the LKS components are typed in uppercase and lower case letters, times new roman font size 12, and placed in the left-hand edge.

The use of the LKS writing structure as stated above, aims to make the LKS look neat and attractive, each component of the LKS can be seen clearly, and the LKS description is easy to read. Worksheets are developed for heat material, which consists of several components, namely Title, Basic Competence, Learning Objectives, and Worksheet Content. Following is the description of the revised LKS components, namely: a) LKS Title, Title of Student Worksheet (LKS) aims to differentiate between one LKS and another LKS. The revised LKS titles are LKS 1: Heat, LKS 2: Relationship Between The Amount of Heat with Temperature Change, Mass, and Specific Heat of The Substance, LKS 3: Influence of Heat to Change State of The Matter, and LKS 4: Heat Transfer; b) Student Identity, Student identity listed in the worksheet consists of: the name of the group, class, day and date of the practicum. The identity of students listed in this worksheet aims to facilitate teachers in assessment; c) Basic Competence, the formulation of basic competencies, shows the abilities that must be mastered by students after attending science subjects on the heat material. The basic competencies listed in the worksheet are in accordance with the Basic Competencies listed in the RPP; d) Learning Objectives, The learning objectives listed in this worksheet are learning objectives for each sub-material in the worksheet listed in the lesson plan; e) The contents of the worksheets, Student Worksheets (LKS) produced in the form of worksheets are used by students as a guide for conducting experiments. The resulting worksheets based on guided inquiry approaches in cooperative learning, so that the contents of these worksheets consist of: formulating the problem, formulating hypotheses, tools and materials, experimental procedures, data tables. Data analysis, conclusions, and questions. In each worksheet content is provided a place for student answers to make it easier for students to write their answers.

The experimental procedure in this worksheet aims to make it easier for students to experiment in sequence. Provision of experimental procedures in LKS is in accordance with the method of guided inquiry, namely directing students to find or implement their own ideas but still in the guidance of the teacher.

In LKS there are also questions that aim to help students achieve the desired competencies. Many of the content components and questions in the worksheet aim to make students work in groups optimally. It also shows that group work is very necessary so students can complete all activities in the worksheet. This is consistent with the objectives of cooperative learning.

The student worksheet (LKS) resulting from the development provides an alternative learning strategy that is innovative, constructive, and student-centered, focusing on achieving the expected competencies. The components in the worksheet are expected to create an atmosphere of learning that is interactive, inspiring, fun, challenging, motivates students to participate actively, and provides sufficient space for initiative, creativity, and independence in accordance with their talents, interests, and physical and psychological development student.

The worksheet from the development also becomes a quality curriculum document, because it has passed the validation and trial stages, so that it is appropriate for students to use
Gambar 1. Grafik Hasil Validasi LKS

Grafik Penilaian Keterampilan Inkuiri Pada uji coba
Student Worksheet (LKS) is a guide for students in understanding the skills of the processes and concepts of the material being and will be studied. The Sis-wa Worksheet (LKS) developed based on guided inquiry consists of from the components: title, basic competencies, learning objectives, formulating problems, hypotheses, tools and materials, experimental steps, table of observations, data analysis, and conclusions.

LKS components that get the lowest ratings will be reviewed and improvements will be made. An expert response score will be analyzed to determine the feasibility of the worksheet. Data in the form of suggestions and comments written directly on the evaluation sheet are made into consideration and basis for improvement. Repairing the LKS component aims to reduce the fundamental errors of the LKS product. In general, the results of the assessment of the validator for Student Worksheets (LKS) are in a good category, which means the Student Worksheets (LKS) resulting from the development are feasible to use. The validation sheet of the Sis-wa Worksheet (LKS) consists of three elements, namely the feasibility of construction, the preservation of presentation, and the process skills component. The results of the validation of the Student Worksheet from the validator are presented in Figure 1.

Figure 1 shows, the percentage of elements of construction feasibility obtained a score of 81.3%, which means very good, the percentage of elements of presentation worthiness obtained a score of 75%, which means good, and the percentage of elements of the
components of the process of achievement obtained a score of 76.7%, which means good. Of the three elements that received the lowest rating was the serving feasibility, which was 75%.

After the next development phase is tested on students and assessment of students’ guided inquiry skills in the trials carried out is shown in Figure 2. Figure 2 shows that the average value of students’ guided inquiry skills in trials has increased in each learning activity.

4. COVER

Based on the results of validation and testing it can be concluded that the Student Worksheet (LKS) is categorized as good which means the Student Worksheet (LKS) resulting from the development is appropriate to be used.

Based on the notes when the trial has been carried out, to optimize the use of LKS provides the following suggestions: a) The allocation of time should be highly considered, given the implementation of guided inquiry-based learning in cooperative learning requires a lot of time; b) This worksheet is arranged according to the characteristics of students so that students are expected to be able to use it independently; c) Learning tools in the form of worksheets are not the only source of student learning, teachers should advise students to read other relevant sources.

The development of guided inquiry-based learning tools does not carry out the dissemination stage. However, if desired for the dissemination process several things need to be considered, namely this learning device is arranged based on the characteristics of Kudus vocational students. If you want to be reproduced you should do a revision according to the characteristics of other users.

This product development has been carried out minor revisions in accordance with the recommendations of the valor-tor and students as users. But to further improve the quality of learning tools, they should be further revised and developed for other materials in science subjects.

BIBLIOGRAPHY


Development of Entrepreneurship-Based School Management Models

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Abstract. The government has made various efforts in order to improve the quality of education. But in reality, produced from these education graduates are still focused on the hard skills and lack of attention to soft skills. The implementation of SBM as a form of policy that gives full authority to manage schools has not run optimally in developing soft skills. As an alternative to overcome this problem, a development research was conducted. The purpose of this study is to develop an entrepreneurship-based school management models. Preliminary research was conducted using a qualitative approach to gather information relating to the implementation of SBM in schools. Based on the results of the preliminary research, an entrepreneurial-based school management models was developed. The models was developed following the 4 components of management items, namely planning, organizing, implementing, and monitoring that all education stakeholders involved. Furthermore, the models was validated by education practitioners and brought to focus group discussions. From the results of expert validation and FGD Obtained an entrepreneurship-based school management models as an alternative in improving the quality of education, especially in terms of developing the soft skills of students.

Keywords: entrepreneurship, school management, education

1. INTRODUCTION

The purpose of National Education states that education is not only related to the hard skills related to academic achievement, but also related to the soft skills that is associated with the attitude, temperament, character and morals as a citizen. This is in accordance with Act No. 20 of 2003 on National Education System Article 3, which states that the national education serves to develop the ability and character development and civilization of the nation's dignity in the context of the intellectual life of the nation, aims to develop students' potentials to become a man of faith and fear of God Almighty, noble, healthy, knowledgeable, skilled, creative, independent, and become citizens of a democratic and responsible (Depdiknas, 2003).

This is similar to the results of research from Harvard University, United States (US), which reveals that a person's success is not determined solely by the knowledge and technical skills (hard skills), but by the skill to manage themselves and others (soft skills). This study reveals the success is determined only by about 20% with the hard skills and the remaining 80% with the soft skills.
Skills Soft skills more to the psychological, so the impact is not visible directly, but can be felt and seen. Corruptor is one example of the high ability of hard skills related to academic achievement, but very low on soft skills skills. Besides social problems such as unemployment / vocational school or even college graduates into low skills evidence of soft skills possessed citizens. It became a national concern that must be resolved.

Utomo (2010:96) in his research suggests that education who are less able to develop soft skills will produce graduates who are just good at memorizing subjects but little in skill. When already in employment, they will be the engine for the mastery of skills but weak in the lead. Noting this, education can actually be one of the spearheads to reduce the problems that occur.

Various government policies have been made to improve the quality of education both in skills hard skills and soft skills. Actual curriculum that took effect in 2013 already requires teachers to develop soft skills with their load, the assessment of learners. However, in practice it is not easy, teachers should not only assess the behavior of learners, but more than that the teacher should be able to grow and develop soft skills of learners. It is not easy because to develop the potential of hard skills and soft skills not only be the task of a teacher, but required the participation of the various stakeholders of education. Therefore, it takes a good school management to achieve these objectives.

According Budiwibowo (2018:3) management is the process to achieve the goals by planning, organizing, directing, coordinating, monitoring and evaluating. In connection with the school management, the government has given freedom to the schools to organize and carry out various policies with their School Based Management (SBM).

MBS is a new paradigm of education provide broadly autonomy at the school level within the framework of the national education policy. The existence of these MBS is an alternative policy to improve the quality of education and achieving educational goals. By implementing MBS principals are given the freedom and authority to manage the school. It is an alternative to developing a school management with the aim of improving the quality of education in developing the skills of hard skills and soft skills skills. One alternative that can be done is to develop MBS into Entrepreneurship based school management.

The selected alternative for entrepreneurship in Indonesia still lack adequate attention, either by education or society. Many educators are paying less attention to the growth of an entrepreneurial character and behavior of learners, both in vocational schools, as well as in professional education. Their orientation, generally only in preparing the workforce. For that, they need a good school management in order to turn people into human beings who have the character and behavior of entrepreneurs.

Based on the above background, the authors conducted a study of school management development is to develop School Based Enterprise Management.

2. METHODOLOGY

This study was designed using a "research and development" or a "research and development". Which in this study, there are two activities, namely research, then from the results of these studies were developed in order to improve the program, a model or a product that already exists.

used in this study measures the development presented by Borg and Gall and developed by Sugiyono by level of study. In addition to following the development model presented by Borg and Gall, this research also see the level of difficulty of research contained in the book Penelitian Method Development by Sugiyono. In detail the development of research difficulty level is described as follows: (1) Research and development at level 1 (the lowest
level) is a researcher conducting research to produce a draft, but did not proceed with making the product and testing it; (2) Research and development on level 2, is the researchers did not conduct research, but direct testing of existing products; (3) Research and development at Level 3, is a researcher conducting research to develop products that already exist, create a product and test the efficacy of the product; (4) Research and development at level 4, is a researcher conducting research to create new products, make the product and test the effectiveness of these products (Sugiyono, 2019: 42).

The data in this study were obtained at this stage and Research to find potential problems that will be used for product planning materials. The data used in the form of qualitative data in the form of interviews, observation, and the results of the documentation that comes from informants. Informants were used as the source of which is the principal, teachers, students, and parents or community leaders as the executor of interest in the implementation of school-based management.

Data collection activities carried out at the stage of determining the potential and problems, gathering information and literature, as well as at the time of product validation. The technique used in this study using triangulation techniques on data obtained through structured interviews, structured observation, and documentation.

1) Observation structured

According Sugiyono (2019: 215) structured observations are designed to systematically observe what is observed, when and where it is.

2) Structured interviews

Structured interviews typically involves the act of giving questions to the informant with the same question.

3) Documentation

Engineering documentation is done by collecting photographs and documents required and supporting research.

Data analysis technique used is a qualitative analysis is inductive, ie divulging the analysis based on the data obtained, subsequently developed into a hypothesis, and then look for repetitive data to verify the hypothesis (Sugiyono, 2019: 368).

Steps being taken in the data analysis by Miles and Huberman in Sugiyono (2019: 369) is as follows:

1) Data reduction
   Summarizes and focuses on the data studied.

2) presentation of Data
   Presentation of data is done with descriptive tables and charts.

3) conclusion
   The conclusion is a finding that such a description or picture of the object under study.

3. RESULT AND DISCUSSION

Based on the initial research that has been conducted shows that MBS has been implemented in all schools, but its implementation is still not optimal. In the management of planning and organizing is not clearly available to the planning and organizing yangberkaitan
softskill development of learners or it can be said that there is no school that clearly planned development of entrepreneurship among students. On the other hand there are schools that have implemented pengitegrasian the entrepreneurial development of soft skills of learners with a variety of entrepreneurial activity of children, but who do not yet conceptualized activities clearly. Yet from these activities bring many great benefits in improving soft skills and hard skills of learners.

Based on the existence of an entrepreneurial-based school management. This management model can be used as a reference for the organizers of the school in order to optimize all the potential schools to be more productive, especially in terms of soft skills development of learners based entrepreneurship.

4. CONCLUSION

MBS is an alternative policy to improve the quality of education and achieving educational goals. By implementing MBS principals are given the freedom and authority to manage the school. It is an alternative to developing a school management with the aim of improving the quality of education in developing the skills of hard skills and soft skills skills. One alternative that can be done is to develop MBS into Entrepreneurship based school management.

The selected alternative for entrepreneurship in Indonesia still lack adequate attention, either by education or society. Many educators are paying less attention to the growth of an entrepreneurial character and behavior of learners, both in vocational schools, as well as in professional education. Their orientation, generally only in preparing the workforce. For that, they need a good school management in order to turn people into human beings who have the character and behavior of entrepreneurs.

REFERENCES


Identity And Creativity In Parang Sukawati Batik

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Abstract: Batik is one of Indonesia identity. Batik also becomes macro and micro identity. Micro identity means local identity. One of micro identity is Sangiran batik. Sangiran batik rises as new identity of Sragen regency called Parang Sukawati. This research is about local identity around parang sukowati batik. Parang Sukawati batik has uniques. It try to rise local identity and leave the basic pattern of Surakarta batik. It try brings Sangiran sites in the batik because Sangiran is as world heritage and called Sangiran Doom. This heritage is in the culture area of Sangiran. Sangiran is old sites that recognized by UNESCO as world culture heritage. There is found many fossils and the important thing is the human fossil called pithecanthropus erectus. While batik is also recognized as UNESCO's world cultural heritage. Batik is a cultural heritage from Indonesia. These two things are used as media to bring out local cultural identity into Sangiran batik. Sangiran Batik is a batik with a motif originating from Sangiran as an ancient site. Sangiran is where the oldest ancient humans were found in the world. The Sragen people regard Sangiran as one of their global local characteristics. This expression was delivered in the form of batik artwork. So, comes the Sangiran typical batik motifs in the form of ancient human images, fossils, and other typical flora and fauna of batik. The meeting between batik and Sangiran site is inseparable from the socio-cultural situation of the community. Around the site, there are areas of batik craft so that the Sangiran site provides inspiration to create a design with the theme “Sangiran batik”. Sangiran Batik is then used as a medium to express identity. The manifestations of these inspirations are in the old ivories, parang motif, and flora and fauna from Sragen regency.

Keywords: parang sukowati, Sangiran, batik motif

1. Introduction

Basically, batik is a work of cultural tradition that is admired by the nations of the world long before batik was appointed by UNESCO as world cultural heritage. In its development, batik as a valuable work of the Indonesian people is inseparable from various influences, both from outside cultures and environmental influences. Changes in the times and environment are indisputable and cannot be separated from the process of the development of batik at any time, so that the influence triggers the presence of batik in harmony with its development (Dullah, 2002: 7). The wide variety of forms and patterns of batik that are integrated with the techniques of making them and reflect the background of tradition and the contents of cultural aspirations make batik an identity of cultural heritage. This is what makes batik not always beautiful, but merges with moral and customary rules.

A piece of batik cloth made through a process of research, dyeing and pelorodan makes it a traditional literature. Batik technique is an original skill possessed by the ancestors of the Indonesian people since centuries ago. Batik activities, especially in Java, have grown and
developed and have produced diverse types and types of ornamentation that are rich in color. Although there are differences between Yogya and Solo batik and coastal batik, it shows that Indonesian batik is rich in various styles. Similarly, batik that develops around Soloraya has their own characteristics, because it is motivated by their environment. One of them is the batik style that developed in the Sragen area, especially those around the Sangiran site in the form of a museum.

At present the museum is understood as a place for storing, caring, securing and evidence of artifacts of human culture, nature and its environment. This is intended as an effort to support the protection and preservation of the nation's cultural wealth. In the new paradigm, museums are also seen as a forum where debates and controversies occur regarding the material and content presented. With the existence of the museum, it is very easy for someone to study and observe historical relics in the past. Ancient museums such as the Sangiran Archaeological Museum in Sragen Regency can be an effective tool in helping the process of changing times.

As one of the museums listed in UNESCO's world heritage, the ancient Sangiran museum has the potential to be developed. Various attempts were made by the local government and surrounding communities to introduce this potential through conservation and promotion. This is related to the imaging of the City of Sragen which has the power to form a brand of its identity. Sragen is one of the regency cities in Soloraya which launched its tagline city branding as The Land of Java Man, tying its flagship tourism potential to the Sangiran museum. In the industrial sector, the Sragen area combines industrial zones in the form of small and medium batik business units.

Based on this fact, it has raised issues that need to be studied to reveal the potential of the area in finding the identity and image of Sragen Regency. Among these are the basis for choosing the potential of Sangiran batik as the city's imaging identity. The extent to which the Sragen local government has developed the Sangiran batik craft and the efforts it has developed. Therefore it is necessary to know about people's perceptions of the development of Sangiran batik as part of the search for the identity of the Sragen city.

2. Batik at a Glance

Batik is one of the cultural objects that has philosophical and symbolic values typical of the archipelago. In its development, batik experienced a journey from time to time in the process, technical and motifs in various regions. Therefore batik develops with an artistic basic view which is based on the local cultural background according to the demands of the times. In the context of tradition, batik has a complete understanding that can not be separated between the motifs and processes related to fine work and beauty.

The process of batik requires carefulness and patience in controlling themselves and concentration and a relatively long time depending on the style and color you want. Batik, in addition to aesthetic wear objects, also has a spiritual dimension that shows a high level of culture. It has long been rooted in Indonesian culture, and can highlight the unique characteristics of Indonesia (Koentjaraningrat, 1985: 16).

Batik fabric whose motives are made by using a writing stick or stamp and wax (wax) as a color barrier have manifested various types. Batik technique is an original skill possessed by the Indonesian people since centuries ago. Batik activities especially in Java grow very fertile and produce two types of patterns. The distinction between Solo and Yogya batik types and the types of batik in the north coast of Java shows that Indonesian batik has a variety of patterns. Both types of batik are determined by their cultural and environmental background,
so they have their own characteristics. In its development, various types of batik were born with a background to the local environment.

Based on its history, batik is a method of decorating on a fabric surface known as the Surface design. The process of batik begins with the depiction of motifs through the application of wax (wax) using a writing canting or stamp. Then do the dyeing with natural dyes in accordance with the desired color, ending with the pelorodan process. The end of this process is the removal of wax (wax) on the fabric, after which the motifs and colors emerge. In the past, printed batik was not seen as batik in the true sense and was limited to written batik. But this time has changed, although batik was originally present solely on the basis of commercial considerations, even lately known as a kind of batik-patterned fabric called "batik printing" with the printing process.

At the end of the 20th century, the use of traditional batik seemed to decrease. Batik is seen more as a color obstacle technique that has advantages in the visual aspect compared to the tie dye technique. Actualization of modern batik is when we are able to learn the historical background, philosophy, symbols, techniques, expressions and all aspects of its creation. Today we are confronted with the phenomenon of written and stamped batik pressed by other types of textiles, since 1970, batik began to be displaced as a fashion material, then developed into other functions such as as a complement to the interior or household and souvenirs. The wide variety of standards is modified with a variety of new motifs that are freer in color.

In batik there are various creative or innovative possibilities which include raw materials of fabrics, dyes, processes and techniques, improvements to the development of functions. It is natural that batik has a commercial dimension and innovation, namely through side effects and diversification of batik products with various needs and interests. Its development towards the use of the present has entered the realm of collaboration with science and technology by producing new products. Various parties have tried to explore batik which can be applied and utilized to enrich the diversity of Indonesian batik. Its development will broaden the scope of acceleration in the world of batik. With the expansion of the field of use of batik also has opened new opportunities in the user community. One of them is batik as an expression of promoting the Sangiran museum site in Sragen, Surakarta.

3. Batik As Expression and Creativity Media

As a material product, batik culture is an inherent part of national culture and is the identity of the Indonesian people. Batik has grown and developed in various dimensions through the passage of space and time to meet the needs of the community. Nowadays batik is in the spirit of the times, that is when creativity becomes a dominant factor in the midst of the various challenges and obstacles that prevent it. The relationship between creativity and source of ideas that gave birth to the phenomenon of a creative expression, as a concept that departs from the use of environmental assets. In the present condition, it is not only a question of its existence but also of the order and repositioning of batik in its various dimensions. Batik is not just a cultural object but also as a means to convey messages from the identity of a community.

Based on its history, Keraton Solo and Yogya batik called Vorsenlanden batik has shown this with strict standards in its use (Djoemana, 1990: 8). Along with the development and changing times, environmental influences have motivated creativity in the creation of batik today. Then there are Batik Saudagar and Batik Petani patterns that develop outside the palace, in the form of prohibited patterns with a combination of entrepreneurial tastes and community aspirations. In its development emerged batik style that involved outside
influences such as the Netherlands, China, and India. Some batik works are known as 'three countries' and together with the discovery of canting tools and synthetic dyes around 1850 the early development of coastal batik in the archipelago.

The development of the phenomenon of creativity in batik later influenced by various factors resulted in the diversity of batik in Indonesia. The creativity of batik on batik continues in free-form Coastal Batik works and expression media with decorative meanings different from the Kraton Batik which is philosophical. An important stage in creativity as a medium of expression is increasingly open in the era of independence, when the government encouraged the creation of Indonesian Batik. The "this" category emerged based on the spirit of unity and the formation of national identity, no longer from the ego of the batik-producing region. Even so the characteristics of the batik area remain still known and visible in the elements of its style. The spirit of creativity in batik goes slowly but surely the diversity is increasingly diverse, while removing the stigma that batik is typically Javanese (Anas, 2011: 80).

Nowadays batik has become a commodity in the sphere of the creative economy that cannot be separated from the control of market demand. This is indicated by the presence of Coastal Batik, Batik Saudagaran, Dutch Batik, Chinese Batik and so on. Batik is a commodity and a commodity, and an identity that leaves behind the monumental peaks of past creativity. This symptom continues when the dynamics of batik economy in the future play a central role in the rise of batik in Indonesia. Batik is no longer just a "Javanese" product, but has become a cross-ethnic cultural instrument with the application of batik as a formal dress since 1970. Since then it has actually been pioneered into industry and economic power. Thus batik has shown its strength in the aspects of creativity and economics as well as a medium of expression of local identity.

4. Local Identity on Parangsukawati Batik

Sangiran then Sangiran is an archeological site (ancient human site) in Central Java, which is located north of Solo City about 15 KM precisely in the Krikilan Village, Kalijambe District, Sragen Regency. The Sangiran site gate is on the Solo-Purwodadi highway near the border between Gemolong and Kaliioso (Karanganyar Regency). This gate is used as a sign to the Sangiran Site in the Krikilan Village in two districts and four sub-districts. The location of this site is in Sragen Regency which covers parts of Gemolong, Kalijambe, and Plupuh Districts and Karanganyar Regency which covers parts of Gondang Rejo District. Sangiran is the most important ancient human site in Indonesia, even leading in the world because it is one of the few Hominid sites in the world.

In 1996 the Sangiran Site was designated a World Heritage by UNESCO under the name Sangiran The Early Man Site. This determination is based on ICOMOS recommendations which have reviewed and learned the truth of the potential of Sangiran Site which has values as cultural heritage. Sangiran Site is one of the Key sites for understanding human evolution through human and animal fossils. This site describes the evolution of homosapien from the time of the Plesitocene to the present. After being designated as a world cultural heritage, the government has the consequence of carrying out regular management. One of them is maintaining and developing universal values that are attached to Sangiran Site.

Generally the people around Sangiran Site still characterize rural communities with a simple life. They are very friendly, helping each other and still close to the tradition of mutual cooperation (Local genius). Their residential buildings are walled with wood or woven bamboo, a pyramid-shaped roof and ridges of zinc, often decorated with figures of wayang figures. In addition to his daily activities as a farmer, some people around Sangiran Site also
carry out craft activities. The various handicraft products include souvenirs made from stone which are typical in Sangiran. In addition, what developed later was the manufacture of batik and handicrafts and coconut shells. Batik is considered a handicraft that has high artistic value and beauty, and has been a part of Indonesian culture, especially Java, for a long time (Rizali, 2013: 7).

In its development, patterned batik was used as a city imaging identity based on the main icon of Sragen Regency. The city has the potential of the tourism sector which is the mainstay of Sangiran Ancient Human Site which holds an interesting mystery to be revealed. In 2012 the Sragen Batik Design competition was held, this was a new breakthrough about Sangiran as its icon. In the competition, the depiction of motifs is dominated by the evolutionary patterns of early human development that illustrate the existence of Sangiran. Batik as a cultural heritage is one way to awaken the nation's culture by giving birth to local identity and environmental potential that has a community around Sangiran. In this case, Sangiran Batik is a batik work with the identity of the special motifs of the Sragen region, which contributes to the treasury of Indonesian assets in the development of Science.

The existence of regional government support before 2016 for batik designs full of local symbols implemented in the attire of elementary schools, junior high schools and senior high schools. In addition, it is also used as the identity of all ranks of Civil Servants in Sragen Regency, as an effort to explore and recognize the potential of the city of Sragen. This is not only special for the local area, but also the introduction of promotion for the world, especially in the development of archeology, geology, paleometropology and biology. This condition has taken place since the establishment of the Sangiran Site as a World Heritage area by UNESCO and has been very much considered in its development.

According to the textile design theory there are two important elements in its appearance, namely the motifs and colors which are characteristic as well as symbols of their local identity. To find out the existence, it can be explained the motives and colors that have philosophical and symbolic meaning as follows;

1) Sangiran Batik Motif
   - The Motive of Human Evolution, describes the form of human figures who are undergoing development or evolution (Charles-Darwin's theory) which according to Islamic understanding has fallen. This motif is a sign that Sangiran batik has a symbol where traces of ancient humans were found. Because of that, since the beginning of 2017, it has not been used anymore.
   - Gading Carved Ivory Motif, is one of the findings of ancient stegodon or elephant fossils representing artifacts in Sangiran. Even though the elephant is not depicted as a whole, the carved ivory becomes a symbol on the Sangiran batik.
   - The motif of Dewi Sri, the figure of Dewi Sri is believed to be the Goddess of Fertility according to Javanese mythology. The shape is combined with yellowing rice plants and scattered grains of rice as happened at harvest time.

2) Sangiran Batik Color
   The various color compositions on Sangiran batik have philosophical and symbolic meaning in bright tones. Some of these colors include green which means fertility. In addition there is brown as the color of the soil which means fertility, and red as a symbol of grandeur. Sangiran batik cloth was then applied in school uniforms for various levels of students and civil servants in Sragen Regency during the 2012-2016 regional administration. The uniforms are worn on study days with different types of models and colors at each level, whereas for civil servants worn on certain days and on flag ceremonies, although not all fabrics are made through the process of batik, but also done by printing techniques. The Regional Government's
policy in developing tourism potential and Sangiran batik as an image of the city of Sragen. It is intended to foster a sense of pride and realize to the public that the concept of batik design that has a historical philosophy can be an icon of identity depiction. Thus Sangiran batik has become a medium of communication and local identity in Sragen Regency.

Sangiran Batik has become a phenomenon that develops according to the times, changing from time to time. There is an effort made by the Sragen Regency Government to display its identity as an industrial and tourism city. Since 1996 when the Sangiran site was designated as a world heritage by UNESCO, it has been known in parts of dubia. In addition to having a Sangiran site, the city of Sragen has long developed a furniture and batik industry, which later became a supplier of batik products in Solo. In searching for their identities, batik entrepreneurs and artisans in Masaran and Plupuh districts have always produced classic batik sourced from the Keraton Surakarta batik. The batik artists try to develop their creativity by creating innovative new ideas. With the aim of finding Sragen’s local identity as an icon on Bumi Sukowati.

Since the beginning of 2017 after going through the exploration process, the results of the Sangiran batik incarnation have become what is called "Parang Sukowati" batik. Philosophically, the design of this batik originates from the idea of a blend of the traditional motifs of the Keraton Surakarta batik with decorative abstraction motifs. The hallmark of the Sangiran site and the Sragen icon. The combination of these results in harmonization of a batik work that is easily known. Some of the icons contained in the batik ‘Parang Sukowati’ as the development or change of Sangiran batik include:

- **Luk-lukan Parang Modern** (the development of parang motifs on the classic batik of the Keraton Surakarta) illustrates the dynamic life of the Sragen people.
- **The Ancient Elephant ivory gate** is the entrance gate of Sragen Regency, which is a historical and archaeological tourism in the Sangiran area.
- **Pendopo** is the central government of Sragen Regency.
- **Plants that depict flora and nature as typical icons of Sragen Regency in black.**
- **Branjangan Bird** illustrates one of the fauna icons in the Sragen area.
- **Batik people who describe Sragen Regency** which is one of the batik industries, especially those in the Kliwonan area.
- **Basic fresh or brown colors** represent the fertile farmlands of Sragen. (source; Catalog of Sukowati Museum, Sragen Regency 2017).

Parang Sukowati Batik is a development of Sragen’s local identity in the form of a harmonious blend of elements of the Surakarta Keraton cultural tradition and the potential of the Sragen region, while changing the comprehensive impression of Sangiran batik. The development of a regional product related to its local identity is inseparable from the policy of the governing regional head official. The development of Parang Sukowati batik in Sragen Regency is an effort of the regional government in the context of searching for its local identity. Starting with the existence of the Sangiran batik which only illustrates the elements of the Sangiran Museum site which was later developed into the Parang Sukowati batik, it was a model for developing batik as a tradition of Indonesian culture.

5. Conclusion

Since the 2012 batik competition has been made with a creative approach, as well as responding to the aspirations and changing times. Batik has also developed in the diversification of certain forms and functions in modern society. As a material cultural object, batik is an inherent part of national culture and is the identity of the Indonesian people. Batik
has grown and developed in various dimensions through space and time trajectories in people's lives, both in the field of function and other socio-cultural needs. Since its enactment by UNESCO, batik has become a world heritage as a work of native geniuses of the archipelago. These conditions helped raise back and stretching batik in various regions, including in the Sragen regency, Central Java.

The creative process in imaging batik is not just decorating a piece of cloth, but also as a container of life values and beliefs. In its development until the fabric has been born a variety of patterns, ranging from traditional motifs to the creation of modern batik (new creations). its presence is caused by various factors and needs. Consumers who continue to develop, as well as the development of communication technology as a more effective and efficient expression medium, the concept of imaging the Sragen Regency city with the slogan The Land of Java Man reminds one of its superior potential, namely the Sangiran Museum through the development of batik motifs. Sangiran Ancient Man Site and then also developed Gading Gajah Primera which has become an icon in the field of tourism by processing Sangiran batik motifs now become Parang Sukowati Batik as a symbolic and meaningful identity.

To disseminate the meaning of city imaging for the people of Sragen Regency, socialization should be carried out, especially for its users. The perception of the community towards the influence of Sangiran tourism potential and its batik has not yet been fully realized. By repacking the motifs taken from the Sangiran Site icon continuously producing regional batik products that can become one of the local cultural imagery, as well as the identity of Sragen Regency. In matters related to the theory of Human Evolution by Charles Darwin, the Sragen Regional Government reviewed it, considering that the image that was built from the basic idea of human early creation was no longer relevant. Therefore, since the beginning of 2017 there has been a change in the identity of Sragen Regency by adopting Batik Parang Sukowati as its icon.

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REFERENCES

3. Djoemana, Nian, S, 1990, Ungkapan Sehelai Batik, Jakarta: Djambatan
8. Sunarya, YanYan, 2014, Batik; Digitalisasi Kreatif Motif dalam gaya Desain Dunia, Bandung:
9. Penerbit ITB
The Vakt Model Based on Psycholinguistic Review for Overcoming Dyslexia Children

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Abstract: The underlying problems of dyslexia in this research begins when researcher conducted the research in grade five SD 1 Tritis Jepara on December 2017. From total 28 students, there were three students who couldn’t read and write, even read one word or write their own name. This case certainly becomes a portrait reality of education that’s very sad. That’s not so good to hear. Some researchers have worked on VAKT Model to give contribution to overcome those problems. The VAKT Model is a learning model that activates all children modalities including visual, auditory, kinesthetic, and tactile. Learning with VAKT Model reviews from psycholinguistic in dyslexia children have problems in working memory; phonology related to hearing alphabet, numerical, and others; ortography related to writing; kinesthetic; and reading speed also reading comprehension. But firstly, dyslexia children must understand about right and left directions. Triggered by that model, the researcher tries to hold new research on applying VAKT Model to overcome some difficulties of dyslexia children on reading. This research conducted in “Sekolah Disleksia Cendekia Kudus”, because one and only therapy school in Central Java. The research about dyslexia is still rare than another problems. The goal is to know how effective VAKT Model for overcoming dyslexia children based on psycholinguistic review. Total of subjects 10 dyslexia children and how they learning with three therapy teachers. This research is qualitative descriptive analysis with type of case study. Data Collection Techniques are from participant observation, interviews, and documentation. Data will be analyzed by applying data reduction, data presentation, and verification.

Keywords: VAKT Model, Psycholinguistic, and Dyslexia.

1. INTRODUCTION

Socialization in life certainly requires a variety of skills, including language skills that can support the communication process to deliver a message. One of basic language skills is reading skills. Abdurrahman (2012: 158) explains that reading is a complex activity that includes physical and mental. Physical activity of reading is related to eye movement and visual acuity, while mental activity includes memory and comprehension. Dalman (2014: 5) mentions that reading is a cognitive process that aims to find a variety of information that is implied or explicit in written language. Rahim (2011: 3) defines reading as a strategy variation according to the text and purpose of reading.

Every children have main potential for learning. Dyslexia can be a child obstacle in learning process. Literally dyslexia comes from the Greek word “dys” which means inability and “lexis” which means reading, so dyslexia is defined as a condition inability or difficulty
in reading (Shidiq and Firdausy, 2015: 1). Mercer (in Abdurrahman, 2012: 162), the definition of difficulty learning to read or dyslexia is generally very diverse, but overall leads to interference with brain function. Dyslexia as a syndrome has difficulty learning the components of words and sentences, and also in everything of learning about direction, time, and mass.

Sari, et al. (2015: 148) says dyslexia can be detected in preschoolers by seeing whether there is a language delay or not seems to sound from a word (difficult to play words rhythmic, confused with almost similar words, difficult to learn to recognize letters), for example “kakak” pronounced “gagak” accompanied by a family history of dyslexia, shows a significant risk factor for dyslexia. Furthermore, when a child enters school age usually starts to have complaints in the form lack of will or lack of confidence to appear reading in school, for example the word “ayam” is read “maya”, but parents and teachers often don’t realize that the child is dyslexia. Pratiwi (2015: 142) states that dyslexia begins to be seen or detected when children enter the school world for some time. Learning difficulties in type of dyslexia don’t depend on level of intelligence. Children who have high intelligence or below average have possibility of dyslexia. Many factors cause children to have this dyslexia disorder.

Widyorini and Tiel (2017: 101) says the dyslexia subtype is divided into two, auditory dyslexia and visual dyslexia. Children born as visual dyslexia experience various difficulties in discrimination, memory, visual agitation, moving right and left, and about words quickly. Whereas there is an auditory type of dyslexia having difficulty in distinguishing sounds, auditory wrinkles, continuous memory, and phonological conditions. Subini (in Pratiwi, 2015: 143) also describes classification of dyslexia.

1. **Visual Dyslexia or Diseidetis**
   The cause of this visual dyslexia is a disturbance in back of the brain function which results in a disturbance in perception and visual memory. Children often feel difficulty in reading and still upside down in writing letters that have almost the same shap, for example letters ‘m’ and ‘w’, ‘u’ and ‘n’, etc.

2. **Verbal or Linguistic Dyslexia**
   The sign of this type of dyslexia child is difficult to discriminate or auditory perception so that child is difficult in spelling and finding words or sentences.

3. **Auditory Dyslexia**
   Interference in visual-auditive connections is cause of auditory dyslexia, resulting in delays in reading. However, verbal language and visual perception are good.

Ebere (in Firdausy and Wijiastuti, 2018: 4) suggests how to identify dyslexia children can be done by looking at whether in reading and spelling children experience delays compared to their age. Detecting dyslexia children can use a developments based approach, with this dyslexia child will be easily seen when entering preschool and showing initial symptoms, namely there is an imbalance in development profile, characteristics of which are a follows (Widyorini and Tiel, 2017: 101).

1. There is a delay in speaking and speaking.
2. There are various activity barriers, such as remembering coherent instructions or trying to make shapes from beds arranged in various colors.
3. Have a visual concentration problem.
4. Not able to repeat a number of numbers with coherence, difficulty learning poetry, and slow language development.

According to Subini (in Pratiwi, 2015: 142), the symptom of dyslexia is the child’s reading ability is below the ability that should be with consideration of various factors such as age, level of intelligence, and education. This disorder is not a form of physical disability such as
visual problems, but leads to brain performance how to process and process information that children read. Lidwina (2012: 9) points out that left-handed dysexia children can use both hands, for example when writing, but they are often reversed in reading, from right to left.

Sidiarto (in Munawaroh and Anggrayni, 2015: 169) suggests several factors that cause children to experience delays or difficulties in development of reading, including the following.

1. Children born in a premature condition with low weight. This can cause children to experience brain damage resulting in learning difficulties or attention deficit disorder.
2. Children born with conditions such as physical abnormalities such as hearing and vision problems, or with cerebral palsy (cp).
3. An environment that has diverse languages can also be one of the reasons why children don’t understand commands.
4. Children often move school.
5. Children often don’t attend school because of illness or problems in their families.
6. Smart and talented children who are not interested in language learning so they lack concentration and make many mistakes.

Sari, et al. (2015: 148) mentions some of the alleged causes of dyslexia child, namely due to genetic factors, there are injuries to the brain, missing biochemistry related to the performance of central nervous system, biochemistry given to child such as coloring agents, environmental pollution such as lead, influence psychological and social, such as family and economic background.

The effort can be done to provide solutions and therapies for children with dyslexia, one with a learning model type VAKT (Visual, Auditory, Kinesthetic, and Tactile) in terms psycholinguistics. The model is used in Sekolah Disleksia Cendekia Kudus to overcome dyslexia children. Munawir (in Setiadi, 2015: 91) mentions the fernald model also known as VAKT Model which is learning model with multisensory reading methods. The way to teach using this model generally uses reading material based on words or stories that are made or self-selected, learning each word is taught in full.

There are four stages in the Fernald model. First, the students are assisted by teacher to choose the words they want to learn, the teacher writes on a piece of paper or on the board with large letters. Students are tasked with tracing the letters with their fingers (tactile and kinesthetic). This can be done on letters written on paper or with letter cards that arise (application in Sekolah Disleksia Cendekia Kudus). When tracing letters, students see the letters/writing (visual), and say it aloud (auditory).

At this stage, the fourth ability are honed so that it can recognize the letters from seeing the word, browse, say aloud, and listen to his own voice. This process should be repeated with the aim that students can write the word correctly without seeing an example. If the word is correct, it will be stored in word bank on student’s mind which can be used to make stories from word bank that has been mastered.

Second, learning has begun to increase. The children are no longer searching for a word but learn to see the word that written by teacher, spoken and written. Children are encourage to make stories with new words and maintain the treasury in word bank. Third, the teacher no longer writes words, but the child tries to read with letters printed or written from the book. Then the child trying to see the word, pronouncing, and copying it. Fourth, from all the processes the child has gone through, it’s hoped that they will be able to remember and recognize new vocabulary by comparing the words they have learned.
Busro (2016: 210) reveals that psycholinguistics is a combination of psychological psychology and linguistics. Psycholinguistics is a study of language use and language acquisition. The definition shows two different aspects, namely acquisition of language that involves how someone (especially children) learns the language, while usage means the use of language by normal adults. Levelt (in Mar’at, 2005: 1) divides psycholinguistics into three main areas, among others.

1. General Psycholinguistics
   General psycholinguistics is a study of how adults perceive or perceive language, how they produce language, and underlying cognitive processes when someone uses language.

2. Developmental Psycholinguistics
   Developmental psycholinguistics is a psychological study of language acquisition in children and adults, both from mother tongue and second language.

3. Applied Psycholinguistics
   Applied psycholinguistics is the application of psycholinguistics theories in everyday life to children and adults. In applied fields it can be divided into two.
   a. Applied General Psycholinguistics
      The application is divided into two, normal and abnormal fields.
      1) Normal Applied Psycholinguistics discusses the effect of spelling on our perceptions of visual characteristics and words.
      2) Abnormal Applied Psycholinguistics learn about problems, such as difficulty pronouncing in patients with aphasia who basically understand the language but can’t speak it, learn about difficulties experienced by those who stutter in pronouncing certain sounds when speaking or reading difficulties experienced by dyslexia.
   b. Applied Developmental Psycholinguistics
      This application is also divided into the fields or normal and abnormal psycholinguistics.
      1) Normal Applied Developmental Psycholinguistics explains how to make a program (curriculum) to learn read and write by comparing two methods, for example global methods or synthesis methods, etc.
      2) Abnormal Applied Developmental Psycholinguistics discusses what can be done for children who experience delays in language development due to congenital abnormalities in the articulation tool, emotional factors, or other causes.

Research that is relevant to this research is the research conducted by Kumilasari in 2016 about “Improving the Ability to Write Vowels (a, i, u, e, o) Through the VAKT Method for Mentally Retarded Children in SLB Talawi Sawahlunto.” The results obtained from these studies indicate that the ability to write vowels (a, u, i, e, o) through the VAKT method for mentally retarded children is increasing through the VAKT method. Meanwhile, the objective of this research to know how effective of VAKT Model for overcoming dyslexia children based on psycholinguistics review.

2. METHODOLOGY

This study based descriptive qualitative. The type of research is case study with a naturalistic qualitative approach. Sugiyono (2015: 14) suggests that descriptive qualitative
methods are often called naturalistic research methods because this research is carried out in natural conditions.

The location of this research at Sekolah Disleksia Cendekia Kudus, KH. Arwani 1A Street, Krandon Village, Kota District, Kudus Regency. The research starts from January 2019 until August 2019. The total of research subjects were 10 students with three therapists namely Arryma Suryaningtyas, Aminatuzzuriah, and Nindy Dyah Ayu Ariska.

The students after get justification for dyslexia by Mr. Trubus Raharjo, S. Pd., M. Si. (as a Lecturer in the Faculty of Psychology at Muria Kudus University and at the same time as a headmaster of Sekolah Disleksia Cendekia Kudus), it’s classified into level of dyslexia that is low, medium, and high.

The data collected was about the overcome of dyslexia children with VAKT Model in terms of psycholinguistics. The following are three techniques used to collect that data.

1. Interviews
   Zuriah (2009: 179) states that Interviews is a process of interaction and communication using words that aim to obtain important information as desired. The interview is also a tool for gathering information by asking a number of oral questions and answered verbally. Face to face interviews and information sources (interviewees) are the main characteristics of interviews. Key informants are people who are directly involved in management of therapy school for dyslexia children, namely Mr. Trubus Raharjo, S. Pd., M. Si. as well as with several other teaching staff.

2. Participant Observation
   In observation, researchers are involved with daily activities of people who are being observed or used as research data sources. While making observations, researchers take part in carrying out activities carried out by data sources. With this participant observation, the data obtained will be more complete, sharp, and to find out at the level of meaning of each visible behavior (Sugiyono, 2015: 204).

   The role of the observer is publicly known because all kinds of information including confidential information can be easily obtained (Gunawan, 2013: 146). The purpose of participant observation is so that researchers have opportunity to direct events that are expected to occur.

3. Documentation
   Documentation is another name for writing analysis or analyzing visual content of a document. Sugiyono (in Gunawan, 2015: 179) states that study of documents is a complete to use of observation and interview methods in qualitative research. Even credibility of this research will be even higher when involving and using documents studies.

   Data analysis in qualitative research is inductive, meaning that analysis of data based on results obtained, then developed with a certain pattern of relationships in order to become a hypothesis. Based on hypothesis that have been formulated basen on these data, then data search will continue to be carried out repeatedly so that it can be concluded whether hypothesis is accepted or actually rejected. If hypothesis is accepted, then the hypothesis develops into a theory.

   Gunawan (2013: 217), the determination of data validity requires data checking techniques that are based in a number of certain criteria namely; (1) credibility; (2) transferability; (3) dependence (dependability); and (4) confirmability.

   Based on four data validity criteria above, the application of criteria for degree of trust is very important, triangulation techniques is sufficient to measure validity of data.
3. RESULT AND DISCUSSION

Based on observation of giving therapy at Sekolah Disleksia Cendekia Kudus on January 2019 until August 2019. On average students come on time, during learning or therapy activities they were enthusiastic and can take therapy well, even though there are still difficult conditioned students.

Dyslexia students in Sekolah Disleksia Cendekia Kudus still have difficulty reciting and differentiating letters and numbers that are shaped almost same, this results in their inability to read words or sentences, even understand readings that are read. Regarding the therapists, they also need to students well condition. In addition, there are many uses of media that are combined with VAKT as learning model that is liked by dyslexia children such as letters and numbers cards that arise, puzzles, and jumping games.

Overall, the therapists are able to teach well to dyslexia children because cooperation between them is also compact. Safe atmosphere and comfortable classrooms used for learning, away from noise of vehicle, but facility for supporting therapy still need to be completed so that learning becomes more optimal.

Based on the results of interviews with headmaster of Sekolah Disleksia Cendekia Kudus, Mr. Trubus Raharjo, S. Pd., M. Si. on April 17, 2019, he revealed that dyslexia children were children with normal intelligence but had problems with ability to read and write, thought only to be learning disabilities. Then he looked for references then found term “dyslexia”.

Dyslexia actually has dysgraphia and dyscalculia. These cases made him analyze that from year there were more cases of dyslexia. After he got theories about dyslexia, dysgraphia, and dyscalculia, it turned out that causes of these children were genetic factors, that is if one of parents had dyslexia, especially fathers, it was likely to decrease to their children. Because prevalence is becoming more and more, so most of our tests, many students were classified as dyslexia average in all primary school.

Sekolah Disleksia Cendekia Kudus was established on July 1, 2018. Constraints that have occurred so far have been from three parties, namely parents, children, and school. The school knows a lot about dyslexia disorders, it’s considered still ordinary or even “considered an ABK Child (The Children with Special Needed)”, even though they have normal intelligence. If what is written in DSM 5, dyslexia children including children with normal intelligence even have high intelligence and not including children with problems related to mental disorders.

Second, from parents. Actually, there are still many parents who don’t understand and realize dyslexia themselves, so they still see that their children’s learning difficulties are only limited to difficulties. Even though their children are normal, they have difficulty reading and writing, or counting in context of dyscalculia. From there, they immediately handed it to school. The problem is that curriculum faced today requires children (in grade I semester 2) ability to read it must start well, if not more, it will be left behind. Eventually this dyslexia
children happened to have been in class II even until grade IV was still in midst of reading it. There were students at his place, only in grade IV was he still confused about “b”, “d”, and “p”. That’s most common difficulty, then “m”, “n”, and “u” are still upside down, so that parents still leave everything to school. It’s necessary to have information about this.

Associated with children/students, so indeed difficulty is that characteristics of dyslexia children are many. The context is twofold, reading and writing. Read it yourself from start in context of its audits, visual side, it has become a problem first, so when facing reading in various types. If her own child has intention to learn it’s good, if child is fussy and easily give up that is a hassle, writing too.

Because of this nature of therapy is individual. In one therapy session, one assistant (therapist) holds a maximum of three children, a maximum of four children (has same difficulty characteristics), because characteristic of child’s difficulties are different. Regarding the number of students, the name of therapy is in and out. There were once first few months to 15 students, now around 10 students are active.

The therapist is mainly three people, the administrative department is one person. They (therapists) who from beginning know what this child is having trouble, but if there is a new child, he is in charge of observing, so first tested with an IQ test, after which he observes his difficulties, then makes recommendations later therapists already knows child himself where to go, where to start.

The method used in Sekolah Disleksia Cendekia Kudus according to him, is principally based on dyslexia children who have major disorder due to phonological deficits. There are two main bases, namely phonology and automation. Actually the concept are three, but one directly leads to writing (motoric deficit). Automation deficits are related to: (1) The child’s ability when he quickly understand material that us about to be read or written; (2) there is also working memory. In phonology, he only took three; (1) Morphology related to knowing or understanding letters, syllables, words, etc. In morphology there is ability to spell; (2) Orthography is to write it; (3) speed reading skills.

The main phonology is hearing, in a dyslexia child, they have difficulty when they try for understanding letters related to sound. In context of VAKT Model it’s auditory. Letters “b” (be) is likely to be heard “d” (de), or “p” (pe) heard “t” (te). So, from that context breaks down into many ways. For example, it was related to korphology then how child spelled, sorted letters, etc., then entered syllables, to dead letter. For example “rumah” is read “ruma”, “makan” is read “maka”, most is “ng” from word for example “mengurangi” is read “menguangi”.

To distinguish sounds such as “b”, “d”, “p” is more emphasized in auditing. The ortography. Writing it there are techniques where we must know that one of them is like this, almost on average dyslexia children are confused with right and left direction. So we equate, when they practice writing especially for same letters, firstly we must understand the directions, then enter letters. For example, by throwing a basket ball, or for example with command “try for holding your right hand, try for holding your right ear using your left hand, etc”. It’s difficult for dyslexia children, for us as normal person there is no problem. Then we correct it first.

Enter the letters, for example letter “b”. Frequency of the teachers explained letter “b” that his stomach was in front and behind. For a dyslexia child, it’s a disorder, so the correct one is to make letter “b” sit on right, if “d” hangs on left. So, they can distinguish right and left, not front and back. Then we correct right and left first so that when writing related to ortography they are not confused.
Getting into reading skills, in addition to speed reading but also understanding, because in some dyslexia children, they can read and write, where is the dyslexia? They can’t understand the sentence. Handling this, then we try to tell for example in class there is anything, we ask them to explore, then read the sentence, we give a question, or make a sentence from one word, and even then for a long time. If you can, it depends on your child’s ability. But on average, he usually tell the parents that their child is dyslexia with a category like this, usually with this category a minimum of six months handling, can be up to one year, or more. So it must be patient, dyslexia children can’t be suppressed, if they pressed, they will mentally down and can be stressful.

But more troublesome thing was when they felt difficult to read and write, and to understand it. The good thing is that their parents could understand that. Because there are two types of parents, one is highly educated, other is uneducated. So highly educated people say that they will be handled alone at home because they felt they could, but those who are totally uneducated think that later they could do it themselves. Here again, the right genetics, so that he will be brought down to their children. The ability to read and write will be able, but the genetics will decrease. Similar to case of Deddy Corbuzier who is dyslexia, Azka as his child is also dyslexia. But his abilities can be more than normal people because handling is right and how to condition.

The media that used were also varied, so with implementation of VAKT Model, namely visual, auditory, kinesthetic, and tactile. Visual context, means we understand children from visual side related to letters, words, syllables, and sentences. The child then teaches us how to recognize letters with flashcard or tactile arising cards regarding letters and numbers so that they could be touched and interpreted as for example letters “a”. It’s rather boring to be tactile, children ask for other media. Writing crayon, tactile and even kinesthetic is related to fine motor skills. There are also letters and numbers puzzles.

At kinesthetic, we also use some media, for example, the lightest ones are throwing a ball, distinguish right-left, balance with media such as jumping, walking, etc. So the floor in our school has lines for that. If auditory uses pronunciation from phonological side, reading it must be correct, starting with letters, syllables, to word. The visual is be seeing and combined between seeing by saying, or hearing writing, seeing writing, seeing imitating, reading writing, imitating writing, context of VAKT Model like that.

Actually there is one theory about dyslexia in English books with title “Dyslexia Learning and The Brain” that there are five hypotheses, but three basic hypotheses are: (1) cognitive level; (2) brain level; (3) genetic level. Cognitive levels consist of phonology, phonological deficits and automation deficits. There are three brain levels, namely: (1) cerebral deficit hypothesis (all related to cerebrum, the brain specifically, broca and vernicle). Actually form broca’s and vernicle’s theories, psycholinguistics was already in, because broca and vernicle were first triggers of reading disorders in aphasia children, which we generally call dyslexia; (2) Magnocellular are two, namely magno in terms of verbal and visual aspects. Magnocellular deficit hypothesis in it’s twofold, from auditory and visual side. There discusses how dyslexia children (the brain) from visual and auditory sides. If we took it from a hypothetical cerebral deficit, it was part of cerebellum. So, cerebrum is cerebellum, inside it’s cerebral. It turned out that all cases of dyslexia children were found to be problematic in cerebral. So, before entering broca, vernicle, magnocellular, etc. It’s a good idea first in cerebral section. So, in cerebral theory, there is motoric, phonological, and automation, which ultimately three things that are the main problems in dyslexia children are reading, spelling, and writing.
The following is a table of classification of severity of dyslexia children in Sekolah Disleksia Cendekia Kudus.

Table 1. The Classification Severity of Dyslexia Children in Sekolah Disleksia Cendekia Kudus

<table>
<thead>
<tr>
<th>Name Of Therapists</th>
<th>Student Initials</th>
<th>Difficulties</th>
<th>Severity Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arryma Suryaning tyas</td>
<td>MMAP</td>
<td>Can read, difficult to concentrate, don’t understand, word reversed.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>HSA</td>
<td>Not able to read and write.</td>
<td>High</td>
</tr>
<tr>
<td>Aminatuz zuriah</td>
<td>TKS</td>
<td>Read not yet smoothly and write something wrong.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>AHT</td>
<td>Not able to read syllables.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>ZVKH</td>
<td>Can read, difficult to concentrate, don’t understand, word reversed.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>FARS</td>
<td>Not able to read and write.</td>
<td>High</td>
</tr>
<tr>
<td>Nindy Dyah Ayu Ariska</td>
<td>FA</td>
<td>Read not yet smoothly and write something wrong.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>MRA</td>
<td>Can read, don’t understand, word reversed.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>ARM</td>
<td>Not able to read and write.</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>DONE</td>
<td>Not able to read and write, left and right directions are still wrong.</td>
<td>High</td>
</tr>
</tbody>
</table>

4. CONCLUSION

This study showed that dyslexia children are children with normal and even high levels of intelligence who have difficulty reading and writing caused by genetic factors. However, their parents still don’t realize that their children have dyslexia.

The difficulties faced by dyslexia children generally related to difficulty of pronouncing letters or numbers, back and forth when reading and writing letters or numbers that have almost same shape, and inability to understand words or sentences that are read. Such children need special handling that was different from normal children, they need intensive teaching and therapy.
Dyslexia children don’t lose their future, they only lose letters and numbers that they should understand at their age, then with proper handling, this is certainly can be removed even they are able to be more than other normal children.

Sekolah Disleksia Cendekia Kudus implements VAKT Model in providing therapy and teaching to dyslexia children. Beginning with observation of children’s difficulties, intelligence tests, and justification, the provision of therapy can be done appropriately according to difficulties that children experience. The implementation of VAKT Model is also accompanied by a variety of learning media, for example with puzzles, cards arising from letters and numbers, various book, games, etc. So VAKT as learning model effective for overcoming dyslexia children.

The expectations of Mr. Trubus Raharjo, S. Pd., M. Si., regarding matters related to dyslexia in the future, he only wanted to provide information to public including education office that there were indeed children with dyslexia, the school also had a role to convey to parents about dyslexia, thus it could be handled well because of phenomenon it looks like an iceberg, above looks small but is actually under a lot.

Because dyslexia, one of which comes from genetic factors, if not handled properly, there will be more. For example, parents have dyslexia and possessed four children, possibility of two children was also to be dyslexia and so on. Even though dyslexia children belong to normal children, they need special treatment, at least minimizing difficulty level of child when they are studying in formal school, because there are many cases that he finds. One of them is fifth and sixth graders and they experiences dyslexia. As a result, they didn’t continue to junior high school or drop out, of course this would have a psychological impact and academic impact on society in general. Special therapy for dyslexia, especially in Central Java, is only in Kudus.

Related to similar research, researcher also suggest that after this study, research on dyslexia will also increase and develop, because there are still very few studies that discuss about dyslexia, even elementary school teachers still don’t understand what is dyslexia, of course besides research also need for seminars and socialization in school, at district level, or if it’s at district level so that awareness about their dyslexia children also understood sert a given way of treatment is best for them.

REFERENCES


Development of Authentic Instruments for Religious Attitudes and Social Attitudes Based on Strengthening Character Education for Grade IV Students in Jati Subdistrict

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Abstract: Research purposes: (1) To Analyze and describe the formulation of a hypothetical model of an authentic assessment instrument of social religious attitude based on ppk of 4th grade of Elementary school students, (2) To analyze and describe the implementation of the development of authentic assessment instruments of religious and social attitude based on PPK of 4th grade Elementary school students. (3) To analyze and describe the results of the validity of authentic assessment instruments of religious and social attitude based on PPK of 4th grade Elementary school students, and (4) to analyze and describe the effectiveness of the development of authentic assessment instruments of religious and social attitude based on PPK of 4th grade students of Ismoyo’s cluster, Sub-district of Jati Elementary school. Research subjects consisted of: 4th grade students of Loram Kulon I Elementary School, Getas Pejaten I, II, and III Elementary School that carry out the authentic assessment of curriculum of 2013. This research is Research and Development model, designed by Borg and Gall. The data validity test of authentic assessment instruments of religious and social attitude based on PPK of 4th grade Elementary school students is using Alfa Cronbach technique of Internal consistency for the content validation and reliability testing. Analysis of Ankova research data with SPSS program.

Keywords: authentic assessment, religious, social attitude

1. PRELIMINARY

In fact, the implementary of authentic assessment of curriculum of 2013 at the Elementary school never be easy to held. This is because teachers are used to assessing students’ knowledge competence in the cognitive domain only, while the realm of students attitude and skills rarely graded. The curriculum of 2013 prioritizes all the three domains equally. Therefore, the implementation of curriculum of 2013 is less than optimal to be held by a teacher.

That fact can be strengthened by the research carried out by Utari (2014). The results show that the implementation of an authentic assessment for the affective realm is 52.8%, Psycomotor realm is 48.4%, meanwhile, Cognitive realm is more dominant around 98.8%. It can be concluded that the implementation of authentic assessment is still less than optimal.

Consider to the importance of the implementation of authentic assessment on all affective, psycomotor and cognitive realms on students character building, Core Competency I (KI-1) of
curriculum of 2013 which is included observance of worship, grateful, and pray before and after the lesson are applied in elementary school (panduan penilaian Untuk Sekolah Dasar, 2016). And also the authentic assessment of social attitude on Core Competency 2 (KI-2) of curriculum of 2013 which is included Honesty, Discipline, Responsible, polite, Caring and Confidence (Assessment guideline for Elementary School, 2016). In fact, many religious and social attitudes are not accordance to the indicator of religious and social attitude in curriculum of 2013. For the Strengthening of the character building (PPK), according to presidential decree (peraturan presiden) no. 87 2017, there are 5 characters, including: Religious, nasionalist, Independent, Cooperative and Integrity.
Next, for the authentic assessment instruments, teachers only rely on the instruments which are stated in Revised teacher’s guidelines book 2017 so it is considered not innovative and creative. So therefore, researcher made an authentic assessment instrument development of religious and social attitude based on the strengthening character Education (PPK) for 4th grade of Ismoyo’s cluster, Jati’s sub-district Elementary School. In fact, it shows that implementation of Authentic assessment face up the problems. These problems arise from several factors, including teacher difficulties in applying the authentic assessment caused by the dissimilarity of student’s learning ability, inadequate facilities and infrastructure, also the various internal and external factor of the students.

The researcher prefer the Research and Development model, which aims to facilitate teachers in order to implementing the authentic assessment maximally and effectively, specially for the authentic assessments of Religious and social attitude. Therefore, the researcher do a development to deal with the problems as described previously which have been given the title “Development of Authentic Instruments for Religious Attitudes and Social Attitudes Based on Strengthening Character Education for Grade IV Students in Jati Subdistrict”.

Majid (2014:57) said, “Autentic assessment is the process of gathering various data that can provide an overview of student development”. Kunandar (2015:35), opine that “ authentic assessment is the activity of evaluating students who emphasize what should be assessed, both the process and the results with various instruments that are suited to the existing competencies”.

For Religious attitude in Core Competency 1 (K1-1) including observance of worship, grateful, and pray before and after the lesson, tolerance in worship, (Assessment guidelines for Elementary school, 2016). While Assessment guidelines for Elementary school (2016:23) explain that Social Attitude assessment included in the indicator of Core Competency 2 (K12) which is including: Honesty, Discipline, Responsible, Polite, Caring and Confidence. For the strengthen of the character Education (PPK) in Presidential Decree number 87 2017 there are 5 character including: Religious, Nationalist, Independent, Cooperative and integrity.

2. METHOD

For the research design, the researcher using “Research and Development” model. This model of research was adapted from Borg and Gall development model. For the implementation of Research and Development model, there are 10 stages that have to be through, including: (1) Preliminary study, (2) Planning, (3) The development of a hypothetical model, (4) The hypothetical model of field test, (5) The hypothetical model revision, (6) Limited Trial, (7) Revision of trial result, (8) Wider model trial, (9) Final model revision, (10) Dissemination and Sosialization.

In the research procedure, the purpose of the research and development model is to improve a product such as the authentic assessment instruments of religious and social attitude based on the Strengthening Character Education (PPK) for 4th grade Ismoyo’s cluster of Jati’s sub-district Elementary school students. This research reffering to Borg and Gall’s Research and Development Approaching model (2003:271), which is including of ten stages, such as: (1) Preliminary study, (2) Planning, (3) The development of a hypothetical model, (4) The hypothetical model of field test, (5) The hypothetical model revision, (6) Limited Trial, (7) Revision of trial result, (8) Wider model trial, (9) Final model revision, (10) Dissemination and Sosialization. This was done because of time, staff and financial limitation.
On the hypothetical model, there are several components, including: Rational, Vision and mission, model, purpose, objective, assumption, content, model component, procedure, and materialization or practice stages, model limitation, evaluation and follow-up.

In this Research and Development, the researcher using the qualitative and quantitative approaches. The qualitative data is obtained using the triangulation techniques through the observation and interview related to the research variable. While, the quantitative data is obtained using questionnaire which are contained in Expert Judgement Validation sheet of material assessment format and questionnaire which are contained in Expert Judgement Validation Sheet of Product assessment format. Those expert judgement questionnaire filled by the expert and Student’s assessment questionnaire filled by 4th grade ismoyo’s cluster of Jati’s sub-district Elementary School student. For the authentic assessment instrument of Religious and social attitude based on the strengthening Character Education (PPK), we need quantitative data as a product of Research and Development.

Subject of the research and development described as follows: Material expert and Product expert test will be held by Santoso, M.Pd. and Faundany Agustia, M.Pd. who competent on authentic Assessment instrument of the religious and social attitude based on the Strengthen Character Education (PPK) for 4th grade Ismoyo’s cluster of Jati sub-district Elementary school student. The product test will be held by Dr. Suad as he is competent on authentic Assessment instrument of the religious and social attitude based on the Strengthening Character Education (PPK) for 4th grade Ismoyo’s cluster of Jati sub-district Elementary school student.

The product trial will be held limitedly on 4th grade of Loram kulon 1 Elementary School and Getas Pejaten 2 Elementary school. The wider trial will be held on 4th grade Ismoyo’s cluster of Jati sub-district Elementary school student, including Loram Kulon 1 Elementary School, Getas pejaten 1 Elementary School and Getas Pejaten 2 Elementary School.

In this Research and Development, the researcher using the qualitative and quantitative approaches. The qualitative data is obtained using the triangulation techniques through the observation and interview related to the research variable. While, the quantitative data is obtained using questionnaire which are contained in Expert Judgement Validation sheet of material assessment format and questionnaire which are contained in Expert Judgement Validation Sheet of Product assessment format. Those expert judgement questionnaire filled by the expert and Student’s assessment questionnaire filled by 4th grade ismoyo’s cluster of Jati’s sub-district Elementary School student. For the authentic assessment instrument of Religious and social attitude based on the strengthening Character Education (PPK), we need quantitative data as a product of Research and Development.

Data collecting technique in this research are using questionnaire, observation, interview and documentation. Questionnaire used to find out the responses and suggestion from the validator. For the observation and interview are used to find the issue, product test, and others. The documentation is used to write down the findings during the preliminary study including the observation and interview also product test. Picture or photograph documentation during the observation are used as the supporting material.

This research instrument using questionnaires, observation and interview. Observation and interview are used by the researcher to find out things related to the research variables. Questionnaires used in order to collect the data including the responses and advices from the expert for then revised as well. The questionnaires are in the form of quantitative data using Likert Scale. Likert Scale with 5 possible answer if there is a question, as example below:

- Score 1, if you are strongly disagree
- Score 2, If you do not agree
Score 3, If you are neutral or Sufficient
Score 4, If you are agree
Score 5, If you are strongly agree

The uses of the likert scale then continued with the sum of the score which is include in the questionnaires which are contained in Expert Judgement Validation sheet of material assessment format up on the religious and social attitude based on the Strengthening Character Education (PPK) for 4th grade Ismoyo’s cluster of Jati’s sub-district Elementary school student.

The data validity of the product trial using the validity and reliability test. This instrument used to measure the goal achievement or the effectiveness of the authentic assessment instruments of the religious and social attitude based on the Strengthening Character Education (PPK) for 4th grade Ismoyo’s cluster of Jati’s sub-district Elementary School student. This core validity testing is measured based on expert judgement and their response up on the instrument which has been arranged. This core validity counted based on the table below:

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Category</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>64 - 75</td>
<td>Very Valid</td>
<td>No Revision</td>
</tr>
<tr>
<td>52 - 63</td>
<td>Valid</td>
<td>No Revision</td>
</tr>
<tr>
<td>40 - 51</td>
<td>Valid Enough</td>
<td>Partial Revision</td>
</tr>
<tr>
<td>28 - 39</td>
<td>Not Valid Enough</td>
<td>Revision</td>
</tr>
<tr>
<td>16 - 27</td>
<td>Strongly Invalid</td>
<td>Revision</td>
</tr>
</tbody>
</table>

Table 1. Core Validity Assessment Qualification
Based on the table above, the assessment can be said to be valid if it meets the criteria of the scoring up to 51 points from the whole element from the questionnaires of expert judgement of material, product expert and students. After that, the instrument revised and tested to the limited trial class that is Loram Kulon 1 Elementary School and Getas Pejaten 2 Elementary school and widely tested to four elementary schools in Ismoyo’s cluster of Jati’s sub-district. Then empirical validation is held. This reliability assessment held with Internal Consistency, also held by tested the instrument once, then the result is analyzed using Alfa Cronbach Technique.

\[ ri = \frac{k}{(k - 1)} + \left\{ 1 - \frac{\sum i^2}{St^2} \right\} \]

Note:
- \( K \) = Squared Mean (average value) between subject
- \( \sum i^2 \) = Failure Squared Mean (average value)
- \( St^2 \) = Total Variety

This data analysis is using descriptive analysis. This Analysis held during the validity test. The data collected through the questionnaire’s assessment to critisized, giving opinion and suggestion about the instrument. This descriptive analysis result used to decide the level of accuracy, effectiveness, and the attractiveness of the instrument product. To analyze the validator response, we use the formula below:

\[ P = \frac{\sum x}{\sum x_i} \times 100\% \]

Note:
- \( P \) = Percentage Of Eligibility
- \( \sum x \) = Validator Total Score
- \( \sum x_i \) = The Highest Score

The assessment of the validity score using the achievement scale conversion, because the assessment need an achievement standard and adjusted the category that had been decided. Here is the table of the assessment’s qualification:

<table>
<thead>
<tr>
<th>Score</th>
<th>Category</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>64 - 75</td>
<td>Very Valid</td>
<td>No Revision</td>
</tr>
<tr>
<td>52 - 63</td>
<td>Valid</td>
<td>No Revision</td>
</tr>
<tr>
<td>40 - 51</td>
<td>Valid Enough</td>
<td>Partial Revision</td>
</tr>
<tr>
<td>28 - 39</td>
<td>Not Valid Enough</td>
<td>Revision</td>
</tr>
<tr>
<td>16 - 27</td>
<td>Strongly Invalid</td>
<td>Revision</td>
</tr>
</tbody>
</table>

Based on the table above, the assessment can be categorized to be valid if it meets the criteria for score above 51 from all of the elements of material expert assessment, product
expert and student’s questionnaires. Therefore, the assessment must reach valid criteria. If it invalid, the assessment has to be revised till it come to valid. Such data analysis using Anova wits SPSS program.

3. RESULT AND DISCUSSION

The result and discussion on this research will be discussed and explained after the researcher doing the research in the class. It will be discussed and explained using statistic and qualitative data.

4. CONCLUSION

Here are the conclusion of the research:

1. This hypothetic model is about the authentic assessment instrument of religious and social attitude based on the Strengthening Character Education (PPK) held for 4th grade Ismoyo’s cluster of Jati’s sub-district Elementary Students.
2. The implementation of the developing authentic Assessment instrument of Religious and Social attitude held for 4th grade Ismoyo’s Cluster of Jati’s sub-district Elementary school students.
3. The validity of the authentic assessment instrument of the religious and social attitude based on the Strengthening Character Education (PPK) held until we reach the real valid instrument.
4. This research held to find out the effectiveness of the authentic assessment instrument development of the religious and social attitude held for 4th grade Ismoyo’s Cluster of Jati’s sub-district Elementary school students.

REFERENCES


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2019)


2019)


The Application on Teacher Discipline to Improve Teacher Performance; a Review

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Abstract. Teacher discipline is an important aspect that must be possessed by professional educators. A disciplined attitude needs to be held to improve teacher performance. This paper will focus on teacher discipline of teachers to improve teacher performance based on the performance standards of teacher evaluation. Discipline attitudes and behaviors in daily life that are carried out consistently by teachers inside and outside of learning tend to imitate by their student so that discipline can be transmitted to students. Self-discipline on teachers’ attitude also leads to teacher performance. The discipline in planning, implementing, and evaluating of learning process directly can be formed in carrying out the duties and responsibilities of the teacher as a professional educator.

Keywords: the discipline of teachers, teachers’ performance

1. Introduction

Teacher discipline is one of several complex discipline problems in schools. Besides, the discipline at school also includes student discipline [1], classroom discipline [2], and school discipline [3]. All of these disciplines are the main pillars of school culture. The teacher as an educator has an important role in educating students. The teacher becomes a role model that is often imitated by students, so the teacher should set a good example. One of the behaviors that can be an example for students is the attitude of the teacher who is always motivated and disciplined. Enforcement of discipline is very important to achieve an effective and efficient learning process. A disciplined teacher can guarantee the maintenance of school rules and the smooth implementation of school management. Therefore, teacher discipline requires a teacher's commitment that is full of loyalty and obedience to regulations and is aware of his responsibility to carry out the school's goals [4] [5].

The teacher discipline has received less attention so far, the main topic of discipline in schools is how to discipline the students [6]. Also, the standard of teacher discipline is still using "old-school" indicators, such as arriving on time, complying with school rules, and maintaining their behavior in front of students [7]. Such disciplinary perceptions are not wrong at all. Morally, discipline is indeed shown through the attitudes and behavior since the teacher is the role model for students [8]. However, those concepts of discipline are considered less able to contribute to improvement in teacher performance.

Teacher performance in a school plays a role in successfully achieving school goals [5]. Teacher performance standards are the basis of all actions to be carried out by teachers, with the main purpose of the development of the teacher as professional educators [9]. Teacher performance standards are summarized in an evaluation called Teacher Performance...
Assessment (Penilaian Kinerja Guru/PKG). Competencies covered in aspects of PKG are used to evaluate teacher performance so that they can carry out the learning process to the maximum. In addition, PKG is also intended to determine the progress of teachers in developing themselves and learning [10].

This paper will focus on teacher discipline of teachers to improve teacher performance based on the performance standards of teacher evaluation. This paper will proceed as follows: first, we will give a short summary of some relevant literature. Then, we discuss how the discipline of a teacher can improve teacher performance. Finally, we will construct a proposed discipline model that is practical and essential for teachers to apply to improve their performance.

2. Literature Perspective

2.1 Teacher Discipline

Discipline simply means the ability to control yourself or other people, even in difficult situations. Discipline can also be interpreted as training that makes people more willing to obey or more able to control themselves, often in the form of rules, and punishments if these are broken, or the behavior produced by this training. Discipline refers fundamentally to the principle that each organism learns to some degree to control itself to conform to the forces around it which it has experienced [4].

Practically, discipline is an action that is regulated to be in accordance (or to achieve accord) with a particular system of governance. Discipline is always oriented to the rules, norms or limits of behavior that have been set [11]. Discipline is compliance or obedience in complying with regulations or norms that apply in certain environments. The forms of discipline that can be applied by teachers in carrying out their duties are reflected in the attitudes and behavior of teachers in planning learning, implementing learning, and evaluating learning [12]. Those steps are in line with the evaluation of the technical components in PKG instruments: Learning Implementation Plan (Rencana Pelaksanaan Pembelajaran/RPP), learning procedures, and evaluation/assessment of learning.

In the context of schools, the norms that must be obeyed are the regulations relating to National Education Policies to the school code of conduct. Discipline is one of the factors supporting the success of teachers in achieving the planned objectives in the learning process activities. With high work discipline, a teacher can be an example to students and colleagues [12]. Work discipline is known to influence efficiency and effectiveness. A teacher who applies high work discipline does their work as efficiently and effectively as possible [11].

The purpose of discipline is to make someone trained, controlled, by teaching them forms of behavior that are appropriate and inappropriate or that are still unfamiliar to them. Thus, discipline will lead to self-control or control of one's behavior based on the norms and rules that apply because they feel the norms and rules have become their own [4].

Discipline in the management of an organization is divided into 2 types [13], namely:

a. **Self-discipline**, which is the attitude of discipline that arises because a person feels fulfilled his needs and has become part of the organization so that the person will be moved to realize and voluntarily comply with all applicable regulations.

b. **Command discipline**, a disciplined attitude that arises because of coercion/threats from others. This type of discipline is, in fact, more often found in the implementation of an organization or institution.
2.2 Teacher Performance

The main task of a teacher as an educator in a school is to channel information in the form of knowledge that is used as provisions by students to be able to attend education to the next level [9]. The teacher's actions in carrying out the given tasks can be called teacher performance. In detail, teacher performance can be defined as work results achieved by the teacher in to achieve educational goals based on standardization or size and time that are tailored to the type of work and under established ethical norms [5].

A teacher must understand the complexity of the National Education System and the impact of applying every measure of policy to the whole system in the context of the dynamics and evolution of the education system. Therefore, teachers need to always update their knowledge and improve their performance [14].

Teacher performance can be shown from the competencies that are required to be fulfilled, namely those competencies include pedagogical competencies, personal competencies, social competencies, and professional competencies according to the regulation of academic qualification standards and teacher competencies (Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 16 Tahun 2007 tentang Standar Kualifikasi Akademik dan Kompetensi Guru).

3. Discussion

3.1 Improving Teacher Performance through Teacher Discipline

Discipline is very important in all educational institutions because it trains individuals to develop responsible behavior that leads to a disciplined person [15]. Teacher discipline forms individuals who are responsible for their duties as educators as well as school managers. As educators, teachers will be able to control themselves and be able to keep the rules well. The attitude of discipline carried out in learning activities will facilitate teachers to carry out effective teaching. The intended learning activities start from planning, implementation, to learning assessment. The structured process will make learning activities effective. Effective learning is known to be in line with increasing student learning achievement [16].

Teacher discipline in fulfilling teacher competency standards is also very important. Teachers as professional educators need to be tested for their competence. The competency dimensions regulated by PKG instruments can be fulfilled properly and on time if the teacher can instill discipline in carrying out his profession. Discipline on competencies that need to be met include:

a. Pedagogic competence is the ability to manage student learning. Learning management requires consistent discipline. The administration of very many learning activities often makes teachers reluctant to do it routinely. In fact, routine work can make it easier for teachers to follow the development of learning and evaluate the shortcomings and problems that arise as soon as possible [17] [18].

b. Personality competence is a personal ability that is steady, noble, wise, authoritative, and be an example of students. The disciplined personal teacher will bring significant changes to the affective students. Teachers who are able to apply self-discipline will not be burdened to show orderly behavior naturally and not made up. This makes the teacher more confident to manage learning activities in the classroom [18].

c. Social competence is the ability of teachers to communicate and interact effectively and efficiently with students, fellow teachers, parents/guardians of students, and surrounding...
communities. The application of teacher discipline can facilitate the fulfillment of social competence, bearing in mind that disciplined teachers will be accustomed to working in a structured manner and can easily explain matters related to the obligations they carry. Thus, the ability of interaction and communication will be helped, in addition to the resulting time efficiency that can be used to share with colleagues [18].

d. Professional competence is the ability to master the subject matter widely and deeply. Mastery of current subject matter and following developing technology can be helped if the teacher always applies a disciplined attitude. Teachers who are actively evaluating the subject matter they teach will have the motivation to update old subject matter to improve the implementation of further learning [17] [18] [19].

In addition, teacher discipline in terms of administration will ease the workload of teachers because the administrative obligations of teachers can be resolved properly and in an orderly manner. This will indirectly be able to save time to work efficiently so that teachers have more time to update information related to learning tasks and carry out activities related to self-development [19]. Teacher self-development mostly sponsored by the government which invested a large amount of budget on teacher learning or teacher professional development. This may lead teachers to improve their ability and also competencies as a professional educator [20].

4. Conclusion

This paper discussed the importance of teacher discipline to improve teacher performance. The main role of teachers is producing excellent students with knowledge, skills and of course morals as well. The teaching process and results received by students is very dependent on teacher performance, especially from what is exemplified. Discipline attitudes and behaviors in daily life that are carried out consistently by teachers inside and outside of learning can indirectly affect students' affective. Students tend to imitate their teachers who they consider to be role models so that discipline can be transmitted to students.

On the other hand, self-discipline on teachers' attitude can effect on teacher performance. The discipline in planning, implementing, and evaluating of learning process directly can be formed in carrying out the duties and responsibilities of the teacher as a professional educator. Practically, the teacher discipline that is formed makes it easy for teachers to meet the demands of all teacher performance competencies, namely pedagogical competencies, personal competencies, social competencies, and professional competencies.

As a suggestion, the teacher discipline needs to be developed consistently from the self-consistently so that it can develop into school culture. On the other hand, aspects of teacher discipline assessment need to be refined. Aspects of assessment such as arriving on time, complying with school rules, and maintaining their behavior in front of students should not be the main standard in the assessment of teacher discipline because it cannot reflect discipline that can improve teacher performance. More basic aspects of teacher discipline assessment such as discipline in planning, implementation, and evaluation of learning can be highlighted because they are directly connected with aspects of teacher competency standards used for teacher performance assessment (PKG).

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References


The Effect of Constructivism and Whole Language Approach to Poetry Writting Skills

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Abstract: This research is motivated by the difficulty of elementary students in writing poetry because of (1) the lack of vocabulary from students, (2) the language used is still simple, and (3) unable to express ideas that are appropriate in learning. The teacher also has not tried to implement other approaches that can motivate students to be able to write poetry according to the aspects in poetry. This study aims to find out how much improvement in poetry writing skills of fourth grade students in Group Rajawali Rembang Subdistrict, Rembang Regency using the Constructivism and Whole Language approaches, and to find out the difference between Constructivism and Whole Language approaches in influencing poetry writing skills. This research is a quantitative research that uses a type of quasi-experimental research with experimental groups and control groups selected without random assignment. The population in this study were elementary school students spread in 47 elementary schools with 8 groups located in Rembang District, Rembang Regency. Based on the random sampling technique, 4 elementary schools were assigned as the experimental group and the other 2 elementary schools as the control group. Data analysis techniques is used by grouping the data based on variables, tabulating data and submitting the data for each variable under study. Testing is done using the SPSS 23 program for Windows.

Keywords: Constructivism Approach, Whole Language, Poetry Writing Skills.

1. PRELIMINARY

The preparation of language and literary material is the integration of the four skills. The four language skills, namely listening, speaking, reading and writing skills that are developed together and integrated are not fragmented. In its implementation related to the chosen theme, according to the themes suggested in the curriculum (St. Y. Slamet, 2014: 71).

Of the four language skills, reading and writing are complementary activities. Writing habits are not possible without reading habits. Although reading habits are not necessarily written habits, reading habits will broaden the horizons of knowledge and insight. The language aspect of writing is focused so that students are able to express various thoughts, ideas, opinions, and feelings in composing essays, writing personal letters, summarizing reading books, making posters, and writing notes in a diary.

Whereas in the ability to write literature, the competency standards of writing aspects are integrated with other aspects of skills, namely students appreciating the variety of children's literature through listening and responding to short stories, writing simple prose, portraying children's drama without text, and writing free poetry (Depdikbud, 2006: 16)

The activity of writing free poetry of elementary school (SD) students is still relatively low. Because students tend not able to put ideas and thoughts in written form. This weakness is reinforced by the factor of teachers who are accustomed to emphasize theory rather than
practice. Even though getting students used to writing ideas in written form is the right first step as a process of inculcating a creative writing culture.
The factors of lack of success in writing poetry of elementary school students include students not being able to develop ideas or ideas, lacking wealth in vocabulary so that the language they compose is still simple, and lack of understanding in the use of capital letters.

Skill comes from the word skilled commonly used to describe a person's varying level of ability. Skill (skill) is the ability to operate work easily and carefully (Sri Widiastuti, 2010: 49). While the term skilled is also interpreted as an act or task and as an indicator of a level of proficiency (Amirullah Day 2003: 17)

Writing can be considered as a process or an outcome. Writing is an activity carried out by someone to produce an article (Puji Santoso, et al: 2008)

Poetry is a literary work in the form of strands of stanza after stanza which relatively considers the rhythm and rhyme so that it is truly beautiful and effective in a relatively short time compared to other forms of literary works (St.Y.Slamet: 2014)

Poetry writing is an activity carried out by a person to produce literary works in the form of string after verse by paying attention to the rhythm and rhyme so that it can be truly beautiful.

Approach to learning can be interpreted as a starting point or our perspective on the learning process that refers to the view of the occurrence of a process that is still very general in nature. In it embodies, inspires, strengthens, and underlies learning methods with a certain theoretical scope. Viewed from the approach to learning there are two types of approaches, namely (1) a learning approach that is oriented or student-centered (student centered approach) and (2) a teacher-oriented approach to learning (teacher centered approach) (Akhmad Sudrajat, 2008).

Constructivism in learning theory emphasizes the knowledge that is built by students themselves as a result of the experience that has been done. So that through learning activities that build their own concepts students will get meaningful learning (Murtono, 2017: 4)

An integrated approach to language learning is based on a holistic language view (whole language) which treats language as something round and whole. In essence, whole language is a philosophy of views or beliefs about learning and how children learn optimally Sabarti Akhadiah (in Hariyanto: 2009).

Moving on from the above background and discussion of the constructivism and whole language approaches this study will present a literature review of the causes of students' lack of success in poetry writing skills. The results of this study are expected to be material information for elementary school students in practicing poetry writing skills.

2. RESEARCH METHODS

This research uses descriptive research method. This method is used to analyze several possibilities to solve actual problems by collecting data, classifying, analyzing, and interpreting it. In this method implemented by describing the facts and then analyzed to provide understanding and explanation.

Data collection was carried out by studying literature and questionnaires. Literature review is a data collection technique by collecting and analyzing documents. Questionnaire is a data collection technique by asking written questions to be answered in writing. Some of the research stages used are: (1) Preparation stage, which is collecting and studying books literature related to the problem to be studied, conduct searches using the internet media and gather theories that support, prepare a questionnaire and permission to conduct initial observations by filling out student questionnaires. (2) Implementation stage, i.e. data collected
at the preparation stage are analyzed for test the accuracy of the data. (3) Data management stage, which is processing the main data.

3. RESEARCH RESULT

The results of previous studies on poetry writing skills conducted by Sinta Arfiani (2016) using the audiovisual-assisted whole language approach were able to show an increase in student writing skills, teacher skills, and student learning activities.

Researchers who discussed poetry writing skills using a constructivism approach have been implemented by Affan Subandi (2013). Constructivist learning can improve students' ability to write poetry. Indications of student learning outcomes can be observed from changes in student learning behavior through the stages of the learning process from the beginning to being able to write poetry obtained a percentage of success 86.67. The application of constructivist methods in learning resulted in an increase in the ability to write poetry in class X students at SMA Negeri 2 Genteng. Although the level of achievement of students' poetry writing abilities is not yet perfect.

Based on the results of a preliminary study conducted in six elementary schools in Rembang District, Rembang Regency writing poetry is a fun lesson but difficult to do. The results of the questionnaire distributed to 30 students from 6 schools obtained the following results:

<table>
<thead>
<tr>
<th>No</th>
<th>Questions</th>
<th>Yes</th>
<th>Sometimes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 Do you like poetry writing activities</td>
<td>8</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>27.67%</td>
<td>56.67%</td>
<td>16.67%</td>
</tr>
<tr>
<td>2</td>
<td>Do poetry writing activities often take place at school?</td>
<td>2</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.67%</td>
<td>83.33%</td>
<td>10.00%</td>
</tr>
<tr>
<td>3</td>
<td>Do you find it difficult to get the task of writing poetry at school?</td>
<td>17</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>56.67%</td>
<td>30.00%</td>
<td>13.33%</td>
</tr>
<tr>
<td>4</td>
<td>Have you ever gained knowledge about how to write poetry?</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10.00%</td>
<td>16.67%</td>
<td>73.33%</td>
</tr>
<tr>
<td>5</td>
<td>Have you ever had the task of writing poetry at home?</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50.00%</td>
<td>33.33%</td>
<td>16.67%</td>
</tr>
<tr>
<td>6</td>
<td>Would you like to get a practical assignment to write poetry at school?</td>
<td>18</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60.00%</td>
<td>16.67%</td>
<td>23.33%</td>
</tr>
<tr>
<td>7</td>
<td>Do you have difficulty in composing words in writing poetry??</td>
<td>20</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>66.67%</td>
<td>23.33%</td>
<td>10.00%</td>
</tr>
<tr>
<td>8</td>
<td>Do you find it difficult to use ideas and imagination in writing poetry??</td>
<td>18</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60.00%</td>
<td>33.33%</td>
<td>6.67%</td>
</tr>
</tbody>
</table>

Number of Respondents (percentage) 30 (100%)
In total 17 students or 56.67% stated that sometimes they liked poetry writing activities, students who liked poetry writing activities were only 8 students or 26.67%, while 5 students or 16.67% said they did not like poetry writing activities. From the results of these answers it can be concluded that student interest in writing poetry is still low, so efforts are needed to increase student interest.

In total 25 students or 83.33% stated that poetry writing activities were sometimes carried out at school, while 3 students or 10.00% stated that poetry writing activities were never carried out at school, whereas students who stated poetry writing activities often conducted in schools only 2 students or 6.67%. The information above shows that the learning to write poetry has not been carried out optimally in class.

Poetry writing learning that has not been carried out optimally results in less success in learning to write poetry, because to produce good poetry writing, it requires ongoing practice. There are only 4 students or around 13.33% of the students in the class who say that writing poetry is an easy activity. 17 students or 56.67% stated that writing poetry was a difficult activity, and 9 students or 30.00% stated that they encountered difficulties sometimes.

From these results it can be seen that it turns out that most students still experience difficulties in terms of pouring ideas or ideas in the form of poetry. From the questionnaire used to measure the initial knowledge and experience of writing poetry of students, we obtained information that some students never do poetry writing activities outside of school. This can be seen from the answers of 5 students or 16.67% who stated that they never write poetry outside of school, both at home and. Whereas those who had written poetry outside of school were only 50.00% or around 15 students, 33.33% or 10 students stated that sometimes they did poetry writing activities outside of school.

On the results of a questionnaire stating that students were happy to get the task of writing poetry in school there were 18 students or 60.00%. Students who sometimes feel happy to get the task of writing poetry in school amounted to 5 students with a percentage of 16.67%. There were 7 students who felt displeased about the task of writing poetry at school or 23.33%.

As many as 20 students with the percentage expressed difficulty in composing words when writing poetry, 3 students or 10.00% felt no difficulty when composing words in writing poetry as well as 7 students sometimes having difficulty writing poetry. This shows that students still do not have sufficient vocabulary to write poetry. Whereas in using ideas and imagination there are 18 (60.00%) students find it difficult, 10 (33.33%) students sometimes, and 2 (6.67%) students do not feel difficulties.

4. CONCLUSION

Based on the study of literature and the results of the questionnaire it can be concluded (1) learning Indonesian, especially writing poetry is still less liked by most elementary school students, (2) students do not like writing activities and feel less happy if given the task to write poetry, (3) students lack interest in learning to write poetry, (4) students lack attention and concentration in learning to write poetry. Using a constructivism and whole language approach can improve poetry writing skills for elementary school students. However, research needs to be done experimentally so that some of the writer's beliefs can be proven empirically.
BIBLIOGRAPHY


Student’s Attitude Toward Science: as Impact of Using Student Created Case Studies Method

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Abstract. The observation results at X IPA class in SMAN 1 Kalasan are student’s interest in biology getting low and their attitude toward science in Biology tend to be negative. This study aimed to know the effectivity of student created case method in improving attitude toward science. This study employed a quasi-experimental with a pre-test and post-test control group design. The population of the study was X IPA SMA 1 Kalasan students. Independent t-test and N-gain test was used for the data analysis technique. The results of the Independent t-test analysis showed sig. (2-tailed) 0.000 that means H₀ was rejected, the N-gain test analysis in the control class had a value of 0.04 while the experimental class had a value of 0.24. The data analysis showed that the student created case studies method is effective to improve student’s attitude toward science in kingdom plantae materia.

Keywords: attitude toward science, impact, student created case studies method.

1. Introduction

The presence of the 2013 curriculum in learning activities requires teachers to apply the concept of the student center in learning. In this activity, the teacher acts as an accompany or facilitator for students. The concept of student center, in learning activity, places student as the center of the learning process. In its application, students are expected to be active and independent in the learning process, who take responsible and can be initiative in knowing their own study needs, finding the source of information to answer the needs, building and presenting their knowledge based on the source they find. In certain limits, students can choose what they want to learn. The learning strategy in 21st Century, requires teachers to apply learning activity which has principles of: learning process which center on students (student centered), improving students’ creativity, creating interesting, happy dan meaningful atmosphere, learning through a direct action carried out by students by emphasizing experimentation, and then creating learning in real situations and actual contexts through a contextual approach [1].

In implementing the concept of a student center in the classroom, the teachers have to be able to condition and adjust the classroom atmosphere to make students have a high enthusiasm in participating the learning activity. The problem that might be faced by the teacher is that not all students feel interested or can even feel bored with such learning activities. Learning the science family in schools often creates the impression of being less attractive to students, because the teacher's presentation in the classroom is more focused on achieving curriculum targets so that the classroom atmosphere becomes less enthusiastic.
Internal factors that are expected to influence this are student attitudes towards objects related to science lessons [2].

Based on the results of observations made by researchers at SMAN 1 Kalasan, in biology learning activities student’s interest in biology learning are getting low and their attitude toward science in Biology tend to be negative. As a result, students' interest in biology subjects will decrease, even if they want to easily understand the material in certain subjects then first there must be an attitude of interest in the lesson. The attitude and interest of students towards biology is called the attitude toward science (attitude towards biology) because Biology is included in the family of science.

Attitudes towards science can be either a negative attitude or a positive attitude, in term of students' views on science which in this study is specific to Biology as science education. The attitude towards science (attitude toward science) in the State of Australia is the most important goal of Science education. Because this relates to students' interest in carrying out learning activities, so that indirectly it will impact on student achievement, and further this will give an impact on student interest in choosing their careers related to science in the future [3].

Attitude toward science as expressed by Osborne [4] is an attitude towards science-Biology learning activity including feelings, beliefs dan values possessed by students about a science object (in learning biology in the subject of kingdom plantae). In Desy et al. [5], the attitudes include: perception of Biology teacher in school, the view about Biology as a subject in school, learning Biology as values in society, enjoying biology learning experiences, interests in biology, and attitudes toward biology at school.

Case-study based learning method was chosen as an alternative to improve attitude toward student science, then from several methods selected student created case studies learning method. This method was chosen as an alternative to resolve the findings of the problem in the field. Sudjana [6] explains that learning by using the case study method has advantages, among others; students gain practical experience, learning activities become interesting, subject matter can be more easily understood by students, students can learn by using a variety of available sources, and students will be trained to actively interact with both their friends and teachers. Raju & Sanker [7] suggested that the importance of using case studies in the world of education is to expose students to real-world problems that students might face. By applying case studies in learning not only students find learning immersion, but for teachers / lecturers will also find teaching experience [8]. The use of case studies in learning activities can also increase student motivation and interest. Davis & Wilcock [9] try to explore students' feelings by interviewing several students who get teaching with case studies, they get recognition from one of the students, as follows:

"... well, it's real stuff isn’t it? Otherwise you can feel like you’re just doing something for the sake of it. When you do a case study you go out and find information that is being used in real life. It’s something different where you actually apply what you’re learning...

Students who were observed using case-study based learning confessed that they enjoyed learning using the method because from the method they can implement the lesson to solve the real life problem.

Scientific learning approach combined with student created case studies learning method will eventually make a supporting concept to student center concept in learning. Also, it will make the learning more optimal and both of the approach and the learning method more comprehend. In addition, student-created case studies learning methods require students to be
able to solve or find solutions, to take lessons from the topic of problems raised in the learning process. When students are involved directly in learning, students will naturally feel interested in the learning and the lesson itself will be very imprinted in their mind or it can be said that the knowledge obtained by the students will be kept in thought. From the various descriptions above, research will be carried out with the aim of knowing the effectiveness of student created case studies learning methods on attitude toward science in class X high school students in learning kingdom plantae materi.

2. Method

2.1 Research design

This research was an experimental research which was included in the quasi-experiment design with the design of pre-test and post-test control group design. In the experimental class, the treatment was given using the student created case study learning method while the control class employed was the discussion learning method. The treatment scheme in the experimental class and control class can be seen in the table below:

<table>
<thead>
<tr>
<th>Group</th>
<th>First measurement</th>
<th>Treatment</th>
<th>Last measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>O1</td>
<td>X</td>
<td>O2</td>
</tr>
<tr>
<td>Control</td>
<td>O3</td>
<td>-</td>
<td>O4</td>
</tr>
</tbody>
</table>

Description :
- O1 : measurement of the initial ability of the treatment class
- O2 : measurement of the final ability of the treatment class
- X : the group treated by using student created case studies method
- O3 : measurement of the initial ability of the control class
- O4 : measurement of the final ability of the control class

2.2 Population and sample

The population in this study were students of class X IPA SMAN 1 Kalasan. Then, from the population, samples were taken to be used in the study. The study was conducted during the second semester of the 2018/2019 academic year with the subject of kingdom plantae. The research sample was selected through simple random sampling method, on the basis of consideration of the ability of students to be considered homogeneous at the beginning of the first-class division and students used as research subjects were accustomed to carry out problem-based learning (case studies) and scientific approaches. The sampling activity was determined by students of class X IPA 3 as a control class and students of class X IPA 2 as an experimental class.

2.3 Instrument

The research instrument employed in this study was a non-test instrument attitude toward science questionnaire using an instrument developed by Desy et al., (2011). Before the instrument employed, first it was validated through expert judgment, after the validation was complete then the grammar and writing procedures were revised. As for indicators of attitude toward science consists of 7 principal indicators of attitude. The 7 indicators consist of;
Perceptions of science-biology teachers in schools, views on school-biology, the value of biology in society, self-concepts in biology, enjoy the experience of studying biology, interest in biology, and attitudes towards schools of biology.

2.4 Research procedure

The research steps taken were: (1) Preparation which included making learning devices for the experimental class and the control class, doing the instrument trials. (2) Giving the pre-test, to the control class and the experimental class. (3) The implementation of the experimental class learning uses a scientific approach with a created case studies student learning method in which the learning activities begin with the teacher dividing the article to each group as a reference for finding / making a case study, then from the created case it is then used as discussion material in the group. From the results of the discussion of each group, it can be expected that there will be a number of cases that can be appointed as well as used as learning material in the class. While the implementation of the learning control class uses a scientific approach only. (4) Giving post-test to the control class and the experimental class.

2.4 Data analysis

The hypothesis test employed was an independent t-test with a significance level of 5%, then an N-gain test was performed to determine the significance of the increase in pre-test and post-test. Before data analysis is carried out, a prerequisite analysis test is carried out in the form of distribution normality test and variance homogeneity test. In the analysis of distribution normality test and variance homogeneity test, the Sig value is obtained. (2-tailed) > 0.005 which means that all data obtained has a normal distribution and originates from a homogeneous variant.

3. Result and Discussion

In summary, the description of the data students’s attitude toward science can be seen in the table below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Experiment class</th>
<th>Control class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pree-test</td>
<td>Post-test</td>
</tr>
<tr>
<td>Average</td>
<td>73.63</td>
<td>80.08</td>
</tr>
<tr>
<td>Maximum score</td>
<td>82</td>
<td>88</td>
</tr>
<tr>
<td>Minimum score</td>
<td>56</td>
<td>70</td>
</tr>
</tbody>
</table>

On Table 2, the experimental group has an average pretest score of 73.63, and the posttest is 80.08. In the control group the average pretest score was 73.76, and the posttest was 74.96. If the average score of the pretest is obtained, the initial state of the control class and the experimental class is concluded as homogeneous. To support and prove that the initial homogeneous state of the control class and experimental class will be carried out independent t-test. The results of the independent t-test from the pre-test control class and the experimental class obtained the Sig. (2-tailed) 0.924. Because the value of p > 0.05, it can be concluded that there is no significant difference in the initial state of the control class and the experimental class.
The results of the final measurement (post-test) showed that the experimental group had an average score of 80.08, while the control group had an average score of 74.96. Seen from the difference in the average score, it can be concluded that the treatment given to the experimental class was successful. However, to prove whether the learning with a scientific approach combined with student created cases study methods on attitude toward science significantly effective, statistical tests will be conducted using the independent t-test which will be described in full on the hypothesis test points.

Based on the hypothesis test, it is known that the scientific approach to the student created learning method case studies is effective on the attitude toward the science of students. This can be seen on the different tests that are conducted (independent t-test) on attitude toward science control class students with experimental class getting a significance value of 0.000 which means H0 is rejected in which it means that there are significant differences. Thus, it can be concluded that attitude toward science students, in the experimental class and control class after getting treatment, differed significantly. The average score of the measurement results of attitude toward student science can be seen in the diagram below:

![Diagram showing the comparison of pre-test and post-test scores for the experimental and control classes.](image)

Fig. 1. The result diagram measurement of student’s attitude toward science.

On Figure 1, it shows that in the experimental class the average value of the pre-test was 73.63 and the average score of the test post was 80.08. In the control class the average pre-test value was 73.76 and the average test post value was 74.96. The results of the measurement of attitude toward the science of control class students and experimental classes, each increased after learning activities. However, the increase in the average score of attitude toward science occurred more significantly in the experimental class than the results of the average control class. When the initial measurement in the experimental class obtained an average score of 73.63, the score obtained in the experimental class increased after getting learning activities, with the acquisition of an average score of 80.08. Whereas in the control class there was an increase, but it was not so significant and far below the average score in the experimental class. When the researcher conducting initial measurements, the control class obtained an average score of attitude toward science score of 73.76. The score for attitude toward science after learning activities in the control class also increased but not significantly with the acquisition of an average score of 74.96.
To prove how much the increase in the acquisition of pretest and posttest scores, data analysis was performed using the N-gain score test. N-gain test results in the experimental class and control class can be seen in the diagram below:

![N-gain Test Diagram](image)

**Fig. 2.** The results of the n-gain test scores on attitude toward the science of the control class students and the experimental class.

On Figure 2, it can be seen that there is a difference in the gain value between the experimental class and the control class. In the experimental class, an increase is shown in value of 0.24 in which it can be concluded as "low" category, while in the control class an increase is shown in value of 0.04 with "low" category. Even though the results of the N-gain test between the control class and the experimental class are concluded as low criteria, if the details is also being measured, the results in the experimental class are better than the control class. Details of the significance of value improvement are as follows: with scores of 66.67% of students increase with the category "low", 33.33% of students belong to the category of "moderate" and 0% of students who experience an increase in the high category. While in the control class, 100% of students experienced an increase in the "low" category.

The lowness of improvement score of students in control class happened because there is the time when teachers teach students but some of the students the class were not really enthusiast and indirectly it infected the rest of the students of the class. For example, when a presentation’s discussion is up, there are only a few students who respond to the group presenting and some of them have to get stimulated by the teacher to ask. In addition, from the data obtained, in filling the post-test on attitude toward science and also post-test, most students chose the same option with the option they chose in the pre-test questionnaire. Thus, this case causes the acquisition of attitude scores toward science students in the control class is lower when compared to students in the experimental class.

Learning activities which apply scientific approaches involve students to be active and directly involved in learning activities. In addition, the student created case studies learning method is also a kind of learning method that makes students be the main actors in learning. As in the learning which is carried out students will make students look for a case / topic of learning that then will be discussed and resolved in their group discussions.

Based on researcher’s observation, in learning activities that apply a scientific approach which carry out student created case studies learning methods, students have a sense of
interest and feel happy to learn the materials in biology, and these traits are part of aspects in attitude toward science.

Some opinions state that students who are directly involved in learning activities, such as practicum in the laboratory, feel happy and interested in the lesson. The excitement surrounding activities in the laboratory encourages them to feel interest in pursuing further education and will even encourage students to be interested in careers in science. Direct experience in science can increase their interest in scientific disciplines [10]. One way in learning activities that can involve students to have direct experience is by inviting students to learn on the basis of problems. Because with problem-based learning, students will feel to be as if they are directly involved in the case. Gomez-arizaga [11] students enjoy with the learning activities where they are being involved directly because they have the opportunity to create, share, and realize their ideas.

In biology learning activities, it is very important for teachers to always make students have self-motivation in learning biology. Learning motivation can direct students to conduct scientific literacy studies to understand various knowledge, identify scientific questions, draw conclusions based on evidence, and make decisions [12]. Research conducted by Akbar [13] shows that motivation has a significant relationship to attitudes, until finally motivation will influence the stages of decision making. Attitude toward science is the attitude of students towards biology that can be either a negative attitude or a positive attitude. In this attitude there are various aspects, including interest in pursuing a career in the field of science. Students who have a high attitude toward science mean that they have good self motivation in learning biology.

Motivation in learning science can lead students to continue to higher education in reaching future scientific careers [14]. If students have high motivation in learning biology, so they will be interested in learning biology. Motivation will also affect students' decision choosing science related careers in the future. In addition, the higher the motivation to learn, the higher the learning outcomes obtained by students [15].

Based on the research done and supported by several relevant theories, it can be concluded that the scientific approach with student created case studies learning methods proved to be effective to improve students' attitudes toward science in the kingdom plantae material.

Attitude toward science will facilitate students in developing science concepts, which in turn improves scientific academic achievement. In addition, learning science should be more contextual in which it means that science activities should be directed to observe the scientific symptoms that exist around students [16].

4. Conclusion

The use of a scientific approach along with the student created case studies method is effective to improving on the attitude toward science class of X high school students in the kingdom plantae subject material. This can happen because the case study learning method makes students directly involved in learning activities. Those activities are such as practicum in the laboratory, or practicum / field observation. Thus, it will make students feel happy and interested in the lesson. The excitement of the surrounding activities in learning can encourage their interest in pursuing further education and will even encourage students to be interested in careers of science field.
References


The Impact of Academic Supervision and Classroom Action Research Training on Professional Competence of Elementary School Teacher

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Abstract: There are some steps to improve teacher professional competencies including academy supervision and classroom action research training. The purpose of this study is 1) To know the effect of academic supervision on the professional competencies of elementary school teachers, 2) To know the effect of classroom action research training on the professional competencies of elementary school teachers, 3) To know the effect of academic supervision and classroom action research training on the professional competencies of elementary school teachers. The subject of this study were all elementary school teachers in all Subdistricts of Undaan, Kudus Regency. This study uses a quantitative contribution method with regression analysis techniques. Respondents were selected using a purposive sampling technique. Data collection research using a questionnaire. The validity of data uses construct validity by way of experiential judgment. Data analysis was performed using regression analysis techniques in the form of simple and multiple regression. The results of the study showed that academic supervision had an effect on teacher professional competence. Whereas classroom action research training has an effect on teacher professional competence. Academic supervision and classroom action research training together have an effect on teacher professional competence.

Keywords: Academic Supervision, Classroom Action Research Training, Professional Competence

1. Introduction

In era industrial revolution 4.0 now all done with modern technology and professional staff. The change also occurred in the field of education. Teachers in the industrial revolution 4.0 are required to work professionally. Especially with the existence of professional allowance, teachers must be more professional at work. The teacher is one of the most important school components in the framework of implementing the curriculum, this is due to the teacher having a great responsibility in the learning process at school. Teachers are required to be able to translate competency standards and basic competencies so that it becomes interesting learning material. To be able to master this, of course only teachers who have professional
competence are able to carry it out. This is implied in Government Regulation Number 19 of 2005 concerning National Education Standards, in the elucidation section of Article 28 Paragraph (3) point (c) it is explained that what is meant by professional competence is the ability to master extensive and in-depth learning material that enable it to guide students to meet the competency standards stipulated in the National Education Standards. Teacher Professional Competence can also be seen from UKG, because teachers will be given tests on pedagogical and professional abilities. Based on the results of the 2015 teachers in Undaan District received an average score of 62.47 with a percentage of teachers who did not pass the KKM 28.10%. Based on the above data, professional competence of elementary school teachers is still a focus of urgent problems to immediately find a solution so that the professional competence of elementary school teacher can increase.

According to [2] Bafadal (2009) states that supervision activities carried out continuously can improve teacher professional competence. The teacher needs to get help from the mentor in order to maximize his function professionally. One of the supervision activities is a academic supervision conducted by the school principal. According to [11] Asih Pratiwi (2013) states that the academic supervision of the principal has a positive and significant influence on the professional competence of teachers. This show that academic supervision by the school principal has a positive influence on the professional competence of teachers. Academic supervision contributes to improving teacher professional competence.

According to [18] Wokneh, A & Tassew, W (2013) “teacher training, capacity building and work experience have positive affects on quality education” which explains that teacher training, capacity building and work experience have a positive effect on the quality of education. With teacher training can improve the quality of education one of which is the professional competence of teacher.

According to [4] Hardono, Haryono, & Amin Yusuf (2017) stated that academic supervision is an activity of providing assistance to teacher in order to assist teacher in the learning process which consists of planning, implementing and evaluating learning in order to achieve planned objectives. So that academic supervisor provides service and assistance to teacher to improve quality in the learning process. Being according to [1] Arikunto Suharsimi & Lia Yuliana (2013: 280) The main objective of academic supervision is to improve the professional abilities of teacher and improve the quality of learning through good learning. [12] Sagala (2010: 187) divides academic supervision techniques into individual academic supervision techniques and group academic supervision technique. Implementation of professional supervision and good teacher competency according to [5] Kompri (2015: 264-265) can be done in following manner: (1) motivating teacher to keep working well is not an easy job, (2) giving encouragement to teacher to not work monotonously, (3) the principal needs to uphold the discipline of teachers by giving an example with supervision and sanctions, (4) the principal urges teacher to want to try to improve their profession. [5] Azhar (Komri, 2015: 268-269) said that the way to utilize the results of academic supervision as follow: (1) provide suggestion for improvement for the problems found, (2) report findings/deviations to be implemented as appropriate, (3) conduct case conference, (4) the results of supervision are reported in writing to the supervisor and to the education guidance officer.

From the description above it can be conclude that academic supervision is professional assistance to teachers through a cycle of systematic planning, careful observation, and objective and immediate feedback. Academic supervision is an activity of providing assistance to teachers in order to assist in the learning process which consists of planning, implementing, and evaluating learning in order to achieve the planned objectives. In this study, academic supervision is only in the process of implementing academic supervision and
in the follow-up process of academic supervision. With the academic supervision will increase the professional competence of teacher in teaching to be more professional.

According to [7]Dessler (Mulyanti 2018) Training is the process of teaching the skill needed by new employees to do their jobs. According to [7]Mangkunegara (Mulyanti 2018) The objectives of training and development include: increasing mental and ideological comprehension, increasing work productivity, improving work quality, improving the determination of human resource planning, increasing moral attitude and work morale, increasing stimulation so that employees are able to excel to the maximum, improve work health and safety, avoid obsolescence, improve personal development. According to [3]Bangun (2012: 208-210) there are four levels of assessment of training namely: a) Reaction, b) learning, c) Behavior, d) Training results. Understanding classroom action research training according to [17]Wardhani (2014: 1.4) states that classroom action research is research conducted by teachers in their own classes through self-reflection with the aim to improve their performance as a teacher, so that student learning outcomes improve. According to [16]Tampubolon (2014: 25) said the specific purpose of classroom action research is to improve the quality of teaching practices in a continuous class.

Based on the expert opinion above, it can be concluded that training is a learning experience in making changes to improve technical knowledge/skill, conceptual abilities and ability to do work. There are four levels of assessment of training, including: Reaction, learning, Behavior, Training results. Classroom action research can be interpreted as a reflective form of study by action actors, which is carried out to improve rational stability and their actions in carrying out task, deepen understanding of the action carried out, and improve conditions where practices are learning is done. The benefits of classroom action research are to produce classroom action research to improve the quality of learning, foster the habit of writing research for teachers, collaboration between teachers in solving learning problems, increasing the ability of teachers to describe learning programs, increasing student learning outcomes, the realization of interesting and fun learning.

According to [9]Mulyasa (2013: 42) professional competence is the ability of educators in mastering broad and in-depth learning material that enables guiding students to obtain the specified competencies. The foundation in professional knowledge can be used as a guide for teachers to develop their competencies, especially professional competencies. Indicators that can be used to determine professional competence of teachers are in Permendiknas No. 16 of 2007, which explains that teacher professional competence has five aspects, namely: (a) mastering the material, structure, concepts, and scientific mindset that supports the subjects being taught, (b) mastering the competency standards and basic competencies of subjects of development who are able, (c) develop learning material that is taught creatively, (d) develop professionalism in a sustainable manner by taking reflective actions, (e) utilizing technology and communication to communicate and develop themselves. While more specifically according to [8]Mulyasa (2007: 136-138) professional competence of teachers can be described as follows: understanding national education standards, developing educational unit level curricula, mastering standard materials, managing learning programs, managing classes, using media and learning resources, mastering educational foundations, understanding and implementing student development, understanding and organizing school administration, understanding research in learning, displaying exemplary and leadership in learning, developing theories and basic concepts of education, understanding and implementing individual learning concept.

From the description above it can be concluded that professional competence is the ability of educators in mastering broad and in-depth learning material that allows guiding
students to obtain the specified competencies. The professional competencies discussed in this study include: (1) mastering the material, structure, concepts, and scientific mindset that supports the subjects being taught, (2) mastering the competency standards and basic competencies of subjects of development that are supported, (3) develop learning material that is taught creatively, (4) develop professionalism in a sustainable manner by taking reflective actions, (5) utilizing technology and communication to communicate and develop themselves. Strategies in developing professional competence of teachers are as follows: improvement in professional abilities of teachers is carried out through academic supervision activities by school principals, enhancing teacher professional competency can also be done through teacher centers in the form of training.

Based on the explanation above, it can be seen that academic supervision and classroom action research training has an influence on teacher professional competence which includes five aspects including: mastering material, structure, concepts, and scientific mindset that supports the subjects, mastering the competency standards and basic competencies of subjects, developing material learning creatively, developing professionalism in a sustainable manner by taking reflective actions, utilizing technology and communication to communicate and develop themselves.

The formulation of the problem can be compiled based on the description above as follows: how much the effect of academic supervision on the professional competencies of elementary school teachers in the Undaan District, Kudus Regency?, how much the effect of classroom action research training on the professional competencies of elementary school teachers in the Undaan District, Kudus Regency?, how much the effect of academic supervision and classroom action research training on the professional competencies of elementary school teachers in the Undaan District, Kudus Regency?.

The purpose of this study is 1) To know the effect of academic supervision on the professional competencies of elementary school teachers, 2) To know the effect of classroom action research training on the professional competencies of elementary school teachers, 3) To know the effect of academic supervision and classroom action research training on the professional competencies of elementary school teachers.

2. Method

The researcher designs the research as a survey research to determine whether or not there is an influence between two or more variable and how much influence. The approach used is a contribution quantitative approach that is conduction a study of the facts and the results of the study will provide an overview of the influence between academic supervision, classroom action research training, on the professional competence of elementary school teachers in the Undaan District, Kudus Regency.

The population in the study were all civil servants teachers in UPT District Education Undaan Kudus Regency. Population data is 191 people. In this study the sampling method is purposive (sampling with certain criteria), namely elementary school teachers who are civil servants, with a minimum of an S1 degree because the teacher qualifications must now be at least S1 and aged between 24 to 55 years on the grounds teachers who have these criteria are generally more productive. In addition, other criteria were that teachers who follow classroom action research training once and where training was not a determining factor in the sample. The research sample data of 111 people.

The instrument in this study was a questionnaire, a questionnaire prepared in the form of a statement regarding teacher professional competence, academic supervision and classroom
action research training. Each instrument is developed from each variable to sub-variables, then indicators are determined to arrange the questions.

Before the instrument is used first, validity test is done by means of expert judgment, which is testing the instrument that has been made by researchers to expert lecturers, then the instrument is tested with 30 respondents of elementary school civil servants in Kudus according to sample criteria. Not involved when collecting data.

The analysis technique used in this study is descriptive statistics and regression analysis. The steps in analyzing data are selecting and classifying data, then analyzing the description of respondents characteristics and variable using SPSS, conducting prerequisite test analysis, conducting research hypothesis testing, and conducting data analysis to answer the problem formulation.

3. Results and Discussion

The implementation of academic supervision in the elementary school teachers in the Undaan District, Kudus Regency based on data obtained by researchers from 111 respondents showed that the implementation of academic supervision was obtained based on descriptive statistical calculations, which was a mean 55.37; median 57.00; standard deviation 8.513; range 39; minimum 28; maximum 67. classroom action research training was obtained based on descriptive statistical calculations, which was a mean 60.21; median 59.00; standard deviation 9.388; range 30; minimum 43; maximum 73. The professional competencies of teachers is obtained based on descriptive statistical calculations, which was a mean 89.99; median 89.00; standard deviation 13.706; range 54; minimum 56; maximum 110.

Academic supervision that has run quite well has turned out to affect the professional competence of teachers. That is shown from the results of data analysis using simple regression where the t-test value of 6.546 is known with a significance value of 0.00 < 0.05, then Ho is rejected and Ha is accepted, which means there is an influence of academic supervision on the professional competence of elementary school teachers in Undaan District. The contribution of academic supervision to the professional competence of elementary school teachers in Undaan District, Kudus Regency was 28.2%.

The effect of academic supervision on the professional competencies of elementary school teachers in Undaan District, Kudus Regency can be seen in table 1 below:

<table>
<thead>
<tr>
<th>t count</th>
<th>Value</th>
<th>sig</th>
<th>Big Contribution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.546</td>
<td>0.000</td>
<td>28.2</td>
<td></td>
</tr>
</tbody>
</table>

Academic supervision has an influence on the professional competence of elementary school teachers in Undaan District, Kudus Regency by 28.2%.

Based on the data above, it can be concluded that academic supervision has an influence on the professional competencies of elementary school teachers. Academic supervision has an influence on the professional competence of elementary school teachers in Undaan District, Kudus Regency by 28.2%.
The results of the research in the field showed that classroom action research training affected the professional competence of elementary school teachers in Undaan District, Kudus Regency. This is indicated by the results of data analysis using simple regression where the calculated t value of 11.956 with a significance value of 0.00 < 0.05, then Ho is rejected and Ha is accepted, which means there is an influence of classroom action research training on the professional competence of elementary school teachers. The contribution of classroom action research training to the professional competence of elementary school teachers in Undaan District, Kudus Regency was 56.7%.

The effect of classroom action research training on the professional competencies of elementary school teachers in Undaan District, Kudus Regency can be seen in table 2 below:

<table>
<thead>
<tr>
<th>t count</th>
<th>Value sig</th>
<th>Contribution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.956</td>
<td>0.000</td>
<td>56.7</td>
</tr>
</tbody>
</table>

Based on the data above, it was concluded that classroom action research training had an influence on the professional competence of elementary school teachers. Classroom action research training has an influence on the professional competence of elementary school teachers in Undaan District, Kudus Regency was 56.7%.

SPSS output result obtained significance value probability (sig) = 0.00 = 0% < 5%, this means that Ho is rejected and Ha is accepted. This means that there is an influence of academic supervision variable (X1) and classroom action research training (X2) together on the teacher’s professional competency variable (Y). The magnitude of contribution of the variable academic supervision and classroom action research training together to variable of professional competence of elementary school teachers in Undaan District, Kudus Regency was 59.9%.

4. Conclusion and Suggestion

4.1 Conclusion

Results of research in the field and data analysis conducted by researchers found several conclusions that there was an influence of academic supervision on the professional competence of elementary school teachers in Undaan District, Kudus Regency by 28.2%. There is an influence of classroom action research training on the professional competence of elementary school teachers in Undaan District, Kudus Regency, which is 56.7%. And there is also the influence of the variable of academic supervision and classroom action research training together to the variable of professional competence of elementary school teachers in Undaan District, Kudus Regency by 59.9%.

4.2 Suggestion

Academic supervision conducted by school principals to elementary school teachers in Undaan District, Kudus Regency according to findings, was able to improve teacher professional competence. Therefore, the principal should continue to improve academic supervision activities so that the professional competence of teachers in his school increases.
Improvement of supervision can be done by the school principal by conducting academic supervision in an intense, orderly, planned, and ongoing manner, so that teachers can get regular assistance and guidance. Likewise with the results showing classroom action research training can improve teacher professional competence. Therefore teachers are expected to take classroom action research training seriously so that their professional competence can increase.

References

Development of Android-Based Tourism Education Application

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Abstract. The world of early childhood education was now experiencing changes, along with the rapid development of technology. This causes the need for human resources who master the latest technology in order to create an attractive technology-based media. The Android-based smartphone is the technology that currently inseparable and almost owned by everyone, both educators and parents are an. Android is an operating system that holds market share because it is based on open source and is always updated with new capabilities. Utilizing this technology as a means of making media in the form of electronic modules was an effort to improve education and support paperless activities. Children were not inconvenienced in carrying a large number of book-shaped modules when conducting educational activities, because they have been replaced with electronic modules that can be operated on an Android-based smartphone.

Keywords: Android, Early Childhood Education, Paperless, Smartphone, Tourism Education Module

1. Introduction

Early childhood education is a form of education that focuses on laying the foundation for physical growth and development (motor coordination, fine, and rough), intelligence (power of thought, creativity, emotional intelligence, spiritual intelligence), socio-emotional (attitude and behavior) and religion), language and communication, in accordance with the uniqueness and stages of development that are passed by early childhood. Early childhood education has been widely developed in the community, both developed and developed by government agencies and by the community, such as Toddler Family Development which was developed by National Population and Family Planning Agency, Child Care by social department, Kindergarten by Ministry of Education, daycare by Ministry of Religion, and Play Group by the community. Parents' awareness of the importance of education for early childhood is increasing. Early childhood education continues to increase from year to year [1].

Data on the number of children in 2002 aged 0-6 years (28,311,300 people), only 5.69% served by kindergarten, 11% had entered elementary school and 52.25% were fostered through the Toddler Family Development Program. The remaining 30.06% have not received educational services. However, in 2005, UNESCO noted that early childhood education programs participation rates in Indonesia occupy the lowest position in the world (20%). The
same phenomenon also occurs in ASEAN, Indonesia was classified as low compared to Vietnam, the Philippines, Thailand and Malaysia [2].

Follow-up is needed related to the facts above, by reviewing the main objectives of early childhood education. Forming quality Indonesian children, namely children who grow and develop according to their level of development so that they have optimal readiness in entering basic education and wading through life in adulthood.

The role of early childhood education programs teachers becomes important to be a figure that becomes the main foundation in achieving the objectives of early childhood education. So important is the role of the teacher in learning that requires teacher professionalism. Professional early childhood education programs teachers certainly have educational academic qualifications that are in accordance with government regulations. Academic qualifications of early childhood education programs teachers: have a 4th diploma (D-IV) or Bachelor in the field of early childhood education obtained from an accredited study program, or have a 4th (D-IV) or another relevant educational degree or psychology obtained from an accredited study program and has a early childhood education programs Teacher Professional Education Certificate from an accredited tertiary institution [3].

Not only educational qualifications, but the need for pedagogical competence is also an additional ability that teachers must have in managing student learning. Where at least contains the following things: a) understanding insight or basic education, b) student understanding, c) learning design, d) implementing learning that is educational and dialogical, e) the use of learning technology, f) evaluation of learning outcomes and g) student development [4].

In supporting the management of early childhood education programs teacher student learning can also create media using the latest technology that can be operated using an Android-based smartphone. The need to contribute to the use of technology because in the implementation of early childhood education should use the principles: (1) oriented to the needs of children; (2) learning through play; (3) conducive environment; (4) using integrated learning; (5) developing various life skills; (6) using a variety of educational media and learning resources; (7) carried out gradually and repeatedly [5]. Based on this description, early childhood education programs learning requires educational media and learning resources to support learning.

Smartphones are a primary need for the community, especially teachers, to be used as a medium to obtain scientific resources. Based on digital marketing research agency Emarketer, estimates that in 2018 the number of active smartphone users in Indonesia will be more than 100 million. With such a large number, Indonesia will become the country with the fourth largest active smartphone user in the world after China, India, and America [6].

Smartphone ownership by teachers is not supported by the ability to develop applications that can support learning. the results of an interview with the Chairman of the Indonesian early childhood educators association of Kalinyamatan District, early childhood education programs teachers have never received training on making android-based applications. Therefore, most teachers are only application users, not as developers. In fact, if the teacher is able to make their own learning application it will be easy to relearn the learning design that has been made. Not only beneficial for teachers, but the benefits of using learning applications can also be felt by parents. Monitoring of learning activities can be done in an easy way through a smartphone.

2. Theoretical Review

2.1 Early Childhood Education
Early Childhood Education is a process of growth and development. Children are born up to six years, discussing physical and non-physical aspects, by providing stimuli for optimal physical, spiritual, motor, mind, emotional and social development [7] [8].

2.2 Android

Android is a collection of software for mobile devices that includes operating systems, middleware and major mobile applications. Android has four characteristics [9] as follow:

2.2.1 Open

Android was built to be truly open so that an application can call one of the core functions of the phone such as making calls, sending text messages, using the camera, and others. Android uses a virtual machine specifically designed to optimize memory resources and hardware contained in the device. Android is open source, can be freely expanded to include new technologies that are more advanced when the technology appears. This platform will continue to develop to build innovative mobile applications.

2.2.2 All applications are the same

Android makes no difference to the main application from the phone and third-party application. All applications can be built to have equal access to the ability of a telephone to provide users with extensive services and applications.

2.2.3 Resolve obstacles in the application

Android breaks down barriers to building new and innovative applications. For example, developers can combine information obtained from the web with data on someone's mobile phone such as user contacts, calendars, or geographical locations.

2.2.4 Fast and easy application development

Android gives users very broad access to libraries and necessary tools that can be used to build better applications. Android has a set of tools that can be used to help developers increase productivity when building applications that are made.

2.3 Tourism Education

Tourism Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have the spiritual spiritual strength, self-control, personality, intelligence, and skills needed by the community. Educational tourism itself is a type of special interest tour which is categorized according to specific motivations which are usually related to time, hobbies and the pursuit of free time, where there is a merging of recreation and education [10],[11],[12].
3. Method

The method used in building Android-based tourism education applications is Waterfall developed by Roger S. Pressman. Where the development steps are as follows [13]:

3.1 Analysis

The analyst stage is the stage where we find out the needs, the flow of the program or story board of the educational application made.

3.2 Design

Hold design requires that we design how later the appearance of the application created when used by the user (paud teacher). Making a user friendly design becomes a necessity to make it easy and interesting when used.

3.3 Implementation

The implementation phase is the stage where the design that we have created is converted using software to produce an apk file.

3.4 Testing

Testing or testing is done by installing the apk file that has become into a smartphone with various types of smartphones models with different Android versions.

4. Results and Discussion

4.1 The design results with a use case

Use Case diagram is an approach that is used to illustrate the needs and the flow of programs created [14]. Based on the analysis results, the design results of the design when illustrated with use cases can be illustrated in Figure 1.

Figure 1. Use Case Diagrams for Tourism Education Application
4.2 The concept of android-based tourism education

Figure 2 describe the fusion of Android-Based Tourism Education. The explanation of android-based tourism education concept are:

a. Early childhood teachers have a conceptualized curriculum related to education. Then the teacher makes a module related to the educational material to be visited, which contains descriptions, benefits, equipment, and rules in the form of soft files.

b. The soft file will be converted into an apk using the Android Book App Maker application.

c. The results of the conversion into an application with the app format.

d. The completed apk are shared with early childhood education teachers who will accompany students.

e. The teachers then install the apk into an Android-based smartphone.

f. Tourism education guidebook already installed can be used during the visit to the intended tour.

Figure 2. The Concept of Android-Based Tourism Education
4.3 Application Display

![Figure 3. Application Display](image)

Figure 3 is an electronic module of educational tourism in Jepara district, Indonesia with several tourist destination destinations, one of which is Kartini Beach. Looks like a book that can be turned the page (flip).

4.4 Testing

The results of testing the application when installed and running using a different version of Android denotes the results that the app can be installed, the display is ok, and no force close occurs. This shows the application does not experience problems and can be used by many teachers who have different specification devices.

<table>
<thead>
<tr>
<th>No</th>
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</tr>
</thead>
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<td></td>
<td></td>
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</tr>
<tr>
<td>1</td>
<td>Asus Zenfone 2</td>
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</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2</td>
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<td>Marsmellow</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Redmi Note 7</td>
<td>Android 9 Pie</td>
<td>Yes</td>
</tr>
</tbody>
</table>

5. Conclusion

The quality of education can be improved by using assistive technology, making paper modules less. The electronic tourism education module can be made into an Android application that can be used with different devices. This makes educational activities carried out in early childhood education places easier and more efficient.
References


Marketing Strategy for Indonesian for Speakers of Other Language Unit (Unit BIPA): A Case Study in Unit BIPA Universitas Muria Kudus

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Abstract. Indonesian language is prepared to be an international language in a future. One of the way to reach it, a government raise Indonesian language through Indonesian for speakers of other language learning (BIPA). As international recognition, Universitas Muria Kudus serve Indonesian course for foreigners through Unit BIPA. Thus, marketing strategies became the first key to exist the unit. This study aimed to describe 1) marketing strategies for Unit BIPA Universitas Muria Kudus, 2) the opportunities and challenges of Unit BIPA’s existence, 3) the benefits of marketing strategy for Unit BIPA Universitas Muria Kudus. A case study was used as a methodology approach, as well as marketing strategies as a theoretical approach. The data were collected by interview and observation. Therefore, this study describe a big role of marketing strategies for Unit BIPA as language and culture diplomatic way in Indonesia.

Keywords: marketing strategy, bipa, language and culture diplomatic

1. Introduction

Marketing strategies have many elements in life. This knowledge is not only used in the economic field. As one of the disciplines, marketing science is also used in various aspects, one of which is teaching. This knowledge is used as an external support for education. Marketing knowledge is used as a promotional strategy and supporting the existence of a product. For this reason, BIPA teaching which in one hand is a commodity, also needs to use marketing strategies for promotion and existence.

Understanding marketing contains a broader understanding than just sales and advertising. Tjiptono[1] (2002:7) provides the definition of marketing as a social and managerial process for individuals or groups to obtain needs and desires through the creation, coloring, and exchange of all things of value with other people or groups.

In this case, BIPA or Indonesian for foreign speakers has several dimensions (Suhardijanto[2] 2016; Wurianto[3] 2016; and Damaiani[4] 2016). These dimensions are BIPA as a science, as an industry, as a profession, and as a means of diplomacy. For this reason, the mandate of BIPA is not just in the classroom as teaching Indonesian for foreign citizens. However, BIPA has
become a complex space that includes a vision of introducing Indonesian culture on the international cooperation.

Opinions of several experts related to the BIPA sector indicate that the future of Indonesian has a bright face. BIPA is not only seen as a science. However, BIPA is also seen as a promising industry. The industry can also be developed personally and institutionally. BIPA can be designed into a personal industry through private courses offered to foreign nationals who will learn Indonesian with various objectives. Meanwhile, BIPA as an institutional industry can be developed in institutions, including universities.

This research is used as a case study description of the implementation of marketing strategies at Unit BIPA Universitas Muria Kudus. The marketing strategy is carried out for the promotion of programs and branding. In addition, it is also described opportunities and challenges of the existence of Unit BIPA Universitas Muria Kudus through a marketing strategy. In addition, also known the benefits of marketing strategies for Unit BIPA Universitas Muria Kudus.

2. Methodology

This research was designed using the case study method. A study by observe the case of the process in research object. For this reason, in this study, researchers also act directly as practitioners. In addition, the data is presented with a qualitative descriptive method with interpretation of non-formal data.

3. Discussion

1) Marketing Strategies for Unit BIPA Universitas Muria Kudus

The marketing strategies of Unit BIPA Universitas Muria Kudus are carried out in various interesting ways. The steps taken vary from the classical normative to the modern way. The method is as follows.

a. Direct promotion to users (Door to Door Promotion)

Promotion is done by direct bidding to users. In this case, Unit BIPA Universitas Muria Kudus promotion team offers programs to clients. This method has a high degree of accuracy. That is, the client or user can be interested in participating in BIPA learning program if it matches the program offered. Another consideration is the price in accordance with user expectations.

b. Social media branding

In addition to direct offers, Unit BIPA Universitas Muria Kudus also encompasses users or clients through social media. It is used as a form of promotion widely. Unlike the previous method which tends to the selling process, this method is more directed to branding. Therefore, through social media the Unit BIPA Universitas Muria Kudus displays program profiles, teachers, and facilities in an attractive and modern way.

c. Community networking

Relationships with teacher associations also help in the promotion process. Through APPBIPA, Unit BIPA Universitas Muria Kudus can carry out program promotions. Discussions that are held in professional associations can add to BIPA's network. Therefore, various programs are also obtained from professional associations.
2) The Opportunities and Challenges of Unit BIPA’s Existence

In the marketing process, there are opportunities and challenges. Opportunities that exist in the marketing process of Unit BIPA Universitas Muria Kudus are as follows.

a. The number of foreign workers continues to increase in Central Java

The Office of Manpower and Transmigration (Disnakertrans) of Central Java Province noted, Foreign Workers (TKA) working in Central Java jumped sharply. Of the 2,119 TKA at the end of 2017, now in 2018 it reaches 14,148 TKA. This has become a great opportunity for BIPA program to promote the Indonesian language and culture.

b. Manpower Agency rules that require foreign workers to have an Indonesian language certificate

Central Java Governor Regulation number 560/016667 in Year 2015 Regarding Controlling the Use of Foreign Workers explains that all TKA in Central Java are required to have Indonesian language skills. Therefore, TKA must be facilitated by Indonesian language training. This is also in line with the mandate of Law (Undang-Undang nomor 24 Tahun 2009) concerning the improvement of the function of Indonesian as an international language.

c. BIPA is increasingly recognized by the world community

Various language and cultural diplomacy programs have been carried out by the government through the Ministry of Education and Culture. This increases the image and popularity of Indonesian in the international arena. For this reason, this condition provides a good opportunity for BIPA program.

Meanwhile, the challenges faced in the marketing process of Unit BIPA Universitas Muria Kudus are as follows.

a. The number institutions are increasingly offering BIPA teaching services

BIPA teaching institutions are increasingly mushrooming. In Central Java, there are many campuses that have started pioneering BIPA institutions. In addition, there are also many private tutors and cannot be dammed by their development and movement. Therefore, this is the biggest challenge for the existence of Unit BIPA Universitas Muria Kudus.

b. Many private BIPA teachers (Non-Institutions)

Like BIPA institutions which are increasingly blooming, private tutors are also born massively from various linguistic disciplines. Starting from Indonesian scholars, to foreign language graduates. Therefore, there are not a few foreign citizens who choose to study privately with a freelance teacher compared to studying at institutions such as universities.

c. User requests for short-term learning

Another challenge arises in terms of the learner. Most, especially foreign workers, choose short-term programs. This benefits them more in terms of time and cost. However, from the aspect of mastery of language skills is certainly very lacking. Data in the field also shows that most learning programs taken by TKA are matriculation classes. This class only presents one day of learning. Next, TKA tests to get an Indonesian language training certificate.

There are several benefits gained through this marketing strategy. Unit BIPA Universitas Muria Kudus receives practical benefits in the form of stronger BIPA exposure in the community. In addition, Unit BIPA Universitas Muria Kudus can also develop various programs according to user interests. For example Unit BIPA Universitas Muria Kudus has organized a BIPA program for tourism. The program is a number of participants from various countries, both Asia, Africa, and Europe. This program provides insight into Holy tourism to foreign citizens. In addition, the main benefit of a good marketing strategy is the existence of Unit BIPA Universitas Muria Kudus in the midst of global competition.

4. Conclusion

The marketing strategy is carried out for the promotion of programs and branding. The marketing strategies of Unit BIPA Universitas Muria Kudus are carried out in various interesting ways. Despite having many opportunities, there are also challenges that must be addressed professionally. For that, it needs a mature and well-established strategy in the promotion and marketing process. Thus, short-term and long-term benefits can be achieved optimally.

References

“Petuah” Kiai Charismatic To The Construction Of Cement Plant in Rembang

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Abstract: This study aimed to find “Petuah” kiai charismatic in Rembang. In the case, the construction of a cement factory does not in a well situation. This study used a qualitative approach and a phenomenology. The results of this research are the development in Islamic studies which are equated with barokah. Barokah means the basic development which should create benefits for the entire Rembang community and does not include a problem. This study concludes that “Petuah” kiai charismatic in Rembang has some influences on the expansion of the development, especially the construction of the cement plant.

Keywords: petuah, charismatic's kiai, usefulness, cement plant

1. Introduction

In 2011, there was a conflict in the cement factory in Rembang until now. It impacted the thought dilemma which is in the inner unrest among religious leaders. There is a paradox presumption in cement factory which means many problems exist inside such as environment, social and culture (Puryanto, 2018a, 2019b, 2019c). As a result, the society split into two camps, where there are in "benefit" or "importance". This thought is contradictory and has ideology development until now.

The different point of view as the principle factor from society is because there are two different sides which are stated by Kiai as the central wisdom for the common good. According to Haryadi (2018) Kiai becomes the leader of the ummah and becomes the legitimacy of his citizens which implies the basis of a religious foothold in doing his actions so that the people only listen to and obey him (sami'na wa atho'na) when the Kiai says something. It means that he is as the role model and the example of society. He also becomes an important role as the person who can solve problems in their environment. The differences in point of view are common in society. It mentioned clearly if a perception difference from Kiai in Rembang to the cement factory has the acceptance and rejection. Those are formed in the statement and attitude which are shown brightly and secretly.

The viewpoint differences are common among religious leaders. However, it is not for the low society which still has little knowledge in general or religion field. The religious leader's statement about the cement factory's point of view cannot clearly be understood by the general society and its possibility has the wrong interpretation from the statement's rendering which is claimed. Therefore, the right and clear transformation are needed to the point of view differences of Kiai to the general society through the advice and blessing from the Kiai charismatic.
The ideality understanding of "blessing", "benefit" or "importance" are having the usefulness and the goodness to all people from all life concept including economy, social culture, and environment. It is included in some life concepts especially in the cement factory development which still contains an epistemology debate about the real benefit to the practice. That, the practice is leaving some problems and those still cannot be explained yet in the completion, particularly on the Kiai charismatic.

The blessing meaning between Kiai charismatic and society is known by the people as the very differences point of view. It implemented from how is the socialization to the knowledge internalization and culture. Those are obtained from the correct mechanism process. In the other premise, society only receives instant natural knowledge. From this case, it makes the problems' context of inductive-deductive and those deductive-inductive and make the polemic in the cement factory and it has continuity until this day.

The society critical thought which is flourishing about the blessing meaning still has the partial practice. On the other word, it does not be understood yet by the whole meaning and intimate. This philosophy creates the blessing frame and only seen at the empirical externally. Whereas, for the Kiai charismatic, the blessing is interpreted as the non-external which has the highest cosmos metaphysic from the mysticism intuition or the vision from God.

This research explains the blessing paradigm from the kiai charismatic in Rembang sub-district. It is also deeply understanding of the blessing meaning completely.

2. Research Method

This research used qualitative phenomenology’s approach and mix hermeneutic. This qualitative approach is used to understand the phenomena in the cement factory and society. They are as the Kiai and religious leaders who have a different perspective in fathoming. The blessing symbol meaning is as the ontology from the whole development in social culture and environment. It is like prosperity, fortune, and benefit for all people from the whole contents. The observation is done to the social phenomenon, religious leaders and the cement factory. There were interview and documentation to make the clear data. The hermeneutic study is about the highest cosmos blessing which is done by using academic and religious studies. The data analysis used a reductive technique, verification, and conclusion.

3. Result and Discussion

The ideality of “kiai charismatic” which figured out by Sukamto (1999) is as the problem solving for the society in all cases. It used the openness, egalitarian, and inclusivity which has the contradictive function to the cement development in Rembang. The perspective claiming in the society critical subject generates a thought reconstruction in society. It makes a critical thought to the knowledge from a science specification in a believing if it cannot give the benefit idealism yet.

The differences of point of view from Kiai charismatic in Rembang is as the knowledge objectivity which has a contradictive value and argument equality from Sukarno (2013a, 2016b) from the two different society perceptions to the cement development. There are following economy objectivity, environment conservation and also socio-culture (Puryanto, 2019). Other, the knowledge is partial and has non-complex diaspora effect which has the continuity effect.

The development of knowledge for Kiai charismatic is from an economic perspective. It is rendered to the economy beneficiary to society. Meaning that they can fulfill their economic
need such as the chance of many jobs, for example being the cement factory's office or the entrepreneur for the impacted factory cement. The economy beneficiary is affiliated with the primary and secondary needs as the society basic need.

Macintyre (2013) stated there is the benefit of development from the economy factor on his research. It found if the mining has already given the significant economy chance to the local society. However, this economic chance mainly in the benefit of distribution including the society partition process and the disadvantage in the long term.

Sethi, et al (2011) also found in her research in the gold mining done by Freeport-McMoran Copper &Gold. It prioritized in the human rights’ case and emphasized in the local society maintenance, where the factory is built (treatment of indigenous people on whose traditional land its mine was located); the economy development and the jobs available and the enhancement of education, healthy and housing facilities (Maria & Devuyyst : 2011). While the Kiai charismatic viewed the cement factory development from the socio-culture and environment perspective. He also criticizes the partial economy perspective. The blessing delivery is not only on the economy’s side but also in the whole such as the blessing economy, socio-culture, and environment. Meaning that, the blessing in saving the economy enhancement with socio-culture and environment preservation.

Holdena and Jacobson (2008), Bury, Kolf, 2002, and Ganibay et al (2011) explained if the society’s rejection to the mining is because of the environmental pollution, economic gap, officials' conflict, ecology's conflict, oligopoly creation, and imperialism. Or else, the mining development is not on the ideal development's concept yet and having the universal completing blessing value.

4. Cosmos Philosophies of Blessing (Berkah)

It expects the blessing from an effort or action by Allah SWT and also becomes a phenomenon in the real situation on life to something or someone who has a privilege on Him. In the perspective and implementation of the Holy Qur'an and Hadith on the education based on the blessing meaning of “ziyadatul khair” or “the goodness enhancement”. The religious leaders' have explained as the abundant thing including the blessing of materials and spiritualism like safety, healthy, property, children and age. The blessing (barakah) is the goodness from God where it can be imperishable and increase the closeness to Him because Allah SWT is the almighty giver. The blessing in Holy Qur'an attends with some meanings such as eternity, goodness and adding goodness. The Holy Qur'an also as the blessing to the human with all saying, it can be seen on the verses quotation below:

“[This is] a blessed Book which We have revealed to you, [O Muhammad], that they might reflect upon its verses and that those of understanding would be reminded”. (QS. Shaad:29).

The blessing has the meaning as the goodness, safety, and prosperity which are attached to the following verse:

“And if only the people of the cities had believed and feared Allah, We would have opened upon them blessings from the heaven and the earth; but they denied [the messengers], so We seized them for what they were earning”. (QS. Al-A’raf:96).

In “Syarah Shahih Muslim” creates by “Imam Nawawi”. It mentioned that the blessing has two meanings like 1) grow, develop or increase; and 2) the goodness continuity. He also explained about the eternal and many blessings like the following:
“And He has made me blessed wherever I may be, and He has enjoined on me the Prayer (As-Salat) and the almsgiving (Az-Zakat) so long I live”. (QS. Maryam: 31)

The blessing is intended on those verses as the decision of Prophet Isa and the religion taught. Moreover, he always gives the benefit to the people he met in everywhere like healing the sick people and taught them in the goodness and “Amar ma’ruf nahi munkar”. Allah SWT makes the blessing as the object through the thing till the tree and time. The blessing concept is as the effort to get the abundant goodness or advantage through a “mediator” such as someone, something or the thing, place and time. It also the action inside contains the abundant goodness position, especially in His side.

5. Conclusion

The advice (petuah) of Kiai charismatic about universal blessing in the cement factory’s development in Rembang becomes the reference to the life policy. It is as the guide of general people and has the function in the principle uniting or if they have a different point of view, they have to come together and focus on the development continuity.

References


Puryanto, S. 2018. Factors Mining Conflict; Local Perception (Cement Mining Conflict in Rembang Central Java Indonesia). International Journal of Science and Research (IJSR) 7 (11), 1356-1359.

Puryanto, S, Liesnoor D. S. Suyahmo, Jazuli M. 2018. Factors Cement Mining Conflit in Rembang Central Java, then Emerged Social Movement. Proceeding 7th Global Conference on Business and Social Science in Srilanka


Ziemek, Mafred. 2007. *Pesantren dalam Perubahan Sosial*. Jakarta: P3M.
Effectiveness Guided Discovery Learning Model With Macromedia Flash Animation Toward Misconception Decreation

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Abstract. This study aimed to understand the effectiveness of Guided Discovery Learning model with macro media flash animation to decrease misconception. This study is a quantitative research using quasi-experimental design with the control group and experimental group as the sample. The sampling technique employed was cluster random sampling. Collecting data used four-tier test. The data analysis result based on the independent sample t-test showed value $0.00<0.05$. The result of the N-Gain score analysis in experiment group showed 0.49 and the N-Gain score in the control group is 0.30, both of the scores were in the low category. It can be concluded that learning activity using guided discovery learning model with macro media flash animation can be better to decrease student misconception, although of both of learning model in experiment and control group included to the scientific approach. Macromedia flash animation used in the experiment class can support learning process and understanding concept.

Keywords: Decreation Misconception, Guided Discovery Learning, Macromedia Flash Animation

1. Introduction

Biology is part of the science of natural knowledge that studies scientific concepts about the life of living things with all their interactions. Biology has several material concepts deemed difficult to understand by students such as the material of the coordination system which includes the nerve system, the immune system, and sensory organs, of these three materials the nervous system is one of the materials considered difficult for students to understand because it cannot be observed directly. The concepts in the material are important to learn because there is important information that studies the structure, shape, and coordination of the functions of the human nervous system. To master the learning material that the students should be able to understand the concept - the concept contained in the material human well-coordinated system. The process of mastering the material is certainly not easy to do because it requires a suitable model so that the material can be understood.

Changes in the current curriculum affect the learning process that is applied when learning. The curriculum used is the 2013 curriculum (K13) which is expected to improve the quality of student learning in schools. K13 learning is conducted by centering on students who are required to be active in finding information on learning material that is learned (discovery learning) with a scientific approach based learning model. Searching for information carried
out by students often do not have problems in the learning process. A common problem encountered when learning is understanding the concept of the material being studied. This can happen in understanding the material misconception that. The misconception is a wrong concept when understood or a different conception with the scientific agreement [14]. Misconceptions occur when students are trying to understand or form knowledge by translating what they have just learned or new experiences in the form of initial conceptions [8].

The misconception has been widely researched in the field of science. Misconceptions in learning biology, among others, are related to the concept of genetics [9], excretion [11], ecosystems [6]. Misconceptions are possible in other concepts. Difficulties experienced by students can come from unfamiliar terms in biology that have not been accepted and mastered, as well as the level of complexity of a concept due to the complexity of the information or characteristics that shape the concept [8]. Based on the results of interviews conducted at SMAN 1 Pundong stated that in the coordination system material taught is difficult for students to understand because the material is quite complicated and requires a good understanding to be able to learn the material and in the learning process often teachers find students who misconception (misconception) regarding the contents of the material.

The guided discovery learning model is a learning model that requires students to learn actively by providing opportunities for students to find their own learning experiences. Model guided discovery learning is a learning model discovery (discovery) and is essentially the same as the inquiry approach or an advanced stage of inquiry [3]. This learning model has four formats in the stages of learning, namely 1) receiving direction for learning, 2) searching, finding, and creating, 3) giving arguments and solutions, and 4) acting on what is learned. The four stages are based on how students construct the concept information they get [3]. As a reinforcement of the information construction obtained, the learning process is integrated with interactive video animation media so students better understand the material being studied. [13] states that learning using video is included in both categories. Video is an audio-visual media that can clarify objects and events as they are. While the animation is a picture of two dimension as if moving. Macromedia Flash is a media device that can help visualize abstract concepts. [1] shows that learning using flash animation can reduce student misconceptions by 50.95% and has an effect size of 1.58 with a high category.

2. Method

This type of research in this study is quantitative research with quasi-experimental methods (quasi-experiment). This study uses a nonequivalent control group design. This design uses the experimental group and the control group. In the experimental group, the treatment by providing guided discovery learning models assisted by macro flash media, while the control group treated with the 5M model.

The study was conducted at SMA Negeri 1 Pundong, Bantul Regency, Yogyakarta in April 2019. The research population used was the population of class XI IPA students at SMA Negeri 1 Pundong. The research sample used is students of class XI Science 3 as the experimental group and class XI Science 2 as a control group. Each class consists of 32 students. The research sample was taken using cluster random sampling technique.

The instrument used in the study was a four-tier misconception based diagnostic test instrument namely vibration conceptual change inventory (VCCI). The test instrument was arranged to identify the existence of misconceptions in students on the material of the human
nervous system. The misconception identification instrument refers to the instrument that has been developed from a three-tier based measurement model [4].

Pretest and posttest results obtained were then analyzed parametric prerequisite tests in the form of normality and homogeneity tests with SPSS 17. Normality tests were used to determine whether the population data were normally distributed or not, whereas for homogeneity tests used to determine variants of the population used the same or not. The data obtained is analyzed fulfills the parametric requirements then it will be continued with the hypothesis test using the independent sample t-test.

Data were taken using pre-test and posttest tests calculated an increase in understanding obtained by students using N-Gain to obtain information on the effectiveness of the learning model used for both treatment groups. Following the N-Gain formula used according to [5], namely:

\[
(g) = \frac{\% (s_f) - \% (s_i)}{\% (s_{max}) - \% (s_i)}
\]

The results of this calculation are then interpreted based on the criteria for obtaining an N-Gain score as in table 1. below:

<table>
<thead>
<tr>
<th>Qualitative Scores</th>
<th>Criteria Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batasan</td>
<td>Kategori</td>
</tr>
<tr>
<td>g &gt; 0.7</td>
<td>High</td>
</tr>
<tr>
<td>0.3 &lt; g ≤ 0.7</td>
<td>Medium</td>
</tr>
<tr>
<td>G ≤ 0.3</td>
<td>Low</td>
</tr>
</tbody>
</table>

3. Results

Based on the results of the study, obtained the results of descriptive analysis of the level of misconception students have through the results of the pre-test and post-test scores in the experimental and control groups, the data obtained are presented in table 2. Based on these data it can be seen that the pre-average scores the experimental group test and the control class are 56.25 and 50.83. The data has a difference of a value of 5.42 although the initial value of the experimental group was higher than the control group the data is still in the initial understanding of the range of values the same between the experimental group and the control group before treatment is given. After treatment was given to the two groups, the data obtained showed differences in the mean values between the experimental class and the control class. Data on the average value obtained after treatment was given showed that there was an increase in both treatments, namely in the experimental group with a value of 82.29 and in the control group 68.96.

<table>
<thead>
<tr>
<th>Tabel 2. Comparative Data of Experiment Group and Control Group Values</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Experiments (Guided Discovery Learning Model +)</td>
<td></td>
</tr>
<tr>
<td>Control (5M Model)</td>
<td></td>
</tr>
</tbody>
</table>
Based on the analysis of the results obtained in Table 3, note that there are changes that occur after the treatment is given, as seen in Table 3. The results in the experimental group show that there is a decrease in the number of students who experience misconceptions. Item 1 data items there are 4 students who experience misconceptions and decreased to 0 students, item 2 there are 6 students decreased to 3 students, item 3 there are 12 students decreased to 1 student, item 4 there are 8 students decreased to 1 student, items Question 5 there are 19 students decreased to 18 students, Item 6 there are 10 students decreased to 5 students, Item 7 has 5 students decreased to 0 students, Item 8 has 17 students decreased to 5 students, Item 9 has 3 students decreased to 0 students, and item 10 questions there are 0 students increased to 1 student.

Whereas the change control group was shown by decreasing and increasing misconceptions. In item 1 there are 5 students decreased to 4 students, item 2 has 12 students decreased to 11 students, item 3 has 2 students became 2 students, item 4 has 10 students increased to 12 students, item 5 has 13 students decreased to 9 students, item 6 had 9 students increased to 13 students, item 7 had 7 students decreased to 2 students, item 8 had 14 students increased to 20 students, item 9 had 2 students increased to 3 students, and Item 10 there are 2 students decreased to 0 students.

### Table 3. Number of Students Experiencing Experimental Group Misconceptions

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Number of Students experiencing Misconceptions</th>
<th>Eksperimen</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>19</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>17</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Based on the results of the homogeneous test analysis presented in Table 4., the data show the significant value of posttest in the experimental class is 0.200 and in the control class is 0.66. The significance value of the data in both classes shows a value greater than the value of \( \alpha \) (0.05). This shows that the data in both classes are normally distributed.

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Sig</th>
<th>Concession</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eksperimen</td>
<td>0.200</td>
<td>Normal</td>
</tr>
<tr>
<td>2</td>
<td>Control</td>
<td>0.066</td>
<td>Normal</td>
</tr>
</tbody>
</table>

Based on the results of the homogeneity test analysis presented in Table 5., it shows that the posttest of the experimental group and the control group has a significance value greater than the \( \alpha \) (0.05) value. The significance data shows the value of 0.112. This shows the variation of values in the two groups, namely the experimental group and the control group was homogeneous.

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Sig.</th>
<th>Concession</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eksperimen</td>
<td>0.112</td>
<td>Homogen</td>
</tr>
<tr>
<td>2</td>
<td>Control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results of the independent sample t-test analysis in Table 5., the significance value obtained in the experimental and control groups is smaller than the \( \alpha \) (0.05) value of 0.00. It shows that the \( H_0 \) in decline is no significant difference between the value of the experimental class that uses the model of guided discovery learning-assisted media macro flash with the control group with 5M models.

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Sig.</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eksperimen</td>
<td>0.00</td>
<td>There is a difference</td>
</tr>
<tr>
<td>2</td>
<td>Control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the analysis of the N-Gain test in Table 7., it shows that in the experimental group the N-gain value is 0.49. The score in the N-Gain criteria is in the range of scores of \( 0.3 \leq g \leq 0.7 \) meaning that in the criteria of being. While in the control group the N-Gain value was 0.30. The score in the N-Gain criteria is low which is in the range of \( 0.00 \leq g \leq 0.3 \).

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Sig.</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eksperimen</td>
<td>0.49</td>
<td>Medium</td>
</tr>
<tr>
<td>2</td>
<td>Control</td>
<td>0.30</td>
<td>Low</td>
</tr>
</tbody>
</table>

4. Discussion
Learning done by applying guided discovery learning model assisted by Macro Flash Media is effective in reducing students' misconceptions on the nervous system material compared to the use of the 5M model. This is shown from the results of the independent sample t-test by obtaining a significance value smaller than $\alpha$ that is 0.00 ($<0.05$). This value means that there are differences in the value of the results after learning with guided discovery learning models assisted by macro flash media with the value using the 5M model. These results can be seen in the average value after giving treatment to the two groups, namely, in the experimental group, the average obtained was 82.29 while in the control group the average value obtained was only 68.96. Based on the N-Gain value obtained in the experimental group that is 0.49 with moderate criteria, while the results in the control group only obtained an N-Gain value that is 0.30 with a low category.

Guided discovery learning model macro media flash-assisted learning effectively in reducing misconceptions on the matter of the nervous system compared with 5M learning model because the model of guided discovery learning their lessons involving teachers and students are interacting. The guided discovery learning model is done by a method that combines learning with a teacher-centered teaching student-centered [3]. The guided discovery learning model provides opportunities for students to organize, process, and organize a given data so that in the process of finding students can use their ideas and understanding, the process is also guided by the teacher during the learning process.

At stages model of learning that can create learning situations that involve students to learn actively and independently when seeking information or theories and concepts learned so that students are better informed. Students who are actively learning to find information learned can stimulate students to construct the knowledge they have acquired. Providing an initial description of the information about the topic to be studied and discussed it will stimulate students to think actively and construct a description of the information. When constructing the initial information students are invited to discuss so students can imagine and develop the topics discussed. Furthermore, students conduct investigations by making direct observations according to instructions and suggestions given by the teacher. The results obtained from these observations are represented in written form and drawings so that the strengthening of the concept of learning topics obtained becomes stronger. The results of the concepts that have been obtained can be discussed again so that students get more accurate information and concepts.

Model guided discovery learning is also integrated with macro flash media in the learning process so that the provision of learning made becomes more interesting and increases student interest in learning. [10] learning by using video media has several advantages in seeing video programs together and different students can build common experiences to discuss an issue effectively or each student has a uniform understanding of the material. The giving of macro flash media is done at the beginning of learning when students construct the given initial knowledge. The use of animation in the learning process will give the impression of jealousy to students in learning, especially if there are animated images and colors that are displayed can improve student memory. [15] states the use of biology learning modules can improve motivation, response, activities and better learning outcomes. The use of animation media for learning can unite the conception of students in learning the abstract material so it can reduce misconceptions that occur in materials that are difficult to understand. The integration of animation media during the nervous system learning process allows students to understand in more detail the forms and processes that occur in the material. Students can see firsthand the process of the delivery of the impulse mechanism displayed in the animation, a form that clarifies the nervous system and the locations of the nervous system constituents.
Whereas in the defense of the 5M model, the learning process carried out in the initial process is observing. Permendikbud number 81a states teachers should open wide and varied opportunities for students to make observations through activities: seeing, listening, listening and reading (Kemdikbud, 2013) [7]. But sometimes in the process of observing students are reluctant or do not care when identifying (reading) about the topic being taught it is possible the lack of student motivation due to no trigger for students to be interested in observing the topic of the material being taught. This affects the student's questioning process because the quality of the questions students give is still low and sometimes irrelevant to the topic taught because the initial knowledge students have is inadequate. This is in line with the results of the study [2] which states that students sometimes feel ashamed when asking questions when they have difficulties and still lack confidence in communicating. Then in the ability to ask, students tend to experience confusion about what they will ask and most do not dare to ask. In the learning process when students do data collection the process requires more time. The process is balanced with the length of data processing that has been collected to become informative data. When the process of communicating information that students have compiled, some students do not dare to disclose their findings, this is evidenced by the nature of doubt that students have in conveying the information they get, then with students' uncertainty in the disclosure of information that has been arranged in such away. [2] states that when the process of communicating learning outcomes is still visible students who are busy themselves, do not pay attention, are busy themselves and when the question and answer process is done it is still rare for students to ask questions.

5. Conclusions

Guided discovery learning model assisted by macro flash media is effective in reducing misconceptions in class XI of SMA Negeri 1 Pundong on the material of the human nervous system. This result is evidenced by the decrease in misconceptions that occur after learning is done by doing a posttest. Analysis of the results obtained from the independent sample t-test with sig values. smaller than $\alpha$ (0.05) which is 0.00. These results are also evidenced by the higher N-Gain value of the experimental group compared to the control group of 0.49 with medium criteria and 0.30 with low criteria.

References


Development E-Module of Customary Forest Kantuk Based on Android to Improve Self Regulated Learning of Biology Education Students

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Abstract. This study aims to: (1) produce customary forest ecology modules that are appropriate for environmental knowledge courses, (2) produce effective customary forest ecology modules to improve students' self regulated learning. Based on Research and Development, the stages of development of ADDIE, (Analysis), (Design), (Development), (Implementation) and (Evaluation). The study was conducted at Tanjungpura University Biology Education. Subject research 25 student at research classes and 29 student at experimental class. Data collection techniques used product feasibility assessment sheets, observation self regulated learning. Hypothesis testing in this study using U Mann Whitney test. The results of the study (1) e-module is suitable for Untan biology education students, (2) e-module effectively enhances of self regulated learning of Untan biology students.

Keywords: Conceptual understanding, customary forest, e-module, self regulated learning

1. Introduction

The serious thing that is the responsibility of education today is human dependence on digital gadgets both among children, adolescents and adults at the age of education, even becoming addicted for its users. The next thing to be raised in this research is the attention of students to the surrounding environment, the current urgency that is the main topic is deforestation, conversion of forests and the wisdom of indigenous peoples to protect customary forests, the selection and use of learning resources that affect the lecture process, whether conducted in the room (in door) or activities outside the field (out door). In the e-module that is created, the contents are related to the definitions, examples and phenomena of the customary forest.
1.1 Education Tripusat

The education tripusat referred to herein is the educational environment including "education in the family environment, education in the school environment, and education in the community/youth environment [1].

1.2 Teaching materials

According to [2] teaching materials are all forms of material used to assist teachers in carrying out teaching and learning activities.

1.3 Module

Modules are teaching materials that are designed systematically based on a particular curriculum and are packaged in the smallest unit of study and allow learning independently in a certain time [3]. Modules are one form of teaching material that is packaged in a whole and systematic manner, in which contains a set of learning experiences that are planned and designed to help students master specific learning goals [4].

A good module has several characteristics.
1) Self Instructional
2) Self contained
3) Stand alone
4) Adaptive
5) User friendly [5]

1.4 Self regulated learning

According to [6] Masrun, et al (1986: 8), independence is an attitude that allows a person to act freely, do something on his own impulse and for his own needs without help from others, or think and act original creative and full of initiative, able affect the environment, have confidence and get satisfaction from his business. Zimmerman (2015: 541) explained in general that self-regulated learning is described through levels or degrees which include activeness both in meta cognition, motivation, and student behavior in the learning process.

The terms related to learning independence include self regulated learning [7]. According to Hargis (2000) defines learning independence as self-regulated learning, namely efforts to deepen and manipulate associative networks in a particular field, and monitor and improve the
1.5 Ecology

Ecology adheres to the principle of balance and harmony of all natural components. This as stated by [9] said, "The paradigm of solving environmental problems and forest destruction should be directed more deeply and integrated in the ethics of life. The community has a commitment to maintain and preserve the environment as a life support system."

1.6 Customary forest

The learning process in higher institutions also needs to refer to local potential and be adapted to the characteristics of students (prospective teacher students). Local potential is an event, problem, or phenomenon that occurs in the student's home environment [10] Customary forests have become one of the important assets for indigenous people to guarantee their welfare, but the State has denied the existence [11]

2. Method

2.1 Type of research

This research produced teaching materials in the form of e-modules for the enrichment of traditional forest ecology materials and then tested the effectiveness of these products. The development model used is the ADDIE development model. There are five stages in the ADDIE model, namely: (Analysis, Design, Development, Implementation and Evaluation), in accordance with the stages of design and development [12].

2.2 Development procedures

a. Analysis phase.
   At this stage an analysis of information related to competence, students and instructors is carried out.

b. Design phase (design)
   At this stage the e-module is designed to be made according to the lecture material.

c. Development phase (development)
   At this stage a more specific development is carried out, including: pre-preparation, compilation, editing and revision.

d. Implementation phase (implement)
   At this stage, product development is implemented in research in the field.

e. Evaluation stage
   At this stage, product development is evaluated whether it is feasible or not.

2.3 Research design

The method used is a quasi-experimental research design, what is used only posttest control group design. In the experimental class was given treatment and posttest then the results were compared with the control class posttest without treatment.
In the experimental class the treatment given was using the ecology module of the customary forest.

### 2.4 Data collection techniques

The technique used to collect data is as follows:

a. Descriptive data came from material expert lecturers, media expert lecturers, supporting lecturers and students in the form of criticisms and suggestions, feasibility validation sheets.

b. The e-module feasibility data comes from material expert lecturers, media expert lecturers and supporting lecturers, then student responses through questionnaires.

c. self regulated learning data using questionnaire sheets and observation sheets. [13]

### 2.5 Data collection instruments

The instruments used to collect data are as follows:

1. E-module eligibility questionnaire

   The questionnaire used in this study was used to determine the feasibility of the ecology enrichment e-module of customary forests including aspects of content eligibility, presentation feasibility, language, graphics and construction with a scale of 4 namely: very good (4), good (3), less (2), very lacking (1).

2. Questionnaire for self regulated learning

   The questionnaire used in this study was used to determine self regulated learning including 6 indicators which were translated into 20 items with positive statements and negative statements.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Scoring Criteria for self regulated learning Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positif Statement</td>
<td>Score</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>5</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
</tr>
<tr>
<td>Less agree</td>
<td>3</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
</tr>
</tbody>
</table>

### 2.6 Data analysis techniques

The assessment instruments are validated to get valid data. An instrument is said to be valid if the instrument used can measure what is to be measured [14]. The validity of the instruments used in this study was the content validity and construct. The content validity and construct validity were carried out using an expert judgment approach, the researcher consulted and received input from the validator lecturer to determine whether the assessment instrument was feasible or not.

1) Analysis of the feasibility instrument of the enrichment e-module

   Validation of the customary forest ecology e-module was carried out to material experts, instructional media experts, supporting lecturers and peer reviewers. The data obtained in the form of qualitative data and quantitative data.
2) Analysis of test instruments

To analyze the results of the concept understanding test in this study, two types of statistics are used, namely descriptive statistics and inferential statistics. Because self-regulated learning data is obtained by questionnaire then the data is ordinal, then compiled with a Likert scale so that the data is discrete, the data is automatically analyzed using nonparametric international statistics. Therefore the self-regulated learning hypothesis is calculated using the U Mann Whitney test.

3. Result

3.1 Result of product development

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect</th>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Material enrichment</td>
<td>3,40</td>
<td>Very good</td>
</tr>
<tr>
<td>2</td>
<td>Material serving</td>
<td>3,38</td>
<td>Very good</td>
</tr>
<tr>
<td>3</td>
<td>Language</td>
<td>3,00</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3,26</td>
<td>Very good</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect</th>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover</td>
<td>3,67</td>
<td>Very good</td>
</tr>
<tr>
<td>2</td>
<td>Material</td>
<td>3,41</td>
<td>Very good</td>
</tr>
<tr>
<td>3</td>
<td>Construct</td>
<td>3,25</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3,54</td>
<td>Very good</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
<th>Aspek</th>
<th>Skor</th>
<th>Kriteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>D1</td>
<td>D2</td>
</tr>
<tr>
<td>1</td>
<td>Material</td>
<td>3,4</td>
<td>3,4</td>
</tr>
<tr>
<td>2</td>
<td>Construct</td>
<td>3,4</td>
<td>3,4</td>
</tr>
<tr>
<td>3</td>
<td>Language</td>
<td>3,4</td>
<td>3,4</td>
</tr>
<tr>
<td></td>
<td>Rata-rata</td>
<td>3,3</td>
<td>3,3</td>
</tr>
</tbody>
</table>

Based on the assessment table of material experts, media experts and instructors, the results of the e-module assessment of customary forest ecology meet the criteria. Material expert assessment is based on aspects of feasibility, presentation and language with a very good category assessment. The assessment of media experts is based on aspects of cover,
content and presentation of e-modules with very good categories. Teacher assessment based on aspects of material, construction and language with very good categories.

3.2 Product trial results

Based on the results of research that has been carried out e-modules have an increased effect on the self regulated learning of Untan biology education students, because self regulated learning data is obtained by questionnaire then the data are ordinal, then compiled with a Likert scale so that the data is discrete, automatically the data are analyzed using nonparametric internal statistics. Therefore the self regulated learning hypothesis is calculated using the U Mann Whitney test.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Experiment class</th>
<th>Control class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>U Mann Whitney tesis</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Self regulated learning</td>
<td>Post-test</td>
<td>Post-test</td>
</tr>
<tr>
<td>Maximum</td>
<td>99</td>
<td>86</td>
</tr>
<tr>
<td>Minimum</td>
<td>80</td>
<td>69</td>
</tr>
<tr>
<td>Average</td>
<td>87.24</td>
<td>77.32</td>
</tr>
</tbody>
</table>

The self regulated learning of Untan biology education students who use e-modules on environmental knowledge has a higher value compared to those who do not use e-modules. This is based on the acquisition of the value of the two classes between the experimental class that uses e-modules of environmental knowledge and the control class that does not use e-modules of environmental knowledge. The acquisition value in the experimental class that uses e-module environmental knowledge is higher than the class that does not use e-module environmental knowledge. The average value of self regulated learning in the experimental class 87.24 As for the average value of self regulated learning in the control class 77.32.
The use of e-modules is undeniably one of the effective media to see the independence of the attention in learning, as research [15]. In online learning teachers can see the attention of individual students by looking at questions which is asked by students. These questions relate to the material at the time and the material that the students have exceeded.

The use of mobile learning as well as customary forest ecology modules has a number of advantages and disadvantages as described by [16] Scoot et al. (2015: 10-13) as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Benefit</th>
<th>Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ability to learn on the go</td>
<td>Different access to device and internet</td>
</tr>
<tr>
<td>2</td>
<td>Reach underserved</td>
<td>Use must be monitored</td>
</tr>
<tr>
<td>3</td>
<td>Improve higher-order thinking skill</td>
<td>Prevailing attitudes and prejudice against using technology for instruction</td>
</tr>
<tr>
<td>4</td>
<td>Support alternative learning environment</td>
<td>Limiting physical attributes</td>
</tr>
<tr>
<td>5</td>
<td>Enable personalized learning</td>
<td>Mobile device are shared among a group</td>
</tr>
<tr>
<td>6</td>
<td>Motivate student</td>
<td>Way in which the device are implemented impact the effectiveness of them</td>
</tr>
</tbody>
</table>

Aknowledgements
An important concern is that mobile learning cannot function properly without clear learning, good delivery of material, and compatibility of the material with learning outcomes, ease of use and available resources.

References


Development of Collaborative Learning Model Based on Permen Cilok Media For Strengthening Education Characters of Elementary School Students in Demak District

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{nankanchoir76@gmail.com}

Abstract: Development of Cilok Media Based Collaborative Learning Model for Strengthening Character Education of Demak Elementary School Students. This research aims to strengthen character education in environmental care for elementary school students through collaborative learning models based on Permen Cilok media as teacher innovations in accordance with technological developments especially in the Demak Regency Primary School. The function of the Permen Cilok media makes learning more interesting. In the media there are character values of environmental care that are integrated into the content of the lesson. This research refers to the Research and development approach, which consists of four steps, namely: 1) Preliminary Study; 2) Model development and validation; 3) Field Test; 4) Dissemination and Dissemination. Data collection techniques consist of observation, interviews, questionnaires and documentation. The data sources of this study were students, 6th grade elementary school teachers in Demak district, expert teams and education offices in Sayung District, Demak Regency. Data analysis carried out in this research and development is a quantitative and qualitative data analysis technique consisting of: needs analysis and analysis of validation test results. There is an increase and positive influence on students' attitudes in learning, especially the character of environmental care. It can be seen from the results of observations. Observation and assessment of students conducted. The results of the overall material validation of the three validators amounted to 90.56%. And the results of the validation of the learning media as a whole amounted to 91.5%. While the overall learning model validation was 90.2%. The results of the overall assessment of respondents received an average of 63.52 with included in either category.

Keywords: collaborative, character, environment
1. PRELIMINARY

The occurrence of various kinds of disasters that befall mankind in various parts of the world, including in Indonesia prove that the environment at present has experienced a serious threat. In addition, the dirty environment of the house and school shows that children now lack awareness in protecting the environment. Some indicators that show this are the behavior of disposing of garbage everywhere, the separation between organic and inorganic waste, electricity left on during the day, overflowing tap water, plants left to die dry and so on. In addressing these complex environmental problems, explained by Puji Hardati (2015: 4), there should be a shared awareness that the earth's capacity is very limited. Non-renewable resources must be maintained, and those that can be renewed are always restored. These resources must be saved for the benefit of future generations. Development must be done comprehensively to save the environment. One effort that can be done by education practitioners to protect the environment to be sustainable is by instilling an awareness of environmental love in children.

The age of the children in general are still studying at the elementary level, therefore they need to get environmental education. The main reason is that children's development is largely determined by the environment in which they are raised. It is from this environment that children gain experience in shaping their personalities. In accordance with educational reforms, learning for students should not be done only with lectures, but more important is students must have direct learning experience that is doing their own learning activities (Learning by doing), so that children can build their own learning outcomes (constructivism). In learning constructivism, knowledge is not a collection of facts from a reality being learned, but a cognitive construction of a child towards an object and experience from the environment (Budiningsih in Hatimah, (2007: 1.25). Knowledge is not an item that can be transferred from one's mind to person etc. If the teacher intends to transfer a concept, idea, and knowledge, the transfer will be interpreted and constructed by the students themselves through their understanding.

In reality, there are still many environmental problems that are not maintained, especially in the school environment. This is due to the low level of student care about the environment. From the results of the analysis of this problem, the root of the problem is their lack of understanding of the importance of protecting the environment early on. Besides the learning models and media used are less effective and creative so that children are less interested in learning. So to improve character education among students of class VI SD N Purwosari 1 and 2 Sayung Demak to be more concerned about the environment carried out a communicative approach with a collaborative learning model based on Permen Cilok media.

Given the importance of character education caring for the environment, it would be good to instill it early on in children. To implement the idea is certainly not easy, because children have different characteristics from adults. Children have unique learning characteristics, which are gradual, in various ways, with groups of friends and through games. One game that the author will use as a medium to foster a passion for environmental love is the Cilok Candy which is an extension of the Interesting Game of Love for the Environment. With this game, environmental education for children is expected to be active and fun.

This research will discuss the strengthening of character education in elementary school students by using the development of collaborative learning models based on Permen Cilok media.
2. **Method**

This type of research uses research and development methods or often called Research and Development (R&D) is used if researchers intend to produce certain products, and at the same time test the effectiveness of certain products in the learning process using media. According to Sugiyono (2016: 407), development research is more directed at efforts to produce certain products and then tested their effectiveness so that they are ready for real use in the field. The product developed in this research is the development of learning models based on game learning media in the form of manual and mobile learning. On manual media in the form of Rolled which contains instructions to carry out activities in groups in accordance with learning. Whereas in the form of mobile learning is a learning application that can be used by students by utilizing cellphones or laptops in order to foster the strengthening of character education care and love the environment. In this study researchers used a development model according to Sugiyono, the Borg and Gall development model (2016: 409). This model consists of ten steps, namely: (1) potential and problems; (2) data collection; (3) product design; (4) design validation; (5) design improvements; (6) product trials; (7) product revisions; (8) trial of use; (9) product revisions; (10) and mass production manufacture. The ten steps are grouped into four groups. Namely: 1. Preliminary stage (needs analysis), 2. Design / design of the model (product), 3. Product testing, and 4. Dissemination.

Sources of data from the study consisted of sources of learning model data needs, expert validation test data and model effectiveness test data obtained from teachers, students and the Department of Education. The instrument used in gathering data was a validity test questionnaire arranged according to a Likert scale (Sugiyono, 2015 :) that was modified with four alternative answers, namely 1 = less, 2 = enough, 3 = good, 4 = very good. Data analysis by determining the highest score and adding up the scores of each validator. Then provide validity values.

Analysis of the data in this study uses quantitative descriptive techniques that illustrate the collaborative learning model based on the cilok candy media. Quantitative data were obtained from product feasibility assessments given to material lecturers, media, teachers and students. Data obtained through questionnaires collected were then analyzed with quantitative statistics.

| Table 1. From the results of the above analysis we will obtain the feasibility of the media with the criteria |
|-----------------------------|-----------------------------|
| **Range**                  | **Category**               |
| 85% – 100%                 | Very decent                |
| 69% – 84%                  | Decent                      |
| 53% – 68%                  | Decent enough               |
| 37% – 52%                  | not worth it                |
| 20% -- 36%                 | Not decent                  |
3. RESULTS AND DISCUSSION

The overall material validation results from the three validators were 90.56% (Table 2). From the results obtained with predetermined criteria, the conclusion is that the material developed is declared to be very valid and does not need to be revised and is ready to be used for research. The overall validation results from three validators were 91.5% (Table 3). From the results obtained with predetermined criteria, the conclusion is that the learning media used are declared to be very valid and do not need to be revised and are ready to use.

<table>
<thead>
<tr>
<th>No</th>
<th>Validator</th>
<th>Prosentase</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Validator 1</td>
<td>100%</td>
<td>Very Valid</td>
</tr>
<tr>
<td>2.</td>
<td>Validator 2</td>
<td>85.85%</td>
<td>Very Valid</td>
</tr>
<tr>
<td>3.</td>
<td>Validator 3</td>
<td>85.85%</td>
<td>Very Valid</td>
</tr>
<tr>
<td></td>
<td>Skor Total</td>
<td>90.56%</td>
<td>Very Valid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
<th>Validator</th>
<th>Prosentase</th>
<th>Kategori</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Validator 1</td>
<td>100%</td>
<td>Very Valid</td>
</tr>
<tr>
<td>2.</td>
<td>Validator 2</td>
<td>86.5%</td>
<td>Very Valid</td>
</tr>
<tr>
<td>3.</td>
<td>Validator 3</td>
<td>88%</td>
<td>Very Valid</td>
</tr>
<tr>
<td></td>
<td>Skor Total</td>
<td>91.5%</td>
<td>Very Valid</td>
</tr>
</tbody>
</table>

Based on Table 3 above, the overall learning media validation results were 91.5%. From the results obtained with predetermined criteria, the conclusion is that the collaborative learning model based on the media of cilok candy developed is declared to be very valid and does not need to be revised and is ready for use.

<table>
<thead>
<tr>
<th>No</th>
<th>Validator</th>
<th>Prosentase</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Validator 1</td>
<td>100%</td>
<td>Very Valid</td>
</tr>
<tr>
<td>2.</td>
<td>Validator 2</td>
<td>84.5%</td>
<td>Very Valid</td>
</tr>
<tr>
<td>3.</td>
<td>Validator 3</td>
<td>86%</td>
<td>Very Valid</td>
</tr>
<tr>
<td></td>
<td>Skor Total</td>
<td>90.2%</td>
<td>Very Valid</td>
</tr>
</tbody>
</table>
Based on Table 4 above, the overall learning model validation results were obtained at 90.2%. From the results obtained with predetermined criteria, the conclusion is that the collaborative learning model based on the media of cilok candy developed is declared to be very valid and does not need to be revised and is ready to use.

Analysis of user data or respondents comes from a questionnaire that has been distributed to students include: Student assessment data on aspects of the content of the material that is in the very feasible category by 34.30% and the proper category by 65.70%. Student assessment data on aspects of media effectiveness in the very feasible category was 74.30% and the proper category was 25.70%. Student assessment data on the aspect of media display that is in the very feasible category at 8.60% and the feasible category at 91.40%. The following table evaluates the user.

<table>
<thead>
<tr>
<th>Tabel. 5 User assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect</td>
</tr>
<tr>
<td>Isi Materi</td>
</tr>
<tr>
<td>Efektifitas media</td>
</tr>
<tr>
<td>Tampilan Media</td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Skor Total</td>
</tr>
</tbody>
</table>

Overall respondents’ assessment results covering aspects of the content of the material get an average of 18.5 good categories. In the aspect of instructional quality, the average score was 12.35 which was included in the excellent category. In the aspect of media display, the average score of 20.2 is in the good category. In the aspect of media software, the average is 12.47 which is included in both categories. Overall based on the users get a mean of 63.52 by included in either category.

4. CONCLUSION

The results of this research and development are in the form of the final product of the collaborative learning model based on the cilok candy media. First, the cilok candy media-based collaborative learning model that was developed has gone through a validation process from media experts and material experts with the acquisition that the cilok candy media-based collaborative learning model that was developed is valid and is very appropriate to be used as a medium in the learning process. Second, the collaborative learning model based on the media of cilok candy is effectively used in the learning process of 6th grade students to strengthen student character education. The advantages of the cilok candy-based collaborative learning model developed as follows. a) Students learn to deliberate, b). Students learn to
respect the opinions of others, c). Can develop critical and rational ways of thinking, d). Can foster a sense of cooperation, e). There is a healthy competition. Besides having advantages, this ciklok candy media-based collaborative learning model also has shortcomings, namely, a) The opinions and questions of students can deviate from the subject matter, b). Requires quite a lot of time, c. The existence of personal traits that want to show themselves or vice versa the weak feel inferior and always depend on others, d). The roundness or conclusion of the material is sometimes difficult to achieve. The results of the overall material validation of the three validators amounted to 90.56%. And the results of the validation of the learning media as a whole amounted to 91.5%. While the overall learning model validation was 90.2%. The results of the overall assessment of respondents received an average of 63.52 with included in either category.

5. ADVICE

Teachers should provide learning to students who are active, creative, effective and fun and the government should formulate policies concerning the character values of environmental care.

REFERENCES

Developing Theme Based Learning Through Powerspring Html 5 of Android to Deradicalize The Attitude of Primary School Students

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Abstract: The research aims to describe and testing the effectiveness of Android-based thematic learning through PowerSpring Html 5 to build the deradicalize attitude of primary school students. It is a research and development type. The procedure adapted from Borg & Gall in this research involving three phases. The research method using quantitative and qualitative combined. The data of research is obtained from questionnaire, tests, observations, and documentation in nine schools in Kudus regency. T-Test was used to ensure the statistical test effectiveness. The results of the research improved in six learning activities in control and experiment classes. The result of testing $t_{hitung} = 2,538$ through the degrees of significant $0,012<\alpha=0,05$. The students learning is higher in experiment class. The students could apply android, student learning with fun. Therefore the theme based learning through PowerSpring Html 5 of android is effective to develop the deradicalize attitude of primary school student.

Keywords: Thematic learning, Powerspring Html 5, deradicalization attitude.

1. Introduction

Today, Indonesians are faced with global problems that seize public attention. The global problem is faced with the threat of radicalism in groups, religions, and ethnic groups in Indonesia. News of sectarian riots as a result of rapid radically was widespread through the sophistication of communication tools so that in a short time it became a mass riot. The rapid development of science and technology provides easy information for people's lives in Indonesia. The facilities experienced by the community due to the development of science and technology often drag people to be affected and participate in radical movements. Radical movements that are often accompanied by violent acts make people's lives uncomfortable and difficult. The action of terror committed by the radical group to intimidate the people who considered opponents to make community unrest in the homeland.

School as an educational institution becomes very likely to spread radical understanding. A radical transformation process that begins with the strong sense of tribal, ethnic, and religious that is far from the national values of Indonesia. Radical attitudes slowly began to get into school since elementary school age. Elementary School became a special target of the
Radicalist group recruitment. Muqoyyidin (2017:48) suggests that some studies have proved the recruitment efforts of children to schools to be educated in radicalism. The activity is done by brainwashing the students who are then filled with certain radical ideology. According to Agus (2016:26) the school is a potential arena to recruit children to be radical. In fact, the school as a learning arena determines the starting point of student development to gain social life, knowledge, and experience as an injection of future provisions. Therefore, there is a need for deradicalisation thematic learning.

Thematic learning can be interpreted as a learning activity by integrating several lessons in a theme or topic. Sukayati and Wulandari (2009:18) stated that thematic learning is a learning approach designed to intentionally associate and integrate some basic competencies and the curriculum/standard content, indicator of some eyes Lesson into one entity to pack in one theme. In line with it, Utaminingsih, dkk (2014:76) states that thematic learning is an attempt to integrate knowledge, skills, values, attitudes, and creative thinking by using themes. The advantages of thematic learning according to Kemendikbud (2016) as follows: (1) The materials contained in the maple have a relation to the concept, so that the learning is more meaningful. (2) Students are easy to focus on because the subject matter is packaged in the theme. (3) Students can develop various competencies in a single subject. (4) The student is training makes the relationship of several subjects so as to process the information in a way of thought. Aqib (2014) added that thematic learning saves time as some lessons are delivered in one unified theme.

The syntax of thematic learning in elementary school according to Musfiqon (2017:127) as follows. 1) Understand the problem of deradicalizing constomeal. The first step that the teacher is addressing the constecstual problems that occur in the community. The students perform observing activities such as reading and understanding constecstual problems. 2) solve the problem of constectual. This activity students try to solve the problem in its own way. Teachers guide students to bring out many of the diverse design ideas and problem solving strategies. 3) comparing and discussing the answers. Activities undertaken by students communicate work outcomes to teachers and friends. Teachers motivate students to interact in their respective groups such as ask, brainstorm, give explanations to peers, and resolve problems. Students discuss comparing the answers in their respective groups. 4) Draw conclusions. This stage teachers help students reflect on knowledge, attitudes, and skills. Teachers help students draw conclusions and make summaries.

Deradicalization is not radical attitude. Radical from the Latin radix which means the roots in English word radical can mean extreme, thorough, bigoted, revolutionary, ultra, and Fundamental (Depdiknas: 2006). While radicalism has the meaning of doctrine or practices of radical or extreme understanding. Some radical activities that teachers and radical students often do in viewing religion and ethnic groups. Radical religion is a movement that has the characteristic of focusing on the dimension of religious identity. Practical political movements sometimes drag teachers and students tend to follow radical steps. The radicalism associated with attitudes is sometimes used to corrupt the order and terror of the community. Therefore, radicalism should not be taught in schools.

Agus (2016:46) radical is a condition of people or movements that want to happen to be social and political change rapidly and thoroughly in uncompromising ways even using violence. Radical people by Mahfud (2016:17) are actually people who understand a problem up to its roots. The Radikalism more often firmly adhere to a principle than the nonradicalist. Changes made are often done even with the path of destruction in total. Then replacing with new things in a revolutionary way is to overturn the values drastically through violence and extreme action radicalism. Radicalism is interpreted by Huda (2018:4) as an act of
exaggeration of vulgar expression in religion, ethnic and group that tends to complicate society. Often radicalists claim and fight for truth in harsh ways.

Deradicalisation studies in primary schools are expected to prevent radical behaviour. In this context learning deradicalisation very significantly prevents the efforts of suppression of radicalism. In the context of deradicalisation became a reference in deconstructing and reconstructing the radically understood religious doctrines and triggering acts of terrorism. Deradicalisation learning is expected to provide a solution for peace in nation and state.

Deradicalisation thematic learning models can be used to prevent the development of students' radicalism phenomenon. The thematic learning model closes opportunities for other parties to drop the image of religious and certain ethnic groups in Indonesia. The success of deradicalisation thematic learning in elementary schools is a major focus on preventing radical attitudes that tend to be in the fight for the radical doctrinal correctness that is believed (Asmani, 2011:35).

Based on the observation of the teachers and students of nine elementary schools in Kudus regency, that learning the deradicalization of science material "Solar System" class VI considered to be difficult to understand. This is due to solar system materials requiring analytical skills, and abstraction. Some science laboratory tools about the solar system that is owned by the school today is adequate. However, there are some obstacles faced by teachers and students. The obstacles include: (1) The difficulty of dividing the practicum tools that are not balanced between the number of students. (2) The difficulty of maintaining the durability of the practicum tool because the practicum tool is mostly made of glass and plastic so that it is easily damaged. (3) The maintenance fee of the practicum tool is expensive. (4) The practicum tool is too risky and cannot be carried anywhere. (5) Safety guarantee during practicum, because some of the laboratory equipment is made from glass and plastic that is easily broken.

Creative and innovative teachers who always have brilliant ideas to overcome the problems experienced by students when experiencing the learning constraints of the science of solar system. Teachers must be able to update learning. One form of learning reform conducted by teachers on learning to deradize science Solar system material by using interactive learning media, effective, interesting, and meaningful for students. In addition, if the media of learning is well made better the media in carrying out its function as an effective message distributor (Sarwono, 2014:19).

Hermawan (2016:47) deradicalisation thematic learning using the media is very beneficial to complement and improve the quality of the learning process. The use of media in learning can improve students' motivation, creativity, activity, and learning outcomes to avoid being radical. Related to media selection experts give the view that learning by using a double sense (view and hearing) will provide benefits to the students and influence the outcome of learning. Susilana (2012:26) states that interactive learning media is considered to be able to provide and direct the learning experience from abstract to concrete, and able to stimulate students to love learning so that learning outcomes are improving.

The selection of learning media is an android-based learning media. Sandy (2019:46) explains that android is a sophisticated communication tool that is favored by various circles. As a teacher who is sensitive to the development of sophistication communication tools should utilize the sophistication of android for learning media. Android selection as a learning medium with the reason: (1) Android is an advanced communication tool that is used every circle. (2) Almost all elementary school age children know and as android users. (3) Android as an effective tool for message feeder that contains educational knowledge content. (4) The
material can be accessed easily, cheap, when and anywhere. (5) Students can do independent learning.

This media interactive learning android-based is made from a combination of PowerSpring Html 5 software. PowerSpring Html 5 is an acronym for PowerPoint, Ispring Suite 8 and Website 2 APK Builder Pro v 3.0 Html 5. Sandy (2019:11) the combined selection of three software as a form of development of learning media because the software can be easy to use, not complicated because it does not use coding or visual basic and cheap because the software can be obtained for free.

Android-based in thematic learning presents material in the form of text, images, audio, video, animation, as well as combining links and tools that enable students to interact interactively. Interactive media is defined according to Susilana (2012:126), which is the learning media where the learners face and interact directly with the computer, android, or other. Such interactions occur individually with links and tools that allow students to choose the material that is presented. Android-based thematic learning can be effective in establishing students’ deradicalisation attitudes on science material science class VI material so that the material can be presented more attractive, effective, and empowered. Android utilization as an interactive learning media deradicalisation of the solar system can also be done as a learning companion as long as students are at home or outside school activities.

2. Research Methods

Research is oriented towards developing android-based thematic learning to build a deradicalisation stance on the science of Solar system material lesson. The design of the development adapted the development model according to Borg & Gall (in Sukmadinata 2007). Research and development measures there are ten stages in arranging the product (Sugiyono, 2015:146) is Figure 1.

Figure 1. Research Design
Salahudin (2017:112) the two groups were given pre-test before treatment with the same test to measure the initial conditions. Experimental groups are given a learning treatment using the android media treatment thematic Learning (X) the control group is not given treatment (X'), after the learning process, the two classes are tested again with the same test as the final test (post-test).

The study was conducted in the first half of January-June of 2019 in elementary school in Kudus in the year 2018/2019 with a sample of class VI research amounting to 203 students. Both groups carry out learning activities through pretests and posttest activities, the pretests activity is used to know the basic ability of students on android-based thematic learning to build a deradicalisation stance before being held learning, while the posttest is used to learn students learning outcomes after the study. Group experiments during the learning process using android media help, while in the learning control group are conventionally. The role of the android media thematic learning in this case is as a teaching medium that can help students during the learning process to make it easier for students to understand thematic learning. The achievement of the pre-test and post-test scores of both groups was tested for effectiveness to determine the achievement of the learning outcomes of the experimental and control group.

Mairing (2017:47) explains that data collection techniques are conducted by angket, tests, observations, and documentation. Pre-Test and post-test Data from the control group and experiment Group are analyzed using the N-Gain formula:

$$ N - \text{gain} < g > = \frac{\text{Posttest Score} - \text{Pretest Score}}{\text{Maximum Score} - \text{Pretest Score}} $$

Data-driven validation datesand thematic learning with powerspring Html 5 to build a deradicalisation stance is obtained through a validation poll. Data collected in the form of assessment score related to the feasibility of thematic learning android-based with Powerspring Html 5.

3. Research Result and Discussion

Learning is conducted under the learning plan. Learning consists of initial activities, core activities, and closures. In the first study carried out a pre-test to know the student's mastery of the material. The preliminary meeting conditioned in a group of learners. Classes are divided into groups. Each group consists of 4 selected students heterogeneous. After the teacher's greetings and presences, explain the goals and benefits, ask for readiness, motivate the students by saying: "My children, today we will learn with fun. All of you will get new things that are very interesting and fun. What a delight, we together learn science solar system and awareness of being deradicalisation with android media. Furthermore, the teacher gave a refreshment to sing with the students "Garuda Pancasila". The students listen to teacher learning steps.

The next step of teacher-guided students elaborated on solving consetstual problems. This phase of activities students try to solve problems with their own strategies. At this stage, the students are stimulated to bring out many different ideas and problem solving strategies from students. The different workarounds for each student are preferred. Students ask questions when there are solar system things and deradicalisation attitudes that are still less obvious. Teachers motivate students to solve problems.

The next activity students examine the answers to the problems that teachers convey. This activity students examine the answers that have been obtained and write down answers with clear sentences and sequential words. Compare and discuss answers in groups. Activities conducted by students to communicate the results of the work to teachers and friends.
Teachers motivate students to interact in their respective groups. Teachers stimulate students to dare to ask, brainstorm, give explanations to their peers, and solve problems that exist in the worksheet. Students discuss to compare the answers gained in their respective groups. Then one representative of the group was assigned presenting the results of work. By the time one group advanced the presentation, the other group gave a response. In this activity the teacher directs all the students directly involved and actively discuss. This phase of activity is expected for students to collaborate and communicate work outcomes. This is in accordance with the Slameto opinion (2013:14) explaining that thematic learning should be able to present creative and collaborative students.

Subsequent activities students draw conclusions with the teacher's direction. This stage teachers help students reflect on the knowledge, attitudes, and learning skills of the solar system and the deradicalisation gained. Teachers confirm the solar system problem solving strategy and the deradicalisation of students to contribute during the study of the group. The teachers play a role in directing students independently.

Furthermore, teachers confirm, teachers straighten out the students' mistakes in the discussion, ask the learners, provide reinforcement and a confirmation. The work of the group of learners is collected to organize the work of the upcoming meeting. Based on the results the teacher discussions helped students draw conclusions and make summaries.

The closing activities include: (1) assessment and evaluation, (2) each student has a reflection of today's learning, (3) teachers perform analysis of evaluation results for improvement and enrichment. The activity ends with singing the song "Bagimu Negeri".

### 3.1 Pre-test and Post-Test Results

The pre-test was conducted on the first meeting day for the subject of the solar system and deradicalisation. The activity begins with explaining the solar system material and the importance of deradicalisation attitude to students. Students are then asked to answer the pre-test about the material. Teachers help read about and explain the intent of the question so that students can work. The pre-test result data on the control group and its subsequent experiments were used to determine the success or unsucces of the android-based deradicalistic thematic learning for elementary school students. T-test in pre-test results are presented in the Table 1.

![](Table 1. T test results Pre-test group controls and experiments)

<table>
<thead>
<tr>
<th>t-test for Equity of Means</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test t</td>
<td>0.918</td>
<td>201</td>
<td>0.360</td>
</tr>
</tbody>
</table>

In the Table 1 indicates that the value significance is $0.360 > \alpha = 0.05$ so that $H_0$ is received. This means there is no significant difference between the average pre-test scores on the control and experiment groups. Thus both samples are eligible for the next trial.

### 3.2 Students Learning Activities

Student learning activities in the control group and experiment groups show different results. In the control class shows acceptable results, while the experiment class is good. The following recapitulation of the learning outcomes of control classes and experiment classes are presented in the Table 2.

![](Table 2. Recapitulation of control and experiment class learning activities)
To know the improved learning outcomes students as follow the recapitulation of result pretest and posttest experimental and control class presented in the Table 3.

The improved of the learning outcomes students is showed the normalization of gain rows. The improved of ability identify the member of solar system is analyzed based on the normalization of gain by using pretest and posttest data. As follow the comparison learning outcomes students in the sixth learning experimental and control class data in Table 3.

**Table 3.** Comparison of improved learning outcomes of control and experimental students on the ability indicator multiculturalism attitudes

<table>
<thead>
<tr>
<th>Classes</th>
<th>n-gain</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiments</td>
<td>0.70</td>
<td>High</td>
</tr>
<tr>
<td>Controls</td>
<td>0.32</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

Improved of ability to understand Earth and moon movements presented in Table 4.

**Table 4.** Comparison of the improved learning outcomes of control and experimental students on the ability indicators to tolerance attitudes

<table>
<thead>
<tr>
<th>Classes</th>
<th>n-gain</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiments</td>
<td>0.40</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Controls</td>
<td>0.28</td>
<td>Low</td>
</tr>
</tbody>
</table>

The improved of ability to understand solar and lunar eclipses are in Table 5.

**Table 5.** Comparison of increased learning outcomes of control and experimental students on the ability indicator to togetherness attitudes

<table>
<thead>
<tr>
<th>Classes</th>
<th>n-gain</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiments</td>
<td>0.42</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Controls</td>
<td>0.30</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

The improved of ability to build deradicalisation attitude is presented in Table 6.

**Table 6.** Comparison of the improved learning outcomes of control-grade students and experiments on indicators of the ability to nasionalism attitudes

<table>
<thead>
<tr>
<th>Classes</th>
<th>n-gain</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiments</td>
<td>0.70</td>
<td>High</td>
</tr>
<tr>
<td>Controls</td>
<td>0.28</td>
<td>Low</td>
</tr>
</tbody>
</table>

Post-test data is further used in T-test to determine whether the average difference in the learning outcomes in the control class and the experimental class after a field trial in the Table 7.
Table 7. Control class and Experimental class T-test in post-test results

<table>
<thead>
<tr>
<th></th>
<th>t-test for Equity of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
</tr>
<tr>
<td>Posttest</td>
<td>2.538</td>
</tr>
</tbody>
</table>

In Table 7 the significance value is $0.012 < \alpha = 0.05$ which means there is a significant difference between the average post-test of learning outcomes between the control class and the experimental class. This suggests that the average post-test of the experiment is higher than the average post-test control class and thus $H_1$ is accepted (Arifin, 2017:88).

Thematic learning is developed based on principles of scientific learning development and deradicalisation has fulfilled the criteria of valid judgment according to the validators. The aspect is considered categorized: (1) design learning thematic in the science lesson of solar system-based material android with Powerspring Html 5, and (2) the use of android media in thematic learning.

Thematic learning design is constructed based on the conformity of learning with the principles of learning, conformity with indicators, the proper learning with the environment, ease in the application of learning, comfort and quality learning. The use of media developed in the form of android based with Powerspring Html 5. This selection is tailored to the learning objectives, namely to develop the deradicalisation attitude of elementary school age students. Media is created in the form of APK for android application, making it easy for users to use it on android. Media contains material and training questions. The material learning consists of (1) the multiculturalism attitudes, (2) tolerance attitudes, (3) togetherness attitudes, (4) nationalism attitudes. It is supported by the opinions of Ediger (in Bafadal, 2009:147) which suggests that thematic in learning should be delivered following the advancement and development of technology, one of which by making applications through Android.

Android media is created using Powerspring Html 5. It is done because to make this app very easy to use and duplicated. Almost everyone from kids to adults is very familiar with android. Amirolh (2016:33) mentions that nowadays it is almost certain that everyone uses android, HP and gadgets. Thus the media created can utilize android with Powerspring Html 5 in order to divert the students who have been only playing games and chats that are useless and unusable. Through the thematic learning application in solar system learning is expected that students will utilize a lot of time learning through android to improve their creativity.

The result of the accumulated scoring score provided by the validator meets valid criteria. Therefore, thematic learning in the science lesson of android-based solar material with Powerspring Html 5 to build a deradicalisation stance has fulfilled valid criteria so that it is worth use in learning activities for children elementary school age.

The findings of the learning activities in the six meetings are as follows: (1) The learning atmosphere of experimental classes is more fun and enjoyable than the control class. (2) The thematic learning using android is highly liked by students. (3) through android students can study independently. (4) experiment class learning results are better than the control class. (5) Students in experimental classes are very enthusiastic and happy learning using android.

The analysis results show that increasing students' ability to understand identifying the solar system, understanding the earth's and moon's outline, solar and lunar eclipses, as well as deradicalisation for the class of experimental control classes is always an improvement. There is a difference in the learning outcomes of the controls and experiments classes. Experiment class learning results are higher.
4. Closing

Based on the results of the research and discussion, it can be concluded that the thematic learning android-based in the Solar System science lesson with Powerspring Html 5 to build a deradicalisation stance has fulfilled valid, effective, and practical criteria.

It is recommended that thematic learning android-based with Powerspring Html 5 be used on every theme in elementary school to build a deradicalisation stance. Through thematic learning android-based with Powerspring Html 5 will create a learning atmosphere that is active, effective, efficient, and enjoyable so that students' learning activities and outcomes are improving.

References

Making Speech Therapy Aids for Children with Special Needs

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Abstract. Speech therapy is an alternative to overcome the problem of speech disorders. The provision of speech therapy services and the manufacture of speech therapy visual aids for children with speech disorders are urgently needed. One of the learning innovations that can be implemented is by making speech therapy aids for children with special needs. The goal of this service activity is to broaden the knowledge and understanding of PBSI FKIP UMK academic community related to the learning innovations of children who experience speech impairment by using speech therapy aids for children with special needs and to bring up science and technology-based business units. The methods used include segmentation, production, finance and HR management. The products are number cards, alphabet cards, body part cards, daily activity cards, certain place sequence accordions, daily activity order sequences, and hand puppets.

Keywords: Teaching aids, Speech Therapy, Children with Special Needs

1 Introduction

Language as an instrument of communication plays a role in conveying messages from the speaker to the listener. Language competence at the mental level is then articulated through the speech organs. The process of language articulation involves a very complex system and includes various organs in the human body. Impairment or damage to the speech organs can cause disruption of normal communication (Handoko, 2014). [5]

The number of speech disorder sufferers in Kudus regency based on the data from the Statistics Agency (2015) from the Social, Manpower and Transmigration Office reached the total of 252 people. In detail, there were 18 from Kaliwungu district, 49 from Kota district, 29 from Jati district, 35 from Undaan district, 21 from Mejobo district, 18 from Jekulo district, 33 from Bae district, 31 from Gebog district, and 18 from Dawe district.

Speech and language disorders are one of the most common causes of developmental disorders in children. Speech delay is a major complaint that parents often worry about and complain about to doctors. This disorder seems increasing rapidly. Some reports mention the incidence of speech and language disorders ranging from 5 – 10% in schoolchildren. Children who experience delays in speech and language are at risk of learning difficulties, reading and writing difficulties that will cause lacking academic achievement in a whole that is possible to continue until young adulthood. Furthermore, adults with low academic achievement due to delays in speech and language will experience behavioral problems and psychosocial adjustments.

Because of such large impacts arising from language delays in pre-school age children, it is highly essential to optimize the process of language development in this period.
Early detection of speech delays and disorders in pre-school age children is the most important action to assess the level of language development of children in order to minimize the difficulty in the learning process of the children when entering the school age. Some experts conclude that speech and language development can be used as the indicator of overall child development, including cognitive abilities and success in the learning process at school. The results of longitudinal studies show that the delay in language development is related to intelligence and reading later in life.

Handling speech delay requires quite a long time and good cooperation from parents. Some children do not get a good handling until the developmental problem becomes something that cannot be handled or has a significant impact on other things. Speech delay is often accompanied by other disorders in accordance with the disease such as hyperactivity, strange behavior, and difficulty to work with; thus, the treatment must begin with improving the behavior. After that, supportive therapies such as speech therapy, occupational therapy, sensory integration therapy, etc. can be given. The handling requires cooperation from various experts such as physiotherapists, occupational therapists and of course speech therapists (Sunanik, 2013).

The ability to use a language and speak is the main tool to communicate for us as humans. When one of the speech instruments or organs is disrupted, the person’s communication will also be interrupted. The more severe the disruption of the speech organs, the more severe the communication disruption experienced by a person. Language development follows a sequence that in general can be predicted despite the diversity between one and another, with the intention of developing children’s communication ability. The majority of children’s language development starts with crying. Children try to express their responses to various stimulants. After that, the children starts cooing, which refers to reciting meaningless sounds. Then, the children start learning speaking sentences with one word, like “mimik” (drink) which means that they need a drink because of thirst.

The classification of communication disorders included in the fields of speech therapy are as follows. The first is speech disorder (articulation). This is one type of communication behavior disorder due to one or several causes related to the function of observation (sensation and perception), neuromuscular function, speech organ condition, or environmental influence where the children have difficulty to use language sounds correctly. In this case, the problem lies in the meeting point of the articulation (point of articulation) or in the way of producing language sounds (manner of articulation). Speech difficulty is usually characterized by substitution, omission, distortion (unclear) and addition. Articulation development disorder includes the failure to pronounce one letter to several letters, often the omission or substitution of the sound of the letter, giving rise to an impression of speaking like a child. It can also be in the form of pitch, volume or sound quality disorders.

The second is language disorder. It is one type of communication behavior disorder where people with language disorders experience obstacles or difficulties in the process of symbolization (coding) and the use of linguistic rules used by their environment so that the sufferers experience obstacles in the development, barriers to receptive abilities, and barriers to expressive ability. This language disorder can occur due to lesions in the language centers in the cerebral cortex.

The third is sound disorder. This is one type of communication disorder that is characterized by disturbance in the process of sound production (phonation) that usually occurs due to organic and functional causes that affect the function of the larynx during phonation. Disturbances in the process of sound production can be characterized by interference in aspects of sounds, including: loudness, tone, and quality. Sound disorder can
broadly be divided into 2 (two) namely dysphonia and aphonia: a) Dysphonia is a condition of communication disorders in the form of deviations or imperfections in sound production that are caused by organic and functional factors. These conditions include: (1) tone disorder, (2) interference and (3) quality disorder. b) Aphonia is a condition of communication disorder that is caused by the loss of sound source or a complete failure in producing sound.

The fourth is rhythm/fluency disorder. This is one type of disruptions in communication behavior that is characterized by the repetition of sounds or syllables and the extension and blocking when speaking. The existence of repetition, prolongation and blocking when talking that makes the sufferers unable to speak fluently. In general, it occurs due to psychosocial disorders or other causes that interfere/affect the neuromotor function of the speech organ. Rhythm/fluency disorders can be divided into 3, namely: 1) stuttering, 2) cluttering, 3) latah (exaggerated startle reaction including apparently imitative behavior).

The fifth is swallowing disorders (dysphagia). This disorder is a difficulty in swallowing which is divided into 3 (three) phases, i.e. oral phase, pharyngeal phase and esophageal phase, caused by pathological, psychogenic and neurological conditions. The causes of language development disorders are numerous and widespread, all of which range from the process of hearing, the transmission of impulses to the brain, brain, muscles or speech organs.

Several of the causes of speech disorders or speech delays are hearing disorders, speech organ disorders, mental retardation, genetic or chromosomal abnormalities, autism, selective mutism, functional delays, receptive aphasia and environmental deprivation. The detail of factors causing speech disorders can be described as follows: (1) Internal Factors. Various internal factors or biological factors of the body such as perception, cognition and prematurity factors are considered as factors causing speech delay in children; (2) Perception. The ability to distinguish incoming information is called perception. Perception develops in 4 aspects: growth, which includes the development of nerve cells and the whole system; stimulation, which comes in the form of input from the environment covering the entire sensory aspects; habit, which is the result of schemes that are often formed. Habit (habituation) makes a baby get a new stimulation which will then be stored and then released in the process of learning the child’s language. Gradually, the child will learn new stimulations starting from touch, taste, smell and then vision and hearing; (3) Cognition. Children at this age are very active in organizing their experiences into general groups or larger concepts. Children learn to represent and symbolize ideas and concepts.

Speech therapy is a study of language, speech and voice disorders that aims to be utilized as the basis for making diagnosis and treatment. In its development, speech therapy covers a wider scope of understanding by studying matters related to the speaking process, including swallowing process, rhythmic disorders and neuromotor disorders of other articulation organs.

According to Sastra (2011) in Handoko (2014), handling speech disorders begins with identification of the patient that include the medical history, speaking ability, listening ability, cognitive abilities, and communication skills. Then, the treatment continues with the diagnosis of the patient’s disorder. After obtaining the diagnosis results, then the appropriate therapy can be applied for the patient.

Speech therapy normally uses audio or video and mirrors. After the patient learns about the disorder, the therapist then teaches the ability to speak using methods appropriate to the patient’s age. Children’s speech therapy commonly uses approaches of games, dolls, role-plays, and pairing pictures or cards. Adult’s speech therapy generally uses a direct method, which is through training and practice. Articulation therapy in adults focuses on assisting the
patients to produce sounds correctly. This therapy usually includes the way to position the
tongue properly, shape the jaw, and control the breath so that they can produce sounds
correctly. For sound disorders, the therapy focuses on the way to produce good sounds and
improve the behavior that results in vocal disorders. The types of therapy are as follows.

1) Oral Motor Therapy
This therapy uses exercises that do not involve talking process, such as drinking
through a straw, kissing a balloon, or blowing a trumpet. This exercise aims to train and
strengthen the muscles used for talking.

2) Computer-Based Therapy
Along with the technology development, language and speech pathologists
develop various softwares that can help the process of speech disorder therapy, including:
(1) Tiny EYE, which is software that allows speech therapy to be carried out remotely.
The method used in this device is the same as the method used in face-to-face therapy; (2)
Fast ForWord, which is software that is designed based on problems in the hearing
process. This tool uses games that are designed to slow down the tempo of the sounds so
that it allows the user to distinguish the sounds; (3) TWIST (Technology with Innovative
Speech Therapy), which is software developed for speech therapy for stroke, brain
tumors, and neurodegenerative disease sufferers, as well as children who experience
speech disorders.

3) Melody Intonation Therapy
Melody intonation therapy can be implemented to stroke sufferers who experience
language disorders. The music or melody used is usually of a slow tempo, with lyrics, and of
different beats.

Method of Implementation
Speech Therapy Laboratory of Muria Kudus University with the Business Unit of
Speech Therapy Aids at the Indonesian Language and Literature Education Study Program
Faculty of Teacher Training and Education Muria Kudus University is a provider of speech
therapy teaching aid products for children in Kudus and surrounding areas.

The continuity of supply and quality of raw materials for educative aids are
guaranteed. The raw materials for educative aids are obtained from various shops in Kudus
Regency. The raw materials for the production of speech therapy devices are supplied
periodically every month according to production requirements. The raw materials are sengon
(albizia chinensis) or waru (hibiscus tiliacus) wood with guaranteed quality, paper, fabric,
and so on.

The clients of Speech Therapy Laboratory PBSI UMK for education and training
services are parents whose children have speech problems, speech therapy clinics in Kudus
and Pati ex-residency. One of the partners invited to work together is Prima Medistra Utama
clinic in Bae district, Kudus regency. PBSI UMK Speech Therapy Laboratory clients for
training as a basis for the establishment of new entrepreneurs are students. The clients are
always available and need assistance with consultation and product innovation guidance on
speech therapy aids. Another client is Lentera Hati School. The school is a special school for
Children with Special Needs with various types of problems.

a. Parents
Parents have an important role for children’s education, especially for those who
have children who have impaired speaking ability. Parents also become the clients of Speech
Therapy Laboratory PBSI UMK. The main role of parents at home is assisting the children
when learning at home. Parents whose children have speech disorders are our partners. Speech Therapy Laboratory PBSI UMK is in collaboration with the students’ parents.

b. Educational observer

For educational observers, Speech Therapy Laboratory PBSI UMK provides a very interesting offer related to learning innovation, especially for children who have speech delays or problems.

c. Public

In accordance with language competence and language skills, the development of the quality of the public will be devoted to the field of educational services related to innovation and meaningful learning practices, especially speech therapy for children with special needs. This program offer aims to utilize the excess capacity of lecturers and facilities owned by Speech Therapy Laboratory PBSI UMK.

d. University students

Another line of business that will be developed by Speech Therapy Laboratory PBSI UMK is non-profit trainings for students. Training for students is directed as a service for PBSI UMK students. The students are trained to be able to establish new entrepreneurs in the field of education, especially in learning innovations using speech therapy aids and consulting services or speech therapy for children.

The product of Speech Therapy Laboratory PBSI UMK is PBSI Speech Therapy Speech Business Unit of Muria Kudus University that produces/serve:

- Children’s speech therapy aids that include alphabet cards, color cards, daily activity cards, body part cards, hand puppets, daily activity sequence accordions, certain place sequence accordions and miniatures of living objects.

- Education and training services for the manufacture and development of speech therapy aids that include rules for registration procedures, training participant manuals, training books for developing speech therapy aids, training participant certificates, manuals of production equipment maintenance and speech therapy teaching aid media procedures, work instructions for work safety while producing aids, and cash flow of Speech Therapy Laboratory PBSI UMK.

1. Educational consulting services related to educational teaching aid innovations

They include rules for registration procedures, consultation participant manuals, Cash Flow of Speech Therapy Laboratory PBSI UMK.

2. Student training

It includes the guidelines for establishing new entrepreneurship and guidelines for the assistance from Speech Therapy Laboratory PBSI UMK to new entrepreneurs.

The production plan is carried out in the following stages.

1) The stages of the production of educational aids:

a. Preparing the tools and materials

b. Planning the design of speech therapy aids

c. Assembling and producing speech therapy teaching aid processes and the manuals

d. Experts’ validation to the speech therapy aids that are produced

2) The stages of education and training services:

a. Preparing the location and training equipment

b. Preparing the speech consultation training materials and modules

c. Promoting the trainings, parents, and educational observers through leaflets, brochures, product seminars, fanpages, websites, radio and local
newspapers
d. Accepting the training candidates
e. Preparing the instructors and assistants
f. Implementing the trainings
g. Monitoring and evaluating every training by distributing response questionnaires from the participants

3) The stages of consultation services:
   a. Preparing the location and consultation equipment
   b. Promoting the consultation services, parents, and educational observers through leaflets, brochures, product seminars, fanpages, websites, radio and local newspapers

Results and Discussion
The Business Unit of Speech Therapy Speech Therapy for Children with Special Needs owned by Muria Kudus University is currently developing well. The place is located in Building L, on the 3rd floor of Muria Kudus University. The manufactured goods are as follows.
   a. Alphabet Cards
      The alphabet card aid produced by the Speech Therapy Aid Business Unit is almost the same as general alphabet cards. However, it has bigger size and brighter colors. This aid is sold for Rp. 55,000.00 per package.

Figure 5.1 Alphabet Cards produced by ABK Speech Therapy Business Unit
This product was sold as many as 344 packages in the first year. The shortcoming of this product is the paper material that is not thick enough.

b. Number Cards

The number card aid produced by the Speech Therapy Aid Business Unit is almost the same as the number cards in general. However, it has bigger size and brighter colors. This aid is sold for Rp. 55,000.00 per package.

Figure 5.2 Number Cards produced by ABK Speech Therapy Business Unit

This product was sold as many as 344 packages in the first year. The shortcoming of this product is the paper material that is not thick enough.

c. Living object cards

For this living object cards, speech therapy aid business unit UMK produces them in large quantities. In this type of product, there were 223 packages sold in 4 months. Here is the picture of the product.
d. Hand puppet
This product has a uniqueness since it comes in the form of a hand puppet character wearing Kudus traditional clothes. The product has sold a total of 125 pieces. Here are the designs and products.

Figure 5.3 Living object card products

Figure 5.4 Master design of hand puppet characters wearing Kudus traditional clothes
e. Daily Activity Sequence Accordions

This product is made from flannel cloth that is designed to last for use by children with special needs. This product has an advantage compared to other accordions, i.e. it includes daily activities by taking the needs of aids for children with special needs into account. This product has been sold for as many as 137 pieces.

![Figure 5.5 Hand puppets of family members wearing Kudus traditional clothes](image)

![Figure 5.6 Accordion Book is being used for speech therapy](image)

At the production stage, considering the high number of demands, the team encountered difficulties in the provision of raw materials and tools, so the team needed to partner with puppet producers. However, the design and logo are still owned by the public service team. The following is the logo design of speech therapy aids for children with special needs business unit.
At the production stage, the problem is the limited number of workers who manufacture the aids. In addition to the limited number of workers, the limitation of this business process also lies on the marketing process. The marketing process has been carried out in the area of Kudus Regency, Jepara Regency, Demak Regency, Pati Regency, Rembang Regency, etc. The following is the picture of the promotion process at school.

In the promotion process, the team also provides the facility of a manual to use the speech therapy aids. The goal is to make it easier for teachers, parents, or therapists to use these aids.
In addition to selling speech therapy aids, the team also conducts speech therapy training for children with special needs involving teachers of children with special needs at school.

Children with special needs are clearly interested in speech therapy aids during the training process. This can be observed in the following picture.
Conclusions
1. The aids produced by Speech Therapy Aid Business Unit Muria Kudus University in the first year include 8 products, which are alphabetical cards, color cards, body part cards, daily activity cards, accordion of daily activity sequences, accordion of certain places, hand puppets, and miniatures of living things.
2. The implementation methods include segmentation, production, finance, and HR management.
3. There is high market demand for speech therapy aids for children with special needs.
4. It is necessary to increase the sales promotion on national scale.

1.2. SUGGESTION
1. It is necessary to develop improved production management well and establish cooperation with permanent suppliers of high quality raw materials with more efficient and economical costs without reducing the quality of the materials to reduce the production costs and increase the sales.
2. It is necessary to look for reliable suppliers; hence, when the orders increase, the supply of raw materials remains available and controlled so that it does not hamper the production of speech therapy aids.
3. In order to increase and expand the product marketing, it is necessary to have good promotion media.
4. It is necessary to provide computer or software-based speech therapy media.

References
[1] Feni, Minarni Rama Jura. Ritman Ishak Paudi. The Use of Concrete Aids to Improve the Learning Outcomes of Science Lesson in Grade IV at SDN No.3 Ogoamas I, North Sojol District, Donggala District. The study was published in Kreatif Tadulako Online Journal, vol 5 No.11, pp. 1-13 (2014)


Gusjigang: Local Cultural Values for Developing
Bagus Character in High School Students in Kudus

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Abstract. Gusjigang as the self-image of the Kudus community which is a spirit in the
form of spirituality, intellect, and productivity. These three elements are characters
inherent in the Kudus community which are interrelated to one another. Based on the
survey along with the development of the character of Gusjigang in the Kudus
community (Students) increasingly displaced and increasingly unknown. Character is a
person's personality that is formed from the results of internalization of various virtues
that are believed. Individuals can be said good or not good can be seen from the
characters inherent in him. Given the importance of a character in an individual it needs
to be developed, as well as the character of gusjigang. The alternative in developing the
character of Gusjigang in high school students in Kudus is to use a local cultural
approach that contains gusjigang values in the form of training.

Keywords: Gusjigang, local culture, bagus character.

1. Introduction

Theoretically, high school students are teenager. Teenage is a certain period where most
of people seek their self-identity and have a tendency to try new things until they grow up.
One of their efforts to deal with their transition is by trying various roles. The purpose of this
method is developing all of their ideologies and interests which are their main purpose to
improve their characters and personality.

Character is a set of virtue values that embedded on self and reflected on someone
behaviors. Character is the result of how someone think, feel, exercise, and their sympathy and
empathy in person or group. Every person or group has unique character that contains value,
virtue, moral capacity, and ability to deal with obstacle and challenge [1]. Thus, development
is necessary for character.

There are several basic reasons of nation development in terms of philosophy, ideology,
normative, history and socio-culture. Philosophically, nation character development is a must
because character is an important factor for a nation to has character and identity to survive
and exist. Ideologically, character development is an effort to implement Pancasila ideology to
manage a nation. Normatively, nation character development is a real effort step to achieve
country’s main purpose which is protecting all part of Indonesia, improving social condition,
improving education quality, joining world order movement, eternal peace, and social justice.
Historically, character development is a dynamic nation process that always happens in cycle on every period from colonial era until independent era. Socio-culturally, nation character development is a must for every nation that is multicultural.

Efforts of nation character development have many forms but until this moment there is no character development method that shows adequate result. This is reflected from social gap in social, economy, and politic such as nature which is corrupted because of human’s behaviors, justice that is not present since law is imbalance, free sex and pornography that present in teenager, violence and riot that happen frequently, and last corruption in various sector in society. Recently, so many conflict and anarchy social happen frequently. Younger person lost their norms and ethics to older people. Indonesian people that used to be have virtue norms and local wisdom, begin to change to be hegemony groups that only care about themselves and leave their honesty. That is an indicator that the collapse of identity and character of nation is because of (a) disorientation of Pancasila’s value as philosophy and nation ideology (b) limited policy set to realize values of Pancasila (c) shifting on ethic values (d) the awareness of nation culture values that begin to fade (e) national disintegration risk (f) and the nation independency that start to weaken[1].

Based on observation that is conducted on 2 May, there are still founded some students who celebrate graduation result by doing convoy on the street, vandalizing their clothes, throwing drink party, and even using off-label drug to obtain euphoria effect without concerning social, family and their own condition. This is an evidence that characters valued of student is far below the expectation. Thus, approach with local wisdom value is a must to embed good behavior to every student.

Local wisdom is a culture legacy to contribute positively to society that at the end it would provide character values based on local culture on that society. The unique local culture in Indonesia could contribute to character development such as culture of Gusjigang that is present on Kudus district Central Java province.

[2] Explain about gusjigang has three keywords (gus, ji, gang) that provide three core values that can be developed into basic values to improve Kudus city in field of economy, politics, culture, and education. Those three core values are (a) akhlak mulia ¬from the keyword gus (means handsome) that has certain meaning as values of being religious to god, human, and nature. Manifestation of this value is the behavior of Sunan Kudus who has big heart with high love, empathy, and tolerations to others. (b) The second keyword of ji means values of studious. (c) The last keyword gang means the value of entrepreneurship where someone must own a set of values which are independent, creative, and innovative to become a great entrepreneur.

Based on the description, it can be concluded that values on gusjigang culture is strongly connected with character development for young generation in this case is student. Thus, this article’s purpose is to provide alternative character development method by using gusjigang, values of local culture to improve students’ characters.

2. Discussion

Local wisdom in education is considered as center to prepare good human character. This believe is the foundation for every person to be ready to face global challenge. It is also the basis foundation to the world to acknowledge Indonesia as a strong nation in all sector in 2045 atau next 100 years after Indonesia achieved its independent. The evidence of this believe is the result of Indonesia’s economy growth. Now, Indonesia is ranked as 16th in world economic country. In 2030, Indonesia is predicted would achieve the rank in 7th position. In
this context, Indonesian government believes that young generation is the only way to improve Indonesia as a strong nation in 2045. Education based on local wisdom is considered as the best place to prepare young generation as nation agent of change that would bring welfare in Indonesia. Education institution would not only transfer knowledge to students but also form behavior, character, and prepare future leader. Thus character development can be done only through education. [3].

Character is a unique indicator on a person, family, or even society. Character is a consistency that can be predicted by behavior tendency [4]. In 21st century, students’ character, social-emotional ability, and academic competent are the key factor to decide school quality. Those are the important key to overcome global challenge which is visionary leadership character with empathy. It can be conducted through school program by preparing the students for the tests of life and not a life of tests is a vision truly worthy of pursuit. [5].

Character education is urgently needed. Characters values such as honesty, trust, teamwork, respect, responsible, hope, resolve, and loyalty are important component in developing individual character through world education [6]. School environment that careful and peaceful can trigger the development of student character which is well mannered and respect each other [7].

[8] that character is a personality’s side that is related with morality normative aspects. Thus, the quality of someone’s personality can be seen from his personality based on moral norms. Someone would have good character if he show behavior that compatible with moral norms. [9] said that character is to know the right thing what one must do and always do the right things, even if no one see. Character education is an effort to guide someone’s behaviors through applied standard, and provide the way to respect individual perspectives and values represented in school [10].

[11] Explained that character consist of operative value which is value in act. We do a certain progress to achieve our character and then values will change into virtues, a mental disposition that can be used to deal with situation to assets whether something is morally good. Character has three parts that are linked each other: moral knowledge, moral feelings, and moral acts. Good characters consist of knowing good things, hoping for good things, and doing good things, thinking habits, mental habits, and habits in doing something.

Values that embedded on character would be unified on someone with good character. Those values would me manifested as well-mannered daily behavior. Kudus society is well known with character of gusjigang as a soul that must be preserved to improve self-quality and economy as provision for life. For one can be called as wong Kudus, he must has good behavior and nice physical appearance. This appearance and behavior would be enhanced with studious character as one must always seek religious and scientific knowledge. And the last, he must prove his character by being an entrepreneur or being able to commerce well. [12]. The souls of gusjigang are moral (gus), studious (ji), and entrepreneurship ethos (gang). Thus, gusjigan can be seen as culture basis to improve spiritual entrepreneurship in wider understanding [13].

Gusjigang is personified as Kudus society’s image that own good character as good behavior, has religious life, and proficient in commerce. Those three elements are a union that shows that there is a strong connection between religion and work life. The result of it is a good and balanced life mentally and physically. In daily life, the keyword ji means doing pilgrimage and reciting al-qur’an that is commonly conducted by muslim. In other hand, the keyword gang means to be an entrepreneur who commerce to obtain sufficient margin and prevent to be greed. As an entrepreneur, one must own honesty value.
Kudus society is called as society who follow the philosophy of gusjigang. In other words, all religion taught to be hard worker, because it is part of religion worship. The result of hard working would improve other religious worship. Gusjigang is embedded as self-image, as an identity of wong Kudus’ character. It is acronym from Javanese word bagus (good moral), ngaji (studious), and dagang (entrepreneur). Said said that sociology construction of Kudus society, sunan Kudus is the role model that contribute to construct the identity of Kudus society. Sunan Kudus that is labeled as ‘waliyyul ilmy’ and ‘wali saudagar’ is well known for his competency in commerce and high entrepreneurship ethos so that he succeeded to lead himself as individu, society with high religious knowledge. Those labels have paradigmatic connection with gusjigang culture as an indicator of muslim in Kudus [14].

Local wisdom of gusjisang is related with character values as formulated by Kemendikbud in effort to improve character education. Thus all character values in character education are present in the philosophy of gusjigang taught by Sunan Kudus to Kudus society. It can be classified into 18 character values that is included on gusjigang. Gus: (b) honest, (c) tolerate, (d) discipline, (h) democratic, (j) national spirit, (k) national pride, (l) appreciating achievement, (m) communicative, (n) peaceful, (p) nature care, (q) social care(r) responsible. Ji: (a) religious, (i) curious, (o) studious. Gang: (e) swot, (f) creative, (g) independent.

Based on research finding from Djoko S. [15]. Gus-Ji-Gang as a model as entrepreneurship soul pattern that can overcome capitalism character which always seek for benefit but sacrifice social moral. Spiritual power from entrepreneur community in Kudus, employ philosophy of gus and ji as a power basis of transcendence to form entrepreneurship ship soul that consider responsible, service, and justice as part of commerce ethos.

Based on the description about character and character values in gusjigang, it can be concluded that Bagus character development can be done through gusjigang approach where local culture can be used to develop virtue character on high school students in Kudus.

The implementation of the approach is using classical service form that would be delivered as training of gusjigang character forming. The steps of the training consist of;

Activity Themes : Holding integrity for cultured school, Developing students’ character toward cultural school, character building based on local culture. Activity Description: Character building on high school student in Kudus by embedding moral values based on local wisdom gusjigang. Activity Main Purpose : Implementing students’ comprehension of local wisdom moral values reflected on philosophy of gusjigang. Indicator : Students would understand and implement the moral values from character building of local wisdom gusjigang in their daily life.

1. Activity Steps: Pre-test, introduction to character building and local wisdom gusjigang.
2. First Material Gus: Moral value implementation delivered with character theme: integrity, honesty, responsibly.
3. Second Material Ji: It can be perceptibly as owing high intellectualty. Mengaji is not only described as reciting holy book, but it can be defined as studying literature. It will be delivered in character theme: fairness, caring and awareness.
4. Third Material Gang: Dagang can be described as a spirit to create something, creative, innovative, and doing something useful for society. It would be delivered in character theme: creativity, courage, and post-test.

3. Conclusion

Local wisdom gusjigang can be used as a source to develop character through classical service form that is delivered in form of training to students so that they would understand
about local culture moral values represented on philosophy gusjigang, thus they can know, understand and implement the moral values from character building to daily life. And the last, they would have good character that is visible such as integrity, honesty, responsibility, fairness, caring, creativity, and courage.

REFERENCES

[5] Anthony, S., Bencivenga. Leading Schools of Excellence in Academics, Character, and Social-Emotional Development. NASSP Bulletin. The online version of this article can be found at: http://bul.sagepub.com/content/87/637/60 (2003)
[6] Carl, I., Fertman et al. Character Education: An essential Ingredient For Youth Leadership Development. NASSP Bulletin. The online version of this article can be found at: http://bul.sagepub.com/content/83/609/25 (1999)
[7] Stephen C., Jones, et al. Community of Caring A Character Education Program Designed To Integrate Values into a School Community. NASSP Bulletin The online version of this article can be found at: http://bul.sagepub.com/content/83/609/46, (1999)
[10] Patricia, J. H. Leading the Effort To Teach Character in Schools. NASSP Bulletin. The online version of this article can be found at: http://bul.sagepub.com/content/83/609/25, (1999)
Pedagogical Content Knowledge of Pre Service Elementary Education Teachers in Using Traffic Park Diorama for Thematic Learning Process

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Abstract. This research discusses the pedagogical content knowledge (PCK) within thematics learning process using diorama. This research is qualitative research. The subject of this study are pre service elementary education teachers (PSEETs) in Muria Kudus University consist of two groups. First group are PSEETs who have gone through microteaching courses and practice teaching experience, the second group are PSEETs which have not been. Observation, interview and documentation used to collected the data. The results show that PSSETs in the first group doing well in thematics learning process they can use prerequisite material from the real context, construct content knowledge using traffic park diorama, giving conclusion and evaluation. There are some misconception the PCK from PSEETs in the second group like prerequisite, furthermore they can doing well of the learning process.

Keywords: Pedagogical Content Knowledge, Pre Service Elementary Education Teachers, Traffic Park Diorama, Thematic Learning Process.

1. Introduction

Article 8 of teacher and lecturer laws (Undang – Undang Guru dan Dosen), and Article 28 Government Regulation of Indonesian Republic (Peraturan Pemerintah Republik Indonesia No. 19/2005), requires academic qualifications for a teacher, and mastery of 4 competencies. Competencies as agents of learning include pedagogic competencies, personal competencies, professional competencies, and social competencies. Pedagogical competence is an ability with regard to the understanding of students and learning managers who educate and dialogs. Substantially, this competency includes the ability to understand students, design and implement learning, evaluate learning outcomes, and develop students to actualize the various potentials they have. Professional competence is an ability relating to the mastery of learning material in a broad and in-depth field of study which includes mastery of the content of curriculum subject matter in schools and the scientific substance that houses the curriculum material, as well as increasing scientific insights as teachers. These two competencies are important competencies in addition to personality and social competencies.

Elementary School Teachers Education of Muria Kudus University is an educational program study that prepares professional elementary teachers. Here students are provided with pedagogical knowledge and balanced content knowledge. Pedagogy and subject matter are given continuously for six semesters which are then continued in collaborative teaching practice in the professional community. Pedagogical Content Knowledge is a blend of content
and pedagogy into understanding how certain topics, problems, or problems are organized, represented, and adapted to diverse interests and learning abilities, and presented for teaching, and PCK is a special form of content knowledge that embodies the aspects that are most closely related to teaching ability [1]. Two topic-specific PCK categories: knowledge of teaching strategies and knowledge of students’ thinking patterns [2]. PCK is an important knowledge for teachers and prospective teachers to have. Beginner teachers and prospective teachers should be able to begin developing their content representations (CoRes) and Pedagogical and Professional experience (PaP-eRs) [3]. PCK is a useful idea for understanding the teaching process and producing an appropriate teaching strategy [4], although PCK as a teacher's professional knowledge is difficult to define, categorize, articulate, and documented, it is increasingly important to do so because PCK is teacher's professional knowledge [5], references to successful teaching collections from experienced teachers and experts from research on specific PCK topics can be used as a guide to enlighten teaching and learning and as teaching material in programs teacher education [6]. Due to the importance of PCK knowledge, a study was conducted to see the PCK owned by pre service elementary school teachers at PGSD Muria Kudus University. This research is limited regarding the process of preparing learning designs that are part of PCK. Learning preparation is made in the form of thematic learning lesson design using a traffic park diorama.

2. Method

This research is case study in quLITitive descriptive research. The goal of descriptive research is to describe a phenomenon and its characteristics. One fundamental characteristic is involve naturalistic data [7]. The subjects are two groups of pre service elementary education teachers (PSEETs) in Muria Kudus University. First group are 2 PSEETs who have gone through microteaching courses and practice teaching experience, the second group are 2 PSEETs which have not been. Data collected by Observation, interview and documentation.

The study began with searching a background of semester level of PSEETs and practical teaching experience. The four PSEETs were asked to make CoRes and PaP-eRs in using the learning media: traffic parks diorama in thematic learning process. Next, interviews were conducted with participants, relating to CoRes and PaP-eRs that they made. Data were analyzed using qualitative descriptive techniques. The process of data collection and data analysis is carried out continuously through a process of check and re-check, then analysis and re-analysis, so that overall results are obtained.
3. Results and Discussion

The PSEETs analyzed traffic park diorama as learning media to construct thematics learning process. Figure 1 below is the picture of diorama.

**Figure 1. Traffic Park Diorama**

### 3.1 Lesson Design

**Figure 2. Lesson Design of G1 PSEETs1**
Figure 2. Lesson Design of G1 PSEETs2

Figure 3. Lesson Design of G2 PSEETs1
3.2 Skills Specific Subjects of Teacher Pedagogy

Table 1. Existing Concepts on Thematics Learning Process consists of 4 subject material (Civic Education, Social Sciences, Indonesian Language and Mathematics)

<table>
<thead>
<tr>
<th>Concepts</th>
<th>G1 PSEETs1 (Civic Education, Social Sciences and Indonesian Language)</th>
<th>G1 PSEETs2 (Civic Education, Social Sciences and Mathematics)</th>
<th>G2PSEETs1 (Indonesian Language and Mathematics)</th>
<th>G2PSEETs2 (Indonesian Language and Social Sciences)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre requisite material: Indonesian citizens' habits when on the highway</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various kinds of traffic signs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Types of transportation (Social Sciences)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Profession (Social Sciences)</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Traffic ethics (Civic Education)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rights and obligations of road users (Civic Education)</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Retelling traffic ethics (Indonesian Language)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>The types and characteristics of plane and solid in dioramas (Mathematics)</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Note:
G1 PSEETs: Pre service elementary education teachers who have gone through microteaching courses and practice teaching experience
G2 PSEETs: Pre service elementary education teachers which have not been

From table 1 above it appears that PSEETs in group 1 are able to bring up more concepts than PSEETs in group 2 with details of G1 PSEETs1 of 5 concepts and G2 PSEETs of 6 concepts while in group 2 each PSEETs raises 4 concepts without prerequisite material. Prerequisite material is important to give because it become bridge of old knowledge and new knowledge constructed.

Pedagogical and Professional experience (PaP-eRs) assessments were carried out to see PSEET’s pedagogical abilities in teaching material. It appears in the lesson design PSEETs in G1 tend to fill it about strategies in teaching that include models and teaching methods related to the characteristics of the material and appropriate learning strategies combined with the use of diorama media. The difference between G1 and G2 is that G1 in choosing methods is not only related to the characteristics of the material but also related to the use of media in accordance with the material. In addition, G1 tends to use models, media and methods, whereas G2 is only media. This shows that G1 is more concerned about how content and pedagogy together provide learning experiences that fit the needs of students. However, the results of CoRe and PaP-eRs show that both G1 and G2 have used their knowledge to make effective decisions about learning objectives, teaching strategies, assessment tasks and curriculum materials.

4. Conclusion

Berdasarkan hasil penelitian yang telah dilakukan, maka dapat ditarik suatu kesimpulan bahwa ada beberapa perbedaan antara G1 PSEETs dan G2 PSEETs dalam membuat dokumen CoRe dan PaP-eRs. Perbedaan ini terkait pada penjabaran dan pengelompokan materi. G1 memunculkan lebih banyak konsep materi yang harus diajarkan dibandingkan dengan G2. G1 lebih fleksibel dalam memilih strategi mengajar, model dan penggunaan media diorama yang tepat, G2 belum. Perbedaan ini disebabkan oleh latar belakang dan pengalaman praktik mengajar PSEETs.

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References

Metacognition to Increase the Results of The Study in A Spreadsheet Lesson for Student Accounting

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Abstract. Metacognisi can help learners to improve their learning, i.e. by encouraging learners to change the behavior of their learning. This research aims to find and test the effectiveness of the model metacognisi, therefore, then this model could be categorized as innovation in learning for inspiring teachers in implementing the metacognisi as being the paradigm of curriculum in 2013. The research question, are: 1) Whether metacognisi can improve performance (Learning Outcomes) learners in learning the spreadsheet?; the Learning Model 2) is Metacognisi with the help of Excel can further improve performance (Learning Outcomes) learners in learning the spreadsheet?. The research method used is the Class Action Research (ACR), with a sample of semester 2nd Student majoring in Accounting at Universitas Negeri Semarang by as much as 41 students. The learning cycle using twice cycles then found a modification of metacognisi with the help of the program Excel as a tool facilitating the understanding of the material. Then this model is tested with True Experimental with Pre – test Controll Group Design. A summary of this research is Metacognisi Learning can improve the performance of learners in learning the spreadsheet and Metacognisi learning with the help of Excell is very effective in improving learning outcomes.

Keywords: Metacognisi; Excell, Performance (Learning Outcomes), Student.

1. Introduction

Government Regulation number 19 year 2017 about changes to the Government Regulation number 74 year 2008 about teachers, on article 1 paragraph 1 States that the teacher is a professional educator with the main task of educating, teaching, guiding, directing, coaching , assessing and evaluating students in early childhood education path of formal education, elementary education, and secondary education. The role of teachers must be increasingly sharpened by developing competence, creativity, and innovation.

Hammond (2001, p. 10) says, knowledge is a construction of learning experiences, the development of knowledge which has been owned and the management of learning activities learners, more according to him explain at the time of the renaissance, learning is a process of thinking as an attempt to understand an idea and utilize the knowledge to the larger goal (Hammond, 2001, p. 2-5). While according to the tabula rasa theory advanced by John Locke (1632-1704) States that knowledge is a complex idea as a result of experience gained before. About the idea when knowledge is experience is also expressed by Kant (1724-1804) renewed the theory of Plato.

During this learning was implemented starting from ELEMENTARY SCHOOL to College still hasn’t given a real experience to learners, therefore then the pemberlajaran metacognisi
will give you the experience to learners. Metacognisi is the process of self-reflection learners in learning (Wenden, 1987, p. 573-592), further Metacognisi is a self-regulatory process of learners in learning. Therefore, the learning of metacognisi gives the learners to be able to judge for themselves whether they have adequate knowledge about the task that the proper strategy was accepted and until was completed a task in the study. The self assessment will help in the selection of strategies for completing the tasks in the study. If sustainability is a process of learning, then the process of absorption of knowledge should be judged and measured by implementing or applying the knowledge that has been understood. This is in accordance with the opinion of Sveiby (2001, p. 345) holds learning is measurable activities where learners can measure/monitor the knowledge acquired in the learning activities.

To measure of achievement by self learners, according to Schraw (1998, p. 113-116). they can measure its accomplishments in learning when learners can or cannot accomplish the task given teacher.

Metacognisi also are learning to cope with the routine, this is because according to Sani (2019:42), most of the students was only able to resolve the problem that is routine or ever worked on in school and not being able to work on the question of which measures the ability of a high level of thinking associated with the problems of everyday life.

This research aims to test the learning model metacognisi, in addition to developing learning models metacognisi in order for the model to be effective for learning achievement, learners in the study developed a model metacognisi with excell program assisted to accomplish the task.

Therefore the problems formulated are: (1) whether metacognisi can improve performance (Learning Outcomes) learners in learning the spreadsheet?; 2) Metacognisi Learning Model with the help of Excell can further improve performance (Learning Outcomes) learners in learning the spreadsheet?.

2. Review Library.

Research on Metacognisi by Syafmen (2013) describes the process of critical thinking students type steadiness style in solving the math problems. The type of research used in this research is descriptive research. The subject in this study was the high school student who has the steadiness of personality style on the even semester academic year 2011/2012, by observing the process of critical thinking in the observe of each step resolution according to Polya. With the results of the study showed that students can style steadiness solve math problems given critically. Similarly with Setyadi research (2018), also supports the opinion of metacognisi in mathematical problem solving for students. Research of Fajriani and Nurdahniar (2016) examined the results of student learning in mathematics lessons using metacognisi and the result declared there is increased.

The third research above with the subject of mathematical learning, while for the material outside of mathematics is still not a lot, this is because Metacognition is considered a way of thinking that is more mathematical approach or for science.

The research that will be presented are metacognisi to study accounting in making spreadsheets.

Wenden, (1987, p. 573-592) metacognisi is a process of self-reflection learners in learning. Brown et al., (1980, pp. 1-4). Metacognisi is the self regulation of the activities of the students and the strategies used, whereas Louca, (2008, p. 3) metacognisi is self knowledge, self awareness and self management of learners, three opinion as mentioned above can be inferred
if metacognisi is strategi learning with a learner self-reflection process with realizing the ability of self and how to manage yourself.

The material of the lectures on the spreadsheet is an application program that is used to manipulate data and present information in the form of rows and columns. It is part of the application program in Microsoft Excel, Excel has a tab menu 9, namely, Home, Insert, Page Layout, Formulas, Data, Review, View, Add-Ins and Acrobat. The Home tab contains icon-icon that is used to format numbers and text in rows, columns or cells. The Insert used to include a wide variety of objects such as a picture, clip art, shapes, smart art, charts, text boxes, headers footers, word art, object and symbol. Page Layout contains icon-icon used for printing such as margins, orientation, size, print area, and scale to fit. Formulas tab contains icon-icon functions used for data processing. Data tab contains icon-icon that is used to retrieve data from other sources such as Microsoft Access, SQL server or any other query-based application. Tab view contains icons to manipulate the display of the worksheet as normal page layout, or page break preview. The study of Accounting is learning that uses columns and columns. With the Application of learning will be easier. Pemanfaatan of excel can also be adjusted with the formula – formulas used in the calculations on a counting process on Financial Accounting.

On top of the already expressed metacognisi if suitable subjects or material science and mathematical nature, in terms of the calculation of accounting can be synchronised with the mathematical learning, therefore this research then use method Metacognition and excel applications because it has characteristics that are appropriate.


3. Research Approach

This research will be conducted in UNNES with students studying spreadsheets for Accounting Majors 2 class as much as 76 students. Design research is the Research Action class that is expected to help teachers find a most appropriate strategies to improve the performance of learners in learning (Hole Mc Entee, 1999). Class action research is the research conducted by the teachers to find solutions to practical problems in the classroom (Korre, 1993, p. 1).

The research of class action sebagaimana rendered in the following diagram:
Preliminary, this stage is the stage of observing the activity of learning activities and the development of learners: Planning, stage make planning by implementing learning 3 cycles; Executing, that is, the stage of implementation of the study; Observing activities, researchers observe, ask yourself, collect information, Menalar and communicate; The reflecting, that is the end of learning, learners will be presenting about the things they have learned, the problems they face and their strategy to resolve the problems encountered; and final Findings and Results, after conducting a study in cycles 1, 2 and 3 and the resulting document examines learners such as journal learning and self-esteem journal, researchers will make a conclusion.

Methods of Data collection and analysis of results, each activity of this learning will be recorded and all the documents used in the learning activities will be documented to find problems occurred, the solution is done and the development learning to learners. Each of these learning activities will be recorded and all the documents used in the learning activities will be didikumentasikan to find problems occurred, the solution that was done and the development of the learning learners. Using data sets that also through instruments will be analyzed using regression analysis and also with the t test to see the effectiveness of the model applied.

4. Conclusion

Conclusions and suggestions of a theoretical framework of the Summary are:
1. The application of Metacognition to learning accounting learning with material spreadsheet can be implemented because had the suitability between metode and characteristics of material
2. Research using Research grade 3 action cycle which will identify the problems and obtain feedback for the development of the model.
3. If research is carried out in a procedural basis and obedient then this method will be able to improve student success in learning

References


Fajriani dan Nurdahniar (2016); PENGARUH METAKOGNISI TERHADAP HASIL BELAJAR MATEMATIKA SISWA KELAS X SMA NEGERI SE KABUPATEN BULUKUMBA; Prosiding Seminar Nasional Volume 02, Nomor 1 ISSN 2443-1109; https://journal.uncp.ac.id/index.php/proceding/article/view/423/364


Development of TGT Cooperative Learning Model Based on Crossword Local Wisdom Educational Game in Kudus

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Abstract. This study purpose to develop a TGT Cooperative Learning Model based on Crossword Local Wisdom Educational Game in fourth grade students of Primary Schools in Kudus. This type of research uses research and development methods (R&D) which have been simplified into 8 steps. Data collection in this study was done by observation, interviews, questionnaires, documentation, and tests. This research was conducted in class IV SD 1 Gribig, SDIT Lukman Hakim, and SD 1 Gamong. This development produces components, namely: 1) the syntax of the model; 2) social system; 3) The principle of reaction; 4) Support system; 5) Instructional impact and accompaniment impact. The results of the effectiveness test using Classroom Action Research (CAR), showed that there was an increase in learning aspects and skills. 1) Aspects of attitude, SD 1 Gribig and SDIT Lukman Hakim increased 91% in cycle II. SD 1 Gamong increased in cycle II 89%. 2) Knowledge aspects, SD 1 Gribig and SDIT Lukman Hakim, and SD 1 Gamong increased to in cycle II. 3) Aspects of skills, SDIT Lukman Hakim increased in cycle II 86. SD 1 Gribig cycle increased in cycle II 85. SD 1 Gamong increased in cycle II 83.

Keywords: TGT Learning Model, Local wisdom, Crossword

1. INTRODUCTION

Learning Model is a form of reaction between teacher and student to improve or develop themselves in learning activities. The Learning activities is a condition that is intentionally created by the teacher to provide knowledge and experience to students. There are several problems in education so far that might be considered very trivial namely a very ordinary learning model and less attractive to students. Based on the results pr observations and interviews in the three schools that will be studied obtained information that; 1) the teacher has not used the learning model to the fullest, 2) the teacher in teaching does not attract the attention of students, so students are partially unfocused, 3) the lack of introduction of Kudus local wisdom towards students, 4) student motivation to learn less passionate, and 5) lack of availability learning model books as reference material for teachers in teaching.

For this reason, researchers intend to use the TGT Cooperative Learning Model based on Crossword Local Wisdom Educational Game in Kudus district to improve teacher quality and student achievement.
2. LITERATURE REVIEW

2.1 TGT Learning Model

TGT is a one type of cooperative learning. Is have five basic component. First class presentation second team, third game forth tournament fifth Team Recognition The main idea behind the model of TGT is to motivate students to encourage and assist one another to master the skills that are presented by the teacher. If students wish to gain appreciation of their group, they must help a group of friends to learn the materials provided. They should encourage friends to do the best and declare a norm that learning is an important, valuable and fun. According to Shoimin (2014) the model of TGT procedure are : 1. Group the students with each group consisting of three to five people. The member made the heterogeneous group includes the characteristics of intelligence, beginning math skills, learning motivation, gender, or different ethnic backgrounds. 2. Learning activity begins with the presentation of teachers in explaining the lessons of exposure to the problem, providing data, giving example. Presented a goal is to introduce concepts and encourage student curiosity. 3. Understanding of concept was done by students are given group tasks. They may do these tasks simultaneously or alternately with each other to ask the others or discuss the issue in a group or whatever it takes to master the subject matter. The students not required to fill out an answer sheet but also to learn the concept. Members of the group were told that they were considered not finished studying the matter until all group members understands the subject matter.

Students play academic games in the tournament weekly and friend group should not help each other. The game is intended to identify individual level mastery students to a concept in a way that students are given problem can be solved by applying the concept of a previously owned.

2.2 Kudus Local Wisdom Crossword Local Wisdom Educational Game

A crossword word puzzle is a puzzle game which normally takes the form of a square or a rectangular grid of white and black shaded squares. The goal is to fill the white squares with letters, forming words or phrases, by solving clues which lead to the answers. In languages that are written left-to-right, the answer words and phrases are placed in the grid from left to right and from top to bottom. The shaded squares are used to separate the words or phrases. The writer conducted the research in SMPN 8 Bandar Lampung, because there is no research conducted there especially about the problem that was researcher observe. The writer has done the pre observation in SMPN 8 Bandar Lampung and put the focus on the second grade students. The puzzle games used in this study has been matched to these second grade learning materials. The learning process showed that some of students still passive in the class and feel shy to speak English because they have lack of vocabulary. This condition can be affect students’ interaction in the class.

Local wisdom is basic knowledge gained from living in balance with nature. It is related to culture in the community which is accumulated and passed on. This wisdom can be both abstract and concrete, but the important characteristics are that it comes from experiences or truth gained from life. The wisdom from real experiences integrates the body, the spirit and the environment. It emphasizes respect for elders and their life experiences. Moreover, it values moral more than material things. (Nakorntap.et.al, 1996 in Roikhwawpht: 176). (Manugeren, 2017: 1) emphasizes that, Local wisdom is a set of ideas or polices based on the values of virtues found in a community and often applied, believed to be the guidance of life, and handed down from time to time. Based on the definitions, that local wisdom can be understood as a human effort by using their mind to act towards something, object, or events that occur in a certain space. So We know that Crossword Local Wisdom Educational Game Crossword with local wisdom content:

2.3 TGT Model Based On Crossword Local Wisdom Educational Game

TGT have 5 component but in the reality teacher and student don’t have antuciated to play the game in TGT because TGT Game have many difficulties regularly make student have annoyed in learning activities. The Crossword Local Wisdom Educational Game applyed in gema and tournament component in TGT. Local Wisdom Educational Game can improved TGT model be enjoyable learning
model for teacher and student. with the aim of developing student creativity, so students can understand the material quickly and do assignments a lot of tasks easily. The form of learning implementation design using the TGT model based on the Kudus Local Wisdom is as follows:

1. Conveying the competencies to be achieved
2. To increase love dadn knowledge about Local Wisdom
3. Conveying concepts using images, video or original media
4. Forming discussion groups of 3-4 students (adjusting the number of students in one class);
5. Discuss according to submissions distributed by the teacher by noting alternative answers to the discussion.
6. Forming Team consist of different background student
7. Play the game with Crossword Local Wisdom Educational Game's
8. Play the tournament with Crossword Local Wisdom Educational Game's
9. Presentation in turn; included in Crossword Local Wisdom Educational Game's value because he had to be nice, read the results of his group, and be confident
10. Teacher give team recognition

3. RESEARCH METHOD

3.1 Type of Research

This type of research uses research and development methods or Research and Development (R&D). Research and development or Research and Development (R&D) is a research method used to produce certain products and test the effectiveness of these products (Sugiyono, 2015: 407). In this study, researchers developed the TGT Cooperative Learning Model into a model that produces interesting learning so that students are more interested in the learning process.

In this study, researchers used a development model according to Sugiyono, the development model of Borg and Gall (2015: 409). Research and development (R&D) method can be simplified in the following steps: (1) potential and problems; (2) data collection; (3) product design; (4) design validation; (5) design revisions; (6) product trials; (7) product revisions; (8) trial use. Simplification of the steps in research and development is due to limited time, energy, and costs in research.

3.2 Data Collection Techniques

1. Observation Method, Observation as a data collection technique of teacher and student observation in learning mind Mapping models in class,
2. Interview Method, Structured and unstructured interviews conducted on teachers and students before the research and after the study.
3. Test Method, the purpose of using the test is to determine student achievement after studying the material through the Mind Mapping model based on the Holy Local Wisdom of Crossword Local Wisdom Educational Game in class IV.
4. Documentation Method, which is done at the time of documentation is to document photographs in learning according to the syntax, and documentation of the work results of student worksheets and test results.
5. Questionnaire, used to find out the analysis of the needs of teachers and students on the development of mind mapping models based on local wisdom Crossword Local Wisdom Educational Game.

3.3 Data analysis of the Model Test phase

To test the effectiveness of the development of this model, use Classroom Action Research (CAR). Testing the effectiveness of learning through CAR can be done by measuring the increase in learning outcomes from pre-cycle, cycle I, and cycle II. If the
learning outcomes in the second cycle are better or have increased from the first cycle, then the learning model developed is also declared effective.

### 4. Research Results and Discussion

#### 4.1 Attitude Aspects

From the results of the effectiveness test, the average attitude aspects in the three elementary schools of research have reached the criteria of Very Good. Of the three elementary schools, the average student who reaches the criteria of Very Good at the end of the cycle is more than 80%. The details are SD 1 Gribig in cycle I obtains an average of 86% and 91% in the second cycle, SDIT Lukman Hakim in the first cycle gets an average percentage of 84% and in the cycle gets an average percentage of 91%. Whereas SD 1 Gamong in cycle I gained a percentage of 83% and in cycle II gained 89%.

In line with Gusviani (2016), according to him, Indonesian human figures graduating from basic education should have the following characteristics: 1) Growing faith and piety towards God Almighty; 2) Growing ethical attitudes (polite and civilized); 3) Grow good reasoning (want to learn, want to know, enjoy reading, have innovation, take initiative and be responsible); 4) Grow communication / social skills (orderly, aware of the rules, can work together with friends, can compete); 5) Growing awareness to maintain a healthy body.

#### 4.2 Aspects of Knowledge

<table>
<thead>
<tr>
<th>No</th>
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<th>Effectivity test</th>
<th>cycle I</th>
<th>cycle II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IPA</td>
<td>IPS</td>
<td>B. I</td>
<td>IPA</td>
</tr>
<tr>
<td>1</td>
<td>SD 1 Gribig</td>
<td>61 %</td>
<td>61 %</td>
<td>53 %</td>
</tr>
<tr>
<td>2</td>
<td>SDIT Lukman Hakim</td>
<td>65 %</td>
<td>65 %</td>
<td>61 %</td>
</tr>
<tr>
<td>3</td>
<td>SD 1 Gamong</td>
<td>47 %</td>
<td>47 %</td>
<td>41 %</td>
</tr>
</tbody>
</table>

From the results of the effectiveness test, the average classical completeness of pre-cycle, cycle I and cycle II has increased very well. At the end of the second cycle the classical completeness of students in three elementary schools was already quite high, namely above 85% with KKM 75. SD 1 Gribig with the number of students 38 got the results of classical completeness in IPS in cycle I by 84% and increased in cycle II with a percentage of 100 % which means all students have completed. While the content of Indonesian language lessons in the first cycle got a 79% percentage and increased in the second cycle to 92% with three children who have not yet completed the KKM. Furthermore, from SDIT Lukman Al Hakim with the number of students 23 students get the results of classical completeness in the content of IPS lessons in cycle I with a percentage of 83% and an increase in cycle II of 100% which means all students are complete. While the content of Indonesian language lessons in cycle I received a percentage of 78% and increased to 91% with two students who had not yet completed the KKM. Furthermore, the classical completeness results from Gamong Elementary School with a total of 17 students, has a percentage of IPS load in the first cycle of
82% and has increased to 100% which means all students are complete. While the content of the Indonesian language in the first cycle obtained a percentage of 76% and increased in the second cycle to 88% with two students not completing the KKM.

Based on the information above, it can be concluded that the classical completeness using the model based on the Local Wisdom of Kudus Crossword Local Wisdom Educational Game in class IV on theme 1 semester 1 The Beautifulness of Togetherness has increased in each cycle with the final acquisition in the second cycle is very high with a percentage in each school reaching more than 85%. This is the same as stated by Kurniawati (2014) according to her class is superior to creativity and mastery learning with the results of classical learning completeness class. Based on the result of this research so we can conclude that TGT model base on TTS Local Wisdom is effective to applied in learning activities.

4.3 Skills Aspects

<table>
<thead>
<tr>
<th>No</th>
<th>The Name Of School</th>
<th>Skills Aspects average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cycle before</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPS</td>
</tr>
<tr>
<td>1</td>
<td>SD 1 Gribig</td>
<td>74</td>
</tr>
<tr>
<td>2</td>
<td>SDIT Lukman Hakim</td>
<td>77</td>
</tr>
<tr>
<td>3</td>
<td>SD 1 Gamong</td>
<td>72</td>
</tr>
</tbody>
</table>

From the results of the effectiveness test, the average student skills from pre-cycle, cycle I, and cycle II have increased. SDIT Lukman Hakim led with the highest average, namely IPS lessons in cycle I gained 84 grades and increased in cycle II with a value of 86, while Indonesian language lessons in cycle I scored 82 and in cycle II scored 87. Furthermore SD 1 Gribig on cycle I IPS lesson load got 82 and increased in cycle II to 85, while the load of Indonesian language lessons in cycle I got a score of 81 and increased in cycle II 84. Finally SD 1 Gamong on the load of IPS cycle I got an average score of 82 and increased in cycle II to 83, while the content of Indonesian language lessons in cycle I got a score of 81 and increased in cycle II to 82. Thus the researcher can conclude that the achievement of the skill scores is already High because all the average skill scores are above 80. As written by Hartati (2017) with the title development of image-assisted mind mapping models to improve narrative essay writing skills of fifth grade students in Semarang, saying that by controlling the intelligence and early knowledge variables, the learning model with the image-assisted Mind Mapping model is more effective than lecture learning and discussion models in improving the narrative writing skills of fifth grade elementary school students.

5. Conclusions and Suggestions

5.1 Conclusions

1. The development of the TGT Cooperative Learning Model based on Crossword Local Wisdom Educational Game produced several components including: 1) the syntax of the model namely; 2) Social system; 3) The principle of reaction; 4) Support system; 5) Instructional impact and accompaniment impact. The model is also equipped with a Crossword Local Wisdom Educational Game-based local wisdom learning mind mapping learning guide model. The book components are as follows: 1) cover, 2) introduction, 3)
theoretical foundation (Crossword Local Wisdom Educational Game TGT Cooperative Learning Model and local wisdom), 4) concept of mind mapping model based on Crossword Local Wisdom Educational Game, 5) instructions for implementing mind mapping based on local wisdom Crossword Local Wisdom Educational Game, and 6) learning devices.

2. The resulting model is declared effective in elementary schools, especially in class IV. This is evidenced by an increase in learning outcomes in three elementary schools on aspects of attitude, knowledge, and skills.

5.2 Suggestions

1. For teachers as managers of learning it is recommended that the application of mind-based learning models based on local wisdom of Crossword Local Wisdom Educational Game is still conveyed to students for inculcation of character values that are Crossword Local Wisdom Educational Game concept.

2. For schools it is hoped that there will be efforts in the preservation of local wisdom in Kudus such as Crossword Local Wisdom Educational Game for its students, instilling a sense of pride and love for the environment and the region.

3. Students are expected to love, preserve, and understand the local wisdom that is around.
References
Tahan Uji. 2015. “*Model Pembelajaran Bahasa Arab di Pondok...*
Skills to Look At The Facts Based on Audio Visual Media to Improve Fine Motor Skills in Grahita Tuna Children in SLB Cendono

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Abstract: The purpose of this study was to determine the skill of listening to fairy tales based on audio-visual media to improve fine motor skills in mentally disabled children in SLB Cendono. The study uses a qualitative approach with qualitative descriptive techniques. This study aims to find the right method in teaching fairytale based audio visual media teaching skills, especially in fourth grade students of SLB Negeri Cendono. Class action research is intended so that teachers and researchers know the weaknesses in teaching Indonesian especially vocabulary teaching, which later the results of this research are expected to be useful for teachers, researchers and students in the teaching-learning process. Classroom action research will involve things like the following: planning, acting, observing and reflecting. This class action research will be conducted in three cycles. In each cycle there are 4 steps: planning, acting, observing, reflecting. The study population was students of Class I-VI, SLB Negeri Cendono with 115 students consisting of 6 classes. Teachers and researchers will discuss how to use appropriate methods for effective and efficient teaching. Students will be respondents for testing the vocabulary teaching method through storytelling short stories. Data collection techniques and instruments are observation in the form of a checklist, to observe all aspects that occur in class learning. The test is an objective test that will be tested on students. The last instrument is interviews that will be conducted on teachers and students by using semi-structured interview guidelines. The data of this study were collected through observation, tests and interviews to be analyzed using a percentage of the mean score to find deficiencies in the application of a teaching method. The data obtained will be analyzed descriptively quantitatively. This research is expected to increase the vocabulary mastery of SLB Cendono students. through understanding short stories with efficient and effective teaching for the creation of harmonious and fun classes by using cycle actions that will be applied in teaching Indonesian, especially vocabulary teaching.

Keywords: Audio Visual Media Based Storytelling Skills

1. PRELIMINARY

The 2013 curriculum is the curriculum that currently applies in the education system in Indonesia. This curriculum is a curriculum implemented by the government replacing the 2006 curriculum called the Education Unit Level Curriculum (KTSP). The 2013 curriculum began to be
tested in 2013 by turning several schools into pilot schools. Curriculum 2013 began to be implemented in pilot schools (pilot project) in the 2013/2014 school year, namely in classes I and IV for elementary school (SD), class VII for junior high school (SMP), and class X for secondary school level Upper (high school) / Vocational High School (SMK).

The implementation of the 2013 Curriculum was stopped and for a while schools returned to using the 2006 Curriculum or Education Unit Level Curriculum (KTSP) except for schools that had implemented it for 3 (three) semesters. This is based on the Minister of Education and Culture Regulation No. 60 of 2014 on December 11, 2014 by the then minister, Anies Baswedan. The termination is intended to revise the curriculum.

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After undergoing a revision, finally in the 2016/2017 academic year 2013 Curriculum was implemented nationally, although in reality there were still schools that had not fully implemented the 2013 Curriculum, for example only only classes I, IV and VI were implementing the 2013 Curriculum. The rest were using the Education Unit Level Curriculum (KTSP). The stages of implementing Curriculum 2103 in accordance with the agreement of the Ministry of Education and Culture and the House of Representatives (DPR) are carried out in stages (Kemendikbud, 2016). Tjipto Sumadi who is the Head of the Ministry of Education and Culture's Curriculum and Book Center (Puskurbuk) in an educational dialogue that discussed the implementation of the 2013 Curriculum at the Grand Inna Hotel Kuta Bali on June 11, 2016 said "Previously the school that implemented the 2013 Curriculum was 6%, then now it adds 19 % to 25%. Later we increase it again by 35% to 60%. So that in the 2018/2019 school year the implementation is targeted to have reached 100% ". Some of the things that were revised were, among others, no longer a double assessment. Previously, every subject teacher was obliged to make a judgment from the spiritual aspect, not kinti anymore. Spiritual assessments are submitted to the subject teachers of Religion and PPKn (Pancasila Education and Citizenship). This change in dual assessment will reduce the burden on teachers who were previously complained by many teachers.

The first key in directing the education and learning of students in an education is located in an educator. Educators will succeed in developing their learning if they know students through their own children, especially in the environment, and family.

The role of the teacher is to develop and maintain rules or discipline in the classroom. Children need optimal motor development, and this requires the role of the teacher in motor development in the educational environment where the child is nurtured and cared for. The involvement of parents and teachers strongly supports the optimization of the child's motor development.

Education is a business or activity that is carried out intentionally, regularly and planned with the intention of changing or developing the desired behavior. School as a formal institution is a means in order to achieve the educational goals. Through school, students learn a variety of things that indicate a positive change so that at the final stage will be able to get new skills, abilities, and knowledge. Education is inseparable from the learning process which is the core activity in formal education in schools. In learning there is a process of interaction between the teacher component, subject matter, and students. Interaction between these components involves facilities and
infrastructure such as methods, media, and structuring the learning environment, so as to create a learning situation that allows the achievement of the goals that have been planned before (Ali, 2007: 4).

Of the several components of learning, teachers and students are the most vital components that influence in learning. In the learning process, teachers and students greatly influence the success of learning. Sardiman (2010: 146) argues that the teacher's relationship with students / students in the learning process is a very determining factor. However good the subject matter or teaching material provided, however perfect the method used, but if the relationship between teacher and student is not harmonious then it can create undesirable results.

In children's learning special education is different in children generally without always showing mental, emotional or physical disabilities. Other children with special needs include: visually impaired, deaf, mentally retarded, mentally retarded, learning difficulties, children with health problems. Other terms for children with special needs are exceptional children and children with disabilities.

With the paradigm shift in education that is towards inclusive education, students who experience motor impairments, especially in children with special intellectual disabilities must have special handling in learning in schools that is more basic in children with special needs training fine motor skills in everyday life, because it is very important and needs to be trained first life skills are life skills to be useful for the community and have a decent inner life. Both of these life skills help mentally disabled children in growing their self-confidence to face the changes that occur in themselves and their environment in order to be independent.

Based on the pre-research above the process of developing fine motor skills in SLB Tunagrahita is still underdeveloped due to the lack of learning media and enthusiasm in activities. In addition to the author doing observations in the classroom when the teacher is in motor development activities of the child the author also conducted an interview with the headmaster of Cendono State SLB, from the results of the interview the writer obtained information about his SLB not implementing the process of developing fine motor skills. Interview Results of SLB School Principals According to SLB principals and teachers in the learning process have implemented the process of developing fine motor skills. However, there are not many media used, so children easily feel bored. This is caused by the lack of facilities and infrastructure at school and the knowledge of education staff about ways to develop fine motor skills in SLB. To that end, the author decided to conduct a study with the title: Tune-in Skill of Audio-Based Media Tales to Improve Fine Motor Ability in Children with Physical Disabilities.

2. METHOD

This research is a descriptive study of the analysis of the learning process at the Elementary Extraordinary School (SDLB) section C (tunagrahita) at the Cendono State Extraordinary School (SLB), so the approach used in this study is qualitative. This research uses a qualitative research approach. Moleong (2013: 6) defines that qualitative research is research that intends to understand phenomena about what is experienced by research subjects, for example behavior, perception, motivation, actions, etc. holistically and by means of descriptions in the form of words and language, in a special natural context and by utilizing various natural methods. Furthermore According to Moleong (2013: 8-13) qualitative research has characteristics: (1) has a natural
setting; (2) researchers as the main instrument; (3) using qualitative methods; (4) inductive data analysis; (5) theory from the ground (grounded theory); (6) descriptive; (7) prioritizes the process over the results; (8) there are limits determined by the focus of the study; (9) there are criteria for the validity of the data; (10) the research design is temporary; and (11) the results of the study are negotiated and agreed upon together.

According to Creswell (2016: 4), qualitative research is methods to explore and understand the meaning by a number of individuals or groups of people ascribed to social or humanitarian problems. Qualitative research is often referred to as a naturalistic research method because the research is carried out in natural conditions. Researchers used various sources of information in gathering data to provide a detailed and in-depth picture of the Analysis of the Learning Process in C Elementary Extraordinary Schools (SDLB) in Cendono State Special Schools (SLB).

3. RESEARCH RESULT

The last process in teaching is conducting an evaluation. From the evaluation carried out this is a teacher can find out the level of achievement of learning objectives that have been formulated. Conducting evaluation of learning requires a clear assessment of reference. In learning an assessment as an activity to know the development, progress or student learning outcomes.

From observations and interviews conducted there are problems experienced by teachers when they have to do an assessment. The teacher evaluates the students' independence by conducting students' fine motor skills. However, teachers have difficulty when giving scores to students. The teacher seems hesitant to give grades to students. But that is exactly what happens during the learning process. This is due to the different abilities of students.

Even though the results of the assessment given by the teacher are a description of the evaluation that will be carried out. Evaluation is intended to find out not only the achievement of learning objectives but through evaluation activities it will be known how the learning process has been carried out, starting from the learning objectives that have been formulated, the material chosen, the media used and also how the methods to harmonize all of it.

As stated by Kelvin (2010: 8) evaluation is the overall assessment of education. Assessment is done by taking measurements. This measurement activity will have meaning after it is linked to the purpose of assessing students' abilities. So Baxter in Kelvin (2010: 9) stated the importance of assessment in learning are:

1. To compare abilities between students with other students
2. To find out the results that have been achieved by students have met the specified standards
3. To help student learning activities
4. To find out whether the learning has been carried out in accordance with what was planned.

From the results of research conducted, the problem faced by teachers is actually only the lack of knowledge of teachers about learning that has not been effective, and the lack of media so that researchers help provide solutions so that interesting learning media are held for students and it is easy to practice fine motor skills in mentally retarded children. become active and participate in learning to the maximum even though there is one student who does not participate at least reduces the laziness of students in carrying out daily learning. With the existence of audio-visual media-based learning media listening to fairy tales to train students fine motor skills applied in
mentally retarded children. Another obstacle is that teachers cannot use audio media, and researchers provide training so that teachers can use audio visual based media.

According to Panggabean et al (2007: 111) an evaluation must be carried out as well as possible so as not to produce the wrong decision. Moreover, the mistakes made can harm students. Therefore there are several conditions that must be considered in conducting an evaluation, namely:

1. **Valid (Valid)**
   A valid evaluation is an evaluation that measures what should be measured.

2. **Reliable**
   Evaluation is said to be reliable if it has been tested with the same group at different times and got the same results.

3. **Objectivity**
   An evaluation must be carried out as objectively as possible so that the results of the assessment are not influenced by things beyond what will be measured.

4. **Balance**
   Balance means the right weight in each part of the assessment.

5. **Can discriminate**
   Proper evaluation must be able to discriminate between individual achievements with groups.

6. **Fair**
   A good evaluation is an evaluation that raises a problem clearly, naturally and not trapping.

7. **Normative**
   A good evaluation is based on certain norms so that the results are easily interpreted thoroughly and evenly without favoritism.

8. **Efficiency and Practical**
   Evaluations must be carried out easily and efficiently, the implementation of which is not too complicated. Evaluations must be carried out in a practical way rather than confusing.

   The problem that is found by teachers when teaching is that the media used by the teacher is not suitable to be applied for mentally retarded students because the teacher uses the general curriculum to teach inclusive students. The teacher does not pay attention to the needs of mentally disabled students to learn.

4. **CONCLUSION**
   Based on the results of the analysis that the author has seen, it can be concluded that the teacher has not used an educational game that attracts children to enthusiasm in carrying out
activities in the process of developing fine motor skills in SLB Negeri Cendono beginning with the teacher preparing materials for children's activities, then the teacher explains in advance the activities like what the child will do. After explaining the teacher shares the activities that the child will create and the child begins to do his work. Based on the research the authors conclude that the process of developing fine motor skills in SLB Negeri Cendono has not yet developed to the fullest this is evident from 115 children, 60 children (10%) have not developed, 30 children (75%) have begun to develop, 25 children (15%) developed as expected, 0 children (0%) developed very well. The researcher concludes that the teacher's explanation is less than optimal and the educational game tools are less varied.

BIBLIOGRAPHY

Junal:
Development of Mind Mapping Learning Model Based on Gusjigang Local Wisdom Based on Grade IV Elementary School students in Kudus

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Abstract. This study purpose to develop a Mind Mapping learning model based on Gusjigang Local Wisdom in fourth grade students of Primary Schools in Kudus. This type of research uses research and development methods (R&D) which have been simplified into 8 steps. Data collection in this study was done by observation, interviews, questionnaires, documentation, and tests. This research was conducted in class IV SD 1 Gribig, SDIT Lukman Hakim, and SD 1 Gamong. This development produces components, namely: 1) the syntax of the model; 2) social system; 3) The principle of reaction; 4) Support system; 5) Instructional impact and accompaniment impact. The results of the effectiveness test using PTK, showed that there was an increase in learning outcomes in aspects of attitude, knowledge, and skills. 1) Aspects of attitude, SD 1 Gribig and SDIT Lukman Hakim increased 91% in cycle II. SD 1 Gamong increased in cycle II 89%. 2) Knowledge aspects, SD 1 Gribig and SDIT Lukman Hakim, and SD 1 Gamong increased to 100% in cycle II. 3) Aspects of skills, SDIT Lukman Hakim increased in cycle II 86. SD 1 Gribig cycle increased in cycle II 85. SD 1 Gamong increased in cycle II 83.

Keywords: Development, Mind Mapping Learning Model, Gusjigang
1. INTRODUCTION

Learning activities is a condition that is intentionally created by the teacher to provide knowledge and experience to students. There are several problems in education so far that might be considered very trivial namely a very ordinary learning model and less attractive to students. Based on the results of unstructured observations and interviews in the three schools that will be studied obtained information that; 1) the teacher has not used the learning model to the fullest, 2) the teacher in teaching does not attract the attention of students, so students are partially unfocused, 3) the lack of introduction of Kudus local wisdom towards students, 4) student motivation to learn less passionate, and 5) lack of availability learning model books as reference material for teachers in teaching.

For this reason, researchers intend to use the Mind Mapping learning model based on Gusjigang's local wisdom in Kudus district to improve teacher quality and learning outcomes. Mind Mapping itself is a learning strategy developed as an effective method for developing ideas through a series of concept maps. Whereas Gusjigang's local wisdom is the teachings of Sunan Kudus which have good meaning, clever Koran, and clever trade. It is expected that in addition to the teacher teaching with the Mind Mapping model, it can also introduce Gusjigang's local wisdom towards children, because the value of Gusjigang is very important to foster children's character.

2. LITERATURE REVIEW

2.1 Mind Mapping Learning Model

Mind Mapping is a technique to summarize the material that needs to be studied, and project the problem at hand in the form of maps or graphical techniques so that it is easier to understand. This learning model is the most effective way to enter, store and extract data from or to the brain. In mind mapping, the two sides of the brain function according to their respective portions. With a combination of colors, images and curved branches, it will be visually stimulating, so that the information obtained is easy to remember. Mind mapping is one way to record subject matter that makes it easy for students to learn. In addition this model is also categorized as a creative learning technique because in making this mind mapping it takes imagination from the making.

Mind mapping can be used to visualize, design, record, solve problems, make decisions, revise, and clarify the main topic, so that students are able to do even a lot of tasks. So the mind mapping learning model is suitable for use in almost all fields of study. This learning model was first introduced by Buzan in the early 1970s. Tony Buzan believes that the use of mind mapping is not only able to jump-start the memory process, but also can improve creativity and analytical skills, and optimize the function of the cerebral hemispheres. Suprijono (2012: 106) another way to strengthen students' knowledge and understanding of the materials they have read is the concept map learning method. The things that need to be prepared are pieces of cards that read the main concepts.

Whereas Huda (2013: 307) explained the Mind Mapping learning strategy was developed as an effective method for developing ideas through a series of maps. One of the initiators of this method is Buzan (2004). To make Mind Mapping, according to Buzan, a person usually starts by writing the main idea in the middle of the page and from there he can spread it in all directions to create a kind of diagram consisting of key words, phrases, concepts, facts, facts, and pictures.

Before making a mind mapping, we need to prepare the ingredients, which are blank paper, colored pencils, imagination pens, and our own brains. Buzan stated, there are seven steps in making mind mapping. The seven steps are as follows:
2.2 **Kudus Local Wisdom Gusjigang**

Gusjigang’s philosophy is the teaching of Sunan Kudus. He is the founding elder of the city of Kudus and one of the Wali Songo named Syeh Ja'far Shodiq. The implementation of the Gusjigang was applied in the steps of the Mind Mapping learning model. The meaning of "Gusjigang" that is inserted in these learning steps is the word gus "good" can represent (attitude), ji word "Koran" to explore knowledge by learning and the word "trade" represents the entrepreneurial spirit of students.

Gusjigang itself has a meaning of good morals, clever Koran and clever merchants. Gusjigang’s teachings affected local residents as religious and smart trading communities. The existence of mosques and Islamic boarding schools close to the market reinforces the principles of Gusjigang. Ismaya (2013), found that for the 30-60 year old generation, Gusjigang's philosophy can be understood and implemented in daily life, especially for those who live around the Menara mosque.

For children and adolescents now, Gusjigang's philosophy is something strange and strange. Foreigners are proven by their ignorance of Gusjigang. Strange because for children and adolescents, Gusjigang is outdated and outdated. So it is not strange and not strange that now many children and adolescents do not know, let alone understand and carry out Gusjigang's philosophy. Over time, many teenagers who do not know the meaning of gusjigang are undeniable evidence of how low the interest of young people today to just know what Gusjigang's philosophy is, let alone understand and apply it as a basis for daily life. For this reason, an educational effort regarding Gusjigang's philosophy is needed for children and adolescents, so that the existence of Gusjigang's philosophy is maintained and sustainable in the Kudus community as a form of social capital, local culture, local wisdom and moral teachings.

The following explanation is about Gusjigang:

1. Gus or bagus, as soft skill is an abbreviation of good, which means good character and character. The kudus Community, especially followers or students of Sunan Kudus, are taught how to become human beings who have noble character to save the afterlife. Someone who is close to God is someone who must have good morals. Therefore, Sunan Kudus teaches how to be a virtuous and noble person, because if someone is ugly then the human being is getting away from God. The application of polite, polite and ethical behavior in the young generation can be used to fortify themselves from the negative effects of modernization and globalization which, if not fortified, will ravage people’s lives in all fields.

2. Ji or ngaji, as hard skills here is an abbreviation of the recitation which means learning. Learning taught by Sunan Kudus. Reciting, especially studying the Islamic book to find out how the relationship with God in order to get closer to God. This is still in the Kudus community to this day with evidence that most of the younger generation who are in
Kudus studying both through formal and non-formal institutions, even students from outside the holy flock to study in this city. In addition, studying here is not just learning Islamic books, but also learning about life and socializing with fellow human beings. With the Koran that is applied to the Holy community, it will become an intelligent person.

3. Gang of dagang, trade is a unique character that is intended to be built by Sayyid Ja’far Sadiq. The trading business that Sayyid Ja’far Sadiq is trying to make is an honest trade. Thus, gusjigang's behavior is generally characterized by elements of entrepreneurship. Generally they have the foresight of reading opportunities, are creative, and are always subject to fear so that they can survive in social opposition.

2.3 Mind Mapping Model Based On Gusjigang Local Wisdom

The Gusjigang-based Mind Mapping model is a learning model in which there are integrated student character values in Gusjigang (good, the Koran, and trade) with the aim of broadening insight and developing student creativity, so students can understand the material quickly and do assignments a lot of tasks easily. The form of learning implementation design using the Mind Mapping model based on the Kudus Local Wisdom is as follows:

1. Conveying the competencies to be achieved
2. Question and answer by students with good and polite language (the value of good gusjigang is "Gus")
3. Read the material before the teacher presents the concept (the value of the "Ji" Ngaji gusjigang)
4. Conveying concepts using images, video or original media
5. Forming discussion groups of 3-4 students (adjusting the number of students in one class);
6. Discuss according to submissions distributed by the teacher by noting alternative answers to the discussion.
7. Forming new groups with different submathering groups; one of the values of Gusjigang ("Gang" of trade) is to find a work partner;
8. Divide the paper and colored pencils to start making Mind Mapping from the collection of submersion.
9. Presentation in turn; included in Gusjigang's value because he had to be nice, read the results of his group, and be confident
10. Conclude the results of the discussion and presentation

3. RESEARCH METHOD

3.1 Type of Research

This type of research uses research and development methods or Research and Development (R&D). Research and development or Research and Development (R&D) is a research method used to produce certain products and test the effectiveness of these products (Sugiyono, 2015: 407). In this study, researchers developed the Mind Mapping learning model into a model that produces interesting learning so that students are more interested in the learning process.

In this study, researchers used a development model according to Sugiyono, the development model of Borg and Gall (2015: 409). Research and development (R&D) method can be simplified in the following steps: (1) potential and problems; (2) data collection; (3) product design; (4) design validation; (5) design revisions; (6) product trials; (7) product revisions; (8) trial use. Simplification of the steps in research and development is due to limited time, energy, and costs in research.
3.2 Data Collection Techniques
1. Observation Method, Observation as a data collection technique of teacher and student observation in learning mind Mapping models in class,
2. Interview Method, Structured and unstructured interviews conducted on teachers and students before the research and after the study.
3. Test Method, the purpose of using the test is to determine student achievement after studying the material through the Mind Mapping model based on the Holy Local Wisdom of Gusjigang in class IV.
4. Documentation Method, which is done at the time of documentation is to document photographs in learning according to the syntax, and documentation of the work results of student worksheets and test results.
5. Questionnaire, used to find out the analysis of the needs of teachers and students on the development of mind mapping models based on local wisdom Gusjigang.

3.3 Data analysis of the Model Test phase
To test the effectiveness of the development of this model, use Classroom Action Research (CAR). Testing the effectiveness of learning through CAR can be done by measuring the increase in learning outcomes from pre-cycle, cycle I, and cycle II. If the learning outcomes in the second cycle are better or have increased from the first cycle, then the learning model developed is also declared effective.

4. Research Results and Discussion
4.1 Attitude Aspects
From the results of the effectiveness test, the average attitude aspects in the three elementary schools of research have reached the criteria of Very Good. Of the three elementary schools, the average student who reaches the criteria of Very Good at the end of the cycle is more than 80%. The details are SD I Gribig in cycle I obtains an average of 86% and 91% in the second cycle, SDIT Lukman Hakim in the first cycle gets an average percentage of 84% and in the cycle gets an average percentage of 91%. Whereas SD I Gamong in cycle I gained a percentage of 83% and in cycle II gained 89%.

In line with Gusviani (2016), according to him, Indonesian human figures graduating from basic education should have the following characteristics: 1) Growing faith and piety towards God Almighty; 2) Growing ethical attitudes (polite and civilized); 3) Grow good reasoning (want to learn, want to know, enjoy reading, have innovation, take initiative and be responsible); 4) Grow communication / social skills (orderly, aware of the rules, can work together with friends, can compete); 5) Growing awareness to maintain a healthy body.

4.2 Aspects of Knowledge

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<th>Effectiveness test</th>
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<td>SD I Gribig</td>
<td>61 % 53 % 84 % 79 % 100 % 92 %</td>
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<td>2</td>
<td>SDIT Lukman Hakim</td>
<td>65 % 61 % 83 % 78 % 100 % 91 %</td>
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<td>3</td>
<td>SD I Gamong</td>
<td>47 % 41 % 82 % 76 % 100 % 88 %</td>
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From the results of the effectiveness test, the average classical completeness of pre-cycle, cycle I and cycle II has increased very well. At the end of the second cycle the classical completeness of students in three elementary schools was already quite high, namely above 85% with KKM 75. SD 1 Gribig with the number of students 38 got the results of classical completeness in PPKn in cycle I by 84% and increased in cycle II with a percentage of 100% which means all students have completed. While the content of Indonesian language lessons in the first cycle got a 79% percentage and increased in the second cycle to 92% with three children who have not yet completed the KKM. Furthermore, from SDIT Lukman Al Hakim with the number of students 23 students get the results of classical completeness in the content of PPKn lessons in cycle I with a percentage of 83% and an increase in cycle II of 100% which means all students are complete. While the content of Indonesian language lessons in cycle I received a percentage of 78% and increased to 91% with two students who had not yet completed the KKM. Furthermore, the classical completeness results from Gamong Elementary School with a total of 17 students, has a percentage of PPKn load in the first cycle of 82% and has increased to 100% which means all students are complete. While the content of the Indonesian language in the first cycle obtained a percentage of 76% and increased in the second cycle to 88% with two students not completing the KKM.

Based on the information above, it can be concluded that the classical completeness using the Mind Mapping model based on the Local Wisdom of Kudus Gusjigang in class IV on theme 1 semester 1 The Beautifulness of Togetherness has increased in each cycle with the final acquisition in the second cycle is very high with a percentage in each school reaching more than 85%. This is the same as stated by Kurniawati (2014) according to her mind Mapping class is superior to creativity and mastery learning with the results of classical learning completeness class.

4.3 Skills Aspects

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<td>3</td>
<td>SD 1 Gamong</td>
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From the results of the effectiveness test, the average student skills from pre-cycle, cycle I, and cycle II have increased. SDIT Lukman Hakim led with the highest average, namely PPKn lessons in cycle I gained 84 grades and increased in cycle II with a value of 86, while Indonesian language lessons in cycle I scored 82 and in cycle II scored 87. Furthermore SD 1 Gribig on cycle I PPKn lesson load got 82 and increased in cycle II to 85, while the load of Indonesian language lessons in cycle I got a score of 81 and increased in cycle II 84. Finally SD 1 Gamong on the load of PPKn cycle I got an average score of 82 and increased in cycle II to 83, while the content of Indonesian language lessons in cycle I got a score of 81 and increased in cycle II to 82. Thus the researcher can conclude that the achievement of the skill scores is already High because all the average skill scores are above 80. As written by Hartati (2017) with the title development of image-assisted mind mapping models to improve narrative essay writing skills of fifth grade students in Semarang, saying that by controlling the intelligence and early knowledge variables, the learning model with the image-assisted Mind Mapping model is more effective than lecture learning and discussion models in improving the narrative writing skills of fifth grade elementary school students.

5. Conclusions and Suggestions
5.1 Conclusions
1. The development of the Mind Mapping learning model based on Gusjigang's local wisdom produced several components including: 1) the syntax of the model namely; 2) Social system; 3) The principle of reaction; 4) Support system; 5) Instructional impact and accompaniment impact. The model is also equipped with a Gusjigang-based local wisdom learning mind mapping learning guide model. The book components are as follows: 1) cover, 2) introduction, 3) theoretical foundation (Gusjigang Mind Mapping learning model and local wisdom), 4) concept of mind mapping model based on Gusjigang local wisdom, 5) instructions for implementing mind mapping based on local wisdom Gusjigang, and 6) learning devices.
2. The resulting model is declared effective in elementary schools, especially in class IV. This is evidenced by an increase in learning outcomes in three elementary schools on aspects of attitude, knowledge, and skills.

5.2 Suggestions
1. For teachers as managers of learning it is recommended that the application of mind-based learning models based on local wisdom of Gusjigang is still conveyed to students for inculcation of character values that are Gusjigang concept.
2. For schools it is hoped that there will be efforts in the preservation of local wisdom in Kudus such as Gusjigang for its students, instilling a sense of pride and love for the environment and the region.
3. Students are expected to love, preserve, and understand the local wisdom that is around.
References


Pancasila Value Education Through Learning The Role Playing Method of Elementary School Students (Case Study in Grade V SDN 1 Datar)

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Abstract. This research is motivated by the problem of decreasing the number of supporters of Pancasila in Indonesian society which needs to be addressed immediately in the world of education, especially primary schools, so there needs to be a study of appropriate learning methods used by teachers in the context of Pancasila value education. This study aims to provide a description of the planning, implementation, and impact of Pancasila value education through role playing learning in elementary school students. Researchers used a qualitative research case study model in grade 5 SDN 1 Datar. Data analysis techniques in this study used the method of Miles and Huberman. The validity of the data uses a test of credibility, transfermability; Dependability; and confirmability. The results showed the teacher had a well planned and always read the literature before learning, the learning process was fun by facilitating students to develop their artistic potential, the impact was students becoming happy, not bored and easy to remember lessons, then the potential of students was facilitated and could practice their speaking skills and develop their sense confidence.

Keywords: Pancasila Value, Role Playing

1. INTRODUCTION

Pancasila is an ideology chosen by the Indonesian people which was formulated by the founders of the Nation which was born from the cultures that exist within Indonesia and has important functions and positions in the Indonesian state. The position of the Pancasila as the ideology of the Indonesian era is now threatened. The decline in the number can be said to be the need for education in the value of Pancasila.

Sumantri (in Sumantri and Sofyan, 2006: 5) explains that values are things contained in human conscience which provide more basis and moral principles which are the standard of beauty and efficiency or integrity of conscience (potential). Investment in society in Indonesia is carried out through education. Education in Indonesia has several phases, namely primary, junior and senior secondary education, and higher education. In the phase of basic education which in this case is the age of elementary school between 6-12 years, so at that age needs to be strengthened about the character values especially the Pancasila character.

The Ministry of Education and Culture has organized the 2013 curriculum in all sheltered educational institutions, including elementary schools. In the 2013 curriculum there is a new term that is strengthening character education (PPK). Pancasila value education is an inseparable part of national character education for children. The implementation of KDP in the education unit is carried out by the teacher.
The teacher as a learning director does not only convey what the contents of the book or other references hold. However, teachers must also be able to plan learning well from the methods used, learning models, classroom management, approaches used, to learning media and teaching aids that will help the course of learning with the aim of making children happy, active or in other words the class becomes life.

One learning method that teachers can use to make learning fun is the role playing learning method. Based on the background that has been explained, the researchers conducted research on the value of Pancasila education in elementary school students in learning that can be done using the role playing learning method with case studies in 5th grade students of SDN 1 Datar with results in the form of descriptions.

2. LITERATURE REVIEW

2.1 Pancasila Value Education

Value or value (English) comes from the Latin valare or in ancient French volair which means price. Sumantri (1993: 3) states that Values are those contained in human conscience that provide more basis and moral principles which are the standard of beauty and efficiency or integrity of conscience (potential).

Mardiatmadja (in Sumantri and Sofyan, 2006: 61) explains that value education is an aid to students to realize and experience values and place them integrally in their whole lives. The values contained in Pancasila are explained through the items contained in the Decree of the Republic of Indonesia Number I / MPR / 2003, which are the Almighty God, Humanity that is just and civilized, Indonesian Unity, and Society led by wisdom of wisdom in representative deliberation and Social Justice for all Indonesian people.

2.2 Role Playing Learning Methods (Role Playing)

In teaching and learning activities in the classroom a teacher is a director. As a director, teachers must have creativity in determining the flow of learning to be active with a pleasant atmosphere so that students can learn comfortably, one way is to use appropriate learning methods. Fathurrohamn and Sobry (2010: 15) state that in a learning method it is necessary to use appropriate learning methods to achieve the stated learning objectives.

Material related to social issues such as the education of Pancasila values, is difficult to explain using only the lecture method, so there is a need for methods that can dramatize an event by making students play a role in it. Wina Sanjaya (2010: 161) gives the sense that "The role playing method is a method of learning as part of a form of simulation that is directed to create historical events, create actual events, or events that arise in the future”.

2.3 Purpose of Application of the Role Playing Method

The purpose of applying the role playing learning method is as follows:

(1) Exploring the talents of students by giving space for students to channel their talents and interests in acting;
(2) Provide student motivation to deepen learning material;
(3) Developing the ability to communicate as a provision for community life.

2.4 Steps of the Role Playing Method

Roestiyah (2008: 91) mentions the steps in applying the role playing method, i.e.
(1) The teacher must explain to students to introduce this technique.
2) The teacher must choose an urgent problem, so that it attracts students.
3) In order for students to understand the event, the teacher must be able to tell while arranging the first scene.
4) If there is a voluntary willingness from students to play a role, please, please respond to it but the teacher must consider whether the student is right to perform the role
5) Explain to the actors as well as possible, so that they know the role of the role, mastering the problem of panda mimic or dialogue.
6) Students who do not participate must be active spectators, in addition to listening and seeing, they must be able to give advice and criticism after the cast is finished.
7) If students are not accustomed, the teacher needs to help in raising the first sentence in the dialogue.
8) After the play is in a climax situation, it must be stopped, so that the possibilities of solving the problem can be discussed in general.
9) As a follow-up to the results of the discussion, although the problem may not be solved, it is necessary to open a question and answer session, discussion or make a statement in the form of a play.

3. RESEARCH METHOD

3.1 Research design

This research uses qualitative research. Bogdan and Taylor (in Moleong, 2012: 4) state that "Qualitative research is a research procedure that produces descriptive data in the form of written or oral words from people and observed behavior. The data generated comes from interview scripts, field notes, photographs and other official documents. With qualitative research, this case study model will provide an overview or description of Pancasila value education through the role playing learning method for elementary school students in grade 5 public elementary school 1 Datar Mayong District, Jepara Regency.

3.2 Data and Data Sources

According to the data source, the grouping of data in this study is divided into two, namely:

1. Primary data

In this study primary data were obtained from interviews and observations made by researchers when they entered the research field. The researcher selects informants directly related to the research and is also able to provide accurate information related to the research focus. Primary data were obtained from verbal words and behaviors that can be observed from grade 5 teachers and grade 5 students and principals in SD Negeri 1 Datar.

2. Secondary Data

In this study, secondary data needed is as follows:

a. Student score sheet or evaluation results of elementary school student activities in SD Negeri 1 Datar on Pancasila value education activities through the role playing learning method.

b. Documentation of Pancasila value education activities through role playing learning methods for elementary school students in SD Negeri 1 Datar.
3.3 Data collection

In this study using data collection techniques as follows:

1. Observation

Observation is a technique or a way to collect data by observing current activities. In this study observations were made during the study to obtain the data needed in depth about Pancasila value education through learning the role playing methods of elementary school students.

2. Interview

Interview or commonly referred to as an interview form of data collection techniques conducted verbally in face-to-face meetings with individuals or groups conducted individually. (Sukmadinata, 2010: 216). In this study interviews were conducted related to the education of Pancasila values through learning the role playing methods of elementary school students conducted in SD Negeri 1 Datar especially grade 5 with related people namely teachers and students at SD Negeri 1 Datar. As supporting material, interviews were also conducted with school principals and Pancasila activists.

3. Documentation

Documentation is a data collection technique by collecting and analyzing documents, whether written, image or electronic (Sukmadinata, 2010: 221). In the documentation, the data needed in this study are:

   a. 2013 curriculum book used by students.
   b. Notebook / worksheet used by students in Pancasila value education activities through the role play method.
   c. Photos related to implementation, media, strategy, and facilities and infrastructure used in the Pancasila value education process through learning the role playing method.
   d. A list of student values to support the evaluation of Pancasila value education activities and show changes in students from the Pancasila value education process through learning the role playing method.

3.4 Data analysis

In this study, the data analysis technique used by researchers is the Miles and Huberman model. Data analysis in qualitative research, carried out at the time of data collection takes place, and after the completion of data collection within a certain period. Data components according to miles and huberman can be illustrated as follows:
3.5 Data Validity

According to Sugiyono (2015: 365), in qualitative research, findings or data can be declared valid if there are no reported differences with what actually happened to the object under study. In this study using data analysis in the form of credibility, transferability, dependability, and confirmability. As stated by Sugiyono (2015: 366), that there are four testing methods that can be taken so that research can be accounted for, including credibility (internal validity / truth), transferability (external validity / application / generalization), dependability (reliability / consistency), and confirmability (objectivity / neutrality).

4. RESEARCH RESULTS AND DISCUSSION

4.1 RESULTS

In this chapter, the description, analysis, and discussion of research results are presented. The description aims to provide information about the planning of Pancasila values education, the informant's description of the education of Pancasila values by the role playing method and the impact of the existence of Pancasila values education by the role playing method.

4.2 DISCUSSION

a. Pancasila Value Education Planning

Learning planning is the process of preparing learning material, using media, using approaches, using methods, and evaluating in an allocation of time to be carried out at a certain time to achieve a goal (Majid, 2009: 17). Educational learning planning for the value of Pancasila on the results of this study is carried out as in general, namely determining the material, the use of media, the approaches and methods used and their assessments.

b. The Education Process of Pancasila Values Using the Role Playing Method

1. Pancasila value education habituation activities

Pancasila value education activities in this study were carried out by habituating the attitude of Pancasila values for students since the beginning of learning so that students are
accustomed to doing so in social life. The activities carried out in this research are the culture of queuing to shake hands, pray, sing Indonesia Raya songs, always be invited to consult and be fair in every activity and then cultivate literacy.

2. Approach Techniques and Learning Media

The learning approach technique applied by the teacher when in class is a group approach. This means that the given structured tasks are done in groups. In this study the teacher still uses conventional learning media.

3. Learning the Value of Pancasila with Role Playing

The role playing method is one of the effective learning methods in learning the value of Pancasila. Through this method students experience an increase in motivation as seen from the activeness of students when learning the value of Pancasila takes place. This supports Saputra's research (2015) which shows the results that the application of the role playing method in social studies subject matter in the economic activities of the community in SD Negeri 2 Kecemen can foster student motivation so that student learning outcomes increase. In its application in this study students are invited to play the role in which the script and story line are made with the group with the theme of the value of unity and unity.

c. The Impact of Pancasila Value Education Through Learning the Role Playing Method

Broadly speaking, the impact of Pancasila values education through the learning of role playing methods is that role playing learning can practice speaking skills and train students' self-confidence in learning interactions. Another impact that can be seen is the value of Pancasila education which is one of the social sciences is one way to build good character in students. This supports the research of Wahyudi et al (2014) which says the use of role playing methods in social studies learning is one of the ways that teachers can use to improve student character values.

5. CONCLUSIONS AND SUGGESTIONS

5.1 Conclusion

In this study several conclusions were drawn about the education of the value of Pancasila through learning the role playing method in SD Negeri 1 Datar as follows:

1. Careful planning of learning and enriching knowledge through literacy is important so that education related to social sciences such as Pancasila values education can be well absorbed by students.
2. Pancasila value education can be done every day through habituation of Pancasila attitudes in learning and outside learning.
3. Pancasila value education using the role playing method makes students active, the atmosphere becomes fun, students easily remember the material, can facilitate students' potential, trains students to explore relationships between people which is one of HOTS (High order thinking skill) learning, and can practice speaking skills and increase self-confidence.
5.2 SUGGESTION

Based on the results of the study, suggestions that can be put forward are as follows:

1. Teachers can use role playing learning methods with scripts and storylines designed by students themselves in delivering social science materials such as Pancasila value education.

2. Other research can continue this research with a broader scope, not limited to one aspect.

3. As input to school policies in general and Jepara District Public Elementary 1 Flat School in particular to keep increasing the application of Pancasila values education in the learning process or other activities in order to create a generation that can practice, secure and perpetuate Pancasila in various lines of life.

6. REFERENCE


Education In Era 4.0 Based On Local Wisdom: Existence Of Value And Technology

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Abstract. Education as the spearhead in changing times, the superiority of the work ethic, and the building elements that cannot be ruled out. As a basis in influencing various events of educational life, it is endeavored to have distinctive features such as bringing up local wisdom in learning so that the content of elements in life can be applied in learning. The need for technology as a medium and educational intermediary is a space that can be utilized to provide convenience in education so that the values that exist in local wisdom can be understood more easily through the use of technology. This article discusses the role and application of education in the 4.0 era that uses a local advantage in the form of local wisdom as a specialty that has values in life. The development of technology needs to be addressed properly and quickly so that students in learning and getting to know the environment can preserve it well, things they don't know yet.

Keywords: Education, era 4.0, local wisdom, values, and technology.

1. Introduction

Education has now begun to shift from conventional learning which not only uses books as the only source of learning but has also applied the latest learning resources in accordance with the circumstances in the field. This situation is also supported by the existence of online learning resources and various addresses on the internet network. The speed of students in accessing learning resources like this needs to be responded positively because of mutual learning from students for students, students for teachers, and students for the development of mindset to be critical and active in exploring information in cyberspace and the real world.

Good education, that is, education that is open in nature, does not only limit a certain theme, but also includes every event that is present in life so that the impact of education can be applied directly in social life. [1] Talking about the education paradigm, we can conclude how important it is to get an education in life. Because through education a person can develop knowledge, insight, values and character even as an effort to inherit culture in addition to being broader if you want to assess the quality of a nation can be seen from the quality of education in the country. [2] the era of the industrial revolution 4.0 that changed the world with a touch of digital technology forced the education sector to adjust itself so as not to lag behind.

As a container that holds life, society is the final impact in the application of education so that one of the indicators that determines the success of education is the quality of society that
has been tested in addressing the life of something with the ideas, actions, and products produced. As a container that holds life, society is the final impact in the application of education so that one of the indicators that determines the success of education is the quality of society that has been tested in addressing the life of something with ideas, actions, and products produced. Local wisdom is one of the characteristics and identities that exist in social life so that it can be a differentiator between one region or region with one another. One of the identity or identity of a nation can be known from the local wisdom in it. [3] The values of local wisdom today have been abandoned. Along with advances in information technology as a result of the unstoppable flow of globalization and the weakness of the nation's filtering system against antidotes of negative impacts.

Values that exist in local wisdom such as the value of cooperation, mutual cooperation, respect, discipline, love of the motherland, polite language, and so on can be applied in local education have an impact on the characteristics of students who later can have a positive attitude towards the environment and can get to know deeper about the environment. Students who are able to understand and apply the value of local wisdom in life naturally preserve and uphold positive norms that have an impact on society in general. [4] Natural wisdom is the values that apply in a society. Values that are believed to be true and become a reference in daily behavior by the local community so that if properly implemented the awareness to protect the environment will be high. [5] Cultural values that have developed in people's lives lately experienced degradation and began to be forgotten in social life along with the times. But on the other hand, local cultural values which are a legacy of the past in some regions are very suitable to be developed in the face of the current era of globalization. [6] Local wisdom is formed as the cultural superiority of the local community and geographical conditions in the broadest sense. Local wisdom is a product of the culture of the past that deserves to be constantly held on to life. Although local value, but the value contained therein is considered to be very universal. [7] In the anthropological conception, custom is understood as a habit that has been passed down from generation to generation by members of the community and functions to organize social relations for the creation and maintenance of functional relations between communities.

Spaces that clearly become the material or core of learning, namely national identity and culture that can continuously be taught to students through daily learning. Through material clarity by synergizing with the culture in it, of course, these spaces can be applied wisely. As a technology that puts forward a learning media that is fast and easily accessible to students, the technology can contain a variety of local wisdom values that can be applied in education. The role and function of technology needs to be responded positively through the content or content of technology that includes local wisdom as one part of culture. [8] In the era of reform and regional autonomy has provided space and opportunities for each region to develop and maintain culture and develop the values of local wisdom and cultural history, as long as it does not conflict with the basic principles of democracy which provides a mechanism for the people's sovereignty. [9] Local wisdom is an embodiment of the implementation of articulation and manifestation as well as traditional forms of knowledge understood by humans or communities interacting with the surrounding nature.

Education in the era of 4.0 is more environmentally friendly, easily accessible, and can be done or studied in various places, no longer dependent on the place and time, and can be clearly known events in various places for the benefit of all groups. Actions that are considered to be still conventional namely education focused on one material are no longer appropriate to be taught in the current era, because ideal learning is able to apply various elements of life in it. [10] The Industrial Revolution Era 4.0 (hereinafter: Era 4.0) had not a
simple impact. It affects all aspects of human life. Included in this case is education. This era is marked by the increasingly central role of cyber technology in human life. So do not be surprised if in the world of education the term "Education 4.0" appears.

Based on the problems that have been described, this article examines the role and application of education in the 4.0 era which uses a local advantage in the form of local wisdom as a specialty that has values in life. The development of technology needs to be addressed properly and quickly so that students in learning and getting to know the environment can preserve it well, things they don't know yet.

2. Method

This research uses descriptive qualitative method. The research data was obtained from textbooks used in learning at SMA 1 Bae Kudus. The source of the research data was obtained from articles and papers related to the research. Data collection techniques using observation, interviews, and documentation. Observations and interviews were conducted with teachers and students in SMA 1 Bae Districts Kudus. Documentation is obtained through learning outcomes and student learning activities during the school year 2018/2019. Data analysis uses Miles and Huberman's theory [11] namely data reduction, data presentation, and conclusion drawing. Data analysis in this study was carried out in stages so that valid and credible data analysis was obtained.

3. Results and Discussion

a. The Role and Application of Education in the 4.0 era based on Local Wisdom

Based on the results of research conducted at SMA 1 Bae Districts Kudus, learning patterns have put forward learning in the 4.0 era which has synergized the role of technology in learning. The textbook used has referred to BSE (Buku Sekolah Elektronik) so students are easy to access examples, materials, and learning applications. The teacher as an educator has given examples and applications according to the steps of using the available text books so students know the functions and steps of learning to use the textbooks. The following is presented regarding the textbooks of the subjects used in learning in SMA 1 Bae Kudus, Indonesia.

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<th>Book Type</th>
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<td>Electronic</td>
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<td>Textbook Indonesian Language</td>
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<td>Textbook Indonesian History</td>
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<td>Textbook Art and culture</td>
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<td><strong>Total</strong></td>
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Local wisdom as one of the cultural elements becomes an important thing that needs to be taught in education. As a characteristic and recognition of good values for student understanding, local wisdom can be applied in various subjects at the high school level with reference sources from textbooks and from other sources that support. But in its application it can be clearly seen that the source of the textbooks does not all contain the local wisdom so that it is felt that there are still not enough learning resources that support the introduction and understanding of local wisdom. [12] according to Wibowo that the function and meaning of local wisdom, namely: Functioning for the conservation and preservation of natural resources, functions for the development of human resources, functions for the development of culture and science, functions as advice, beliefs, literature and taboos. [13] wisdom is not only in the form of cultural norms and values, but also all elements of ideas, including those that have implications for technology, health care and aesthetics. Thus, local wisdom is more emphasized as the ability of a region to absorb and carry out selection and active management of the influence of foreign or foreign cultures, so that new forms of creation are not found in other regions.

The following is table 2 which explains the types of textbooks which contain and do not contain local wisdom.

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<tr>
<th>Book Type</th>
<th>Subjects</th>
<th>Local wisdom</th>
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<td><strong>Total</strong></td>
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Based on the needs and application of local wisdom, the educational model needed is in accordance with the characteristics of the region that puts forward aspects and needs of the region to be truly understood by students in learning. Textbooks and learning resources that support students' understanding of local wisdom need to be supported with an introduction from the beginning of learning so that students are sensitive to the surrounding environment. Education in the 4.0 era that supports the provision of learning materials needs to be synergized with local wisdom so that students can apply the material learned to the circumstances in the student environment.

b. Era Student Attitudes and Characteristics Responding to Changing Era

The attitude of students in dealing with the changing era and the present era needs to be followed by strengthening the national identity so that the technology that is growing nowadays can be responded positively and wisely. Technology needs to be followed and not made as an obstacle but rather as a medium that can facilitate students in finding information that supports learning. Some criteria that can be used as a reference in responding to changes in the era in 4.0, namely:
1) study technology and media both online and offline.
2) Utilizing technology as needed namely to help obtain the information needed and filter incoming information.
3) Technology as one of the complementary learning tools, not as the only primary learning source, because learning resources can be obtained from anywhere that suits your needs.
4) The attitude of dependency in learning needs to be addressed properly, so that later students are able to use technology wisely.

Based on the attitude and understanding of the character of students in addressing the changing era, the attitude is always introspective and able to filter any information that is an important element to. Era 4.0 is a reformer era that presents education more efficiently, interesting, right on target, and more detailed in its presentation.

4. Conclusion

The role of technology in learning is unavoidable and is always closely related to the progress of the times. Education as the spearhead in the advancement of time requires careful preparation to respond to technological progress so that it is not tossed around by various information available. One of one's maturity is based on the existence of a strong provision in him like knowing the form of local wisdom around him. Local wisdom can shape a person's character to be different from others in addressing the problems of life. As humans who always learn in recognizing and understanding the values of life, local wisdom forms a person who is superior and can respect any differences and upholds positive values that place public interests above personal interests. In the era of 4.0 which focuses on the development of environmentally friendly and further enhance technological progress as the basis of life needs to be followed because technology and the times are closely linked to the advancement of education. Technology becomes more useful and appropriate if the content or message given is in accordance with the facts and needs of students.
REFERENCES


Learning Media Based on Scientific Literacy for Elementary Students

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Abstract. This activity aims to provide mentoring and training for teachers in SD 3 Wergu Wetan on learning media based on scientific literacy. The instruments used in this activity were interview guidelines, observation sheets, and teacher's understanding questionnaire. Analysis of the data used is data triangulation. This activity begins with the needs analysis stage, the material workshop step, the media making the stage, the follow-up stage, the implementation phase of the media in learning and the evaluation stage. Based on data analysis found the results of this learning media can increase student learning activities with an average value of 84.8 or with good criteria. Likewise, the results of the questionnaire responses of students get an average score of 92.8 or with very good criteria. Thus it was concluded that this media could increase the activities of students and teachers had a better understanding of learning based on scientific literacy after receiving this training.

Keywords: learning media, scientific literacy, primary students.

1. Introduction

Improvements method in the industrial revolution era continues to be made so that the Indonesian nation is able to compete globally, among other things by changing the curriculum into the 2013 curriculum. This curriculum not only develops knowledge but also emphasizes skills and attitudes. Organized learning must be student-centered and facilitate students to find concepts [1]. The implementation of the Permendikbud is in accordance with the mandate of the 2013 curriculum including the school literacy movement and the application of 4C (Communication, Collaborative, Critical and problem solving, Creative and innovation) in learning [1]. The effectiveness of the 2013 curriculum implementation is determined by the context, inputs, and processes involved in the education process [2]. So one of the successes of learning is determined by the planning of the implementation of learning conducted by the teacher. Learning is not only done in lecture but must involve students actively in learning so that students have good literacy skills.

The implementation of literacy activities in schools is intended so that students are able to implement the material learned in daily life. The main concept of scientific literacy according to PISA (Program for International Student Assessment) is the application of scientific knowledge and skills possessed by students, obtained from the learning process to face challenges in daily life [3]. So, scientific literacy is a very important ability for students because it deals with how to solve problems.

But in reality, the achievement of scientific literacy of students in Indonesia is still low. In 2015 Indonesia was ranked 10th out of 72 other countries in the measurement of student
scientific literacy organized by the OECD (Organization for Economic Cooperation and Development) [4]. This shows that student achievement in Indonesia is still low. Therefore learning improvement is needed so that Indonesia is able to compete globally.

Student scientific literacy competencies are caused by many factors, including the organization of learning. The learning must make students actively analyze the material and implement the material in daily life. The structure of the questions given by PISA is related to high-level thinking so that refraction of these abilities is needed in learning. One of the factors that are able to improve students' higher-order thinking skills is learning media. Learning media is one of the important factors in the organization of PAKEM-based learning [5]. The media is very important in learning, especially science-based media because this media can promote investigative abilities, which lead to higher-order thinking skills [6]. Therefore, teachers need appropriate learning media to be able to improve students' literacy abilities.

Based on the results of a needs analysis conducted at SD 3 Wergu Wetan it is known that literacy activities have been carried out but are still monotonous, literacy corners have not been seen in the classroom, student activities in science learning are still low and teachers have difficulty in creating learning media based on scientific literacy. Whereas one of the determinants of learning quality is teaching aids [7]; [8]. Therefore, training and assistance are needed in making learning media based on scientific literacy.

Based on this background, the purpose of this activity is to describe the steps of mentoring activities and training in learning media based on scientific literacy, measuring student activities and measuring the practicality of learning media based on scientific literacy.

2. Methode

This paper aims to describe the steps of mentoring and training for Wergu Wetan Elementary 3 teachers on learning media based on science literacy, measuring student activity and measuring the practicality of the media created. The step of this activity begins with a needs analysis of the importance of science literacy for elementary students, both through literature studies and field studies, providing workshops on science literacy for elementary learning, providing training in making media learning based on scientific literacy, follow-up activities, implementation of media use for students Elementary school and evaluation activities. This activity was given to teachers at SD 3 Wergu Wetan. The methods used in this activity are discussion, brainstorming, question and answer, observation and documentation. The instruments used were interview guidelines, questionnaires, and observation sheets. The instrument was analyzed by triangulation data.

3. Discussion

This training and mentoring activity were carried out at SD 3 Wergu Wetan because based on the results of the needs analysis when monitoring and evaluating educational apprenticeship activities, the school had not implemented the school literacy movement (GLS). This is reflected in the literacy corner that does not yet exist in the class. After that, interviews were conducted with school principals and teachers related to the obstacles found in learning, especially science learning. After that, the team observed in several classes and found that the teacher had difficulty in making learning media based on scientific literacy. Whereas the literacy movement is one of the mandates of the 2013 curriculum. Finally, we agreed to carry out this mentoring activity.

After analyzing the needs in the field, the team analyzed the problems by the teacher and analyzed the basic competency that will be used to provide the material. Finally, themes were
chosen that represented the low class and high class to represent each level. In this activity, the learning media that will be given are four material themes namely the theme of animal motion systems with *ikutu langkahku* media, the theme of ecosystems with marine ecosystem diversity media, the theme of recognizing tree parts and animals with literacy trees media, the theme of metamorphosis material with media stages perfect metamorphosis and imperfect metamorphosis.

After needs analyzing, the next step is workshops on science literacy materials, science learning for students and learning media based on scientific literacy. This workshop is not only done by giving material from the team, but active participation is needed from the participants so that this activity is more discussion to get an ideal learning management for elementary students because the teacher is a figure that is dealing directly with students so they know more about the obstacles encountered when in class.

The workshop activities took place warmly, there were various ideas given, the teacher got input from the team, and the team also gained experience from the teacher. Lots of ideas and opinions were given at this activity. Although there had been a lively discussion related to the media, it was not a problem in this activity. The teacher believes that ICT media is more important than others, but the team provides an understanding that the core of science learning is inquiry activities so that in the learning process, students must participate more actively, find concepts through an experimental activity or project giving. If using the media, then the media also involves students to carry out activities, not just as a passive listener. This is in accordance with research conducted by Masfuah & Fahriyah that project-based learning can improve students' understanding of scientific concepts, viewed from the literacy aspect [9].

The next problem is related to costs in making media. The team provides the teacher with an understanding that learning media does not have to be expensive, as long as it is relevant to the material and can improve student competencies. The team gave advice on the equipment used in making this media using used goods at a relatively low cost, including used bottles, cardboard boxes, newspapers, and other waste. This workshop phase can be seen in Figure 1.

The next stage is planning learning media. The teachers brought used items needed and the team brought equipment such as scissors, glue, flannel, and instruments to beautify the media. The teachers look enthusiastic at this stage. They finally understood that the media did not have to be expensive, but used goods that became trash turned out to be interesting learning media. Media of marine ecosystems are made of boards with cardboard material, bottle caps as fish, pictures of marine biota such as squid, plankton, whale, seaweed, jellyfish
and others. The paper is drawn and beautified. The results of the marine ecosystem media can be seen in Figure 2.

![Fig. 2. Making of Marine Ecosystem Media.](image)

The media can be posted in the corner of the class. The use of the media is equipped with a question card so that it can be used as an interesting game. The second media is the literacy tree. This literacy tree is made of cardboard boards, flannel for making tree parts, paper for making leaves, fruit, beetles, and butterflies. This media can be used for low classes to explain the parts of plants and their functions. In addition, the teacher can also explain the pollination material for high-class students. The use of this media can also be equipped with question cards so that it is more interesting and sharpens students to think. The literacy tree created can be seen in Figure 3.

![Fig. 3. Literacy tree media.](image)

The third media follow my steps. This media is made from used bottles, colored paper made in rabbit shapes, cat shapes, butterfly shapes, and other animals. The purpose and purpose of giving this media so students are able to bend the types of animals based on how to move, the number of legs, grouping based on the place of life. In addition to motion system material, this media is used as a place to put pencils or other equipment because this media can be hung or attached to the wall.
The fourth media is the metamorphosis stage. This media is made from used twigs/wood, stuffed butterflies and leaves made of flannel cloth containing used plastic. In this media, it is seen the stages of perfect and imperfect metamorphosis of animals. Media metamorphosis stages and the media follow my steps can be seen in Figure 4.

After the manufacturing phase, the next stage is the follow-up activities. In this step, the teacher practices how to use the media. Aside from being a literacy corner, these media can increase students' thinking skills and analytical skills because the media are equipped with question cards and worksheets so that there is a knowledge improvement experienced by students. The question cards and worksheets can increase students' active participation because there are rewards and treatments given by the teacher so as to create a fun game. The media is not made a patent but students can remove and modify it so that initially the media only contains blank paper then after being able to answer questions, students can paste the media used so that the media is also able to hone student creativity. Therefore, the media is not only a display item and makes students passive but involves students to think and do so that more make students actively find concepts. Rules for the use of the media can be modified so that it depends on the creativity of the teacher. The use of card-based media such as monopoly can increase students' critical thinking in science learning [10].

The next stage is the implementation of the media used in learning. The media is applied to thematic learning, so it is not only for science content but for other content, including Indonesian. Students are able to describe objects or make sentences or text fiction or non-fiction. However, this implementation phase is applied to science content. Students use the media in learning that is equipped with question cards and worksheets then they must present it to the class. At this implementation stage, the teacher observes the enthusiasm and activity of students in learning as measured by the observation sheet. The results of the observation showed that student activities had an average of 84.8 or with good criteria. Based on these results, it is known that learning media based on scientific literacy can improve student learning activities and outcomes. Presentation media-based learning media affect student learning outcomes and interest in learning [11].

The final stage in this activity is the evaluation phase. At this stage, the team and teacher evaluate the mentoring and training activities that have been carried out. There is no
meaningful input in the implementation of this activity, it's just that the media created must be larger if used for the discovery method or each group must get media so that all students can actively participate. At this stage, the team gave a response questionnaire about the practicality of making and using the media in science. The results of the response questionnaire obtained an average value of 98.2 or in the excellent category. Based on these results it is known that this media is easy to make and use by teachers. The teacher also agreed that mentoring and training like this would be done routinely every month. One of the main keys in learning science is group work that leads to the ability to think and solve problems [12].

4. Conclusion

This training and mentoring activity begin with a needs analysis, material workshop stages, product manufacturing stages, follow-up stages, product implementation stages, and evaluation stages. Based on the implementation phase and evaluation stage, it is known that student activities after the application of natural science learning using the media have an average value of 84.8 or with good criteria, while based on the questionnaire the teacher's response to the making and use of media obtained an average value of 98.2. Based on these results it is known that learning media based on scientific literacy can be used in learning and can increase student activity.

5. Acknowledgements

Acknowledgments to the principal and teachers of 3 Wergu Wetan School who has given permission and cooperated in this activity. The author also thanks to the Head of the Elementary School Teacher Education Study Program who has given permission to carry out this activity and other parties involved in this activity.

References


Ethno-Edutainment Learning as an Effort to Improve Primary School Students’ Spirit of Nationality

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Abstract. The objectives of this research are (1) to identify the students’ spirit of nationality on ethno-edutainment-based learning, and (2) to reveal the students’ response towards ethno-edutainment-based learning. This research used one group pretest posttest modeling quantitative research design. The population of this research included fifth grade students at SD Muhamadiyah 1 Kudus. In this research, the sample was taken by employing purposive sampling technique. The sample of this research involved students of VA class at SD Muhamadiyah 1 Kudus. The data collection technique used in this research was non-test technique, that is, questionnaire. It was to identify the students’ spirit of nationality and response towards the learning. The data were analyzed by employing normalized gain test. The result of this research showed that there was an improvement on the students’ spirit of nationality. The score of n-gain of the national characteristics classically reached 64% or 0,64, which was categorized into medium. In addition, the students’ response towards Ethno-Edutainment-based learning was categorized as good.

Keywords: Ethno-Edutainment, primary school students, spirit of nationality.

1. Introduction

Nowadays, youth generation has been influenced by foreign cultures (westernized) infiltrating to Indonesia. Youth should not be easily influenced by foreign cultures; they have to be able to reconsider both the positive and negative impacts of those cultures. According to National Education Ministry (2010), the stronger is someone in making consideration, the stronger will he be in growing and developing as a good country citizen. When someone has many considerations in facing foreign cultures, he or she will be more selective to foreign cultures, allowing him to choose which culture is appropriate to be adopted according to his national characteristics of Indonesia.

National Education Ministry (2010) explains that characteristics consist of characters, attitudes, or personality of someone which is derived from internalization process between values, moral, and norms which are then believed and used as the basis for thinking, anticipating, and putting into action. This means that the interaction between people can grow up the characters of society, which ends up on the national character building. Kusmiarsih (2013) states good characteristics can boost the quality of youth generation, which can minimize the problems in culture and national characters. Therefore, if someone desires to develop national characters, the first thing to do is to deal with developing individual characters of each person. One of the characters which need to be built is the character of education, which is the main purpose of learning. Therefore, education can be a part of socialization in building national characters.
patriotism and spirit of nationality. In reality there are many examples regarding to the lack of nationality spirit of our youth generation, including some cases as the hunting on Cenderawasih as one of the typical animals in Indonesia, primary school student brawl, and so on. Ardianti (2017) states that character building by means of learning activity should be integrated and unified, as one of the important parts in learning process and should not stand on its own. Learning has an important role in national character building.

Based on the result of questionnaires on 10 primary school teachers at Kudus Regency, it was found that teachers had not discovered the effective way to instill spirit of nationality character in classroom learning. This result of questionnaires also showed that teachers thought they needed to instill spirit of nationality character by introducing local culture. Besides, the result of questionnaires showed that there were teachers who had not inserted the character building of spirit of nationality in learning. Thus, teachers should instill spirit of nationality character building by introducing local culture, and one of the ways is through ethno-edutainment-based learning.

Teachers are one component with very significant roles in building spirit of nationality the building of this spirit needs to be done since this country is in the need of better generation in the future. The term Ethnols derived from the word ‘ethnic’ which means being related to the existing common local cultures in society. D’Ambrosio (in Wahyuni, et al, 2013) clarifies that the term ethno refers to the social and cultural contexts, acting as a kind of language, jargon, behavioral code, myths, and symbols. Saepudin (2016) says that the term edutainment is derived from the words education and entertainment. Linguistically, edutainment is an education which entertains or makes learning process entertaining. It means that ethno-edutainment learning is a learning about local cultures, which is designed in an entertaining way of learning. Zafirah (2018) claims that the use of local cultures of traditional games can assist the character value building to the students. Through ethno-edutainment learning, it is expected that students can grasp better understanding, which is more impressed with local culture studies through entertaining learning method. Thematic learning based on ethno-edutainment is also expected to improve the students’ spirit of nationality character.

2. Research Method

In this research, the method which was employed was pre-experimental design. The research took place at SD Muhamadiyah 1 Kudus which was located at Jl. KH Asnawi No.34, Damaran, Kota Kudus, Kabupaten Kudus, Jawa Tengah 59316. The subject of this research focused on the students of VB class at SD Muhamadiyah 1 Kudus the data collection technique in this research was non-test. Specifically, this technique utilizes observation sheet as instrument to measure the students’ spirit of nationality and a questionnaire to identify the students’ response towards the learning. The obtained data were then analyzed by means of normalized gain test to measure the improvement on the students’ spirit of nationality. Afterwards, the data were described the narrative form.

3. Results and Discussion

3.1 The Improvement on Spirit of Nationality Character

![](image)

The scores on students’ spirit of nationality character were obtained from the observation during learning process and from the result of observation sheet on spirit of nationality. Both scores before and after the implementation of thematic learning based on ethno-edutainment is presented in Table 1 as follows.

<table>
<thead>
<tr>
<th>Table 1: The Improvement on Spirit of Nationality Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>before implementation</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>43.2</td>
</tr>
</tbody>
</table>

After the implementation, the students’ spirit of nationality character showed significant improvement as indicated by the normalized gain test.
Table 1. Recapitulation of Scores on Spirit of Nationality Before and After Learning.

<table>
<thead>
<tr>
<th>Components</th>
<th>Scores on Spirit of Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
</tr>
<tr>
<td>Mean</td>
<td>5.14</td>
</tr>
<tr>
<td>Highest Score</td>
<td>7</td>
</tr>
<tr>
<td>Lowest Score</td>
<td>3</td>
</tr>
</tbody>
</table>

The obtained scores of students’ spirit of nationality after learning were generally higher than those of before learning. It can be seen from the mean score of students’ spirit of nationality character after learning which reached 8.27. Before the learning, it was only 5.14. These scores were then analyzed statistically though normalized gain test to identify how significant is the improvement on the scores of students’ spirit of nationality between before and after learning.

The calculation on the increased spirit of nationality character through normalized gain test can be seen on Table 2 below.

Table 2. The Result of Improvement on Spirit of Nationality

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>9.09 %</td>
</tr>
<tr>
<td>Moderate</td>
<td>54.55 %</td>
</tr>
<tr>
<td>High</td>
<td>36.36 %</td>
</tr>
</tbody>
</table>

Based on the table, there was an improvement on the students’ spirit of nationality character with the low improvement of 9.09 %, the moderate improvement of 54.55 %, and high improvement of 36.36 %. Classically, normalized gain \( g \) value of 64% or 0.64 was obtained, which indicated the improvement was in moderate category.

The improvement on the students’ spirit of nationality was mainly caused by the implementation of thematic learning based on ethno-edutainment. The thematic learning based on ethno-edutainment involved components of local cultures which were correlated with learning materials in thematic manner. The involvement of students’ local culture in learning can instill positive characters towards the students since most of the local cultures of Indonesia have their typical national characters. This is in line with research conducted by Hasanah (2016) that insights on local cultures can develop the students’ potentials and can instill characters to the students.

Ethno-edutainment-based learning engages students to learn directly in the entertaining environment and. Thematic learning based on ethno-edutainment can assist teachers in inserting character building in his or her lessons. Ardianti, et al (2019) states that learning which is designed in an interesting and entertaining way is appropriate to be employed by primary school teachers when instilling character values since one of the basic natures of primary school students is the tendency of playing around. Learning experiences acquired directly by the students contribute positive effects towards the improvement on the spirit of nationality character of the students. As seen on Table 1, the mean score of students’ spirit...
nationality after learning is higher than that before learning. The result of normalized gain test also showed that 54.55% of the whole students made improvements on the scores of spirit of nationality to moderate category. This improvement occurred because of the implementation of ethno-edutainment-based learning. Lestyarini (2012) clarifies that integrated learning which lies on philosophical-historical understanding about Indonesia and based on local wisdom improves the spirit of nationality which grows to strengthen Indonesian’s characters. The spirit of nationality is one of the foundations to strengthen this Indonesian character.

3.2 Students’ Responses

Data related to students’ responses were obtained by examining questionnaire on students’ responses at the end of ethno-edutainment-based learning. The indicators used in students’ response questionnaire included students’ interest in the learning method, the improvement on the spirit of nationality character, the improvement on the activity during the current learning activities, as well as the ease of students in understanding the taught concepts during ethno-edutainment-based learning. The result of analysis of students’ responses can be seen in the Table 3 as follows.

<table>
<thead>
<tr>
<th>No</th>
<th>Statement</th>
<th>Answer Yes (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interest in ethno-edutainment-based learning.</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Ethno-edutainment-based learning can improve students’ spirit of nationality character</td>
<td>81.82</td>
</tr>
<tr>
<td>3</td>
<td>Ethno-edutainment-based learning can improve the students’ activeness</td>
<td>86.36</td>
</tr>
<tr>
<td>4</td>
<td>Ethno-edutainment-based learning can ease the students’ understanding towards taught concepts</td>
<td>81.82</td>
</tr>
</tbody>
</table>

Table 3 shows the result of students’ responses towards ethno-edutainment-based learning. In general, students gave positive responses towards the thematic learning based on ethno-edutainment. This learning is a learning which involves surrounding local wisdom and excellences which are correlated with the learning materials, and well designed to become interesting and enjoyable learning activity. As primary school students still have the nature of playing around, the learning process that is designed within an interesting activity will arouse the students’ interest in learning. Indriati (2012) argues that edutainment learning encourages students to learn while playing in small groups so that they get interested and, as a result, experience no boredom. In addition, through playful activities, students do not only acquire certain knowledge, but the other ways of thinking will be built within his ideas and behavior. It is in accordance with the result of students’ questionnaire, that is, the entire students showed their interest in ethno-edutainment-based learning. This finding is in line with that of Ardianti, et al (2019) that students are interested in learning with materials which are equipped with stories, images, and enjoyable activities.

The result of students’ responses also showed that up to 81.82% of the students stated that thematic learning based on ethno-edutainment can improve their spirit of nationality character. This is also in accordance with the result of normalized gain test on the data about improvement on students’ spirit of nationality character. Wanabuliandari (2016) says that through local cultures, teachers are easier to instill characters. The result of the questionnaire
also indicated that up to 81.82% of the students claimed that it was easy to understand learning concepts through ethno-edutainment-based learning method. This is because ethno-edutainment-based learning involves students’ surrounding cultures so that it makes the learning more real. Wanabuliandari et al (2016) claims that through a real-life learning can get students engaged more actively in learning and thus obtain deeper understanding of the taught materials. Asriati (2012) argues that learning process which involves local excellences is in line with the existing environment which is experienced directly by students so that real-life-based learning can create meaningful learning process. Students do not feel difficult in grasping the concepts which are correlated with the surrounding real conditions.

4. Conclusion

The implementation of ethno-edutainment-based learning can improve students’ spirit of nationality. This improvement on spirit of nationality is derived from the score of normalized gain $\left( g \right)$ of 64 % or 0.64 which means that the spirit of nationality is in moderate category. The students’ responses towards thematic learning based on ethno-edutainment are in good category.

5. Acknowledgements

The researchers would like to express their appreciation to the side of SD 1 Muhammadiyah who has given permissions to conduct this research. The other gratitude goes to the rector of Muria Kudus University and The Research Board of Muria Kudus University who have made this research possible.
References


The Effect of The Survey Question Read Reflect Recite Review (SQ4R) Technique and Scheme Technique to The Improve Understanding Reading Skills of Indonesian Language Lesson

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Abstract: Reading is the door to knowledgement of world. The reading ability obtaine not naturally, but through the learning process. The reading learning technique consists of several types. The purpose of this study to determine the effect of Question Survey Technique Read Reflect Recite Review (SQ4R) Technique and Scheme Technique to improving comprehension reading skills of Indonesian language Lesson. The research is Quasy Experiment with the design of Non Equivalent Control Group Design. The population in this study are third grade students of SD Negeri. The research instrument use a questionnaire. Data analysis techniques use paired t Test and Independent Sample T-test.

Keywords: SQ4R Technique, Scheme Technique, Reading Comprehension Ability.

1. Introduction

Language is the main key to human life because it has a very important role for the development of children to become fully human adults. Humans use language in everyday life to think, listen, talk, read, and write. Language is used as a communication tool to interact with others. Basically language is a series of sounds that represent a thought, feeling, or attitude. Language skills in the curriculum in the school include four aspects, namely: (1) listening skills ( listening skills ); (2) speaking skills ; (3) reading skills ( reading skills ); and (4) writing skills ( writing skills ) Tarigan (2015: 1).

The importance of reading skills that must be mastered by students does not necessarily make the learning process take place as expected. This is evidenced by the problems that arise in reading comprehension activities at school. Reading activities need to be accustomed from an early age, namely from children to recognize letters. Reading activities need to be used as a necessity and become a pleasant thing for students. Reading is done anywhere and anytime provided there is desire, enthusiasm and motivation.

This reading ability cannot be obtained naturally, but through a learning process which is partly the responsibility of the teacher. A special learning model is needed in understanding reading activities. Shoimin (2014: 190) explained that the SQ4R model is the development of SQ3R by adding reflect elements , namely the activity of giving examples of reading material and imagining the actual relevant context. By implementing these steps can strengthen students' understanding of the information they read. This model consists of six stages, namely Survey (review / introduction), question (ask), read (read), reflect (give examples), Recite
(recounting) and review (review). The six stages each have mutual benefits. In the use of the SQ4R learning model suitable media can be applied to support and facilitate students in reading children's comprehension stories. One of the suitable media to use is Graphic Organizer in the form of storytelling organizers. USAID (2014: 620) explains that media storytelling organizers are pictorial story maps that can help students identify story elements.

Yuhanna's research (2014) proved that the use of the SQ4R method was able to improve student reading outcomes. This is also supported by Muhsin's research (2011) which proves that the increase in reading comprehension skills of students with the PQ4R method is very effective. This method is one of the learning methods that emphasizes the activities and creativity of students in understanding a reading. Another effective method is metode scheme, as previous research carried out by Saiful (2018) proves that there is an increase in reading comprehension skills in students through the use of schema techniques. This is also supported by the Ikhwana (2017) study which also proves that with the application of Scheme Technique in learning to read the understanding of teacher abilities increases, students are more active, and student learning outcomes increase. Learning to read comprehension using schema techniques is one of the right efforts because with the schema technique students must relate their experience with the experience in the textbook. Gamung's research (2017) also proves that the use of scheme methods is able to improve reading learning. The ability to teach using the right method is a demand that must be fulfilled a teacher. The use of methods is needed so that the delivery of subject matter is achieved properly. This method is related to the success of the learning process that the result is a right determining student achievement.

2. Method

The research in this study is quantitative research techniques. This type of research is Quasy Experiment, which is the type of research that provides treatment (experiment) using treatment groups and comparison groups (controls). The research design use Non Equivalent Control Group Design, ie the selected study sample is two samples where 1 group was intervened and another group as a control was then observed. The population is third grade students of SD Negeri.

3. Discussion

Model contextual learning with the SQ4R technique brings change positive results learning. In activities learning using models contextual with the SQ4R technique, Learning contextual models with the SQ4R technique is a designed learning model so that students learn actively, students are given the opportunity to explore mathematical activities, through problems that are designed so challenge students to think. Problems presented through designed teaching materials in such a way as to be attractive the attention of students and occur different learning activities. By understanding the concept it is in teaching materials, it is initial stage stimulus, so participants students are encouraged to begin the process remembering Arhasy's research (2015) proves that the SQ4R technique is able to improve students' understanding abilities.

The Gunarsa study (2018) proves that students' understanding increases after being given SQ4R technical measures. SQ4R is an efficient way of reading with an approach that makes the reader active and aims in facing reading "and in the strategy there are steps that cause students to fully understand the contents of the reading in full, namely at the stage (review) or review the content thoroughly so that, from these steps can be measured the level of reading comprehension of students. SQ4R is the development of SQ3R learning by adding reflect
elements, namely the activity of giving examples of reading material and imagining the actual relevant context”. So that in the learning process students become more active, critical in the learning process. The results of this study are supported by the research conducted by Runiatun (2015) in which in the study there was an increase in students’ reading comprehension skills.

Karen and G. Alfred (2000) in their study stated that the SQ4R strategy has an effect on a person's thinking ability, where the level of student understanding in using the strategy would be sharper and longer. In addition, Başar, M. & Gürbüz, M. (2017) in his research to examine the effect of the SQ4R technique (Survey, Question, Read, Reflect, Recite, Review) on the reading comprehension skills of grade 4 elementary school students. and the Kruskal Wallis test method used for data analysis. Significant differences were found in reading comprehension abilities of students who learned to read comprehension with the SQ4R technique.

4. Conclusion

SQ4R learning techniques further enhance students' reading skills. For that reason, the following can be conveyed: 1) students should be more active in looking for other learning resources as additional references in learning. 2) teachers in elementary schools should use more innovative learning in learning so that learning becomes more varied. 3) school principals should include teachers in training on innovative learning and strive to add learning media that are relevant to learning in school.

REFERENCES


The Influence of Motivation, Organizational Culture And Performance of Teacher Professional At MTs Tayu- Pati

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Abstract. This study aims to analyze the influence of motivation and organizational culture and teacher performance at all of MTs in Tayu. This research was conducted at MTs Tayu with sample of 136 teachers using proportional random sampling technique that is taking samples proportionally. Data analysis tool used in this research is multiple liner regression model. The instruments used are questionnaires tested with validity and realibility testing. The results of the study showed that the motivation significantly and positively influenced teacher profesional in MTs Tayu. Organizational culture significantly and positively influenced teacher profesional in MTs Tayu. Performance significantly and positively influenced teacher profesional in MTs Tayu. The motivation, organizational culture and performance together significantly and positively influenced teacher profesional in MTs Tayu.

Keywords: Motivation, Organizational Culture, Performance, Teacher Professional

1. Introduction

1.1 Background of Study

Improving the quality of education is determined by the readiness of human resources involved in the education process. Teachers are one of the determinants of the high and low quality of educational outcomes having a strategic position, so every effort to improve the quality of education needs to pay great attention to improving teachers in terms of both quantity and quality.

The teacher is an important and valuable asset for the school because if it is managed well then the teacher's performance will be good, this is due to several factors including motivation and organizational culture this factor is related to job satisfaction and performance is what you want to aim for that will affect the image or impression of a educational organization itself.

Latif, et al (2017) revealed that the performance of a teacher in carrying out their duties will be optimal if the teacher has the ability to carry out their duties as a teacher. This is emphasized by Gomes in Latif, et al (2017) that the factors that influence the achievement of
competent teachers must be based on optimal competency mastery, because the level of mastery of teacher competence is very influential on the level of teacher performance (Latif, et al., 2017).

Based on observations made by the author in July 2019 in several MTs in Tayu-Pati shows that most teachers who teach in MTs still do not reflect high motivation. This can be seen from the following phenomena: there are still teachers who do not prepare a complete set of learning tools that are in accordance with the situation and condition of the school, there are still professional teachers who are less eager to pay attention to their students as well as in bringing their students to an atmosphere of learning that is innovative and fun and there are still teachers who lack discipline in implementing learning.

In addition to motivation, a conducive school organization culture is a prerequisite for effective teaching and learning. The culture of a school organization is a characteristic of a school that can be identified through its values, the attitudes it has, the habits that it displays, and the actions exhibited by all school personnel that form a special unity of the school system. In the field, there are still a number of schools that have not been able to create a conducive organizational culture. This can be demonstrated by the lack of good relations between the principal and teachers, teachers and teachers, teachers and staff, and teachers and the community around the school. The culture of school organizations must be able to provide a situation that is able to build togetherness and unite the perspectives of teachers, staff and school principals in order to achieve goals, among others through the formation of mental work discipline with high dedication and loyalty to their work, the establishment of a strict vision and mission, guidance, good coordination of direction, and supervision for that required the principal who is able to manage all resources to improve the quality of education, involve components of the community, realize the culture of the school organization which is conducive to improving teacher performance.

The low performance of teachers in MTs based on interviews with the majority of teachers who teach in MTs can also be seen from the level of attendance and delays in school teachers. This can be caused by teachers having to teach in more than one school to make up for the lack of teaching hours and the low salaries earned by these teachers. The low performance of teachers can be seen from the planning and preparation in teaching, student evaluation and service to students. The teacher makes teaching administration completeness only as a condition for teacher accreditation and inpassing. This is due to the low supervision of school principals, principals do not carry out monitoring and evaluation of teacher performance seriously.

Mishan (2014) explained that the results of data analysis showed that teacher work motivation and organizational culture together had a positive and significant effect on performance. It was concluded that teacher work motivation and organizational culture are factors that can influence teacher performance, but organizational culture is the most prominent factor in influencing teacher performance. Teacher performance can be said to be good if the learning device has been arranged well and produces good learning outcomes.

The development of teacher professionalism is a means for the successful implementation of the 2013 curriculum to date. Therefore, teachers must have certain personal quality standards, which include responsibility, authority, independence, and discipline. The teacher is the main actor of learning activities that interact directly with students in the learning process activities. The success or failure of efforts to improve the quality of education is largely determined by the ability of the teacher to carry out the main task as a manager of classroom
learning activities. The importance of the teacher's role requires the teacher to have competencies that are in accordance with the demands of the profession.

Agus F. Tamyong in Usman (2010: 15) states that the understanding of a Professional teacher is a person who has special abilities and expertise in the field of teacher training so that he is able to carry out his duties and functions as a teacher with maximum abilities. Teacher education qualifications are in accordance with the minimum prerequisites determined by the requirements of a professional teacher. Work or activities carried out by a person and a source of living income that requires expertise, skills or skills that meet certain quality standards or norms and require professional education (article 1 paragraph 4 of law Number 14 of 2005).

Furthermore, in exercising professionalism authority, teachers are required to have a diverse set of abilities (competency). In the Law of Teachers and Lecturers number 14 of 2005 and government regulation number 19 of 2005 stated that teacher competencies include personality competencies, pedagogical competencies, professional competencies and social competencies. The enactment of these laws and regulations requires teachers to improve their professionalism through training, writing scientific papers, and so on.

Based on the description that has been described above, the goal to be achieved from this study is to find empirical evidence about: (a). The influence of motivation on teacher performance in MTs. (b). The influence of organizational culture on teacher performance in MTs. (c). The effect of teacher performance on teacher professionalism in MTs. (d). The influence of motivation on teacher professionalism in MTs. (e). The influence of organizational culture on teacher professionalism in MTs.

1.2 The Purpose of the Study

This Research is done to analyse and get empiris description about:

a. The effect of motivation on teacher performance in MTs in Tayu?
b. The influence of organizational culture on teacher performance in MTs in Tayu?
c. The effect of performance on teacher professionalism in MTs in Tayu?
d. The effect of motivation on teacher professionalism in MTs in Tayu?
e. The influence of organizational culture on teacher professionalism in MTs in Tayu?

1.3 Review of Related Literature

1. Motivation

Motivation is the giving of a driving force that creates the excitement of one's work, so that they will cooperate, work effectively and be integrated with all their efforts to achieve satisfaction (Hasibuan 2014: 95). "Motivation is a process that explains the strength, direction, and perseverance of someone in an effort to achieve goals" (Robbins and Judge, 2015: 129). "Motivation is a set of forces that cause people to engage in behavior in a certain way" (Moorhead and Griffin 2013: 36). Another definition according to Cascio in Hasibuan (2014: 95) motivation is a force that results from one's desire to satisfy his needs. According to Uno (2014: 71) teacher work motivation is nothing but a process undertaken to move teachers so that their behavior can be directed to concrete efforts to achieve the stated goals.

"Motivation that predisposition (itself the subject of mush control) within the individual which arouses sustained and direct his behavior. Motivation involves such factors as biological and emotional needs that can only be inferred from observation behavior."

According to some of the definitions explained above it can be concluded that what is meant by work motivation is something that can cause enthusiasm or drive to work individually or in groups towards work to achieve goals. Teacher work motivation is a condition that makes the teacher have the will or need to achieve certain goals through the implementation of a task.

2. Organizational Culture

The demand for organizational culture to appear to carry out innovative and creative activities as mentioned by Robbins above is not yet a culture among teachers. As an example is what Mustofa stated in Radar Lampung daily, according to him there are still many teachers who are not accustomed to doing creative learning, but tend to manage classes conventionally as they were taught by their teachers (Radar Lampung, Thursday-22 November 2012).

Organizational culture is the belief and enthusiasm of an organization that is expressed, for example in the values and norms that are generally guided by how people should act with one another, the cooperative relationships that should be developed and attitudes to make changes. These norms are assumptions that are deeply believed that cannot be expressed and known, except by the way they are understood.

It can be concluded that work culture or organizational culture is a form of behavior that is displayed by a society or organization as a manifestation or mirror of the values and norms that are believed and used as guidelines, and expectations that want to be achieved. The direct reflection can be in the form of the attitude and actions of the leaders and subordinates, how they choose how to deal with problems, and how they think and behave, including how they work together.

3. Teacher Performance

Patricia King in Uno and Lamatenggo (2014: 64) states that performance is a person's activity in carrying out the main tasks assigned to him. Meanwhile according to Mulyasa (2013: 75) teacher performance is the teacher's activity in managing student learning which includes understanding of students, designing and implementing learning, evaluating learning outcomes and developing students to actualize their various potentials.

While Supardi (2014: 54) stated that teacher performance is the ability of a teacher in carrying out learning tasks in madrasas / schools and is responsible for students under his guidance by increasing the learning achievements of students. Teacher performance is the ability and success of teachers in carrying out learning tasks (Supardi, 2014: 23) Teacher performance is the work of teachers reflected in how to plan, implement and assess teaching and learning processes whose intensity is based on work ethic, and professional discipline in the process learning (Uno, 2014: 86).

From this discussion it can be concluded that teacher performance is an activity carried out in the context of membingbing, educating, and transferring knowledge to students according to their professional abilities and the results or levels of success achieved by a teacher in their field of work according to certain criteria and evaluated by the leadership of educational institutions especially principals.

4. Teacher Professionalism
According to Kunandar (2011: 45), professionalism comes from the word profession. In the large dictionary of Modern Indonesian, the profession is defined as work based on expertise, which is derived from the word profector which means, announcing, expressing confidence, affirming opening, acknowledging, and justifying.

According to Payong (2011: 6), a profession is a position or occupation that demands expertise from its members. The expertise was obtained through higher education which was taken in a short time with a strong scientific foundation and a high level of difficulty. A profession cannot be done by people who only have primary or secondary education but by people who have higher education who are accustomed to high-level thinking and thinking. A profession has complex concepts and theories so it takes a long time to study more deeply. According to Suyanto (2012: 26), professionalism is very important because professionalism will give birth to the best attitude for a teacher in serving the educational needs of students, so that later this attitude will not only benefit students, but also provide benefits for parents, the community and the school institution itself.

According to Kunandar (2011: 48), teacher professionalism has an important meaning as follows: (1) Professionalism guarantees the protection of the welfare of the general public. (2) Teacher professionalism is a way to improve the education profession that has been considered by some low society. (3) Professionalism provides the possibility of improvement and self-development that allows teachers to provide the best possible service and maximize their competence.

Teachers who have the main task is to print human resources in accordance with their maximum potential, are demanded to have high professionalism in their field. Mastering various matters related to the field under their control, in accordance with the education they are in charge of so that it is in line between the field of expertise with the professions they lead.

A professional educator has ten competencies, namely: (1) mastering the foundation of education, (2) mastering subject matter, (3) ability to manage teaching and learning programs, (4) ability to manage classrooms, (5) ability to manage learning interactions, (6) assess student learning outcomes, (7) ability to recognize and translate the curriculum, (8) recognize the functions and programs of guidance and counseling, (9) understand the principles and results of teaching, and (10) know and organize educational administration. These competencies are seen as pillar or the performance of a profession, this implies that a competent professional must be able to show the main character.

2. Research Methods

This research design uses quantitative descriptive research methods. In this study, the extent of the influence of organizational culture and job satisfaction of teachers on the performance of MTs school teachers in Tayu-Pati will be examined. The Population are: Teachers in MTs Al Huda Tayu MTs totaling 28 teachers. There are 40 teachers at MTs Miftahul Huda Tayu MTs. There are 13 teachers at MTs Nurul Huda. There are 15 Teachers at MTs Miftahul Falah. There are 40 teachers at Roudhotut Tholibin. The sample used was all teachers in the MTs Tayu with a total of 136 teachers. Sampling in each MTs will be carried out using proportional sample random sampling technique.

The Research Instruments is the main instrument of this study was a questionnaire. The preparation of the questionnaire begins by setting the operational definition of the variable which is then broken down into indicators that want to be measured. Data Analysis is a study requires data analysis and interpretation that aims to answer the questions of researchers in
order to uncover certain social phenomena. Data analysis in this study uses the Structural Equation Modeling (SEM) program.

3. The Result and Discussion

3.1 Effect of Motivation and Organizational Culture on Teacher Performance

Increased motivation and organizational culture in MTs Tayu can have an impact on improving teacher performance, as the results of research indicate that teaching motivation has a positive and significant effect on teacher performance in MTs Tayu. That is, there is a direct effect between motivation and organizational culture of teaching with teacher performance, where when teaching motivation increases, teacher performance will also increase and vice versa when teaching motivation decreases, teacher performance will also decrease.

To measure teaching motivation using indicators, namely: Job Challenges, Responsibilities, Awards and Job Performance, Relationships with organizations, and Cooperation. Based on respondents' perceptions of the teaching motivation variable (X1) in filling out the questionnaire against 77 teachers with five statement items, the lowest mean score was obtained, namely the second statement item or X1.2 indicator of 4.13. This gives the meaning that some teachers consider that not all teachers are able to take responsibility with what is taught to students as perceptions of respondents who answered strongly disagree by 5.2%, less agree by 3.9%, agree by 58.4%, and strongly agree with 32.5% of the statements that "I am able to take responsibility for what I teach students".

The highest mean score is the fifth statement item or X1.5 indicator of 4.35. This gives the meaning that the large teacher considers that the teachers at Soppeng 4 State Vocational School are able to work well together as the perception of respondents who answered strongly disagrees was only 2.6%, disagreed at 1.3%, less agreed at 5.2 %, agree with 40.3%, and strongly agree with 50.6% of the statement that "I am able to work well with colleagues".

3.2 Effect of Performance on Teacher Professionalism

Increasing teacher professional competence in MTs Tayu can have an impact on improving teacher performance, as the results of research indicate that teacher professional competence has a positive and significant effect on teacher performance in MTs Tayu. That is, there is a direct effect between professional competence and teacher performance, where when professional competence increases, teacher performance will also increase and vice versa when professional competence decreases, teacher performance will also decrease.

To measure professional competence using indicators, namely: Able to master the substance of learning, Able to organize learning material, Able to adjust subject matter to the needs of students, Able to follow developments in Science and Technology, and Able to develop relevant learning methods and resources. Based on respondents' perceptions of the variable professional competence (X2) in filling out the questionnaire against 77 teachers with five statement items, the lowest mean score was obtained, namely the fourth statement item or X2.4 indicator of 4.09. This gives meaning that some teachers consider that the teacher has not been able to effectively follow the development of science and technology (science and technology) as well, as the perception of respondents who answered strongly disagree by 1.3%, disagree by 3.9%, less agree at 6.5%, agreeing at 61.0%, and strongly agreeing at 27.3% of the statement that "I am able to take responsibility for what I teach students".

The highest mean score is the fifth statement item or indicator X2.5 of 4.36. This gives meaning that the large teachers consider that the teachers at MTs Tayu are able to develop
methods and learning resources for students in schools well, as the perception of respondents who answered strongly disagreed was only 2.6%, disagreed at 1.3%, agreeing to 49.3%, and strongly agreeing to 46.8% of the statement that "I am able to work well with colleagues".

3.3 Effects of Motivation, Organizational Culture and Performance on Teacher Professionalism

Motivation, professional competence, and teacher education level in MTs Tayu can have an impact on improving teacher performance, as the results of research indicate that teaching motivation, organizational culture and teacher professional competence simultaneously have a positive and significant effect on teacher performance at MTs Tayu. That is, there is a direct influence between teaching motivation, organizational culture and performance on teacher professionalism and teacher performance, where when motivation to teach, organizational culture on teacher professionalism, the higher simultaneously, the teacher's performance will also increase and vice versa when teaching motivation, culture organizational and professional competencies are getting lower simultaneously, so teacher performance will also decrease.

Based on the observations of researchers in the MTs Tayu there are symptoms of low teacher performance marked by phenomena in the field, are: (1) the presence of teachers who are less engaged in the tasks that have been given, such as rarely entering and leaving assignments without permission; (2) there are teachers who lack enthusiasm in carrying out their tasks, such as returning to work before their time and entering if there are only teaching assignments, (3) there are still teachers who have low desire to carry out their tasks, such as the presence of teachers who come late to school; (4) the low responsibility of teachers in carrying out tasks, where there are teachers who are unable to complete the tasks assigned to them properly such as not picket. Therefore, there is a need to increase teaching motivation, organizational culture and professional competence, and the level of teacher education so that progress toward optimal teacher performance can be realized.
4. Conclusion

Based on the results of research that has been done related to the influence of motivation, organizational culture and performance on the professionalism of teachers in MTs Tayu, it can be concluded several things:

1. Motivation has a positive and significant effect on teacher performance in MTs Tayu.
2. Organizational Culture has a positive and significant effect on teacher performance in MTs Tayu.
3. Performance has a positive and significant effect on teacher professionalism at MTs Tayu.
4. Motivation, organizational culture and performance have a positive and significant effect simultaneously on teacher professionalism at MTs Tayu.

References

Narrative Structure And Function Of Kyai Telingsing Stories

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Abstract. This study aims to discover the narrative structure patterns of the Epic Laws model from Axel Olrix and the function of Kyai Telingsing folklore. The research method uses qualitative methods. The data collection techniques are by (1) literature study, (2) observation, (3) in-depth interviews, (4) recording, (5) transcription. The results found the narrative structure of Kyai Telingsing's story consists of (1) the law of opening and closing, (2) the law of repetition (3) the law of two to a scene, (4) the law of the importance of initial and final position, (5) the law the single strand, (6) the law of patterning, (7) the law of the use of tableau scenes, (8) the law of the sage, (9) the law of the unity of the plot, and (10) the law of the concentration on leading character; while its functions include (1) education, (2) spreading the value of goodness and religion, (3) social criticism, (4) shaping character, (5) recognizing and understanding cultural values, and (6) social capital.

Keywords: Narrative structure, Kyai Telingsing story function, Axel Olrix's epic laws theory.

1. Introduction

Kudus Regency, Central Java Province, Indonesia has many oral folklore. One of them is the story of Kyai Telingsing. Kyai Telingsing's story is an oral folk tale that is famous in Kudus. Evidently, almost all the saints knew and understood the story of Kyai Telingsing. Even the name Kyai Telingsing is enshrined as the name of the street in the city of Kudus. Therefore, the story of Kyai Telingsing is very interesting to study. Moreover, the story of Kyai Telingsing has never been examined from the aspect of narrative structure based on Axel Olrix's epic laws and functions. There are several folklore studies in Kudus, including ¹ Kanzunnudin (2017), examining the story of Sultan Hadirin and the Wali At-Taqwa Loram Kulon Kudus Mosque based on aspects of value and function; ² Kanzunnudin Fathur Rokhman, Sayuti A. Suminto, and Hari Bhakti Mardikantoro (2017), about "Structure and Values of Story Pross of the People of the Holy Society", narrative structure research based on Vladimir Propp's theory; and ³ Angesti (2013) concerning "The Tradition of the Wali Mosque Gate in Loram Kulon Village", which examines issues of tradition prevailing at the Gate of the Wali Mosque Loram Kulon Kudus Village.
Based on some of these studies, it shows that the story of Kyai Telingsing deserves to be examined from the aspect of narrative structure based on Axel Olrix's theory and function.

2. Theoretical framework

2.1 Folklore

Folklore is a reconstruction of the awareness of the community of its owner. This is in accordance with the opinion\(^4\) Kartodirdjo (1986: 410-419) briefly stated that folklore is a construct of awareness of the past and the mind of the people who are universal. This opinion shows that folklore is an idea, ideas, thoughts, awareness of a community (owner of folklore) which is expressed and actualized in the form of folklore.

For\(^5\) Danandjaja (1994: 2), folklore is part of a collective culture that is spread and passed down through generations, among collectives of any kind traditionally in different versions, both in oral form and examples accompanied by gestures or instruments reminder helpers (read \(^6\) Danandjaja 2008: 58).

As for\(^7\) Brunvand (2014: 23) revealed, first, folklore rests on the cultural realm as part of culture that is not easy to understand because it is separate from human knowledge in general. To understand it, one must have knowledge about humanity and social science. Secondly, based on humanists, folklore as word of mouth literature. Third, according to anthropologists, folklore is an educational tool, a means of social control or status markers. Finally Brunvand states that folklore represents what is maintained by humans in their culture from generation to generation through word of mouth and others are trying to keep it. Brunvand stressed, folklore is a part of culture that is passed down through generations through means of mouth-to-mouth and the community of folklore owners participate in preserving it.

Based on expert opinion, the authors conclude, folklore is part of a collective culture as a natural construct of the mind of the owner's community which is passed down from generation to generation through generations of oral or written culture that contains the values of life with various aspects, values-values the value of the natural environment, and the values of the Godhead with a variety of forms such as prose (fairy tales, myths, legends), puzzles, songs, folk poetry (pantun, gurindam, poetry), folk language (dialect), poetry, customs, beliefs folk, signal sounds for popular communication (kentongan, drum), traditional clothing, folk music.

2.2 Structure

Folklore as a form of literary work, has a structure that functions to bind the elements that build the story.\(^8\) Hawkes (1978: 17-18) explains that the structure of the elements is interconnected between one part and another. A structure has no meaning if it stands alone\(^9\) Abrams 1953: 26-29).

In relation to the study of the narrative structure of folklore in the form of oral Kyai Telingsing, researchers applied the Axel Olrix theory. Olrix\(^10\) Dundes, 1965: 129-141 & 11) Sudikan, 2014: 101-104), explains the laws that apply in folklore, namely (1) the law of opening and closing (the law of opening and closing) that is, folklore will not begin with a sudden action and also not end abruptly; (2) the laws of repetition, which is to put pressure on folklore then a scene is repeated several times; (3) the law of three, the new folklore character will succeed in fulfilling his duties after trying three times; (4) the law of two characters in one scene (the law of two to a scene), namely in one folklore scene a character is allowed to present themselves at the same time, at most two characters may only be allowed; (5) the law of contrast, the figures of folklore always have the opposite nature, some are strong, some are weak, some are cunning, some are good; (6) the law twin, which can mean actual twins or two
siblings, and can also be two people who perform in the same role; (7) the important law of the characters who come out first and last exit (the law of the importance of initial and final position), i.e. if there is a series of figures or events that appear or occur then the most important thing is shown before, even though the last one is displayed, or the latter event which will get the sympathy or attention of the story; (8) law, there is only one main story in a story (the law the single strand), namely in a story where the storyline will not return again only to fill in the deficiencies that are left behind and if there is information about previous events that need to be added then filled in the form of dialogue only; (9) the legal form of the folklore pattern (the law of patterning), for example a character must go to one place for three days in a row and every day he will meet with a giant and successfully kill him in the same way; (10) the law of the use of tablo scenes, the peak scenes; (11) the law of logical legend (the law of the sage), folklore has its own logic that is not the same as the logic of science, and is usually more animistic in nature, based on belief in miracles and occult science; (12) the law of the unity of the plot, for example a child has been promised to be given to a giant, the storyline that develops revolves around the problem of how to prevent a child from being taken by a giant or to avoid a child from a giant power; and (13) the law of centralization of the main character in folklore (the law of concentration on leading character).

Based on an analysis that applies Axel Olrix's laws to the oral folklore of the Kudus community "Kyai Telingsing", it is expected to reveal the function contained in the story in question.

2.3 Function

Kusmayati and Suminto A. Sayuti (2014) who are based on the results of Pamekasan Madura's "Mamaca" folklore research, stated that folklore has the function of (1) pushing the community towards a better stage or level, (2) for the audience (readers) can get inspiration related to the spirit of life, optimism, enlightenment, and happiness, and (3) the community can understand the values that are philosophical and transcendental relating to everyday life.

Purwadi (2012: 2-7) that folklore has a function (1) forming social solidarity; (2) as a local identity which is at the same time a collective pride that acts as a vehicle to carry out spiritual reflection; (3) as a character or style of regional culture; (4) as a source of information about regional culture; and (5) as strengthening or strengthening national identity and personality.

Janthaluck, Maneerat & Walailak Qunjit (2012) stated that the function of folklore includes (1) helping to create community space for people in the community; (2) through folklore can change the way of thinking of children and adolescents towards a positive understanding of the history of their society; (3) through folklore can revive memories of traditions and rituals; (4) can strengthen the relationship of parents with the world of children; (5) as social capital to interact and communicate in social life; (6) a means of recognizing and recognizing the original cultural values of folklore owners; and (7) as an identity for the people who have folklore.

Bronner (2012) states that folklore has a function as a means (1) to know and understand the oral and social behavior of the community, (2) communication media between members of the community, and (3) to know and understand the material culture of society.

Based on the opinions of experts, the authors conclude that folklore has a function (1) educational facilities, (2) a means to authorize social institutions that are collective that must be obeyed by every member of society, (3) a means to disseminate the values of goodness and religious, (4) a means for social criticism or protest, (5) a means for forming the character and identity of a society, (6) a means of recognition and understanding of the cultural values of a
society; (7) as social capital, namely to communicate and interact between members of a community; and (8) means to entertain.

These eight functions are used by researchers to analyze the function of the oral folklore "Kings Telingsing".

3. Method

Qualitative research according to Moleong (2001: 3-6) as a research procedure that produces descriptive data in the form of written or oral words from people and observed behavior. The data collected in the form of words, images, and not numbers; while the research report contains excerpts of data to illustrate the presentation of the report. Regarding these data may come from interview scripts, field notes, photographs, videotapes, personal documents, notes or memos, and other official documents (see Satori and Aan Komariah, 2014: 28; 18) Miles and A. Michael Huberman, 2007: 15).

Cresswell (2015: 385) emphasized that a study related to interpretive orientation is an area of qualitative research. Creswell's opinion shows its compatibility with research into oral folklore in the form of "Kyai Telingsing".

The research data is in the form of oral folklore "Kyai Telingsing" which is told (told) by H. Munawir (aged 81 years), the caretaker of the tomb of Kyai Telingsing Kudus, Central Java. The data collection techniques are by (1) literature study, (2) observation, (3) in-depth interviews, (4) recording, (5) recording, and (6) transcription.

4. Discussion

4.1 Storyline of Kyai Telingsing

Oral folklore of Kudus Regency, Central Java "Kyai Telingsing" has the following plot.

(1) Sunan Sungging is a scholar who is good at making kites. One time playing a kite.
(2) Sunan Sungging managed to climb and sit on a kite that was flying in the sky.
(3) After a while Sunan Sungging sat on a flying kite, suddenly the kite string tied to a tree broke, so that he and his kite were carried away by the wind until they were far away.
(4) Sunan Sungging and his kite fell in China.
(5) After living for some time in China, Sunan Sungging married a Chinese girl and had a child named The Ling Sing.
(6) The Ling Sing was educated based on the values of the Islamic religion so that it grew into a young (adolescent) qualified in Islam and brave.
(7) Based on his father's order, namely Sunan Sungging, the Ling Sing left China to travel to Kudus.
(8) Upon arriving at Kudus, The Ling Sing preached to spread the religion of Islam to the Kudus community which at that time was generally Hindu.
(9) One day, The Ling Sing takes a walk down Kudus with the intention of finding someone who is worthy to lead Kudus.
(10) On a journey through the Kudus region, The Ling Sing looks left and right or "daze". The place where the "linguk-lukuk" event took place, the area was called the Nganguk village.
(11) On a journey down Holy, The Ling Sing meets a person named Dja'far Siddiq, who is finally known as Sunan Kudus. After The Ling Sing and Dja'far Sidiq consulted, Dja'far Siddiq was ready to be the Holy Ruler. In his willingness to become a ruler, Dja'far Siddiq was sworn in by drinking pool water in Nganguk village.
The water of the Nganguk village pool has hitherto been known as the "Nganguk Water" which is believed to be an effective water to pronounce oaths.

On a preaching trip to Holy, The Ling Sing is eventually known as Telingsing. It is said to facilitate the pronunciation of The Ling Sing which is foreign to the Holy community.

One day when Sunan Kudus was coming to a guest from China, he called for the Telingsing Revenue to make a souvenir (souvenir) for his guest.

Kyai Telingsing as a scholar and a member of the engraving and drawing; to obey the Holy Ghost's request. He made small jars.

After the small jars have been broken, the Lord of the Rings will give them to Sunan Kudus.

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A small jug made by the Kings Telingsing which was thrown to the ground by Sunan Kudus, eventually broke.

A broken jug, containing beautiful wood carvings written in Creed Sentence. Seeing this, Sunan Kudus was shocked and finally apologized to the Telingsing Director. Sunan Kudus realized that Kyai Telingsing was a great scholar with many advantages and advantages.

The village of Kyai's residence is called Sunggingan village.

Telingsing Kyai who has drawing skills, is heard all the way to the Majapahit Kingdom. The King of Majapahit asked the Telingsing Kyai to draw his daughter properly and correctly. If he could not do as expected by the King of Majapahit, Kyai Telingsing was killed.

Kyai Telingsing after completing the painting then handed it to King Majapahit.

King Majapahit after seeing a picture of his daughter, angry because it does not fit with the physical condition of his daughter. Therefore, the painting was returned to Kyai Telingsing. To be fixed. If Kyai Telingsing could not improve, then he was killed by King Majapahit.

Kyai Telingsing was confused because his paintings were returned by King Majapahit. Though the paintings about the Majapahit Princess were made as well as possible.

Kyai Telingsing prayed to Allah SWT to be given instructions in order to perfect the painting about Princess Majapahit. In praying, he holds a tool for painting with ink. Unwittingly, the ink dripped right on the genitals of the painting of the King's Princess.

After praying, Kyai Telingsing felt that he could no longer perfect the painting of Princess Raja Majapahit he had made. For him, the painting of Princess Raja Majapahit he had made was perfect. Therefore, with strong courage, Kyai Telingsing gave back the painting of the Princess to King Majapahit.

King Majapahit was shocked after receiving a painting of his daughter handed over by Kyai Telingsing. According to Raja Majapahit, Kyai Telingsing had been indecent to his daughter. This is because Kyai Telingsing has succeeded in perfectly painting the physical state of her daughter to the taboo parts of the body, which are her daughter's genitals with black markings.

Kyai Telingsing was summoned to the kingdom and tried and tried by King Majapahit. King Majapahit sentenced Kyai Telingsing to death.
Kyai Telingsing expressed his defense that he had never seen and met the Princess of Raja Majapahit. Moreover, indecent acts. That is something that is impossible.

Raja Majapahit did not accept the defense presented by Kyai Telingsing. King Majapahit will still execute Kyai Telingsing.

Hearing Kyai Telingsing was about to be sentenced to death by his father, the Princess turned to her father, King Majapahit. He stated that he had never met Kyai Telingsing. Therefore, Kyai Telingsing must be released from the death sentence.

After hearing the testimony and oath of his daughter, King Majapahit freed Kyai Telingsing from the death sentence. Raja Majapahit also apologized and thanked Kyai Telingsing.

Finally, Kyai Telingsing was permitted to return to Kudus by being escorted by the Royal Majapahit army.

4.2 Olrix's Law in the Kyai Telingsing story

In this plot, researchers used to analyze the story of Kyai Telingsing by applying Olrix's epic laws. Thus can be explained Olrix's legal scheme.

The law of opening and closing, that is, folklore will not begin with a sudden action, nor does it end abruptly. This law is found in the Kyai Telingsing story. In the opening law story is emphasized through the story of who exactly Sunan Sungging, what expertise, and how to Sunan Sungging has a child named The Ling Sing. The Ling Sing is finally better known as Kyai Telingsing.

Regarding the end of the story also not suddenly. However, through the process of events. The incident of the Kyai Telingsing figure who was tried and tried until finally was acquitted of charges and demands and ended happily. This was shown by the attitude and actions of King Majapahit who apologized to Kyai Telingsing. Even when Kyai Telingsing returned to Kudus, he was guarded by the Majapahit Royal army.

The law of repetition, expressed through the story of Kyai Telingsing as a great scholar and adept at carving or painting and painting. This story is explained through the figure of Sunan Kudus who acknowledged the scholarship and skill of painting and painting owned by Kyai Telingsing. It was also explained through the story of King Majapahit who ordered Kyai Telingsing to paint Majapahit's daughter.

The law of two characters in the scene (the law of two to a scene), is narrated through the scenes of Kyai Telingsing and Dja'far Siddiq (Sunan Kudus) who appear in one scene. This story happened when Kyai Telingsing hoped that Sunan Kudus would become the ruler in the Kudus area. Finally, Sunan Kudus was willing to become a ruler in Kudus. To prove the willingness of Sunan Kudus, Sunan Kudus took an oath in the presence of Kyai Telingsing, by drinking the pond water in Nganguk Village.

The law of the importance of the figures that came out first and last came out. This law is also found in the Kyai Telingsing story. The first figure to come out, namely named Sunan Sungging. Sunan Sungging is an important figure. Figure as the opening story of the story of Kyai Telingsing. Sunan Sungging is Kyai Telingsing's father who ordered Kyai Telingsing to preach in Kudus. Therefore, it is very appropriate if Sunan Sungging is opening the story of Kyai Telingsing. This is because the basis of the story begins with the figure of Sunan Sungging.

Regarding the important law of the figures who came out last, namely Kyai Telingsing. Kyai Telingsing as the main character in the story Kyai Telingsing is a character who enlivens the story line. Therefore, Kyai Telingsing's figure as a closing figure is very important. Moreover, the presence of Kyai Telingsing as the closing story after the climax, namely Kyai
Telingsing was about to be sentenced to death by King Majapahit but was finally released, so that the presence of the Kyai Telingsing character in the character who came out last in the Kyai Telingsing story was a very important element.

The Kyai Telingsing story also applies to the law, there is only one subject in a story (the law the single strand). This law is demonstrated by the existence of Kyai Telingsing as the main character who enlivens the story line. The events that move the path are always related to the existence of Kyai Telingsing. Once the content of the story is always related to the events carried out or created by the character of Kyai Telingsing. It shows the centrality of the content of the story that leads to only one subject. One main story about the existence of the main character, namely Kyai Telingsing as an 'ulama' who preached Islam in the Holy Territory, and at the same time proficiency in carving (painting) and painting.

The legal form is patterned folklore (the law of patterning). This law is shown in the story line that was born based on the actions of Kyai Telingsing. Kyai Telingsing always gets challenges (problems), but can always be solved well. First, there are no rulers in Kudus so Kyai Telingsing is looking for people who can and can become rulers in Kudus. Finally he found Dja'far Shodiq (Sunan Kudus). Secondly, Kyai Telingsing had a problem in the form of souvenir orders from Sunan Kudus that would be given to guests from China. At first Sunan Kudus was disappointed with the souvenirs in the form of a Small Jug made by Kyai Telingsing. However, after Little Kendi was thrown by Sunan Kudus to the ground and broke, Sunan Kudus was shocked and surprised. It turned out that in a small jug containing beautiful wood carvings bearing the Shahada sentence. Finally Sunan Kudus apologized and thanked Kyai Telingsing for making a very beautiful and very meaningful souvenir. Third, Kyai Telingsing, who was told to paint Princess Majapahit. However, after the painting was finished and handed over to King Majapahit, Kyai Telingsing's painting was returned to be perfected because it was not in accordance with King Majapahit's request. If Kyai Telingsing could not complete, then he was executed by King Majapahit. Finally, Kyai Telingsing was able to finish well so that King Majapahit apologized and allowed Kyai Telingsing to return to Kudus with the escort of the Majapahit Kingdom's army.

The legal use of tablo scenes (the law of the use of tableaux scenes). The law of the top scenes is also revealed in the Kyai Telingsing story. The top scene is told through (1) the character Dja'far Siddiq took an oath by drinking Nganguk village pool water; (2) when Sunan Kudus threw souvenirs in the form of a Small Jug made by Kyai Telingsing to the ground and the souvenir broke; (3) when Kyai Telingsing had to throw away a painting of Princess Majapahit, and (4) Kyai Telingsing was about to be sentenced to death by King Majapahit.

The law of logic legends (the law of the sage). The law of miracles and occult knowledge is found in the story of Kyai Telingsing. This law is illustrated through the story when Kyai Telingsing had to perfect the painting of Princess Majapahit. At that time, Kyai Telingsing felt that his painting about Princess Majapahit was final. However, Raja Majapahit was not satisfied with the results of Kyai Telingsing's paintings, so he requested that Kyai Telingsing. In a state of confusion, Kyai Telingsing while holding a watch or a tool for painting that has been told, prayed to Allah SWT. He asked for guidance from Allah SWT. Unwittingly, the ink in the dust dripped and fell on the genitals of the painting of Princess Majapahit. Kyai Telingsing was unconscious and did not know it happened. After praying, he was unable to perfect Kyai Telingsing's paintings. Therefore, he handed over a painting of Princess Majapahit to King Majapahit. In submitting the painting, Kyai Telingsing resigned to his fate. He is ready to be sentenced to death if his paintings are considered imperfect. However, Kyai Telingsing received forgiveness and freedom because the painting of Princess Majapahit was in accordance with the physical condition of Princess Majapahit.
The law of the unity of the plot in Kyai Telingsing's story was told from the beginning of the story through Sunan Sungging's character. Sunan Sungging is a very famous scholar living in the Holy. As he sailed the kite, his yarn was cut off and he was carried away by the wind and eventually fell to China. In China he married a Chinese girl and had a son named The Ling Sing (later known as Kyai Telingsing). After The Ling Sing grew up to be a brave facilitator and master of Islamic science, he was ordered to go and preach Islam to the Holy Spirit. Finally The Ling Sing went to Holy and became a preacher of Islam in the Holy Land. This shows the storyline started from Sunan Sungging is going well.

The law of the concentration on leading character. This law is very clear in the story of the Passport Telephone, which is a series of events that form a flow always directly related to the main character, Telingsing Pass. From the beginning of the story of the Kyai Telingsing in the Holy, it has been an important event. First, while Kyai Telingsing walked around the Holy Land, looking at "here and there", the place where the Kings Telingsing was known as the village of Nganguk. Second, when the Kyai Telingsing met the Dja'far Shodiq, the Dja'far Shodiq was finally ready to be the Holy Ruler until he swore to drink the water of Nganguk village pool. Thirdly, when Kyai Telingsing made a small Kendil eye candle containing beautiful wood carvings written in Creed Sentence. Fourth, when Kyai Telingsing drew Princess Majapahit. Fifth, when Kyai Telingsing was about to be executed by King Majapahit. Sixth, when the Lord of Telingsing was freed from death and allowed into the Holy Land under the control of the army of the Majapahit Kingdom.

The six important events that make up the storyline center on the main character, namely Kyai Telingsing. This shows the enactment of the centralization law on the main character in folklore.

4.3 Function

The Kyai Telingsing story has the function of (1) education, (2) spreading the value of goodness and religion, (3) social criticism, (4) shaping character, (5) recognizing and understanding cultural values, and (6) social capital.

The function of education is shown by the story of Kyai Telingsing which has ethical and moral values, manners, exemplary and heroic, and religious.

The function of spreading the value of goodness and religion is expressed through the figure of Kyai Telingsing as a great and humble scholar. In addition to being a scholar, he was also a painter and adept at carving. During his life devoted to preaching. Likewise, he bequeathed intelligence menungging to the people in his village.

Social criticism is portrayed through the attitude and actions of King Majapahit who will execute Kyai Telingsing. Before deciding to execute Kyai Telingsing, Raja Majapahit should first ask Kyai Telingsing and his daughter. It shows the attitude and arbitrary actions that are more advanced by King Majapahit. This painting depicts that a leader should not have arbitrary attitudes and actions because they can harm themselves and the community they lead. That is a criticism expressed in the Kyai Telingsing story.

Function as a means to shape character, is shown by the attitude and actions of Kyai Telingsing who are wise and polite. He dared to act and act honestly even though he was threatened by King Majapahit to be killed. He passed on his knowledge to the people of Sunggingan village. He respects his community, namely the Sunggingan village community. The values of religious character, honesty, creative, responsibility, independent, and friendly are found in the story of Kyai Telingsing.

Functioning as a means of introducing cultural values, it was revealed that Kyai Telingsing asid, he also had skill in riding (carving) and painting (painting). The Sunggingan villagers
were introduced, taught, and invited to make wood carvings and to paint. Likewise, in the Sunggingan village community there developed a tradition of pilgrimage to the tomb of Kyai Telingsing.

Regarding the function as social capital, it is shown by the communication activities and interactions between Kyai Telingsing and Raja Majapahit about painting. The communication activities were also shown by Putri Majapahit when defending Kyai Telingsing, between Kyai Telingsing and Sunan Kudus when discussing about the Holy ruler and the problem of souvenirs. This shows the existence of values of communication and interaction between characters in the story as a form of social capital.

5. Conclusion

Based on Axel Orlirix's epic laws theory, the Karif's Telingsing story structure consists of (1) the law of opening and closing, (2) the law of repetition (3) the law of two to a scane, (4) the law of the importance of initial and final position, (5) the law the single strand, (6) the law of patterning, (7) the law of the use of table scenes, (8) the law of the sage, (9) the law of the unity of the plot, and (10) the law of the concentration on the leading character. This shows that not all Axel Orlirix epic laws apply in the Kyai Telingsing story. Epic laws of the law of three, the law of contrast, and the twin laws do not apply in the Kyai Telingsing story.

Regarding to the functions of the Kyai Telingsing story, they cover (1) education, (2) spreading the value of goodness and religion, (3) social criticism, (4) shaping character, (5) recognizing and understanding cultural values, and (6) social capital. Based on the six functions, it shows that the Kyai Telingsing story has a positive and constructive value for the development of human resources in relation to character education, arts and culture, and social interaction.

REFERENCE


Influence of Problem Based Learning Assisted by Folding Paper Media to Mathematics Problem Solving Skill

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Abstract. This research aims to test whether mathematics problem solving skill average of students after Problem Based Learning assisted by folding paper intervention was better than the conventional model. This quasi experimental research design used nonequivalent posttest – only control group design. The population took fifth graders of Gugus Pangeran Antasari in academic year 2018/2019. The sample consisted of fifth graders of SD N 1 Rendeng and SD N 2 Rendeng. The technique of collecting data was test. It was done to measure mathematics problem solving skill of the students. The data analysis covered test of two group average deviations. The findings showed improvement of mathematics problem solving skill after the intervention was better than those intervened by conventional model.

Keywords: Problem Based Learning, Folding Paper, Mathematics Problem Solving Skill

1. Introduction

Learning mathematics still uses teacher center learning approach and only focuses on learning material completion (cognitive aspect). It has not been focused on students so students have not been active and not been interested in learning mathematics (Ulya & Rahayu, 2018). Such paradigm causes their learning achievement not maximum. It is in contrast to learning paradigm of 2013 curriculum. It expects teacher to be capable of guiding the students in gaining learning experience through scientific learning (Ardianti, Ulya, & Ismaya, 2018). Learning experience covers observation, question, informational collection, information association, and communication. Through those learning experiences, students do not only focus on cognitive competence but also affective and psychomotor aspects.

Besides considering mathematics learning process, teacher also need to consider cognitive and psychomotor aspects which later will be the objectives of learning. 2013 curriculum, mathematics learning in classes become independent learning. It means mathematics is not thematic lesson to other lessons. In learning mathematics, it is important to develop cognitive and psychomotor aspects of students.

One of cognitive aspects in mathematics is mathematics problem solving skill. This problem solving skill is real life skill which covers analyzing, interpreting, reasoning, predicting, evaluating, and reflecting processes (Anderson, 2009). While solving certain problem, students need to have sufficient understanding and knowledge. They must also have
various strategies to choose when they face different problems (Zevenbergen, Dole, & Wright, 2004). Problem solving skill is individual modes to correlate cognitive and psychomotor aspects owned by students to be integrated and implemented on new and different problems (Krulik & Rudnick, 1995). Thus, mathematics problem solving skill needed by students deals with capability to synthetize and implement previously owned understanding into various complex problems and to involve high order thinking skills. However, on the real field, this skill was still low. They were not habitualized to work on high order thinking questions.

Learning activeness of student is an activity which includes to psychomotor aspect. It involves student in learning process to have successful learning achievement (Lestari & Yudhanegara, 2015). Learning activeness in mathematics covers all activity forms in mathematics learning process (Bintoro, 2014). By doing so, it can change learning pattern of the teacher from teacher center learning into student center learning. It has purpose to make students not passive in learning but also to involve them in finding out knowledge because it is new thing for students. Besides that, by becoming active students, it can positively influence learning objective achievement. A finding showed that there was significant influence between activeness to mathematics learning achievement of students (Ramlah, Firmansyah, & Zubair, 2014).

Gugus Pangeran Antasari is a cluster consisting of SD 1 Rendeng, SD 2 Rendeng, SD 1 Mlati Norowito, and SD 2 Mlati Norowito. The characteristics of the students and learning nuances there had several similarities. The fifth graders of the schools had heterogeneous skills. There were some of them fast in responding to a problem given by teachers but some of them were only following their friends in responding to the teachers. Besides that, there were smart students but individualists. In learning, various activities were done. Some of them were passive in following learning. Several student did not focus on the learning. Some of them did many things as they pleased, such as playing game, talking to their friends, and leaning their heads on the tables. Several of them seemed stressful and had not motivation to learn. It showed that their mathematics learning promoted there was boring and had not been able to make them active. Teacher had not used learning media to teach mathematics concept. Besides that, the students' mathematics problem solving skills were low.

The previous studies showed that mathematics problem solving skill level of the students taught by Problem Based Learning (PBL) assisted by QR code were better than direct instruction (Santoso, Rahayu, & Ulya, 2018). On PBL learning, the model could improve learning activities and facilittated students to implement their knowledge and to solve problem of real life (Sanjaya, 2006). QR code could be implemented in this research since the students of the cluster were not allowed to bring gadget with them. Thus, the learning media was changed into folding paper to make the students able to practice directly multiplication material so their activeness were improved.

Other studies sowed that folding paper could improve understanding about fraction material and student learning materials (Angriani, 2014; Murniati, 2014). Through folding paper media, the students are facilitated to do mathematics experiment. It makes them enthusiastic and more interested in learning mathematics. Therefore, their activeness will be fostered and will have positive impacts on mathematics problems solving skill. In preliminary research, it had not been combined by learning model so in this current research, the media would be integrated into learning process through learning model.

Based on the real conditions on the field and those previous studies, then there is a need of joyful learning to improve mathematics problem solving skill. Learning by using PBL model would maximize reasoning skill of students since during in learning process, there are many systematic problem learning process. It trains students to develop their mathematics
problem solving skill. Furthermore, the use of media has important role in learning. Folding paper media could be used as learning media to create joyful learning. By using the media, students could be involved in finding out new knowledge.

Based on the explanations, there is a need of research to improve mathematics problem solving skill through Problem Based Learning model assisted by folding paper in learning mathematics. PBL model implementation with the media was expected to improve the skill of the students.

2. Methodology

This quasi experimental research used experimental and control groups with samples randomly taken. The population was taken from fifth graders of Pangeran Antasari culters in academic year 2018/2019. The sample consisted of fifth graders of SD N 1 Rendeng and SD N 2 Rendeng. The design of this research refered to nonequivalent posttest – only control group design. In this design, the experimental group was intervened. Then, a posttest was also given to both groups (Sugiyono, 2010). The research design table can be seen on Table 1.

<table>
<thead>
<tr>
<th>Group</th>
<th>Intervention</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>X</td>
<td>0</td>
</tr>
<tr>
<td>Control</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
X : Implementing problem based learning assisted by folding paper media
O : Posttest

There are two variables – the independent and dependent variables. The independent variable was problem based learning assisted by folding paper. The dependent variable was mathematics problem solving skill. Test technique was used to collect research data. It was done to measure mathematics problem solving skill of the students.

Initial data analysis covered normality, homogeneity, and average equality (t) tests for both groups. The data was gained after intervention and posttest distribution for both groups through normality, homogeneity, and average deviation tests by using t-test.

3. Findings and Discussion

The initial data analysis used normality, homogeneity, and average equality (t) tests for both groups. The initial data analysis used previous mathematics test result. From normality test by using Kolmogorov – Smirnov showed normal data distribution. Then, to test its homogeneity of the data used Levene test which showed homogeneous data. Since the data was normally and homogeneously distributed, then average equality test used t-test. From t-test, it showed that both groups had equal average of mathematics learning achievements. It meant both groups could be used for research purpose. The experimental group was SD 2 Rendeng Kudus while the control group was SD 1 Rendeng.

The final data analysis used posttest of mathematics problem solving skill of the students on addition and subtraction of fraction materials. The used pre-requirement tests were normality and homogeneity tests. The results showed the data were normal and homogeneous.
Then, the next test used t-test. Description of posttest score of mathematics problem solving skill can be seen on table 2.

**Table 2. Description of Mathematics Problem Solving Skill Posttest Data**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>Median</th>
<th>Variance</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>78.65</td>
<td>80</td>
<td>217.12</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>Control</td>
<td>30.38</td>
<td>32.50</td>
<td>375.85</td>
<td>75</td>
<td>5</td>
</tr>
</tbody>
</table>

Normality test using Kolmogorov-Smirnov used SPSS 22. The results are shown on Table 3.

**Table 3. Normality Test Result**

<table>
<thead>
<tr>
<th>Kolmogorov-Smirnov</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
<th>Shapiro-Wilk</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>.164</td>
<td>26</td>
<td>.070</td>
<td>.938</td>
<td>26</td>
<td>.123</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>.136</td>
<td>26</td>
<td>.200*</td>
<td>.938</td>
<td>26</td>
<td>.123</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 showed the experimental group’s sig score of Kolmogorov-Smirnov test was 0.070 while the control group’s score was 0.2000. It showed that sig > 0.05, meaning that posttest score of both groups were normally distributed.

Homogeneity test used levene test assisted by SPSS 22 as seen on Table 4.

**Table 4. Homogeneity Test Results**

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.778</td>
<td>1</td>
<td>61</td>
<td>.057</td>
</tr>
</tbody>
</table>

Table 4 showed sig score of Levene test was 0.057. It showed that sig > 0.05, meaning that the data was homogeneous. Since the data was normally and homogeneously distributed then average deviation test (hypothesis test) used t-test or specifically used independent sample t-test.

Untuk mengetahui ada perbedaan antara kelas eksperimen dan kelas kontrol, data posttest kemampuan pemecahan masalah matematika dianalisis dengan independent sample t-test menggunakan SPSS 22. Hasil perhitungan dapat dilihat pada Tabel 5 berikut.

**Table 5. Independent Sample t-test Results**

<table>
<thead>
<tr>
<th>t-test for Equality of Means</th>
<th>t</th>
<th>df</th>
<th>Mean</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>11.585</td>
<td>61</td>
<td>.000</td>
<td>48.66944</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>10.954</td>
<td>42.667</td>
<td>.000</td>
<td>48.66944</td>
</tr>
</tbody>
</table>

From Table 5, sig score was 0.000 < 0.05, meaning that there was difference of mathematics problem solving skill from both groups. The mathematics problem skill of
experimental group was better as seen on Table 2. Its average score was 78.65 higher than the control group, 30.38.

The experimental group used *problem based learning* model assisted by *folding paper* showed better mathematics problem solving skill. It was due to the model invited the students to think critically in solving problem. They with their own concepts tried to find problems from story typed questions. From the given problems, the first step of them was to understand the problem. It meant the students tried to understand what thing had been known and then what was being asked. The next step was arranging problem plan. With their previously owned concepts, they tried to arrange the solving steps of the given problem. The third step was to apply the plan. They worked on the problem with their already owned concepts. The last step was to check their already worked – problem solving result. They tried to recheck the steps from the beginning until the ending part of the work.

Their results by using *problem based learning* can be seen on Figure 1.

![Figure 1. Problem Solving in Problem Based Learning Process](image)

The findings showed that they worked systematically on the given problem. They did it constructively. This finding is supported by Fauziah (2014:47) telling that characteristics of PBL are challenging and transparent learning based problem. They worked in small collaborative group where the teacher acted as a facilitator.

Besides implementation of *problem based learning, folding paper* media had role to create better mathematics problem solving skill. The media realization was done by folding, drawing, and manipulating papers so the students could be active in learning activity. In this research, the materials taught to the students were addition and subtraction of fraction and its combination. The first step required student to fold several papers. The next was giving problems to be solved. The third step required students to try working on the problems with the media by drawing, folding, and manipulating based on information in the problems. The final step required student to analyze result of several *folded papers* to be concluded.

The media involved students to be more active in finding out a concept. They were involved to think and act in solving problem. They tried to find solution by themselves. The media created joyful learning situation so they were interested and not feeling bored. Thus, it could improve mathematics problem skill of them. It is in line with Olson (1975) that *folding paper* triggers active experience in learning mathematics. The students’ activities during implementing the media could be seen on Figure 2.
4. Conclusion

Learning mathematics by problem based learning model assisted by folding paper resulted to better mathematics problem solving than conventional learning for the fifth graders of the schools. The learning model involved them thinking critically in solving problems. The media involved the students to be more active in finding out a concept. These research findings were limited on addition and subtraction of fraction materials so it would be also better to implement it on other materials by considering its appropriateness.

References


Identification of Nomophobia in Primary School Age Children and its Consequences for Friendly Character Behavior

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Abstract. Mobile Phone is a communication tool without limited distance and helps in carrying out daily activities. If it cannot be managed properly, the presence of a mobile phone will be toxic to its users, especially for children. The inability of children to manage the use of mobile phones will have an adverse effect, one of which is the dependence of mobile phones known as Nomophobia (No-mobile phobia). Mobile phone dependency makes children cannot be far from, want to always use a mobile phone for their own enjoyment. This article aims to identify the phenomenon of nomophobia in students of Muhammadiyah 1 Primary School Kudus. Indications of children who are dependent on mobile phones can be seen from the activities, namely: spending a long time with a mobile phone, worrying when not using a mobile phone, feeling more sensitive and preferring to use a mobile phone in activities rather than hanging out with friends. Thus, the action is needed to identify the existence of students who are indicated nomophobia and how the character development in daily life.

Keywords: nomophobia, friendly character behaviour

1. Introduction

The challenges of life in modern times require people to behave wisely and proportionally in responding to technological developments. Technology is currently developing so rapidly that it permeates various walks of life both individually and within the social sphere in society. Technological products that have so far developed rapidly and spawned a new generation, one of which is a mobile phone. The mobile phone is a technology that is developing rapidly and has special functions including smartphones, i-phones, and android [8]. Another opinion explains that mobile phones are sophisticated goods that are created with various applications that can present a variety of news media, social networks, hobbies and even entertainment [14]. The increasing use of new technologies and virtual communication involving personal, tablets and mobile phones are causing changes in individuals' daily habits and behavior [6]. The Indonesian nation is one of the nations involved in the advancement of information and technology media from mobile phones.

Mobile phones at this time users have penetrated to all walks of life, one of which is in elementary school-age children who use mobile phones to play games. The fact of the gadget is not only used by adults (22 years and over), adolescents (12-21), but in
children (7 - 11 years), and children (3 - 6) years who should not be eligible to use mobile phone [15]. Please note that excessive use of mobile phones for children has more negative impacts. Negative impacts caused are: time wasted, disrupting brain development, disrupting health, eliminating interest in play activities, and weakening the moral values of children with features that are not in accordance with their world [2].

The attitude and behavior of a child who is dependent on the use of a mobile phone will affect the activities and personal character of the child in daily life. Thus it is necessary to prevent negative impacts on the use of mobile phones, namely to equip children to understand the importance of character education and apply it in everyday life. Character is a way of thinking and behaving that characterizes each individual to live and cooperate both within the scope of the family, community, nation, and state [11]. Character education is an effort to educate children so they can make decisions wisely and practice them in their lives, so they can make a positive contribution to their environment.

The character that is owned by everyone will greatly affect the quality of life and social success in society. Thus it is important to be taught early on to children to be able to apply character values. Character values that are very influential on daily relationships are friendly character values. A friendly character is an act /action that shows happy to hang out, talk and cooperate with others [5]. Friendly behavior includes: Speaking politely and politely, respecting each other and maintaining respect, and communicating well [13].

Friendly character behavior needs to be taught to students through activities carried out together. Students need to be guided when interacting, so there is no grouping or gape between students. Students should be able to get along with anyone without choosing friends. School is a good tool to instill friendly characters by interacting and socializing through teacher guidance. Instilling patient character is very important to instill in children to prevent anti-social attitudes because of the use of mobile phone information technology.

Based on the existing problems, this study was conducted to identify 4th-grade students of Muhammadiyah 1 Primary School Kudus who like to play mobile phones continuously (indicative of nomophobia) and how their friendly characters behave in relationships in school.

2. Method

This research method uses descriptive qualitative research. This research was carried out 4th-grade students of Muhammadiyah 1 Primary School Kudus, with a total of 25 students. In order to obtain data, the data collection techniques were carried out by questionnaire, interview and literature study. Based on the type of research and the method used, the data analysis technique in this study is a qualitative analysis according to Miles & Huberman includes: data reduction, data presentation, and drawing conclusions [15].

The initial stage with the study of literature from several journals that examines the friendly character and addiction to the use of mobile phones. The next method is conducting interviews and surveys to 4th-grade students of Muhammadiyah 1 Primary School Kudus
related to the intensity of students who like to play mobile phones. In order to obtain valid and reliable data in qualitative research that is tested is to use triangulation techniques by crossing or comparing the results of interviews with documents of research implementation in the field.

3. Result and Discussion

A child who likes to play games using a mobile phone should be cautious, because he is worried he will experience addiction to playing mobile phone (nomophobia). The characteristics of nomophobia are: 1) spending time using a mobile phone, 2) feeling anxious when the mobile phone cannot be used (weak battery, quota runs out of no signal), 3) sleeping close to the mobile phone, 4) little interaction with others and choosing using a mobile phone [12]. Indicators someone someone has experienced a mobile phone addiction (nomophobia), namely: 1) salience, 2) tolerance, 3) mood modification, 4) withdrawal, 5) relapses, 6) conflict and 7) problems [9].

In order to know the condition of students of SD Muhammadiyah 1 Kudus indicated nomphobia was done by giving questionnaires to students. Students fill out a questionnaire that students are given answer choices guided by researchers. Fill out the questionnaire modify from Lemmens et al, ie player rated all game addiction items on a 5-point continuum scale: 1 (never), 2 (rarely), 3 (sometimes), 4 (often), 5 (very often) [9]. The questionnaire given to students is arranged based on nomophobia indicators, by choosing 4 answer choices below. The results of the recapitulation questionnaire were used to identify nomophobia in 4th-grade students of Muhammadiyah 1 Primary School Kudus can be seen in Table 1.

Table 1. Recapitulation of Nomophobia Identification Questionnaire In 4th-grade students of Muhammadiyah 1 Primary School Kudus

<table>
<thead>
<tr>
<th>No</th>
<th>Statement</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>never</td>
</tr>
<tr>
<td>1</td>
<td>When I play games from a mobile phone I don't care about other people and even forget myself for example eating, bathing</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>The amount of time spent playing continues to grow until I forget to study</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>Games from mobile phones keep me entertained because I am dizzy with schoolwork</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>I prefer playing mobile phone rather than doing work</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>My tasks are too late if I spend time playing mobile phones</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>I feel that playing games using a mobile phone makes time wasted</td>
<td>17</td>
</tr>
<tr>
<td>7</td>
<td>I am happy when I win a game from a mobile phone</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>I feel happy when leveling up or discovering new games from a mobile phone</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>I always smile and laugh when playing</td>
<td>7</td>
</tr>
</tbody>
</table>
Based on the results of the recapitulation of a questionnaire written by fourth grade students of SD Muhammadiyah 1 Kudus, it was found that there were not many students indicated nomophobia because of a total of 25 students, around 16 students or 60% did not experience the habit or frequency of using mobile phones. Students indicated nomophobia were 4 students or 17% of the total 25 students due to high intensity or always using mobile phones for games and some 5 students or 22% of 25 students with intensity often used mobile phones. Although it does not reach 50%, this condition must be observed and anticipated so that no more serious negative impacts occur. More clearly, table 1 is included in the diagram which can be attached to Figure 1.
The identification of the use of mobile phones is carried out to find out children's activities in daily life related to their intensity of using a mobile phone. Activities undertaken by students related to nomophobia indicators that need to be watched are: a) happy to win the game, b) happy when they can level up the game, c) laugh and be entertained while playing the game, d) always fill the free time with games from mobile phones and e) use a mobile phone to play games so as not to miss with his friends. Thus it can be seen that playing mobile phone is entertainment for children and is a trend to be able to exist with their friends.

Based on the results of the questionnaire recapitulation above it is also known that negative behavior is carried out by students for example: a) forgetting themselves and not caring about others when playing mobile phone, b) refusing parents when playing mobile phone, and c) preferring to play mobile phone rather than playing outdoors with friends. This must be resolved even though there are not many student identification results indicated dependency. Because something small if not immediately followed up if it continues to be done and becomes a habit, it will be difficult to stop it. Likewise with the use of mobile phones if it is not anticipated and maintained from an early age will become a dependency and even addicted to children (nomophobia) and of course the handling will be more difficult.

The dangerous thing is that by playing mobile phone students do not want to care about anyone around them. Because children already feel absorbed and entertained that they assume everything around them is not important. Even worse is if a child closes himself up while playing a mobile phone, and prefers to play alone using his mobile phone rather than playing with his friend so that he becomes an anti-social child so that it is very dangerous for his brain and psychological development. This agrees with Durak (2018) that smartphone with their constantly evolving features, facilitating instant communication and helping individuals stay connected with the world at all times.

Referring to this research, in addition to identifying the child's dependency on using a mobile phone (nomophobia), identification was made related to friendly character behavior. It is feared that children who excessively use a mobile phone will experience symptoms of reduced intensity of their mingling with friends. The result is because they feel more
entertained playing using a mobile phone rather than meeting and hanging out with friends. Thus the filling out of student questionnaires related to friendly character behavior in daily life. The recapitulation results of friendly behavior questionnaire for grade IV students can be seen in the following Table 2.

**Table 2. Recapitulation of Friendly Character Questionnaire In 4th-grade students of Muhammadiyah 1 Primary School Kudus**

<table>
<thead>
<tr>
<th>No</th>
<th>Statement</th>
<th>choice</th>
<th>never</th>
<th>rarely</th>
<th>Someti</th>
<th>always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Have you ever seen the teacher / teacher chatting with students during recess</td>
<td></td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>I dare tell my heart to the teacher</td>
<td></td>
<td>3</td>
<td>11</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>When talking with others I speak polite language</td>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>When talking with others I speak polite language</td>
<td></td>
<td></td>
<td>12</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>I will not mock my friend who has flaws</td>
<td></td>
<td>4</td>
<td>9</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>I can be trusted to keep a friend's secret</td>
<td></td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>When you play and find that one of your friends has fallen because he tripped on a rock, you will hurry to help him</td>
<td></td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>After exercising I want to share a drink with friends who don't bring drinks</td>
<td></td>
<td>9</td>
<td>10</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>When there are new friends in the school who come from outside the area I immediately invited him to get acquainted and play together</td>
<td></td>
<td>6</td>
<td>10</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>I am not picky about friends</td>
<td></td>
<td>13</td>
<td>9</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Score</strong></td>
<td></td>
<td>107</td>
<td>195</td>
<td>112</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td><strong>Average (student)</strong></td>
<td></td>
<td>5.4</td>
<td>9.8</td>
<td>5.6</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td><strong>Percentage (%)</strong></td>
<td></td>
<td>21%</td>
<td>39%</td>
<td>22%</td>
<td>17%</td>
</tr>
</tbody>
</table>
Table 2. Recapitulation of friendly character behavior can be seen in Figure 2 below.

![Figure 2. Friendly Character Behavior Diagram](image)

Based on the recapitulation of the friendly character questionnaire in Kudus, SD Muhammadiyah 1 is still relatively low. It can be seen that from a number of indicators written on low criteria, namely with an intensity of 21% or 5 students and 39% or 10 students admit they have never and only occasionally take positive action in accordance with the friendly indicators. While those who have been able to behave positively according to indicators of character behavior are 43% or a total of 10 students out of a total of 25 students.

Friendly character behavior that is known from the results of questionnaires for fourth grade students of SD Muhammadiyah still needs to be improved and improved in the following aspects: a) do not dare to tell the teacher, b) speak politely to others, c) need to be trained in behavior, please help and share with others. Based on the results of the data obtained from student questionnaires it is known that there is a tendency of the names of students who hobby play games using a mobile phone it also has a higher individualistic nature than other friends.

Data supporting identification of nomophobia and friendly character behaviors obtained apart from the results of student questionnaires were from interviews with Class IV Teachers of SD Muhammadiyah 1 Kudus. Class IV teacher at SD Muhammadiyah 1 Kudus Mr. AR as the informant said that students at the school were not allowed to bring a mobile phone while learning took place. However, if to support and learn learning materials, new teachers instruct them to bring it to school. During the break period after the midterm or final semester assessment students are allowed to bring a mobile phone for communication to parents regarding school time.

The teacher said that basically there were no students who were addicted to using cellphones because they could still be controlled and advised, but there were indeed students who were very hobby and excited when given the opportunity to bring a mobile phone. Some
of these students will gather into one and be excited to play it. Lack of control over emotions when playing mobile phone. Sometimes it is seen that there are students who are excited and at odds because of the game.

Based on the results of the questionnaire recapitulation that was obtained, interviews were conducted with students who indicated excessive use of mobile phones. The student stated that he felt very happy when playing mobile phone, even without playing for hours because of the excitement of playing sometimes to forget to take a shower. He felt emotions when engrossed in play suddenly had to stop parents. If told to choose to play in the field by playing using a mobile phone, then he prefers to play mobile phone because he is not tired.

4. Conclusion

Based on preliminary research to analyze the needs of fourth grade students of SD Muhammadiyah 1 Kudus it can be concluded that from the results of identification there are some students who fabricate or indicate dependency on using a mobile phone as a means of entertainment, when there is an opportunity and free time students prefer to play using a mobile phone rather than playing games with physical activity with his friends. As a result, friendly character behavior is not optimal in the association of children. In the child becomes more prominent individual attitude than social attitude. With the existence of such preliminary data, further research is needed to know this in more detail.

5. Acknowledgments

Based on preliminary research to analyze the needs of fourth grade students of SD Muhammadiyah 1 Kudus it can be concluded that from the results of identification there are some students who fabricate or indicate dependency on using a mobile phone as a means of entertainment, when there is an opportunity and free time students prefer to play using a mobile phone rather than playing games with physical activity with his friends. As a result, friendly character behavior is not optimal in the association of children. In the child becomes more prominent individual attitude than social attitude. With the existence of such preliminary data, further research is needed to know this in more detail.

References


Development of Learning Models Make A Match Assisted Media Puzzle to Improve Thinking Skills of Class Fourth Elementary School Students

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Abstract. This development research aims to describe the application of the Make A Match learning model, the development of the Make a Match learning model assisted by Puzzle media, the effectiveness of the Make A Match learning model assisted by the Puzzle media to improve the critical thinking skills of fourth grade students in elementary schools. Make a Match learning model is a fun learning model where in the learning process students are free to look for the question cards and answer cards they need. Puzzle is an image that is divided into pieces of images that aim to hone the power of thought, practice patience, and familiarize the ability to share. The puzzle media is expected to be able to attract students' attention and make it easier for students to understand teaching materials without having to depend on the presence of the teacher in class. Critical thinking skills are an activity through thinking about ideas or ideas related to the concepts given or problems presented. This type of research used in this research is Research and Development (R & D) which is used to produce a particular product, and test the effectiveness of the product. steps in this research and development, including potential problems, data collection, product design, design validation, design revisions, product trials, product revisions, product trials, and mass production. Data sources can be taken from students, teachers, and experts. The techniques used to collect data are interviews, observation, questionnaire and documentation.

Keywords: Make a Match Learning Model, Puzzle media, critical thinking skills

1. INTRODUCTION

Education is the most important to develop the power of the understanding and critic pattern for all learners. The decision of the succession of the nation's qualities is the impact of an educational position. An education is occupied by the development and progress for the nation to the nation for the nation to the growingness. For can not grow and progress, a education is not only the part of the party, but all parties to be involved. Both the participants, the educators, governments, and society.

So many problems of education in our nation, Indonesia. One of the problems in the teaching and learning process is not an innovation or update in terms of learning, a model of learning. Soekamto (in Shoimin, 2014:23) suggests that the learning model is a conceptual frame that describe systematic procedures in organizing learning experience to achieve certain learning objectives, and serves as guidelines for learning designers and teachers in planning teaching learning activities.

This most learning in schools still uses a pure learning model, has not developed with innovation and variations new, even the most educators in teaching rarely use the learning model. They just rely on the pursuit of the target material to be achieved without thinking learning process and students' understanding of the material being taught. Therefore, it is necessary to develop a learning model, one of them is the Make A Match learning model that can help the learning process so that learning is more varied.

Make a Match learning model is a learning model where students are required to look for pairs of cards that are suitable for pairing on the cards that they get. The teacher acts more as a
facilitator in the classroom. In this case, it is necessary to arrange classrooms in such a way as to support cooperative learning, in addition to the decision making by teachers in class structuring, it must also be adapted to the conditions and situations of the class and school. According to Sani (2014:196) the steps of the Make a Match learning model are as follows.

1. The teacher prepares several cards that contain several concepts or topics that have been discussed before.
2. Each student gets one card, one gets a question card and one gets an answer card.
3. Students who get a question card think of answers from the card held, while those who get an answer card think of relevant questions.
4. Students look for pairs who have cards that match the card.
5. The teacher gives a value (points) for each pair of students who can match the card before the specified time limit.
6. After one round of cards shuffled again so that each student gets a different card than before.
7. The teacher rewards groups that have the highest score, then guides students to make conclusions.

According to Huda (2014:252) the steps of the Make a Match learning model are as follows.

1. The teacher conveys material or gives assignments to students to study material at home.
2. Students are divided into 2 groups, for example group A and group B, both groups are asked to come face to face.
3. The teacher distributes question cards to group A and answer cards to group B.
4. The teacher tells the students that they must find / match the cards held by other group cards. The teacher also needs to convey the maximum time limit he gives them.
5. The teacher asks all members of group A to look for their partners in group B. If they have found their respective partners, the teacher asks them to report themselves to him. The teacher records them on the prepared paper.
6. If time is up, they must be notified that time is up. Students who have not found a partner are asked to gather alone.
7. The teacher calls one pair for a presentation. Other couples and students who do not get a partner pay attention and respond whether the couple is suitable or not.
8. Finally, the teacher gives confirmation about the truth and suitability of the questions and answers from the pair giving the presentation.
9. The teacher calls out to the next pair, and so on until all pairs make presentations.

Furthermore, Murtono (2017:76) explained the steps of the Make a Match learning model as follows.

1. The teacher prepares a question card and answer card.
2. The teacher divides the class community into three groups. The first group of card bearers contains question cards. The second group of card bearers contains answer cards. The third group is the assessment group.
3. The teacher sets the position of the group in the shape of a U.
4. The teacher sounds a whistle as a sign so that the first group and the second group move together they meet, looking for a suitable question-answer pair.
5. The pair that has been formed must show the question-answer to the assessment group.

Shoimin (2014:99) suggests the Make a Match learning model has the following advantages and disadvantages.

a. The advantages of the learning model Make a Match
   1. An atmosphere of excitement will grow in the learning process.
   2. Collaboration between students is dynamic.
   3. The emergence of mutual cooperation dynamics that are evenly distributed throughout the students.

b. The disadvantages of the learning model Make a Match
   1. Required guidance from the teacher to do learning.
   2. The class atmosphere became noisy so that it could disturb other classes.
   3. The teacher needs to prepare appropriate materials and tools.

Huda (2014:253) suggests the Make a Match learning model has the following advantages and disadvantages.
a. The advantages of the Make a Match model
   1. Can increase student activity, both cognitive and physical.
   2. Because there are elements of the game, this model is fun.
   3. Increase student understanding of the material being studied and can increase student motivation.
   4. Effective as a means of training the courage of students to perform.
   5. Effectively train student discipline to value time for learning.

b. Weaknesses of the Make a Match model
   1. If this strategy is not well prepared, a lot of time will be wasted.
   2. At the beginning of the application of the model, many students will be embarrassed to partner with the opposite sex.
   3. If the teacher does not direct it well, there will be many students who are not paying attention to the pair presentation.
   4. Teachers must be careful and wise when giving punishment to students who do not get a partner, because they can be embarrassed.
   5. Using this model continuously will lead to boredom.

In a learning model there is a need for learning media that can help students to improve their critical thinking skills. Learning media are all things that can be used to channel messages and stimulate the learning process of the learner (Aqib 2013: 50). According to Rossi 'and Breidle (in Sukardi 2012:163) argued that learning media are all tools and materials that can be used to achieve educational goals. However, media is not only in the form of tools or materials, but also other things that allow students to gain knowledge. In line with Gerlach's opinion (in Sukardi 2012:163), the media itself includes people, materials, equipment, or activities that create conditions that enable students to acquire knowledge, skills and attitudes. According to Sanjaya (2008: 205) stated that the media is not only an intermediary tool such as TV, radio, slides, but includes people or humans as a source of learning or also in the form activities such as discussions, seminars, field trips, simulations and so on are conditioned to increase knowledge and insight, change students' attitudes, or to add skills.

Sanjaya (2008:209) argues that learning media has the following benefits.
1. The media can overcome the limitations of the experience students have.
2. The media can overcome the limitations of the experience students have.
3. Media can enable direct interaction between participants and the environment.
4. Media can produce uniform observations.
5. The media can instill the basic concepts that are true, real, and right.
6. Media can arouse motivation and stimulate participants to learn well.
7. The media can arouse new desires and interests.
8. The media can control the speed of student learning.
9. The media can provide a holistic experience from concrete to abstract things.

Aqib (2013:51) argues that learning media has the following benefits.
1. Uniform delivery of material.
2. Clearer and more interesting learning.
3. The learning process is more interaction.
4. Time and energy efficiency.
5. Improve the quality of learning outcomes.
6. Learning can be done anytime and anywhere.
7. Cultivating a positive attitude towards learning towards learning processes and materials.
8. Increasing the role of teachers in a more positive and productive direction.

Sukardi (2012:169) suggests that learning media have the following benefits.
1. Capture an object or certain events.
2. Manipulate certain circumstances, events, or objects.
3. Add passion and student motivation to learn.

Sanjaya (2006:211) argues that the classification of instructional media is as follows.
1. Judging from its nature, the media can be divided into (1) Auditive media, (2) Visual media, and (3) Audiovisual media, which is a type of media that in addition to contains sound elements also contains elements of images that can be seen.
2. Judging from the ability of its scope, the media can also be divided into (1) Media which have broad and simultaneous coverage such as radio and television. (2) Media that have limited coverage by space and time such as film slides, films, videos, and so on.

3. Judging from the way or technique used, the media can also be divided into (1) Projected media, such as films, slides, film strips, transparencies, etc., and (2) Media that is not projected, such as images, photographs, paintings, radio, and so on.

Another opinion expressed by Rudy Brets (in Sanjaya, 2008:212) believes that there are seven media classifications as follows.

1. Audiovisual motion media, such as sound films, video tapes, tv films.
2. Audiovisual media is silent, like a soundtrack.
3. Sparkling audio, like a distant distant voice.
4. Motion visual media, such as silent films.
5. Silent visual media, such as print pages, photos, microphones, mute slides.
6. Audio media, such as radio, telephone, audio tapes.
7. Print media, such as books, modules, independent teaching materials.

According to Khomsoh (in Permana, 2017:2) argues that Puzzle is an image that is divided into pieces of images that aim to hone the power of thought, practice patience, and familiarize the ability to share. The puzzle media is expected to be able to attract students' attention and make it easier for students to understand teaching materials without having to depend on the presence of the teacher in class (Umar et al, 2015:2).

According to Munir (in Umar et al, 2015:2) the advantages of puzzle media are as follows.

1. The learning system is more innovative and interactive.
2. Educators will always be required to be innovative in finding creative breakthroughs in learning.
3. Able to combine text, images, audio, music, animated images or videos in a single unit that supports each other in order to achieve goals. Learning.
4. Adding motivation for students during the learning process until the desired learning objectives are obtained.
5. Being able to visualize material that has been difficult to explain just by conventional explanations or props.
6. Train students to be more independent in gaining knowledge.

We need to know, successful learning is where students can think critically about learning that takes place. According to Surya (2016:123) critical thinking is one of the cognitive strategies in solving more complex problems and demanding higher patterns. Critical thinking is one form among various types of thinking. Meanwhile, according to Susanto (2016:121) critical thinking is an activity through the way of thinking about ideas or ideas related to the concept given or the problem presented. Another opinion, according to Saptono (2011:123), is that critical thinking is an educational thought and work that seeks to challenge an unjust social reality, which aims to find and develop new models of life that are more just. Further explained by Zuchdi (2009:125) argues that in critical thinking at first it is necessary to practice expressing these concepts by thinking deeply, so that they can master them well.

Susanto (2016:125), explained five indicators of each aspect of critical thinking related to the subject matter, namely (1) Providing simple explanations, (2) Building basic skills, (3) Concluding, (4) Providing further explanation, and (5) Managing strategies and tactics. Critical thinking skills of students need to be developed starting from elementary school through habituation in learning, habituation in the learning process will improve students' critical thinking skills. One of the learning materials that needs to be inserted is the students' critical thinking skills in learning, namely the Indonesian Language and Social Sciences subjects in Theme 1 The Beauty of Togetherness in grade IV Elementary School.

Based on observations and interviews conducted by researchers to several teachers, the researchers came to a conclusion that in the learning process in class IV that some teachers only teach it, do not use the learning model. Even the media sometimes they rarely apply in learning. The teacher has not been able to invite students to play an active role during the learning process, which causes students to not be able to develop their critical thinking processes. As a result students feel bored and teaching and learning activities are less effective, which is caused by the
absence of an innovation and creativity done by the teacher in learning and the absence of a learning medium that students should get so that they can easily capture the material described by the teacher.

Related to this problem, it is necessary to develop an interesting learning model with the help of a media to improve students' critical thinking skills. Through the development of learning models that are applied can make students more able to capture the material delivered by the teacher and hopefully learning can be fun because learning while playing.

Based on the description above, researchers will conduct a research and development under the title "Development of Learning Models Make a Match Assisted by Media Puzzles to Improve Critical Thinking Processes of Class IV Elementary School Students".

2. METHOD

This type of research used in this research is Research and Development (R & D). According to Borg & Gall (in Setyosari, 2013:276) suggested that development research is a process used to develop and validate educational products. Another opinion according to Sugiyono (2015:07) Research and Development (R & D) is a research method used to produce certain products, and test the effectiveness of these products. The purpose of this research development is to develop a Make a Match learning model assisted by Puzzle media to improve skills critical thinking grade IV elementary school students. This research was conducted in class IV SD 1 Piji and SD 7 Cendono, as an experimental group and SD 1 Lau and SD 2 Piji as a control group in Dawe District, Kudus Regency. Data collection techniques in research and development is done through Observation, Interview, Questionnaire/Questionnaire, and Documentation.

Observation is used by observing learning using the Make a Match learning model assisted by Puzzle media to improve critical thinking skills by teachers and grade IV elementary school students in Dawe District, Kudus Regency. The interview in this study aimed at teachers and fourth grade students of elementary schools. The questionnaire / questionnaire in this study was used to collect assessment data regarding the learning model. Data collection about the effectiveness of the Make a Match learning model aimed at teachers and students. Then the documentation method is carried out to strengthen the data obtained in observation. To provide a concrete picture of student group activities and illustrate the atmosphere of the classroom when learning activities take place by using the Puzzel media a Make a Match learning model in improving students' critical thinking skills photo documents are used.

The design of this research and development can be described in the following chart.
**3. RESULTS AND DISCUSSION**

The results of observations and interviews note that students need the development of a learning model so that learning can be more interesting and enjoyable. Then from the teacher's point of view states the development of learning model is very necessary in the world of education so that learning is more interesting and not monotonous, with the development of learning models students can be motivated to be active in learning, while students can improve critical thinking skills.

Some of the findings that researchers found when conducting observations and interviews include teachers only teaching it, not using the learning model. Even mediapun sometimes they rarely apply in learning. The teacher has not been able to invite students to play an active role during the learning process, which causes students to not be able to develop their critical thinking processes. As a result students feel bored and teaching and learning activities are less effective, which is caused by the absence of an innovation and creativity done by the teacher in learning and the absence of a learning medium that students should get so that they can easily capture the material described by the teacher. Related to this problem, it is necessary to develop an interesting learning model with the help of a media to improve students' critical thinking skills. Through the development of learning models that are applied can make students more able to capture the material delivered by the teacher and hopefully learning can be fun because learning while playing.

**Table 1.** Analysis of the need for a make a match learning model assisted by puzzle media on students' critical thinking skills

<table>
<thead>
<tr>
<th>No</th>
<th>Group</th>
<th>Average</th>
<th>Percentage</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Experiment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD 1 Piji</td>
<td>67</td>
<td>67%</td>
<td>Enough</td>
</tr>
<tr>
<td></td>
<td>SD 7 Cendono</td>
<td>65</td>
<td>65%</td>
<td>Enough</td>
</tr>
<tr>
<td>2.</td>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD 1 Lau</td>
<td>65</td>
<td>65%</td>
<td>Enough</td>
</tr>
<tr>
<td></td>
<td>SD 2 Piji</td>
<td>65</td>
<td>65%</td>
<td>Enough</td>
</tr>
</tbody>
</table>
Based on the table above the critical thinking value of the Indonesian language and IPS lessons in SD 1 Piji as an experiment group obtained a classic average value of 67 with a percentage of 67% with enough criteria, then in SD 7 Cendono as the Control group obtained the average classical value of 65 with a percentage of 65% with enough criteria. While the average value of critical thinking in Indonesian language and IPS lessons in SD 1 Lau as the control group obtained the average classic value of 65 with 65% percentage with enough criteria. Then in SD 2 Piji as the control group obtained the average classic value of 65 with a percentage of 65% with enough criteria. Viewed from the average classic value in the experiment and control group can be said that the student's thinking critical skills are still low and needed a development to improve the critical thinking skills of students.

Based on the table above the As for some research relevant to these research and development, including research and development conducted by the authora and pujututik (2017) in its research entitled "Development of Group Model Investigation Media Video Story The subject of the environmental balance to improve the critical thinking of students". This study aims to describe the feasibility of learning devices and improvement of learning devices and improved critical thinking skills of students through the development of learning group of Group Investigation (GI). The results showed that the eligibility of learning devices of 83.529% are included in the category is very valid. The value of pre-test tests of critical thinking skills are completed by the percentage of 47%, while the value of the post-test result of the test of the critical thinking skill is completed the percentage of 86%. N-gain shows 0.75 indicates that the increase of the critical thinking ability that students are included experiencing a higher increase of students.

The results of the research conducted by Utomo and Noortjahja (2014) in his research entitled "Development of the model model of Teams Games Tournaments-based Literacy-based in the primary school." This study aims to determine the feasibility, student learning, and student response to the learning model developed. The results of the study are instructed, that the development of the device is by decrease and the teacher declares that the development of the device and has the decent for the development of the device and the teacher declare that the development of the device is decent to use in learning activities with the percentage of learning by the percentage of the 87%, 1.2%, and 84%, and 84% students. Student learning results are completed in 8% and not invented 17%. Positive student response to learning tools that have been developed with percentage 78.2%. From above the exposure to the development of learning Magnuary Magnu Puzzle to improve the critical thinking skills of classroom IV elementary school students are needed in supporting the learning process and improving the student's thinking critical skills.

4. CONCLUSION

Based on the results and discussions that have been described on the development of learning make a make of a Mag for Mary puzzle in improving the critical thinking skills of the students of class IV, it can be taken conclusions that the development model of make a match assisted media puzzle in increasing critical thinking skills Student students IV level of high school effective in improving student's critical thinking skills. The development of learning critical thinking of students. The development of learning critical thinking of students. The development of learning critical thinking of students. The development of learning methods of making a matution of puzzle media is needed by the teacher in providing varied learning experience and fun so students are interested, active, and motivated to follow the learning in class.

Based on the conclusion, then the suggestion can be submitted as follows (1) the teacher is expected to develop learning model in learning activities, and (2) Media Puzzles can be used teachers in conveying learning material, especially on theme 1 beautifulness together in class IV.

REFERENCES


Group Counseling with Stimulus Control Techniques to Improve the Basic Ability of Mathematical Learning

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Abstract. The use of Mathematics not only gives ability in quantitative calculations, but also in structuring the way of thinking, especially in terms of the formation of the ability to analyze, make synthesis, conduct evaluations to solve problems. Counting skills for students lately receive less attention both at school and at home. Some of the causes are the first the increasing number of calculators that are all modern so that children are lazy to think for themselves in completing calculations. Both numerology is not specifically obtained by children and only the parts that enter into mathematics as a result of counting is less popular. This happens because mathematics learning has only tended to be an activity of counting numbers, which seems to have no meaning and relation to improving thinking skills to solve various problems. Group counseling can help alleviate all types of student problems. By using the control stimulus technique included in group counseling, it will help students solve problems in student mathematics learning. Control stimulus techniques direct students by helping new stimuli that are able to improve students' basic mathematical abilities that are very important and become the basis of their daily life journey.

Keywords: Group counseling, stimulus control, mathematical learning.

1. INTRODUCTION

Mathematics has an important role in life. Many things and activities in life that must be completed with mathematics such as counting, measuring, and so on. Because mathematics is very important in life, it should be a necessity and a fun activity. Because it is in line with the mathematical goal of training students to think and reason in drawing conclusions, developing creative activities that involve imagination, and developing problem solving skills.

Mathematics also has a role as a symbolic language that enables the realization of accurate and accurate communication. The usefulness of Mathematics not only provides the ability in quantitative calculations, but also in structuring ways of thinking, especially in terms of forming the ability to analyze, synthesize, conduct evaluations to the ability to solve problems. Based on the Circular of the Director General of Primary and Secondary Education (1992) in the Ministry of Education and Culture (1994) regarding the Implementation of Teaching Reading, Writing and Counting (calistung) in Elementary Schools, it was stated that teaching of three basic abilities namely: reading, writing and arithmetic in Primary Schools must be continuously improved and teaching materials for the three basic skills referred to are available in Indonesian and Mathematics (numeracy) subjects. The ability to count becomes part of the ability of mathematics, because one of the prerequisites for learning mathematics is
learning to count which both support one another. Mathematics and counting are two inseparable things. In fact, many teachers complain that students are slow and less skilled in completing the calculation of a problem solving.

Group counseling is a form of guidance service. Group counseling is an integrated part of the overall Guidance and Counseling program, which is an integrated part of the overall education program of each school in accordance with student development. The ability that a counselor needs to have and apply is the ability to provide counseling services in group activities. These skills are acquired through special courses namely Group Guidance and Counseling, theory, and group counseling techniques, or group counseling and psychotherapy. Group counseling is important for counselees, especially individuals who have difficulties needing a group atmosphere to solve their difficulties. Sometimes the counselee has difficulty expressing the problem individually or need someone else. Sometimes a counselee does not dare to come face to face with a counselor. There is also a need for social observation of the counselee's behavior in the group environment.

Group counseling can help alleviate all types of student problems. Using stimulus control techniques included in group counseling will help students in solving problems in student mathematics learning. Stimulation control techniques direct students by helping new stimuli that are able to improve students' basic mathematical abilities that are very important and become the basis of their daily lives.

Students' numeracy skills lately lack special attention both at school and at home. Some of the causes are firstly the increasing number of modern calculating tools so that children are lazy to think for themselves in completing a calculation. Both the science of arithmetic is not specifically obtained by the child and is only the parts that go into mathematics as a result of arithmetic less popular. In fact mathematics learning is very less desirable by students, even learning mathematics seems scary to students. This happens because learning mathematics so far only tends to be an activity of counting numbers, which seems to have no meaning and relation to improve the ability to think to solve various problems. As we also know that studying mathematics should not be broken up because mathematics will relate to every part of it. Mathematics lessons are also inseparable from arithmetic so that if children lack mastering the ability to count well will get unfavorable results too. Counting skills in elementary school are the basic ability to solve further problems, so it is appropriate to get attention from the start. So, this research want to solve this problem with Group Counseling With Stimulus Control Techniques To Improve The Basic Ability Of Mathematical Learning.

2. METHOD

The participants was the students in 4th grade of SD N 2 MI NU Banat Kudus. For revealing the data at the preliminary study stage, the instrument used is interview, observation and instrumentation.

The approach used in this study is inferential research to analyze the relationship between the model developed by testing hypotheses developed previously. This study uses a mixed sequence design method for quantitative and qualitative approaches are used in an integrated and mutually supportive. A quantitative approach is used to assess the maturity of the student's career, meanwhile, a qualitative approach is used to determine the rational model of Group Counseling With Stimulus Control Techniques To Improve The Basic Ability Of Mathematical Learning. At the technical level is performed as follows: descriptive analysis, collaborative participatory methods, and quasi-experimental methods.
According to the focus, concerns, and research objectives, types of the research using R and D (research and development). Research directed development as "a process used to develop and validate adicational product (Borg and Gall, 2003: 271). Products mentioned are the development of career counseling based on BIH to improve the career maturity of primary school students which is low. Furthermore, according to (Borg and Gall, 2003: 271) the steps that should be taken in development research (research and development) include: (1) a preliminary study, (2) planning, (3) development of hypothetical model, (4) a review of the model hypothetical, (5) revision, (6) the trial is limited, (7) the revision of the test results, (8) testing more broadly, (9) the revision of the final model, and (10) the dissemination and socialization. However, research and development model Borg and Gall have application in Group Counseling With Stimulus Control Techniques To Improve The Basic Ability Of Mathematical Learning, is not executed until the stage of dissemination and implementation of the product. Researchers will limit the development of research procedures until the sixth stage is a limited test phase.

3. RESULT AND DISCUSSION

Johnson and Rising (Sri Subarinah, 2006: 1) suggest that mathematics is a pattern of thinking, a pattern of organizing logical evidence, organized structure of knowledge containing traits, theories, made deductively based on elements that are not defined, axioms, traits or theories which has been proven true. Mathematics is a science that studies abstract structures and patterns of relationships within it (Sri Subarinah, 2006: 1). Prihandoko (2006: 6) suggested that mathematics is part of the science of numbers and calculations. Thus, it can be concluded that mathematics is an abstract science, which requires carefulness in studying it as a means of systematic, logical, and critical logical thinking using mathematical language.

Prihandoko (2006: 5) stated the purpose of learning mathematics in elementary schools is to provide sufficient provisions for students to deal with mathematics material at the level of further education. The Ministry of National Education (Prihandoko, 2006: 21) outlines that the aim of mathematics learning is to train and foster systematic, logical, critical, creative, and consistent thinking, and develop persistent and confident attitudes in solving problems.

Wakiman (2001: 4) argues that the purpose of teaching mathematics in elementary schools is divided into two objectives as follows.

a. The general objective, in the general objectives of elementary school mathematics aims that students are able to deal with changing circumstances, can use mathematics and mathematical thinking patterns.

b. Specific objectives, in the special objectives elementary school mathematics aims to foster and develop, numeracy skills, foster the ability of students who can be used, develop basic mathematical abilities as provisions for learning in junior high school, and form a logical, critical, creative, careful and disciplined attitude.

Mathematics is said to have practical value because mathematics is a tool that can be directly used to solve everyday problems. Mathematics has the value of discipline with the intention that learning mathematics will train people to apply discipline in their thinking patterns. Mathematics has cultural value because mathematics arises from the results of human culture and plays a major role in the development of culture itself. Based on the explanation above, it can be concluded that mathematics aims to train and foster systematic, logical, critical, creative, and consistent ways of dealing with mathematical material at an advanced level, as well as developing a persistent and confident attitude in solving problems and having primary values that contained so that mathematics is useful in forming students' mindset.
Bloom (Suprijono, 2009: 6) suggests that learning outcomes include cognitive, affective, and psychomotor abilities. The cognitive domain is knowledge (knowledge, memory), comprehension (understanding, explaining, summarizing, examples), application (applying), analysis (describing, determining relationships), synthesis (organizing, planning, forming new buildings), and evaluating (evaluating). Affective domain is receiving (responding attitude), responding (giving response), valuing (value), organization (organization), characterization (characterization). Psychomotor domains include initiatory, pre-routine, and routinized. Psychomotor also includes productive, technical, physical, social, managerial, and intellectual skills.

Basic mathematical abilities are limited in four ways: 1) addition, 2) subtraction, 3) multiplication, and 4) division. Based on some understanding of learning outcomes it can be concluded that learning outcomes are behavioral changes that include cognitive, affective, and psychomotor aspects in the learner. The learning outcomes in this study are behavioral changes in cognitive aspects. This is based on the observation that the mathematics learning outcomes of Grade IV students, especially on the cognitive aspects, are very low. The low cognitive aspect of mathematics learning outcomes is seen in the average grade of fourth grade students who do not reach the KKM.

3.1 COUNSELING GROUP WITH STIMULUS CONTROL TECHNIQUES TO IMPROVE BASIC SKILLS FOR LEARNING MATHEMATICS IN CHILDREN.

Sukardi (2000: 49) describes group counseling services, namely guidance and counseling services that allow students to get the opportunity to discuss and alleviate the problems they experience through group dynamics. Group dynamics is a lively, pulsating, moving, developing atmosphere that is characterized by interactions between group members. Group counseling services are counseling services held in a group setting.

According to Mungin Eddy Wibowo, (2005: 20). The goals to be achieved in group counseling, namely personal development, discussion and personal problem solving experienced by each group member, in order to avoid problems and problems resolved quickly through the help of other group members.

According to Prayitno (2004), the general purpose of group counseling is to develop students’ personalities to develop social skills, communication, self-confidence, personality, and be able to solve problems based on science and religion. While the specific objectives of group counseling, namely:

1. Discuss topics that contain actual, current problems, and attract the attention of group members.
2. Development of feelings, thoughts, perceptions, insights, and attitudes directed towards social / communication behavior.
3. Solving individual problems concerned and obtaining the balance of problem solving for other participants in group counseling participants.
4. Individuals can overcome the problem quickly and do not cause emotion.

The group guidance that will be carried out in this research collaborates with the stimulus control technique. The stimulus is closely related to the Behaviorist view of learning. Ormord (2008: 422) explains the basic assumptions of behaviorism, namely: people tend to study and show behaviors that produce, at least in their eyes, the desired consequences. And more generally, people's behavior is largely the result of their experience with environmental stimuli.

1. People's behavior is largely the result of their experience with environmental stimuli.
2. Learning can be described in terms of associations between events that can be observed, namely: the association between stimulus and response.
3. Learning tends to occur when stimuli and responses occur in close proximity.
4. Many species of animals, including humans learn in the same ways. Mahmud (2004: 123) explains that behavior can be changed by changing the antecedent, the consequences or both.
   1. Controlling consequences, in controlling consequences are very closely related to reinforcement and punishment.
   2. Controlling an antecedent can be a notification or invitation before someone is asked to do something. Antecedent can have positive or negative consequences.

Thoresen and Mahoney (in Cormier and Cormier, 1985: 534) explained that Stimulus control is a way to reduce stimuli associated with undesirable behavior and simultaneously increase antecedents of cues associated with expected behavior. Furthermore Kanfer (in Cormier and Cormier, 1985: 534) defines stimulus control as determining the plan of environmental conditions for a behavior that is not expected to occur.

Brian (1985: 18) explains that stimulus control is a technique that is realized based on the principles of behavioral psychology. However the behavior that was previously owned quickly occurs but some control in the future can occur in the behavior. Stimulus control is based on the principles of psychological psychology by conditioning stimuli that are expected to bring out and enhance the expected response and even reduce unexpected responses.

Ormrod (2008: 448) explains several phenomena that have an influence on stimuli and antecedent responses among them: Cueing, event setting, generalization, discrimination and behavioral momentum, with the following description:
   1. Cueing is a sign of reminder that involves verbal and nonverbal reminders.
   2. Setting events. In giving signals, use specific stimuli as a reminder to students to behave in certain ways. An alternative approach is to form an environment - a setting of events - that easily drives the desired behavior.
   3. Generalization. Once students have learned that a response might be given reinforcement in a set of circumstances (which act as antecedent stimuli), they make a similar response in the same situation. In other words they show generalizations.
   4. Discrimination. Sometimes people learn that responses are reinforced only when certain stimuli are present. When people learn that responses are given reinforcement by the presence of one particular stimulus but not by another stimulus, which might be similar, they have studied discrimination (differences) between the two stimuli. In this case, it is a teaching for them to be able to distinguish between suitable and incompatible stimulus conditions.
   5. Momentum behavior. Ardoin Martens (in Ormrod, 2008: 450) explains that students are more likely to make the desired response if they have made similar responses.

So, it is very clear that the stimulus and response that precedes is very influential on the response or current behavior.

According to Block and Block (in Gufron and Risnawita, 2004: 31) there are three types of quality self-control, namely over control, under control, and appropriate control. Over control is self-control carried out by an excessive individual that causes many individuals to refrain from reacting to stimuli. Under control is an individual's tendency to release impulsivity freely without careful calculation. Appropriate control is the control of individuals in an effort to control the impuls appropriately.

Cormier and Cormier (1985: 538) mention methods / techniques that can be done in stimulus control:
1. Specify the behaviors found that are expected to be improved.
2. Choose one of the stimuli and the expected response
3. Implement in a few days.
4. After doing it in a few days / weeks, do self monitoring
5. Review the results.

Brian (1985: 19) mentions the steps in stimulus control, namely:

1. Select the target response (behavior, thoughts, feelings) you want to improve
2. Finding a stimulus that makes the target of the response easy to do and that is blocking it
3. Change the frequency, duration and intensity
4. After several times, make the desired stimulus control (imagined)

The implementation of group counseling basically follows the steps of group counseling in general, namely the stages consisting of: opening, implementation, termination, evaluation and follow-up. However, because the Group Counseling is designed as a group counseling to improve the basic abilities of students’ mathematics learning, in the implementation given stimulus to be able to improve self-understanding and improve the basic abilities of mathematics. The following is a description of guidelines for implementing Group Counseling for each session after the group is formed. The seating position of group members in a circular shape.

The implementation of group counseling using stimulus control techniques to improve students’ basic mathematics learning skills is carried out in four stages:

1. Formation Stage.
   - This stage aims to foster an atmosphere of getting to know each other, trusting, accepting, and helping one another in the group members in understanding and alleviating their problems, involving themselves and entering themselves fully in group counseling activities.
   - The activities include:
     1) Express the group counseling understanding, goals and principles,
     2) Introducing and revealing oneself,
     3) Explain the roles and responsibilities of members and counselors.
     4) Show communication that respects the counselee.
     5) Showing sincerity, warmth, and empathy to the counselee.
     6) Encourage member participation.
     7) Generating interests and needs as well as the importance of members to follow group activities.
     8) Foster a group attitude and feelings of the group.
     9) Explain the principles that need to be followed by group members.
    10) Foster a sense of mutual recognition, mutual trust and mutual acceptance of fellow members
    11) Provide Stimulus Techniques to familiarize members and increase members' confidence with the game: out of the box, magic finger rings, make something beautiful, the egg hardness and can also show short videos that are able to stimulate member attention.

2. Transition Phase
   - At the transition stage group atmosphere begins to form, group activities should be directed towards the actual group activities. Some of the activities carried out at this stage are:
a) Increase the participation of members in group counseling activities by providing stimulus in the form of giving light questions to each member in turn to answer questions about what was explained by the group leader in the initial stages.
b) Encourage the discussion of moods by asking the members' readiness to continue the stages in group counseling activities and providing stimulus in the form of expressions of the feelings of each member in this activity,
c) The counselor needs to explain the role of the counselor and also the role of a member,
d) Counselors need to recognize the emotional atmosphere of members, this is important to form group cohesiveness.

3. Activity Stage (core)

This stage is the actual stage of group counseling activities, if at the stage of formation and transition goes well then at this stage the group is expected to walk by itself in achieving the desired goals, however the role of group leaders remains important in directing the course of activities. At the activity stage in group counseling, the group leader will provide a stimulus control strategy to improve the basic abilities of students' mathematics learning and students as group members will be given a card that will be randomized and discussed at each meeting in each session in group counseling. These cards contain topics that are stimuli that can later improve indicators in students' basic mathematical abilities. Before entering into the stimulus control technique is given an introduction to the method of assignment, life modeling, games and symbolic models. The steps in using stimulus control techniques in group counseling are:
   1. At first students discuss the topic.
   2. Students are able to find the right response from the stimulus provided, (by way of assignment, FGD, or game)
   3. Students choose the target response (behavior / thoughts / feelings) that they want to increase or decrease, (by way of assignment, FGD, or game)
   4. Finding a stimulus that makes the target of the response easy to do (can be practiced directly)
   5. Find things that are blocking him,
   6. After each student is able to find the above (numbers 2-5) students write it down in the card provided,
   7. Students are able to change the frequency, duration or intensity that supports the earning independence that is able to improve the basic abilities of basic mathematics based on the stimulus provided,
   8. The results are written and reported on the card that has been provided,
   9. The card is a development control that has been obtained in the next 1 week,
   10. Evaluate the results at the next meeting.

4. Termination Phase

Some of the activities carried out at this stage include:
   a. The group leader suggested that the activity would end soon,
   b. Conclude and look for important things from the subject
   c. Emphasize the strong commitment of each member.
   d. Do a review on the main things that have not been completely solved.
   e. Express member impressions.
   f. Reveal the results of the discussion that has been achieved.
   g. Maintaining group relationships and a sense of togetherness even though the activity has ended.
h. Provide stimulus in the form of a game by giving a piece of paper to be filled in on the experiences gained by group members, then the paper is rotated and read by other members, then randomly one of the members concludes the group's experience
i. Assess changes and group development
j. Provide feedback
k. Plan for the next problem solving.
l. Provide motivation and reinforcement of what has been achieved,
m. Discuss activities / follow-up meetings. At this stage also needs to be evaluated to see the extent to which the achievements of the group activities carried out.

The stimulus control technique is used as one of the techniques in group counseling. This technique is included in the third stage or stages of activities in group counseling. After students are given material based on indicators of success in learning mathematics, students are given a stimulus to find out the response that appears. Important points that students must master are simple addition, subtraction, multiplication and division. Students will be given a new stimulus that can help them to prefer the four fundamentals. For students who dare to answer or even explain to their peers how these students can master the four basic mathematical concepts will be given reinforcement in the form of words such as: "very good". Finally, students are given a card control containing the stimulus and response that has been done. The control card will be filled every day for one week. If a positive response is made, it will immediately be given a reinforcement in the form of a reward motion, which is a picture of a smiling face and if a negative response is carried out, then also be given a reward in the form of a sad face. The control card also functions as a student self-evaluation and sees the progress of students every day. Conditions like this are able to bring awareness and self-habituation of students to be more confident and be able to improve their mathematical learning abilities.

4. CONCLUSION

Group counseling can help alleviate all types of student problems. Using stimulus control techniques included in group counseling will help students in solving problems in student mathematics learning. Stimulation control techniques direct students by helping new stimuli that are able to improve students' basic mathematical abilities that are very important and become the basis of their daily lives. The stimulus control technique is included in the third stage in group counseling, which is at the core / activity stage. In this stage the focus of the use of stimulus control techniques is to help students improve basic mathematical learning skills which include: addition, subtraction, division and multiplication.

REFERENCES


The Development of Guided Inquiry-Based on Physics Modules At Static Fluid Material to Improve Critical Thinking Skills

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Abstract. Physics is a learning that contains facts and theoretical concepts that can be used to help improve students' critical thinking skills. Inquiry learning is learning that emphasizes the thinking process of students through certain stages so that students find themselves the concept of learning. Using inquiry learning strategies can produce meaningful knowledge so that knowledge is inherent in students' long-term memory. The application of inquiry in educational units requires adequate supporting teaching materials, but the availability of inquiry-based modules is still rare. The stages of learning with inquiry strategies are 1) orientation, 2) formulating problems, collecting hypotheses, 4) collecting data 5) testing hypotheses 6) conclusions. Guided inquiry will be presented in the form of modules, so that in the module there are elements namely student worksheets, and observation activities. With these elements encourage students to find concepts directly from experiments conducted by students. The application of guided inquiry-based modules in learning is expected to enable students to find concepts based on experience.

Keywords: Inquiry, modul, critical thinking

1. Introduction

The function of the national education system is to develop capabilities and shape the potential and dignified national civilization in the context of educating the life of the nation, aiming at developing the potential of students to become human beings who believe and be devoted to an almighty god, noble, knowledgeable, creative, capable, noble, independent and become democratic and responsible citizens. It is stated in law number 20 of 2003 concerning the national education system, article 1 number 1 states that education is a conscious and planned effort to create an atmosphere of learning and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and country.

The module is a component that has an important role in the learning process. Modules can help students in obtaining information about learning material. However, the development of modules needs to be adjusted to the students necessity. Physics subject is one part of natural science that is done to develop thinking skills in solving problems related to events around and can develop self-confidence skills.

Teaching materials used by both teachers and students do not provide activities that can give rise to students' critical thinking skills. Textbooks used by students sometimes do not bring up real applications. In addition, textbooks used by students in general directly provide
material, without being started by problems that can make students think critically and motivate students to explore information on these problems.

According to Yusrizal (2016: 140), students still experience difficulties in understanding the concept of static fluid. Proven in several studies relating to misconceptions on Static Fluid material including Goszewski et al. (2012) and Wagner (2013), among others (1) the more fluid that is above a point, the greater the hydrostatic pressure experienced by that point (Loverude, et al., 2010; Besson, 2004; Goszewski, et al., 2012; Berek, 2016), (2) the buoyancy experienced by an object depends on the density of the fluid even though the object is equally floating in the various types of fluid (Loverude, et al., 2003), (3) the fluid pressure in the enclosed space is greater than the pressure in the open space even though the two vessels are interconnected (Goszewski, et al., 2012), (4) the amount of lift that occurs on objects is inversely proportional to the density of the liquid used (Utami, 2014). Therefore, static fluid material is still a misconception in students' understanding. Static fluid material has the characteristics of conceptual analysis that allows students to link the concepts of physics with natural phenomena, so students are expected to think and reason up to apply in everyday life. This student's misunderstanding of static fluid material is due to the lack of students' knowledge in understanding related physical phenomena. Problems that arise in the material hydrostatic pressure, Pascal's Law, and Archimedes's Law can be caused by various factors.

2. Theoretical Basis

2.1 Module

Surahman (2010) states that the module is the smallest learning program that can be studied by students individually (self instructional) after participants complete one unit in the next module, participants can step forward and learn the next module unit containing a description of the learning objectives, guide sheets instructor or instructor who explains efficient teaching methods, reading material for participants, answer key sheets on participant worksheets, and learning evaluation tools. So that we can understand that the module is one of the learning media in the form of an independent package book which includes a series of learning experiences that are planned and arranged systematically with the aim of helping students. While the main purpose of writing modules is to improve the efficiency and effectiveness of learning in schools, both time, funds, facilities, and energy to achieve learning goals that have been formulated and aspired (Daryanto, 2013: 34).

According to the Directorate of Vocational High School Education (in Module Compilation Engineering, 2008: 4), a module can be said to be good if it has the following characteristics:

a. Self Instructional namely through this module students are able to learn independently, not dependent on other parties.

b. Self Contained, that is, all learning material from one competency unit or sub-competency learned is contained in one module as a whole.

c. Stand Alone is a module that is developed that does not depend on the media or does not have to be used together with other media.

d. Adaptive, the module can adjust the development of science and technology, and is easy to use (can be used anywhere and anytime).

e. User Friendly, the module should be friendly with the user.

Module basically has several elements. MONE (2008) mentions elements contained in a module including:


a. Teaching purpose
   Teaching objectives are formulated explicitly and specifically.

b. Instructions for teachers
   Teacher instructions contain an explanation of how learning can be carried out by the teacher effectively and efficiently.

c. Student Activity Sheet
   This sheet contains subject matter that must be mastered by students.

d. Student worksheet
   This student worksheet is organized so that students are actively involved in the learning process.

e. The Answer Key to Student Work
   The module is better accompanied by a worksheet key so students can correct or evaluate the results of their work and stay active learning.

f. Test Sheet (Evaluation)
   The success or failure of the teaching and learning process is actually determined by the results of student work on the evaluation sheet.

g. Key Test Sheet (Evaluation)
   The key to this test sheet is to find out how far the learning outcomes have been obtained, then correct and improve it.

2.2 Guided Inquiry Learning

According to Sanjaya (2008: 195) inquiry method is one way of learning by emphasizing the process of thinking critically and analytically to find and find answers to a problem in question to search and investigate systematically, critically, logically, analytically, so students can formulate his own findings. So it can be concluded that inquiry is a learning process that is emphasized on the process of finding problems carried out by students by carrying out several stages of activities to be carried out by students that will help in understanding the concept of material in teaching materials.

There are several characteristics of guided inquiry that need attention:

a. Students develop thinking skills through specific observations to make inferences or generalizations.

b. The goal is to study the process of observing an event or object and then arrange the appropriate generalization.

c. The teacher controls certain parts of the learning such as events, data, materials and acts as a class leader.

d. Each student tries to build a meaningful pattern based on observations in the classroom.

e. The class is expected to function as a learning laboratory.

f. Usually a certain number of generalizations will be obtained from students.

g. The teacher motivates all students to communicate the results of their generalizations so that they can be used by all students.

The steps of learning with the inquiry method strategy are (Sanjaya, 2008: 202-205):

a. Orientation
   The orientation step is to foster a responsive learning atmosphere or climate.

b. Formulate the Problem
   This step leads students to a problem that contains a puzzle.
c. Formulate Hypothesis
   The hypothesis is a temporary answer to a problem that is being studied.

d. Collecting data
   Collecting data is the activity of gathering information needed to test the proposed hypothesis.

e. Test the Hypothesis
   Hypothesis testing is the process of determining the answers that are considered acceptable in accordance with the data or information obtained based on data collection.

f. Formulating conclusions
   Formulating conclusions is the process of describing findings obtained based on the results of hypothesis testing.

The benefits of guided inquiry learning in this study are to practice courage, communicate, and try to get their own knowledge to solve problems faced by students.

2.3 Critical thinking skill

Silverman and Smith (2002) define critical thinking as thinking that has a purpose, makes sense, and is goal-oriented as well as the ability to analyze information and ideas carefully and logically from various perspectives (in Tawil and Liliasari, 2013: 7). So it can be concluded that critical thinking describes a process of thinking that is "active" or not just "passive" just accepting the ideas of others.

The step of critical thinking according to Arthur L. Costa cit. Hendra Surya (2012: 179) critical thinking steps can be grouped into 3 namely:

a. Recognizing problems, assessing information, and solving problems or drawing conclusions.

b. Assess relevant information.

c. Troubleshooting or drawing conclusions

Indicators of critical thinking skills are divided into 5 groups (Ennis in Tawil and Liliasari, 2013: 9) as presented in Table 1.

**Table 1. Processes and Operational Words for Critical Thinking**

<table>
<thead>
<tr>
<th>Indikator</th>
<th>Kata-Kata Operasional Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a simple explanation <em>(elementary clarification)</em></td>
<td>Analyze statements, submit and answer classification questions.</td>
</tr>
<tr>
<td>Build basic skills <em>(basic support)</em></td>
<td>Considering that the source is trustworthy or not, researching and evaluating an observation report.</td>
</tr>
<tr>
<td>Make an inference</td>
<td>Deduction activities or consider the results of education, induce or...</td>
</tr>
</tbody>
</table>
**Maryam (2008)** suggests that critical thinking activities can be done by looking at the appearance of some behaviors during the critical thinking process that takes place. Someone’s critical thinking behavior can be seen from several aspects, namely:

<table>
<thead>
<tr>
<th>(inferring)</th>
<th>consider the results of induction, and make and assess valuable valuations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide further explanation</td>
<td>Define the term, assess the definition and identify assumptions.</td>
</tr>
<tr>
<td>(advanced clarification)</td>
<td></td>
</tr>
<tr>
<td>Set strategy and tactics</td>
<td>Deciding actions to interact with other people.</td>
</tr>
<tr>
<td>(strategies and tactics)</td>
<td></td>
</tr>
</tbody>
</table>

The benefits of critical thinking skills in this study can be determined that critical thinking skills basically focus on a statement of the problem and find the value of clarity based on the data collected. The data must have logical reasons and accurate evidence to get a solution or decision from the statement stated.

### 3. Conclusion

The development of guided inquiry-based modules can resolve the problem of students’ poor critical thinking skills. The application of the guided inquiry-based module in learning, it is hoped students can find concepts based on experience, while the teacher as a facilitator explains the learning objectives through the module. It is hoped that through guided inquiry-based modules can improve students’ critical thinking skills.
References


Development Model Of School Management Based On Adiwiyata

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Abstract. The purpose of this study was to obtain an overview of the school management Adiwiyata which has been implemented by the school Adiwiyata in Kudus and to develop model school management based Adiwiyata. The method used in this research is the Research and Development (R & D). whereas for data collection technique using informant interviews with relevant and direct observations. The development phase is carried out through: (1) the preliminary study, (2) modeling, (3) validation by experts from academia and practitioners, (4) the revision of product design and (5) a decent tested school management model. Data analysis is done through data reduction, data presentation, and conclusion that since before, during, and after the field. The results showed that the school management Adiwiyata no good planning and systematic, resulting Adiwiyata not maximized. Later it was found that during the implementation of the program Adiwiyata there has never been an evaluation or an evaluation program for the Adiwiyata school management. This research resulted in the product in the form of a school-based management model Adiwiyata equipped with a guide for those involved in the implementation of activities Adiwiyata. The model was developed following four components of management, including planning, organizing, implementing, and monitoring. Based on the due diligence carried out by experts and practitioners, the result that the model considered worthy to be tested by the practitioner.

Keywords: development, models, school management, Adiwiyata.

1. Introduction

In 2013 the growth of the world population has reached 7 billion, while the ecological footprint of the world population is not directly proportional to the availability of natural resources, energy, clean water, and food are dwindling. Imbalances reinforced by the data on which the world lost 50% of tropical forests, atmospheric CO2 concentration increased more than 25% are causing extreme climate change (US Bureau of the census, International Data Base 2011 Update).

Destruction and disregard for the environment is an issue that is inseparable from the modern life. Start of local environmental problems, such as waste disposal problems and the lack of green open space. Regional environmental problems such as industrial pollution and landslides. National environmental issues such as fishing with bombs and burning of forests, to the global environment such as global warming and the shrinking of the Poles wide. Such severe environmental damage, so the media spotlight and be the discussion seminars, research experts, observers, and environmental activists. Exploitation of natural resources is one of the factors triggering the occurrence of increasingly complex environmental problems. Of course, a variety of such damage does not escape the attention of the world of education. (Harris, et al,
Damage to the environment becomes a serious problem faced by the countries in the world, including Indonesia. The rapid development and technological advances that ignore the environment has led to the increasing damage to the environment. It resulted in the loss of the ecological balance and environmental degradation as well as the reduction of groundwater discharge. Human activity is one of the elements that determine the quality of the environment. The amount of environmental damage are encouraging their efforts to implement environmental improvements.

Indonesia has become one of the countries that pay more attention to environmental management efforts. This is evidenced by the Act No. 32 of 2009 on the Protection and Environmental Management which is a systematic effort and integrated to preserve the function of the environment and prevent pollution or damage to the environment that includes the planning, utilization, control, maintenance, until the supervision of law enforcement.

Environmental issues related to the growing and diverse kinds, then the indispensable policy related to environmental management in order to reduce the rate of environmental degradation. National development is directed to apply concept of sustainable development or sustainable development (sustainable development). One element in the concept of sustainable development is environmental education in schools.

Further described by Hamzah (2013: 42-43) that environmental education is one effective way to prevent an environmental disaster. Environmental education carried out with reference to economic growth, social development and environmental protection.

According to Weiland and Morrison in Hamzah (2013: 62) will be able to develop the environmental education of students is more concerned about the environment if done continuously supported environmental education curriculum and infrastructure that support the environment in the educational process.

Adiwiyata interpreted as a good place and an ideal which can be obtained all the knowledge and norms and ethics that can be the basis for the creation of the welfare of human beings towards the ideals of sustainable development. As for the purpose of realizing the school community Adiwiyata is responsible for the protection and management of the environment through a good school governance to support sustainable development.

Adiwiyata program is expected to change the paradigm and behavior of school community. The growth of the human brain to reach perfection until the age of 20 years. At the age of humans still requires formal education to different levels. So at that age would be maximized in shaping the behavior of environmental care in meeting their needs.

From the above explanation, it can be concluded that a caring attitude towards the environment can be cultivated as early as possible with the implementation of Adiwiyata in school. Habituation, behavioral development, respect, love and care for the environment can become daily habits can occur with the integration of environmental education with the school program.

Some schools in Kudus ranging from elementary, junior high, or high school / vocational already implementing Adiwiyata and has been awarded both at district, provincial, national, and even self Adiwiyata. To get a clean city award, an area must have and develop Adiwiyata school. To be Adiwiyata School, a school must meet several prerequisites of carrying out four principal components and run the school-based management Adiwiyata.

Based on an initial interview to one of the team leaders Adiwiyata, it was found that the school management has not arranged neatly Adiwiyata, activities have not been programmed in detail, its implementation is still unclear although still carry habituation-conditioning loving environment. Further, he explained, it happens because of the difficulty in dividing time teaching load and divide tasks among teachers to be responsible for each activity. Moreover,
there are several schools that kurng residents enthusiastic and committed to the running Adiwiyata, so that it becomes one of the challenges to realizing Adiwiyata good school management.

Preliminary study further shows that the effectiveness of school management Adiwiyata still low. This is especially true on a new Adiwiyata school or schools that would be Adiwiyata. In line with that submitted by one of the team leaders Adiwiyata, that there are no specific plans related to management activities. So that the activities carried out at the time Adiwiyata blank or customize with lainiya school activities and can not be thoroughly integrated with other school programs. Activities carried out was incidental only. In its organization also remains unclear division of duties and responsibilities, the composition of the team appears to be merely a formality because the executor of activity is usually just that's it.

A similar study conducted by Utami Dwi Ratna JuliaRi and colleagues in 2015 found the result that the status of national Adiwiyata school management is very good both policy and infrastructure, but not comparable to aspects of the curriculum and participatory aspects in good standing only. This is consistent with the findings of the team Adiwiyata district, where the two aspects of the improvement efforts are underway to establish partnerships with outside parties, active informant and improve the competence of teachers in developing local and global issues and to develop indicators of learning.

2. Methodology

This study was designed using a "research and development" or a "research and development". Which in this study, there are two activities, namely research, then from the results of these studies were developed in order to improve the program, a model or a product that already exists. To produce a product used in this study measures the development presented by Borg and Gall and developed by Sugiyono by level of study.

Procedures or stages in this developmental research follows the model of development by Borg and Gall. In addition to following the development model presented by Borg and Gall, this research also see the level of difficulty of research contained in the book Research Method Development by Sugiyono. In detail the development of research difficulty level is described as follows: (1) Research and development at level 1 (the lowest level) is a researcher conducting research to produce a draft, but did not proceed with making the product and testing it; (2) Research and development on level 2, is the researchers did not conduct research, but direct testing of existing products; (3) Research and development at Level 3, is a researcher conducting research to develop products that have been there, make the product and test the efficacy of the product; (4) Research and development at level 4, is a researcher conducting research to create new prouk make the product and test the effectiveness of these products (Sugiyono, 2019: 42).

But in the study of this development, given since developed is a model of school management which does not allow to implement all phases of development presented by Borg and Gall or can not be tested extensively and the limitations of time, money, school conditions and power, or in the case of this can be referred to develop the existing product was tested in a limited then through FGD (Sugiyono, 2019: 42)

The type of data collected in the study of this development is a form of qualitative data that contain the words, sentences, charts, drawings, photographs. The data was obtained from the documentation, field observation and informant interviews. Informants in this study is the whole school community is in direct contact in school activities, among other elements of
leadership or principals as policy makers, teachers practice, students as subjects of the implementation of education and public schools as partners in carrying out the activities.

Data collection activities carried out at the stage of preliminary studies, where at this stage, an analysis of the needs or see the potential and problems existing in the field, gathering information and literature that is done through triangulation data obtained from structured interviews, structured observation and documentation. The data collection techniques will be explained as follows:

1. **structured interview**
   
   According Sugiyono (2019: 214), structured waancara is done by providing questions to the informant with the same question.

2. **structured observation**
   
   Structured observation is an observation that has been systematically designed, on what would be observed, when and where it is.

3. **Documentation**
   
   Technical Documentation does is collecting data such as pictures, photographs, charts, and documents related to the research school.

   In this study, using an instrument such as the questionnaires and observation sheets. These instruments are used in the three stages of research that is used for requirements analysis (know the potential and problems), used to identify products or models need to be developed and used to collect data in internal testing.

   Data analysis technique used is a qualitative analysis is inductive, that is an analysis based on the data obtained, subsequently developed into a hypothesis, and then look for repetitive data to verify the hypothesis (Sugiyono, 2019: 368).

### 3. Result and Discussion

Based on the observations that have been made in some Adiwiyata schools and schools that are running towards Adiwiyata process, it was found that in Adiwiyata has not been implemented in a structured needs analysis. During the implementation of activities and new limited Adiwiyata spontaneous activity that has not been conceptualized and planned, so that the activities carried out only seem to meet the standard requirements, Adiwiyata, regardless of the usefulness and long-term goals as a school Adiwiyata.

Along with the lack of a needs analysis conducted by the school Adiwiyata, causing lack of formulation of a specific goal. During this purpose Adiwiyata activities are based on the program's main objectives Adiwiyata, which makes the school as a school Adiwiyata, without regard to principles of Adiwiyata itself. This is evidenced by the results of an interview with one of the teachers at the school Adiwiyata revealed "All I know is Adiwiyata clear program objectives to be Adiwiyata school where all citizens, especially school has a character loving environment. But for the specific purpose I had never know. If for special purpose I do not understand yes, it is the principal who knows, but what is clear is certainly the purpose of fostering is to help our school become a school Adiwiyata ". In Adiwiyata,

In Adiwiyata that have been run over the years, the material kegiatan determined spontaneously. There has been no determination of material created specifically based on the needs of the school. One Adiwiyata TIM Chairman said that in terms of material, made in langsungketika will carry out activities in accordance with the needs of the activities at the time and no material prepared in advance. This condition is one of the obstacles in Adiwiyata.
When viewed from the side of the management functions of planning, so far there has been no planning activities are made carefully. During inipembinaan implementedIncidental thus preparing action plans as well as needed to be incidental only activity at the time. Things like this will affect the implementation and success of the program Adiwiyata.

In connection with the organization, as long as there is no formation of a special team to handle activities related to Adiwiyata. Conducted through observation and documentation study, found no board or committee structures in activities related to Adiwiyata.

In Adiwiyata, based on observation of Adiwiyata school located in Kudus, the higher level of recognition Adiwiyata by the school, the better the program implementation. But that did not participate showed that the implementation of school management is well defined Adiwiyata anyway. That's because most of the activities carried out only incidental as needed at the time. Only those that had a higher award, they have more experience so that it can carry out activities Adiwiyata better.

Related to the monitoring and evaluation of the program Adiwiyata, during Adiwiyata researchers visited schools in the Kabupaten Kudus, yet some schools conduct internal monitoring and evaluation to make a follow-up plan and perbaikna programs and activities in order to become better. They just rely on monitoring and evaluation of external parties or from the team coaches and assessors Adiwiyata District. Whereas evaluation is absolutely necessary to improve the quality of schools. These conditions resulted in the school can not measure the level of achievement, Adiwiyata implemented.

Based on the findings of the initial study, the sangatta requires the development of a school-based management model adiwiyat. Where this model will be used as a reference tool for the school to become a school Adiwiyata Adiwiyata really Adiwiyata and not just to meet program standards, but also follow the principle of good management and the principles of Adiwiyata itself.

4. Conclusion

In this study indicate that the environmental damage caused by humans already can not be stopped. Modern society that ignores many of the environmental preservation. This condition is exacerbated by the availability of natural resources that are no longer comparable with human needs. The situation has become a global problem.

The global problems can be minimized by providing environmental education to all levels of education. The Ministry of Education together with the Ministry of Environment in cooperation in initiating a caring school program and cultured environment called Adiwiyata. Adiwiyata is an alternative solution to reduce environmental damage from an early age by teaching the children that the environment is very important for the sustainability of life on this earth. But Adiwiyata is not fully adhered to by schools Adiwiyata. Many schools only meet the standards without regard to principles Adiwiyata program.

Under these conditions, then it needs to be a model of school management which can be used as a reference to develop the school into a school Adiwiyata. Adiwiyata based school management model is an alternative solution for schools that want to become Adiwiyata schools, and schools Adiwiyata who wants to improve its management system to make it better.

References
Departemen pendidikan nasional, paket pelatihan 1, peningkatan mutu pendidikan dasar melalui manajemen berbasis sekolah, peran serta masyarakat, pembelajaran aktif, kreatif, efektif dan menyenangkan, Juni 2005
http://blog.alimsumarno.com/perbedaan-penelitian-dan-pengembangan
UNESCO, 2005a UNDESD
www.unescobkk.org/education/esd-unit/definition-of-esd
The Characteristics of Assessment Instrument Model In Learning Indonesian Language

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Abstract: Assessment problems are still a major problem in the implementation of the 2013 curriculum even though they have been implemented for years. Based on several studies it is known that most teachers cannot design, develop instruments, implement, manage, report, utilize the results properly. The main difficulties experienced by teachers are formulating indicators, organizing instrument items, and making assessment instruments. Thus it is deemed necessary to develop an easy and applicable assessment instrument to help teachers make authentic assessments in learning Indonesian. The first step that must be done is to analyze the needs of teacher and student teachers. Preliminary surveys show that teachers and students need transparent and accountable assessment instrument models. The model can be used as a teacher's reference in conducting assessments. This model is expected to improve the competence of the 21st century: to think critically and solve problems, collaborate and communicate, and to enhance creativity. The characteristics of the model are concluded from the needs analysis carried out through survey, interview, and observation.

Keywords: the characteristics, assessment instrument model, Indonesian language

1. INTRODUCTION

Learning assessment in 2013 curriculum must cover affective, cognition, and skill. However, based on monitoring and evaluation results of 2013 curriculum implementation on JHS level in 2014, it showed that teachers still had difficulties in conducting the assessment. About 60% teacher respondents stated they were incapable to design, implement, process, report, and use the assessment results properly. The main difficulties faced by them were: (1) formulating indicators, (2) arranging points of instrument, (3) implementing affective assessment by using various techniques, (4) being less believing in implementing skill assessment, (5) being incapable to understand the way of arranging both skill assessment rubric and instruments, (6) being incapable to formulate points of questions dealing with factual, conceptual, procedural, and metacognitive knowledge which would be combined by low-high order thinking skills (Kemdikbud, 2017:1-2).

Assessment is often merely considered as methods to measure learning achievement. Thus, it is considered being separated from learning. This assumption causes many teachers to allocate their assessing time separately. It should not only be used to know the learning achievement but also to improve learning process. Assessment can be used to improve students’ abilities in learning process (Shepard, 2000).
Assessment can be done in three approaches: **assessment of learning, assessment for learning,** and **assessment as learning.** **Assessment of learning** is an assessment done after learning session. This assessment is usually done by teachers after teaching at least one basic competence. The assessment is done after all materials have been taught although the basic competence may be complex and need longer meeting times. The examples are midterm test, final semester test, and school test (Schuwirth, Lambert W. T & Cees P. M. Van Der Vluten:2011).

**Assessment for learning** is done within learning process and used to improve learning process. It allows teachers to provide feedback to learning process, to monitor the development of the students, and to determine the students’ improvements. **Assessment for learning** allows teachers to improve the students’ performance through various activities, such as presentation, task, and project (Chappuis and Richard J. Stiggins, 2002; Sally, 2005; Taras, 2009; MacLellan, 2010; Wiliam, 2011; Chianese, 2012). The use of portfolio assessment and the use of scoring rubrics for performance assessments are both considered best practices in classroom assessment, of course, but they do not necessarily reflect the real-world evaluation of real-world tasks (Frey, 2012).

**Assessment as learning** is equally defined as **assessment for learning.** However, the difference deals with students’ involvements during assessing process. The students are given self-assessment experience for themselves and to assess their peers. They are also involved in formulating procedures, criteria, rubrics, and guidance of assessment. It is done to ensure them knowing what they should do to gain optimal learning ways. Assessment that can be used as a part of instruction to support and enhance learning. Learning-by-doing is generally considered the most effective way to learn. Although foundational skills (reading, writing, mathematics, history, language) remain essential, a more complex set of competencies are required today (Shepard, 2000; Lombardi, 2007).

Authentic assessment in the curriculum implementation is expected to be capable of measuring affective, cognitive, and skill aspect. Those aspects need to have proper proportion and conducted appropriately to allow students growing not only as brilliant people but also skillful and intellectual people with good characteristics. It is in line with learning purpose which is not only to get knowledge and certain skill but to develop positive attitudes. Authentic assessment is naturalist method to gain functional and contextual informations dealing with daily learning (Kelty et al., 2009). It is in line with the opinion Yastibas (2015), emphasizes learning by doing, as the main focus is on learning by doing, assessing this process requires different assessment methods that take factors, such as students’ understanding and personal difference into consideration, while evaluating learners’ performance. This should take various techniques which are capable of measuring students’ competences accurately. The use of certain techniques will influence to the numbers of used instruments. On its assessing instruments, besides scoring, there should be observation, **check list, assessment scale,** and **rubric** which used plural criteria – at least two criteria (Chatib, 2015:140).

Assessment is authentic when we directly examine student performance on worthy intellectual tasks. It is a task realization demanding students to show their real actual performance meaningfully in implementing knowledge and skill (Wiggins, 1990; Mueller, 2008; Nurgiyantoro, 2016). Therefore, authentic assessment is not merely measurement of learning achievement but also actual performance during learning process.

Authentic assessment allows teachers to measure directly the actual performance of students. For teachers, assessment is an activity to see strength and weakness points of students and to
evaluate actual performance of the teacher. Therefore, teacher should implement assessment daily with systematic and well-planned schedule. It can be done when teachers plan carefully and implement it accurately to the tested materials.

On teaching and learning activities, teacher can assess actual performance by asking students to demonstrate certain behavior or skill which then will be assessed authentically. Authentic assessment brings demonstration one step ahead and emphasizes the importance of skill implementation or actual-real world context skill. Nurgiyantoro (2011:23) stated that authentic assessment emphasized learners to demonstrate their owned knowledge in real and meaningfully.

Lund (1997) stated eight characteristics of authentic assessment: (1) orienting to learning objectives, (2) employing meaningful task, (3) developing high thinking order skill, (4) assessing based on already known criteria by students, (5) having clear instruction, (6) providing chance for students to demonstrate their competences, (7) respecting achievement of students’ actual performance, and (8) assessing process and product. Such guidelines enable teachers to create learning environments using authentic contexts and scenarios that ensure assessment truly measures whether students can use their knowledge effectively and realistically, as opposed to the reproduction of surface knowledge that is quickly forgotten after an examination or test (Herrington, J. & Herrington, A., 2006). Those characteristics will be used as reference to develop authentic assessment instruments in 2013 curriculum - Indonesian language learning. Besides that, other steps to develop authentic assessment instrument model are based on main steps of authentic instrument development by Sani (2016:34); Denisa et al (2016): (1) having standard, (2) developing authentic task, (3) determining criteria, and (4) developing rubric. The product in the form of authentic assessment instruments of Indonesian language lesson will be developed by using Borg and Gall research development model (2007:589-593).

2. METHODOLOGY

This Borg and Gall Research Development model (1983:775-776) consisting of: (a) research and information collection, (b) plan, (c) preliminary product form development, (d) preliminary field test, (e) main product revision, (f) main field test, (g) operational product revision, (h) operational field test, (i) operational product revision, (j) operational field test, (k) final product revision, and (l) dissemination and implementation.

Based on the notion, the steps according to current research’s needs were formulated. The steps were packaged into several steps: (1) preliminary survey, (2) initial product design development, (3) product design, (4) product validity test, (5) revision of developed product design of validity test result, (6) limited trial run, (7) final design revision, and (8) massive train run of the developed product, (9) final product, and (1) dissemination and implementation. This research was conducted until the eighth step. Those eight steps are shown on the flow of authentic instrument development model stages of 2013 curriculum Indonesian language lesson:
Figure 1. The Steps of Authentic Assessment Instrument Development in Learning Indonesian Language

Based on Borg and Gall research and development model, the first step is preliminary survey. It demanded researchers to analyze teacher's, students', current curriculum, and literature study needs. The preliminary survey was divided into two: dealing with teacher's needs and students’ needs. The instrument for teacher consisted of ten questions with different choice of answers depending on the investigated content. Teacher could select more than one answer. The students, in another hand, were given eight question to investigate deeper their needs of authentic assessment. They could select more than one answers of each question.

To get data of authentic instrument model needs quickly, the instruments were created by Google form application. This instrument in the form of application was given to both teacher and students of JHS/SHS in Central Java. Based on the monitoring for one year and five days, there were 28 teachers whom had contributed to fill in. They were from Kudus, Pati, Surakarta, Purbalingga, and Wonogiri. Meanwhile, the instrument of the students' needs was filled by 264 students of JHS/SHS from Kudus, Surakarta, and Wonogiri Central of Java. Based on the results, the data was formulated and analyzed in term of their needs of authentic assessment instrument model in learning Indonesian language.

3. FINDINGS AND DISCUSSION

The findings were described based on first development stage – preliminary survey. The analysis of needs of this research was activity to collect information dealing with factual condition and ideal instruments. The analysis was done by concluding the questionnaire and respondents’ suggestions.

Based on the first question of student questionnaire, it was known that 255 out of 264 respondents (97%) assumed assessment was important matter in learning. It showed that most of
the students agreed that assessment becoming an inseparable part of teaching-learning. The answer of the first question is strengthened by the second answer telling that teacher needs to conduct assessment in class. As many as 247 students (94%) answered that teacher needed to conduct assessment to measure his mastered abilities.

Besides students, teachers also assumed that assessment was an important factor in learning. However, problems of assessment always become the main problem in conducting learning. There are still many teachers who lack understanding to conduct authentic assessment. Based on 28 questionnaires, 8 teachers (29%) answered that they had not known how to conduct authentic assessment. Dealing with the second question, whether teachers needed authentic assessment instruments, all teachers (100%) answered that they needed it.

The students and teachers' answers of the first two questions were used as a basic to arrange plans and develop products. Then, there would be a need to conduct analysis of the characteristics of development needs based on teachers' and students' perceptions. Here are the characteristics of the assessment model needed in learning Indonesian language.

### 3.1 Development Needs based on Teachers' Perceptions

The need analysis of the instrument model covered four aspects: (1) need of authentic assessment instrument model forms, (2) content, (3) presentation, and graphs. Here are the explanation of the aspects.

1) **Needs of Authentic Assessment Instrument Model Forms**

On the third instrument, it was questioned the forms of the instrument model by options (1) book, (2) web, and (3) others. The answers could be seen below in graphic 1.

![Graphic 1. Needs of Assessment Instrument Model Forms](image)

Based on the graphic, it can be described that 19 out of 28 teachers (86%) chose books, 6 (21%) chose book and web, 2 (7%) chose web, and 1 (4%) chose other forms without any reason. It proved that most of the teachers demanded the model in the form of books.
2) **Needs of Content/Book Content**

The needs of content/book content of authentic assessment instrument were based on questions 4, 5, 6, 7, and 8 of the questionnaire. It could be concluded that (1) the form of the demanded instrument model covered affective, cognitive, and skill aspects; (2) there was a need of explaining steps to assess affective, cognitive, and skill competences structurally and completely; (3) there was a need of the instrument model assessment dealing with affective, cognitive, and skill competences.

3) **Needs of Presentation and Language**

Based on question number 9 about presentation and language, most of teachers demanded the presentation of book would be packaged with communicative and systematic language. Therefore, to avoid any ambiguity for the readers, then the selected style presentation of the book was scientific language variety.

4) **Needs of Graphics**

Based on question 10, the answer was not like the previous answers. Most of the teachers did not answer exactly. Question 10.1 dealing with book title, only 11 respondents (39%) giving suggestion dealing with the title. The other 16 respondents (57%) let the answer blank. There was only 1 teacher (3.5%) suggesting the title to be made attractive.

Question 10.2 about color of the paper, 14 respondents (50%) chose white, 5 respondents (18%) chose book paper, 9 respondents (32%) did not suggest anything. The similar thing went on paper size, book size, cover picture, book design, cover color, and fonts. There were many of the teachers uncertainly answered.

The general suggestion by respondents were: (1) to immediately realize the book, (2) to supplement the book with examples, (3) to make it easier and practical, (4) to make it more creative and better, and (5) to supplement it by illustration of each domain – affective, cognitive, and skill.

3.2 **Needs of Development based on the Students’ Perceptions**

The survey results were based on number 3 question about when the assessment should be conducted. The answers were: (1) 124 respondents selecting during learning process (47%), (2) 70 respondents (26.5%) selecting to have specific time, (3) 66 respondents (25%) selecting to be at home, and (4) 4 respondents (1.5%) providing no answers. The answers of the students can be seen on graphic 2.
Needs of Assessment Time

From the survey dealing with needs of assessment time, most of the students chose to be conducted during learning. 26.5% of the students chose to have specific time while the others preferred to take it home. Therefore, the assessment should be better to be conducted within learning process with assessment for learning and assessment as learning principles on each ending of Core Competence. Thus, it could improve learning process. It is in line with authentic assessment principle which allows teachers to measure directly the students’ actual performances.

The findings were strengthened by answers of questions number 4 and 5 about affective assessment model, number 6 and 7 about cognitive assessment, and number 8 about skill assessment. Generally, the students chose various, meaningful, and student-oriented assessment model.

4. CONCLUSION

Based on the analysis of teachers and students’ needs, it can be concluded that characteristics of authentic assessment instrument model needs in learning Indonesian language were: (1) realized into book, (2) covering affective, cognitive, and skill aspect of assessment instruments, (3) allowing to measure actual performances of students during learning both inside and outside of class, (4) realizing into various assessment forms, (5) using communicative and systematic language, and (6) packaging the graphic of the assessment instrument model book attractively.

The characteristic analysis of authentic assessment instrument model needs in learning Indonesian language would be used as basic to plan and arrange product development stage. Then, it would be continued by making prototype of the model for 2013 curriculum Indonesian language lesson.
REFERENCE


Moral Identity In The Text Babad Diponegoro

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Abstract: Prince Diponegoro is a monumental figure. He who was first appointed as a national hero by the Indonesian government, his name also became the name of a university, namely Universitas Diponegoro, in Semarang. KODAM (Military District Command) in Central Java also uses his name, called Kodam VII Diponegoro. Almost every city in Indonesia has the name Diponegoro street. In the field of literature, Prince Diponegoro was the author of the first autobiography with his work entitled Babad Diponegoro. This work was written in his exile in Menado in 1832. The Manuscript of the Babad Diponegoro (Diponegoro Chronicle) is now stored in the Jakarta National Library, as a collection of Brandes manuscripts. The Babad Diponegoro is a unique chronicle because of 3 things: (1) Babad is written directly by Prince Diponegoro, (3) Babad about Pangeran Diponegoro, and (3) written in a location far from the Javanese cultural context, namely in Manado. In this regard, this research, Babad Diponegoro would be examined from an identity point of view with the mindset. According to this theory there are interrelated relationships between individuals with a larger social structure, namely society. There is a relationship between the concept of role and self-concept. The Babad Diponegoro was examined with the expression of identity between Diponegoro's role and self as an exile as well as a Javanese prince who was the furthest from his community. In this case, the expression of identity, cultural values that are resistant in the work of Babad Diponegoro and influential elements in the community in Manado will be studied. The principal value to be assessed is about the moral values contained in the chronicle as inherent identities. This value is tangled in the text of the Babad Diponegoro expressed in the form of macapat. The element of moral identity is reflected in the composition of language, diction, narration, and point of view. Moral identity is related to the concept of role, namely the role of Prince Diponegoro in relations with his community and self, namely the identity of Prince Diponegoro as a person who has his own history as a leader and prince of an empire.

Keywords. Diponegoro, identity, moral, culture

1. Introduction

Diponegoro is a monumental figure. He was first appointed as a national hero by the Indonesian government, his name also became the name of the college and the name of KODAM in Central Java.

Diponegoro's chronicle (Babad Diponegoro) is part of Javanese history. The history of Java has been going on for thousands of years (Raffles, 2008). Diponegoro was a 19th-century Javanese historical figure when Java was occupied by the Dutch and Diponegoro fought the Dutch until he was finally caught in a cunning way, which was invited to make peace and then be arrested when negotiations were being held.
In the field of literature, Prince Diponegoro was the first autobiography writer with his work entitled Babad Diponegoro. This work was written in exile in Manado in 1832. The text of the Chronicle of Diponegoro is now stored in the Jakarta National Library, as a collection of Brandes manuscripts (Noegrohon, 2010: 1, Behrend, 1997).

This work has been recognized worldwide by the UNESCO included as "memory of the world" in the year of 2013. The Chronicle of Diponegoro is a unique chronicle because of 3 things: (1) The chronicle was written directly by Prince Diponegoro, (3) The chronicle is written in locations far from the Javanese cultural context, namely in Manado (Carey, 2010). This chronicle has aspects of local identity and also thrills the aesthetic spirit of its readers (Hartoko, 1984).

In connection with this, this Chronicle will be examined from the perspective of identity with the mindset according to Sheldon Stryker's identity. According to this theory there is a relationship of mutual influence between individuals with a larger social structure, namely society. There is a relationship between the concept of role and self concept. This is related to the anthropological conditions of the owner's community (Koentjaraningrat, 1982). This connection is also related to ethnographic aspects (Spradley, 1997).

Diponegoro's chronicle is examined by the expression of identity between Diponegoro's role and self as an outcast and at the same time a Prince from the Javanese tribe who is furthest from his community. In this case, the expression of identity, resistant cultural values in the work of the Babad Diponegoro as well as influential elements in the community in Manado will be examined. This is to emphasize also that a paper cannot be separated from its social (Wolff, 1981).

In accordance with the above principle, this identity study approach utilizes a genetic structuralism approach (Goldmann, 1973, Siswanto 2001) which studies the birth of a literary work from its origin aspect.

Prince Diponegoro is a prince who has a very strong sense of identity in his day. When the Dutch influence was very strong, Prince Diponegoro had a deviant identity principle in the Mataram Javanese Palace, that principle was

- Prince Diponegoro does not want to be appointed crown prince and subsequently becomes king if the person who appoints is the Dutch government
- Prince Diponegoro in arranging his ranks did not use the European or Dutch troops system but instead used the Turkish Sultanate system
- in determining these ideas Prince Diponegoro got his inspiration from his hermitage in Parangkusumo this act was an attempt to find his identity obtained from his ancestor Panembahan Senopati who got the idea to establish the Mataram kingdom together with in Parangkusumo

Thus at least 3 elements of local identity contained in Prince Diponegoro this later will also be found in the Diponegoro chronicle in which the local identity of Prince Diponegoro appears in the writing of the chronicle even though the chronicle was written far from Javanese land in Manado when he was at the disposal of the Dutch government.

Prince Diponegoro built his identity in preparing the Javanese war for 12 years. Prince Diponegoro for 12 years prepared himself in case of war

Sabil is what he aspires for. Tegalrejo is a markplaats, namely a place to "sell and buy" ideas, ideological concepts, politics, statehood, culture, military, strategic plans and actions; a gathering place for community leaders when in the Sultanate of Yogyakarta there was a leadership vacuum; the place where Diponegoro gained its legitimacy base through the voluntary agreement of the interested parties (Louw, 1894: 106)
In this regard, this study seeks to examine the aspects of identity contained in the Chronicle of Diponegoro. The identity aspects studied were divided into 3 according to the research plan for 3 years.

2. Method

This research is a descriptive qualitative research. The target of this research is to describe the natural identity, fundamental identity, and instrumental identity in the Chronicle of Diponegoro.

This research is a multi-year research, so the design in the research product is designed for 3 years. In this regard, this study seeks to examine the aspects of identity contained in the Chronicle of Diponegoro. The identity aspects studied were divided into 3 according to the research plan for 3 years.

Focus Year on identity studies

Year 1 In this first year the subject of the study was on natural identity. This element is an element of identity that has been naturally available from birth, this aspect includes language, culture, codes that are understood together. The Babad context is a natural identity because it already exists as part of culture.

Year 2 Fundamental Identity is another name for ideological identity. This identity is optional and becomes part of belief. In the context of Javanese culture at that time, joining the Dutch and opposing the Netherlands was an ideological identity. Prince Diponegoro chose an ideological identity against the Dutch and rejected all Dutch ideologies.

Year 3 Instrumental Identity is identity which is a method of carrying out the idea of fundamental identity. Mahatma Gandhi fought back with the concept of ahimsa, without violence. Diponegoro chose a magical confrontational instrumental identity that needed to be verified and explored.

3. The Source of Studies

To achieve the above targets researchers used a qualitative research approach. The object studied was the text of the Babad Diponegoro collection of Brandes number 149 A, 149 B, 149 C and 149D. The method used in this research is a qualitative method with the main study on the analysis of cultural elements, especially the analysis of cultural identity. This aspect is the main study in the method.

The subject of this research is the Diponegoro chronicle text stored with brandes collection code or BR 149 a b c d manuscript consists of 4 volumes and is currently stored in the National Library of the Republic of Indonesia. This manuscript has been recorded in the master catalog of Nusantara manuscripts volume 4 published by the National Library of Indonesia (1998: 85-87). The script is Javanese and has a new Javanese language and is in the form of a mocopat. Diponegoro's Babad text is written by Prince Diponegoro himself, written in 1832 during the exile in Manado and one of the contents of the manuscript as an introduction whose contents are as follows.

Sun medar surasaning ati (I let out a conscience)
Atembang pamiyos (in the form of song)
pan kinaryo panglipur (as an entertainer)
Aneng kitha Manado duk kardi tan ana kaeksi (In the city of Menado, time makes no one to see),
Nging sihing Hyang Hyang Agung (Only the love of God the Great)
The subject of the study is about local identity in the Chronicle of Diponegoro. This study makes the chronicle a source of information because it is the only source that has a complete description of Diponegoro.

4. Diponegara Identity Concept

In this first stanza contains an expression of the feelings of Prince Dipanegara which he poured while in Manado. Its contents are related to the teachings to always hold fast to the religion brought by the Prophet so that life is full of kindness, calm heart, and have a holy faith. In addition, there is also a genealogy story which explains how Islam can enter Java. The story begins with the journey of the Prophet Muhammad from Mecca to Medina.

This shows that Diponegoro is affiliated with Islam. This relates to the adoption of Islam as the majority religion of the Javanese people at that time. At the time of Diponegoro's life, the ruling sultanate was the sultanate of Islam.

Next Diponnegoro then told about the Majapahit Kingdom in Java. Majapahit Kingdom has a famous king named Brawijaya. He is a just and wise king but still a Buddhist. His beautiful beautiful wife who is the daughter of Campa named Ratu Darawati. Campa is a country that already adheres to Islam, including Ratu Darapati, is also a Muslim. With the coming of influence from Campa, Islam also began to enter Java, Majapahit. Sayid Rahman, later dubbed Sarip Maulana Mahribi, came from Campa to spread Islam and was later followed by his two sons. They came to Java to serve their father and Ratu Darawati. After the queen met the two sons of Sayid then assisted to meet Brawijaya. They both explained that Islam entering Java was very strong but there was no need to be afraid because Islam would not change the religion that had existed before.

This shows that Diponegoro in addition to embracing Islam, but he still really appreciates his ancestors from Majapahit. The steps taken are by showing the transition of Hinduism to Islam that occurred in Majapahit. Islam entered Java starting with marriage. Raja Majapait, who was a Hindu, married a Muslim daughter from Campa. There is also a picture of Islamic syncretism and Hinduism by showing that Islam will not change existing religions.

Islam entered slowly even though Buddhism at that time was still very strong. Islam uses a good and subtle way and is outwardly seen using manners. Thus many people in Majapahit want to accept and mingle with the teachings of Islam without coercion. Everything is left to the individual to choose to embrace Islam or not. The same thing was also shown by Brawijaya with its compassion for the two children, namely by giving their name and territory. Sayid was given the name Harya Teja and was given a territory in Tuban and his first child, Sayid Rahmad was given the name Sunan Makdum was given a territory in Ngampel and his second son, Sayid Rahman was given the name Sunan Iskak was given a territory in Giri. All of them set up mosques and taught students.

Sunan Ngampel has 4 children namely Sunan Ngudung, Sunan Bonang, Sunan Gunung Jati, and the youngest is a daughter, all of whom teach students. Sunan Gunung who came from Campa as a heritage of Campa then moved to Giri. Kanjeng Sunan has died and left his
wife who was seven months pregnant and soon gave birth. After that, a salvation was held. The newborn child becomes an orphan and then adopted by Sunan Ngampel. Until he was named Sunan Giri and became a religious teacher with his lessons and efforts so he could become one of the guardians in the land of Java. Likewise, Sunan Bonang, who became his goal as the representative guardian of Majapahit in Tuban and was able to reach a golden age with his eldest son.

In volume 1, the contents emphasize the way of spreading Islam in Java using the pedigree. The pedigree used since Prabu Brawijaya's child and explained about his children related to Islam in Java, besides that there is also the role of the Sunan. At the end of the Chronicle of Dipanegara Volume 1, it was explained also the rulers in each area who were still in the area of Java. The figures presented in this Chronicle reflect the acculturation of Javanese and Islamic culture. Some Javanese myths are related to figures from the Majapahit kingdom and later associated with embracing Islam.

The study above shows that Diponegoro wanted to illustrate the identity that the sunan who preached in the Majapahit region were essentially still the grandchildren of Prabu Brawajya so that they were heirs to the Majapahit throne as well.

5. Diponegara Background

The important thing to understand about Diponegoro's identity can be traced from his life history. Prince Diponegoro was born around 1785. This prince was the eldest son of Sultan Hamengkubuwono III who ruled in 1811 to 1814. His mother's name, Raden Ayu Mangkarawati, who was a descendant of Kyai Agung Prampelan, a highly respected cleric in the Panembahan Senapati era founded the Mataram kingdom. When drawn further, the pedigree arrived at Sunan Ampel Denta, a Sanga guardian from East Java. While still a child, Diponegoro was foretold by his great-grandfather, Sultan Hamengkubuwono I, that he would become a great hero who corrupted infidels.

This pedigree shows that Prince Diponegoro from the highly respected santri environment. No wonder he has a strong religious force that will defend Islam. This is a separate identity for Diponegoro.

Mustarom (2014) later also explained that “the condition of the palace at that time was full of intrigue and competition due to Dutch influence. That's why since childhood Diponegoro, whose real name is Prince Ontowiryo, was sent by his mother to Tegalrejo to be cared for by his grandmother, Ratu Ageng in the boarding school environment. Since childhood, Ontowiryo used to hang out with farmers around him, plant and harvest rice. In addition he also often gathered with the students at the Tegalrejo boarding school, disguised as ordinary people dressed in wulung clothes. Diponegoro learned about Islam with Kyai Taptojani, a descendant of a family from West Sumatra, who lived near Tegalrejo. According to the report of the Dutch resident in 1805, Taptojani was able to provide teaching in Javanese and had sent his children to Surakarta, the center of religious education at that time. In Surakarta, Taptojani translated the book of fiqh of Sirat Al-Mustaqim by Nuruddin Ar Rauni into Javanese. This indicates, Diponegoro studied Islam seriously.2 Louw in De Java Oorlog Van 1825-1830, wrote: "As a person with a spirit of Islam, he is very diligent and very pious to the point of going too far" (Mustarom, 2014).

Furthermore, demanding a Mustarom Study (2014) mentioned that there are many things about Diponegoro that reflect the Javanese village values: here people think about physical strength, their habits to walk barefoot (not only during pilgrimages), and their participation once a year in the harvest season rice on his land in southern Yogya. His careful use of money,
which impressed the stingy Dutch, and his careful administration and management of his land, which was uncommon in the south central Javanese court at that time, was also special. Likewise, the sharpness of his expression, his disgust at the arrogant and showy nature, his closeness to nature, and his love for pets.

In the Chronicle of Diponegoro, it is stated that Diponegoro himself was not interested in becoming a ruler. He refused the title given by every young man, the title of the crown prince and he gave up the title for his younger brother, Ambyah. In this case Diponegoro's reason was because he did not want to be appointed by the Dutch. His background, to become an uplifting King was that the Dutch became a strong dogma of Diponegoro's Islam. Diponegoro did not want to be included in the group of apostates because he was appointed by the Dutch. This is the result of his tafakkur in Parangkusuma.

6. Conclusion

Based on the description above it can be concluded that Prince Diponegoro is a figure of the Prince who really maintains his identity. Diponegoro's major identity is Muslim identity, but he still has a trace of identity from the past even though it is very far away, namely the identity of the descendants of Majapahit from Brawijaya. In describing the transition from Hinduism to Islam, it is described as a form of marriage between the Hindu Majapahit King and the Islamic princess of Champa. These descendants and brothers later became the pioneers of Islamization in Java. This became Diponegoro's identity as a Muslim with the ancestors of the Hindu King.

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References

Development of Wayang Dami Based on Local Wisdom in Story Learning in High Class

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Abstract: The purpose of this study is to describe the media needs of storytelling for pupils in primary schools, to test the village development of puppet dami media based on local wisdom of Rembang in telling students' stories in elementary schools, and to describe the effectiveness of puppet media based on local wisdom of Rembang in storytelling learners in Rembang local wisdom primary school. This research method refers to Borg and Gall's theory, using the seven steps of conducting research. The research steps are as follows: information gathering, research planning, initial product development, field testing, revision, product testing, revision of field product test results. Data collection techniques used were observation, interview, and performance story telling skills. The analysis used in this research is quantitative and qualitative analysis. Includes storytelling practices, learning observations, and validation of dami puppet media products. Analysis of Dami puppet media products based on local wisdom of Rembang includes 6 stages. The analysis technique used is the analysis of the performance of the assessment of storytelling skills, then look for the effectiveness of the performance results of the control class and the experimental class

Keywords: wayang dami, Rembang’s local wisdom, storytelling skills.

1. Introduction

One literary appreciation that includes speaking skills is storytelling. The ability to tell is a productive language activity that aims to express the ability to speak to provide information to others. By telling stories, a person is able to tell a variety of stories, expressions of feelings in accordance with what he experienced, felt, seen, and read. Nurgyiantoro (2001: 278); Tarigan (1981: 35). Researchers held observations on Monday, May 20, 2019. From the results of observations, it is known that learning emphasizes teaching Indonesian aspects of language by ignoring literary appreciation. Literature is considered something less important, because it only benefits mental satisfaction. In the end, students will struggle to appreciate literature. One example is children having trouble when making stories. They are confused where to start writing stories. When students are asked to tell stories, their vocabulary does not develop. They also did not dare to tell a story in front of the class. The confidence of students has not yet developed.

Observation results also show that teaching techniques in storytelling that are applied are also not quite right. Learning about speaking skills especially telling stories only conveys theories, without any real form of true literary appreciation. Learning has not provided students the opportunity to see and explore their respective potential. When students only see
the outside, they will be distressed. Though students are accomplished imitators. Then, when evaluating the practice of speaking skills, especially telling stories "Goose and Golden Eggs", the value obtained is still low. There are several aspects of the assessment of storytelling skills, namely the accuracy of the contents of the story, the accuracy of the appointment of the details of the story, the accuracy of the logic of the story, the accuracy of the meaning of the whole story, the accuracy of words, the accuracy of sentences, and fluency. A very low evaluation aspect is the accuracy of the meaning of the whole story, the accuracy of words, and the accuracy of sentences.

Learning also does not use media that attract students to focus on learning to tell stories. Even though the teacher is not an expert in storytelling. So that the atmosphere in the story has not been developed when the teacher tells a story. The teacher should use the learning media because with the learning media, the learning process will attract more attention of students, thus fostering student learning motivation so that it greatly helps the effectiveness of the learning process, and clarify the presentation of the message. Media in learning becomes an alternative to stimulate the activeness of students, skills and knowledge. (Fathurohman, 2014: 7; Hamalik, 1986; Sadiman, et al, 1990; Sudjana and Rivai, 1992: 2). In developing media, teachers must look at all aspects of the needs of students. According to Ibda, Hamidulloh (2017); Utaminingsih, et al (2019: 66) today many media are only oriented towards the fulfillment of the cognitive aspects of students. However, the affective and psychomotor aspects are ignored. The more uprooted local wisdom and conservation character in the development of media in learning. One of the innovations in attracting students' attention is to use creative and innovative media.

Still under observation at the same time, it is known that the stories used as teaching materials are also less familiar and foreign to students because they do not accommodate the local wisdom of Rembang Regency. Even though Rembang Regency has a large collection of stories and has been recorded. It would be nice if the story raised raised the local wisdom of Rembang Regency so that the students got to know more about the local wisdom of Rembang Regency more specifically the regional story. In addition to enriching students' knowledge about stories that develop in Rembang Regency, it also teaches them to love their own regional culture. Based on the presentation of problems regarding the lack of speaking skills, especially storytelling to elementary school students, researchers felt the need to develop a media of storytelling that was appropriate to the needs of students and based on local wisdom. The media of the story that the researchers chose was dami puppet media. This media is based on local wisdom in the form of a regional story in the Rembang Regency developed by Mr. Kusaeri Y.S. The researcher chose wayang media because wayang is a cultural heritage, a work of art filled with ideals, tastes, and meanings. There is a religious meaning, rich in ethics and morals. Wayang serves as a means of lighting, education, and mass communication that is very familiar with the community (Rif'an, 2010). Finally, wayang was recognized by UNESCO on November 7, 2003, as an amazing cultural work in a beautiful and very valuable narrative story. The use of puppets as a learning medium has also been used by several researchers. (Matini, 2018; Salamah, 2012; Setian, 2018) Puppet is used in Balinese learning based on Character Education, social studies learning for independence figures, and to foster the spirit of nationalism. Researchers chose dami puppets because in Rembang District many dami were found as animal feed. Researchers want to develop dami as a learning medium.

The formulation of this research problem is How is the need for learning media to tell stories for students in elementary schools and How to design a wayang dami media development based on local wisdom in telling students in elementary school. The product produced in this research is dami puppet-based media, local wisdom is a puppet product made
from dami by raising folklore that developed in Rembang Regency that has not been found in other regions. This product is expected to be useful for teachers and students in learning. There are 2 products produced, the original Media Wayang Dami and the animation.

2. Literature Review and Hypothesis

2.1 Literature Review

Arsjad and Mukti (1993: 23) mention that speaking skills are the ability to say sounds or sentences to express, express, convey thoughts, ideas, and feelings in order to convey messages verbally. Meanwhile, according to Tarigan (1983: 15) Speaking is interpreted as the ability to say articulation sounds or words to express, express, and convey thoughts, ideas, and feelings. According to Nurgiyantoro (1995: 276) speaking is the second language activity carried out by humans in a life of language, that is, after listening activity. Based on the sounds that are heard then humans learn to say and finally skilled at speaking. Speaking skills in this research are skills to convey ideas, thoughts, ideas verbally to others.

The form of speaking competency according to Nurgiyantoro, 2016 is as follows:

a. Talk based on the picture.

b. Speak based on excitatory sounds.

c. Speak based on visual and sound stimuli

d. Telling stories

e. Interview

f. Discuss and debate

g. Made a speech

Storytelling tasks based on any excitement depends on the teacher's task orders. This task is in an authentic assessment in the form of a task of retelling texts or stories. So the excitement used as material for storytelling can be in the form of books that have been read, various fictional stories, various travel experiences, and others. Storytelling based on the contents of the book is mostly done by teachers (Nurgiyantoro, 2016: 451). Tarigan (1981: 35) states that storytelling is one of the speaking skills that aims to provide information to others. It is said so, because storytelling is included in informative situations that want to make meanings or meanings clear. By telling stories, a person can convey a variety of stories, expressions of various feelings according to what has been experienced, felt, seen, read, and expressing the will and desire to share the experiences he gained.

(Nurgiyantoro, 2016: 541-452) As part of an authentic assessment, performance appraisal is also practically done through the making of a rubric. This rubric can be made by the teacher himself. Examples of story assessment rubrics based on stories read are:

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect of Performance</th>
<th>Level Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accuracy of story content</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2</td>
<td>Accuracy in designating story details</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Accuracy of story logic</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The accuracy of the meaning of the whole story</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The accuracy of the words</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The accuracy of the sentence</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Smoothness</td>
<td></td>
</tr>
</tbody>
</table>
Meanwhile, according to Arsjad and Mukti (1988: 17), there are 2 stories of storytelling skills, namely:

a. Linguistic factors, including accuracy of speech, placement of stresses and tones, choice of words, use of sentences.

b. Non-linguistic factors, including: reasonable attitude, eye sight. Appropriate gestures and expressions, volume, fluency, and mastery of topics.

The story evaluation developed in this study uses the combined criteria of the two figures. The evaluation aspects referred to are the storyline that is delivered, fluency in storytelling, the use of Indonesian, and facial expressions.

Media according to Gagne, 1970; Briggs (1770) Sadiman (2015), media are various types of physical components used by teachers to stimulate students' thoughts, feelings, concerns, and interests in teaching and learning. According to Purnamawati and Eldarni (2001: 4), the definition of media is everything that can be used to channel messages from sender to recipient so that it can, stimulate students' thoughts, feelings, concerns and interests in such a way that the learning process occurs. While Gerlach & Ely (Arsyad, 2000: 3), the media are human, material, or events that build conditions with functions and goals to make students able to gain knowledge, skills, attitudes or educate. From the opinions of some of the experts above, the learning media referred to in this study are all things that the teacher can use in the learning process to stimulate students' thoughts, concerns, interests, and readiness for learning. With this stimulation, students will gain knowledge, skills and good attitudes.

The benefits of the media according to Sadiman (2015: 17) are as follows:

a. Clarify the presentation of the message so as not to be too verbal (in the form of written or spoken words).

b. Overcoming the limitations of space, time, and senses.

c. Varied media can overcome the passivity of students.

d. Helping teachers overcome the diversity of the unique characteristics and characteristics of students.

Other benefits of learning media are:

a. Laying concrete basics.

b. Enlarge student attention.

c. Lay the foundations that are important for the development of learning.

d. Provide real experience.

e. Developing regular thinking.

f. Help the growth of understanding that can help the development of language skills.

g. Providing experiences that are not easily obtained in other ways. (Hamalik, 1994: 15)

While the benefits of the media in this study are:

a. Reducing the presentation that is written.

b. Give students a real experience.

c. Support the development of students' language skills.

d. Overcoming students' passivity.

Dami puppet in this study was inspired by the existing puppet suket. Puppet suket comes from suket material. So from the definition of wayang suket above, what is meant by wayang dami in this study is a model of a shadow puppet made from dami. Dami comes from Javanese. The meaning of dami is rice stems. Researchers want to present an innovation that is different from raising the value of an item. Dami usually only as animal feed, but this is used as a learning medium. The cleaned rice stalks are then made in such a way that they become a puppet. Before making dami puppets, the researchers collected dried dami and then cleaned it.
Dami is taken in the innermost part. To be strong, as a framework, researchers used wire as a frame for puppets. Then assembled with the order of making dami inspired puppets from wayang suket are as follows:

1) Chief
   a) Take two rice stems, then both are folded in half right in the middle and the one we hold in a horizontal position, while the other one we pinch on the first grass in a vertical position, but give a little distance or give more edges to make the nose puppet.
   b) Take a piece of rice, then fold in half. Then take another piece of rice, fold it in half and pinch it to the first rice stem with a little space. Pull part B and fold it forward then part A and fold it back.
   c) Perform the steps above eight times, until they form as shown below.
   d) Do the same thing as the previous step, next to the knot, use grass that has not been woven.
   e) Perform the above steps seven times, leaving four strands.
   f) braids the remaining four strands of rice stalks.
   g) Then put the braids in front of the middle of the head

2) Agency
   a) Make a braid four (knot braids four), for the puppet hand, then tie the two ends using a dead knot.
   b) Insert the results of the braid in the middle of the remaining grass from the head part (the front and back are covered by the puppet body)
   c) Take a piece of rice and store it in the front in a horizontal position.
   d) Then wrap the ends of the rice stalks A and B to the back of the body.
   e) Then paste the two rice stalks into the front of the hand. Then wrap it in the hands.
   f) Repeat the above steps four times, until they form as shown below

3) Feet
   a) Make a four braid knot for the legs as for the hands, then take a piece of rice, fold in half and pinch it on the braids. Pull part B and fold it forward then part A and fold it back.
   b) Perform the steps above eight times.
   c) Pinch the remaining rice stalks to the remaining rice stems from the head.
   d) Grasp the topmost rice stem. Pull part B and fold it forward then part A and fold it back.
   e) Finally tie everything from the legs to the bottom

When finished, the puppet is lacquered with varnish liquid. Then dried again. After drying, the puppets are ready to use.

Local wisdom is local ideas in the form of knowledge, beliefs, understanding, insight, customs, ethics, which are wise full of wisdom and are applied by local communities based on their experience in interacting with the environment. (Sartini, 2004; Tjahjono, 2000; Prijono, 2000; Keraf, 2000). Whereas local wisdom according to Sibarani (2012) is a form of original knowledge in the community that comes from the noble cultural values of the local community to regulate the order of people's lives. Wisdom according to (Ratna, 2011: 94) is a binding cement in the form of culture that already exists so that it is based on existence. Wisdom can be defined as a culture created by actors through an iterative process, through internalization and interpretation of religious and cultural teachings that are socialized in the form of norms and used as guidelines in daily life for the community. Local wisdom in this research is all ideas, ideas, behaviors, and culture that develop in the local community, are then applied in life based on experience.
Types of Local Wisdom

According to Jim Ife in Hotibin (2013), states that local wisdom consists of six dimensions, namely:

1) Local Knowledge
Every community anywhere in the countryside and in the interior always has local knowledge related to their environment. Local knowledge related to climate change and dry and green cycles, types of fauna and flora, and geographical, demographic and sociographic conditions. This happens because the people have lived in a region for a long time and have experienced various social changes that cause them to be able to adapt to their environment. This adaptability becomes part of their local knowledge in conquering nature.

2) Local Value.
To regulate life together among the community members, each community has local rules or values which are adhered to and agreed upon by all its members. These values usually regulate the relationship between humans and humans, humans with nature and humans with their Lord. These values have dimensions of time, past, present and future mass values. This value will change according to the progress of the community.

3) Local Skills.
Survival ability of every community can be fulfilled if the community has local skills. The simplest local skills such as hunting, gathering, farming to make a home industry. These local skills are usually only sufficient and able to meet the needs of their respective families, or referred to as a sustainable economy. These local skills are also life skills (lifeskill), so these skills are highly dependent on the geographical conditions of the place where the community lives.

4) Local resources.
These local resources are generally natural resources, that is, non-renewable and renewable resources. The community will use local resources in accordance with their needs and will not exploit massively or commercially. Iuni's local resources have been allocated such as forests, gardens, water sources, agricultural land, and settlements. Ownership of local resources is usually collective.

5) Local Decision Making Mechanism.
According to traditional and cultural experts each community actually has its own local government or called tribal government. The tribe is a legal entity that rules its citizens to act as citizens. Each community has a different decision making mechanism - different. There are people who do democratically or "sit together low stand tall". There are also people who do it in stages or steps up and down stairs.

Types of local wisdom according to Hotibin (2013) are:
1. Tangible Local Wisdom
Wisdom that is tangible, includes:
a. Textual, several types of real wisdom such as value systems, procedures, special provisions poured into written records such as those found in primumbon traditional books, calendars, and prasi or written culture on palm leaf sheets.
b. Building / Architecture
c. Cultural / Traditional Heritage Objects (Artwork), for example keris, batik and others.
2. Intangible Local Wisdom

Intangible local wisdom such as advice delivered verbally and hereditary which can be in the form of songs and hymns that contain traditional teaching values. Through advice or other forms of local intangible wisdom, social values are conveyed orally / verbally from generation to generation. The following are examples of local wisdom that contain Sundanese environmental ethics, namely:

a. Inhale my starch, paeh teu nyaho in prey (everything has its limits, including natural resources and the environment).

b. Kudu remembers bali geusan nadi (Humans are part of nature, must love nature, inseparable from nature).

Local wisdom is expressed in the form of wise words (philosophy) barupa of advice, proverbs, poetry, folklore (oral stories) and so on, rules, principles, norms, and rules of social and moral rules that become social systems, rites, ceremonial or traditional ceremonies and rituals, as well as habits that are seen in everyday behavior in social interaction (Haryanto, 2013: 368)

What is meant by local wisdom in this study is folklore that develops in Rembang Regency. This story is already there, then retold in a book written by Mr. Kusaeri Y.S. This book consists of those that have been published and distributed in each elementary school. This book tells about folklore from 14 Subdistricts in Rembang Regency.

Table 2.2 Table Title of Rembang Regency Folklore

<table>
<thead>
<tr>
<th>No</th>
<th>Judul</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Asal-usul Desa Sulang</td>
</tr>
<tr>
<td>2</td>
<td>Terjadinya Desa Kenthong</td>
</tr>
<tr>
<td>3</td>
<td>Putri Cempa</td>
</tr>
<tr>
<td>4</td>
<td>Asal Mula Desa Tuyuhan</td>
</tr>
<tr>
<td>5</td>
<td>Yuyu Rumpung</td>
</tr>
<tr>
<td>6</td>
<td>Panje Sering</td>
</tr>
<tr>
<td>7</td>
<td>Riwayat Terjadinya Desa Kaliori</td>
</tr>
<tr>
<td>8</td>
<td>Pasar Penthungan</td>
</tr>
<tr>
<td>9</td>
<td>Ki Sondong dan Ki Makerti</td>
</tr>
<tr>
<td>10</td>
<td>Sunan Geseng</td>
</tr>
<tr>
<td>11</td>
<td>Lahirnya Demang Waru</td>
</tr>
<tr>
<td>12</td>
<td>Asal Mula Desa Jeruk</td>
</tr>
<tr>
<td>13</td>
<td>Nyai Agung Maloka</td>
</tr>
<tr>
<td>14</td>
<td>Dampo Awang</td>
</tr>
<tr>
<td>15</td>
<td>Terjadinya Randumeteng</td>
</tr>
<tr>
<td>16</td>
<td>Masjid Tiban di Tepi Sungai Babagan</td>
</tr>
<tr>
<td>17</td>
<td>Riwayat Terjadinya Desa Pelang dan Sekitarnya</td>
</tr>
<tr>
<td>18</td>
<td>Terjadinya Desa Dahbong</td>
</tr>
<tr>
<td>19</td>
<td>Brandal Noyo Gimbal</td>
</tr>
<tr>
<td>20</td>
<td>Ki Jalut Sukma Jati</td>
</tr>
<tr>
<td>21</td>
<td>Bende Becak Sunan Bonang</td>
</tr>
<tr>
<td>22</td>
<td>Pantangan Nama Han Bagi Orang Cina di Lasem</td>
</tr>
<tr>
<td>23</td>
<td>Pek Cun Lomba Al;a Tionghoa</td>
</tr>
<tr>
<td>24</td>
<td>Tempat Bersujud dan Makam Sunan Bonang</td>
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Table 2.3 Table Title of Rembang Regency Folklore
Book Volume 2

<table>
<thead>
<tr>
<th>No</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Asal Mula Kadipaten Lasem</td>
</tr>
<tr>
<td>2</td>
<td>Asal Mula Desa Sedan</td>
</tr>
<tr>
<td>3</td>
<td>Watu celeng</td>
</tr>
<tr>
<td>4</td>
<td>Bende Becak Telgawah</td>
</tr>
<tr>
<td>5</td>
<td>Asal Mula Desa Garung</td>
</tr>
<tr>
<td>6</td>
<td>Merta Kusuma dan merti Kusuma</td>
</tr>
<tr>
<td>7</td>
<td>Asal Mula Desa Gunem</td>
</tr>
<tr>
<td>8</td>
<td>Masjid Agung Belitung Di Kalipang</td>
</tr>
<tr>
<td>9</td>
<td>Kisah Ceritas Desa Lodan, Terjan, Dan Sekitarnya.</td>
</tr>
<tr>
<td>10</td>
<td>Riwayat Terjadinya Desa Telas Dan Woro</td>
</tr>
<tr>
<td>11</td>
<td>Sumur Turun</td>
</tr>
<tr>
<td>12</td>
<td>Asal Mula Desa Pamotan</td>
</tr>
<tr>
<td>13</td>
<td>Mbah Bajang Dukun Bayi</td>
</tr>
<tr>
<td>14</td>
<td>Terjadinya Desa Brubulan Dan Desa Pasucen</td>
</tr>
<tr>
<td>15</td>
<td>Tradisi Berangkat Menikah Naik Kuda</td>
</tr>
<tr>
<td>16</td>
<td>Asal Usul Desa Menara</td>
</tr>
<tr>
<td>17</td>
<td>Pantangan Menanam Kedelai, Talas, Dan Ketan Hitam</td>
</tr>
<tr>
<td>18</td>
<td>Mengenal Asal Usul Desa Plawangan</td>
</tr>
<tr>
<td>19</td>
<td>Terjadinya Gunung Genuk Dan Sorak</td>
</tr>
<tr>
<td>20</td>
<td>Boro Tugel Cikal Baka; Desa Kabongan Kidul</td>
</tr>
<tr>
<td>21</td>
<td>Kakek Lindri Dan Nyai Sulastr Sesepuh Desa Babadan</td>
</tr>
<tr>
<td>22</td>
<td>Makam Mbah Sarah Di Sarang Meduro</td>
</tr>
<tr>
<td>23</td>
<td>Pohon Gentiri, Kotak Ajaib Dan Asal Usul Desa Ngadem</td>
</tr>
</tbody>
</table>

2.2 Previous Literature Preview

From several studies that have been researchers read, there are several studies examining puppets as learning media, among others by Evi Rizki Salamah in 2012 in the title of Using Puppet Media in Social Sciences Learning Material Indonesian Prominent Figures to Improve Student Learning Outcomes of Class V Elementary Schools concluded that puppet media material Indonesian independence figures in fifth grade elementary school students can improve student learning outcomes. Zafira and Prima in a 2017 study entitled Thematic Puppet Media Development on the Beautiful Theme of My Country as a Supporting Scientific Approach to Class IV Elementary Schools. From these studies, the results obtained by the assessment of the validation of media experts and material 1 obtained a percentage of 88.23% and 87.50% of the results of the assessment by media experts and material 2 obtained a percentage of 98.50% and 98.43% results of the assessment by media experts and material 3 obtained percentage of 92.64% and 93.75 and finally the results of the assessment of expert material 4 obtained a percentage of 85.93% while the student questionnaire responses obtained a percentage of 97.43% in SD N 08 Tanjungrejo and 98.75% in SD N 03 The scaling and scientific approach questionnaire obtained a percentage of 90.38% in SD N 08 Tanjungrejo and 97.00% in SD N 03 Klaling. The conclusion is that the thematic wayang media is
appropriate and can be used as a supporter of the scientific approach to the theme of the Beautiful State of Grade IV elementary school students. Research on the Introduction of Puppet Characters in the Ramayana Story Using Media Board Games for the Community by D.M Teddy Dwistyawan1, T. Arie Setiawan (2017) also concluded that the Ramayana folklore can provide solutions to the problems of insight and knowledge in the field of folklore in Indonesia. The culture of Ramayana folklore can be used in the wider community, not only in regions or that has a Ramayana culture. The Sang Prabu Board Game can convey the messages contained in the Sang Prabu story to students, students and the surrounding community. The King's Game Board can simulate how a leader. The Tale of Pela Gandong Board Game received a good response from students and students, to be developed by adding mission choices, and other story choices to make it even more interesting.

2.3 Framework of Thinking

This study begins with problems that occur in primary schools in learning speaking skills, especially storytelling. The problems include textbooks that do not accommodate the local wisdom of Rembang Regency, learning has not used suitable media, so students are not enthusiastic in learning. This causes the results of student learning in storytelling is not optimal.

From this problem, the researcher wanted to develop an interesting storytelling media and accommodate the local wisdom of Rembang Regency. Researchers make dami puppet products, then analyze the damian puppet products. After that, collecting stories that accommodate the local wisdom of Rembang Regency. After being tested, it is then applied in learning to tell stories in the high class.

For more details, illustrated in the chart below.
2.4 Hypothesis

Based on the problem and discussion of the theory, the hypothesis in this research is:

1. Development of storytelling media for students in primary schools in the form of puppets based on local wisdom in Rembang Regency to meet the needs of students.
2. The design of dami wayang media development based on local wisdom in learning to tell students in elementary school has met the criteria for media selection.
3. The development of dami wayang media based on local wisdom is effectively used as a medium in learning to tell students' stories in elementary schools.
3 Research Methods

3.1 Research Design

This research used research and development design with ten steps of implementation referring to Borg and Gall theory, due to time constraints, the researcher only used seven steps of research implementation. According to Borg and Gall (in Sugiyono, 2015: 34) states that Educational R & D is based on industrial development research models, where research results are used to design new products and procedures, and subsequently are field tested systematically, evaluated, and refined until they meet the criteria the specifics are effectiveness, quality, and meet standards. This research took place in collaboration with researchers and teachers at SDN Sukorejo, Sumber District, Rembang Regency. The research will be carried out in seven stages of research. The details of the research stages are as follows:

1. Stage I Research and Information Collection

In this stage, the researcher will analyze needs, review literature, small-scale research related to the topic of study. To find out the needs of developing media for storytelling, it is done by conveying a questionnaire related to the needs of the media, speaking, especially speaking skills. Before the questionnaire is distributed, it is first consulted to the supervisor.

2. Phase II Planning

In this stage, the researcher will define the development of wayang dami based on local wisdom, formulate research objectives, determine the sequence of learning to tell stories, and test feasibility on a small scale. The sequence of storytelling learning planned is as follows:

a. The teacher introduces students to Rembang Regency folklore books. Then the teacher asks students to read some titles that they enjoy.

b. Then the teacher will tell stories using dami puppets that have been designed so that the characters match the selected story.

c. Some students try to tell a story in front of the class with the same title.

d. Provide opportunities for students to try to use puppets in storytelling.

While small-scale trials are carried out by small groups of 5 students.

Phase III Developing the initial product in the form of Dami Puppet Media and its Animation The steps taken are:

a. Preparing folklore material in the Rembang Regency Folk Story book.

b. Making dami puppets 1) choose a nice dry dami, 2) the process of making dami puppets, 3) dami puppet animation making.

c. Determine evaluation instruments. The evaluation carried out was an evaluation of puppets and children's storytelling skills. Phase IV Initial Field Testing After the dami puppet media for grade IV elementary school has been formed, it is then assessed by experts based on the format of the assessment item, using the score score assessment, suggestion column, and suggestions for improvement materials. Determination of experts in evaluating development products based on the contents of the assessment format, namely aspects of media feasibility, and aspects of presentation. This test is done. While this initial field test was conducted on grade 4 students with 10 students. Stage V Local Wisdom-based Puppet Revision Revisions were made based on advice from the supervisor at the time of the field test. Based on the results of these revisions can then be made back dami puppet for fourth grade students in elementary school. Stage VI Test Product Use After the revision of wayang dami was carried out based on the judgment of the experts, it was then tested on the main field. The subjects were grade IV students of SDN Sukorejo and SDN
Randuagung, totaling 45 students. A trial to find out the feasibility of wayang dami that has been developed is related to the development of the media of speaking skills, especially storytelling for fourth grade students. Then, it is seen the effectiveness of the use of wayang dami through student learning outcomes through storytelling practice. Stage VII Revision of Field Test Results After being tested, the dami wayang media was subsequently revised based on limited trials in the field, revisions were made to correct the deficiencies contained in the forms of dami wayang, then a prototype of dami wayang media was developed in speaking skills, especially storytelling for elementary school high school students.

Then this study will use class 4 SDN Sukorejo as an experimental class, and class 4 SDN Randuagung as a control class. Experimental research designs can be seen in the following table.

<table>
<thead>
<tr>
<th>Class/Group</th>
<th>Pretest</th>
<th>Treatment</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>O₁</td>
<td>X₁</td>
<td>O₂</td>
</tr>
<tr>
<td>Experiment</td>
<td>O₃</td>
<td>X₂</td>
<td>O₄</td>
</tr>
</tbody>
</table>

Table 3.1 Research Design

Information:
X1: Control Class without the use of wayang dami media based on local wisdom Rembang
X2: The treatment given to the experimental group is storytelling learning using dami puppet media based on local wisdom of Rembang
O1: The results of the pretest performance of the students of the control class's storytelling skills
O2: The results of the posttest's performance telling skills of the control class students
O3: The results of the pretest performance of students' storytelling skills in the experimental class
O4: The results of the post test performance of the storytelling skills of the experimental class students

3.2 Data Sources and types

Data sources in this study were students. The explanation is as follows:

a. The population of this research is the 4th grade students in foster clusters in Sumber District of Rembang Regency in the academic year 2019/2020.

b. The test subjects in this research development are class IV SDN Sukorejo with 23 students as experimental class and class IV Randuagung SDN with 25 students as control class. The research on wayang dami media development in speaking skills, especially storytelling for grade IV elementary school, was conducted in semester 1 of the 2019/2020 school year at SDN Sukorejo, Sumber District, Rembang Regency, Central Java.

Types of Data

The type of data collected from this study is derived from needs analysis, validity data, acceptance data and effectiveness data. First, the data analysis needs of students and teachers. Secondly, data on the feasibility of dami wayang media is obtained from the results of expert validation by providing input for the improvement of dami wayang media before being tested. Third, data on the acceptance of wayang dami media is obtained from the analysis of teacher responses and the results of students' supervised interviews, and data on the effectiveness of wayang dami media are obtained from the results of improved reading skills and learning outcomes that show more than 75% of students are completed individually with KKM 75
From a number of types of data above, it can be proven that the results of the development of puppet dami media based on local wisdom of speaking skills, especially storytelling for grade IV elementary school students, are appropriate to use.

### 3.3 Data Collection Technique

Data collection techniques that researchers use are data collection techniques:

- **a. Qualitative**
  1) Observation of learning
  2) Observation of media needs
  3) Interview

- **b. Quantitative**
  1) Product validation guidelines
  2) Performance evaluation tells the story

### 3.4 Research Instrument

Research instruments that researchers use include:

1) Observation guide to learning to tell stories in high class. This observation guide sheet is used when the initial conditions of learning to tell stories in the experimental class have not used the puppet media dami based on local wisdom Rembang. Then also used in the experimental class after learning to use dami puppet media, and in the control class. This observation sheet is used to find out how the storytelling learning process that occurs in the classroom. There are 5 aspects observed. Among other learning materials to tell stories, teaching techniques to tell stories, the use of media in encouraging story telling, student enthusiasm, and the stories used.

2) Guidelines for observing the need for instructional media for storytelling guidelines based on local wisdom of Apex to students

This observation guide is used to find out how much students' needs for learning media tell stories. Aspects of observation include the enthusiasm of students, the curiosity of students, the interest in using puppets based on local wisdom of Rembang, and the ability of students to use puppets based on local wisdom of Rembang.

3) Guidelines for observing the need for instructional media learning guidelines based on local wisdom of Apex to teachers.

These observation guidelines are used to determine the teacher's need for storytelling split media. The aspect observed in this observation is the teacher's response to the puppet-based Dami local wisdom Rembang, the teacher explains the puppet-based Dami local wisdom Rembang, the teacher uses the puppet-based dami local wisdom Rembang, the teacher creates a pleasant atmosphere in learning to tell using the puppet-based local wisdom Rembang

4) Guidelines for interviewing students

This interview guide is used to see students' answers directly to the needs of wayang dami based on Rembang's local wisdom in storytelling learning. The interview used was a structured interview with 3 questions that were prepared by the researcher.

5) Guidelines for interviewing teachers. This interview guide is used to see the teacher's answers directly to the need for wayang dami based on Rembang's local wisdom in storytelling learning. The interview used was a structured interview with 4 questions that were prepared by the researcher.

6) Product validation guidelines
Product validation guidelines contain aspects that must be fulfilled by learning media and their scoring. The validated aspect is the physical media of the dami puppet media and the form of dami wayang based presentation of the local wisdom of Rembang in storytelling learning.

7) Performance evaluation tells the story

The type of test that researchers use is a performance test to measure the extent of the ability to retell. The aspects assessed during the performance are the story line, the smoothness of storytelling, pauses and intonation, and the expression of students in storytelling.

3.5 Data Validity Test

Need analysis

Data validity test is done by determining the characteristics of needs according to the perception of teachers and students by determining the percentage of answers to each item. The formula is as follows:

$$\% f = \frac{f}{N} \times 100$$

Information:

- $\% f$ = percentage of respondent's will
- $f$ = frequency of answers from respondents
- $N$ = number of respondents

This means that in each item the respondent's answer frequency will be counted. The highest frequency is taken into consideration as a description of the will of the respondent in each question item, so that in the development of prototypes dami media based on local wisdom Rembang must pay attention to these results.

Data Analysis of Dami Puppet Media Validity Test

The next data is the results of the validity evaluation of wayang dami based on local wisdom of Rembang. This assessment is obtained by presenting a prototype of teaching materials to experts with completed assessment sheets that have been provided. The results of the assessment obtained will then be analyzed on a percentage based on the score obtained on each item of assessment. How, after knowing the value of each statement, the value is accumulated and the average score is sought.

The steps in determining media eligibility are as follows:

- Recapitulate data on media feasibility assessment in a table covering aspects, indicators, and values for each validator.
- Determine the average value of the validation results of all validators for each indicator using the following formula:

$$NA = \frac{\sum SR}{\sum SI} \times 100\%$$

Information:

- $NA$: Final Score
- $SR$: Validator Score
- $SI$: Ideal Score (Maximum Score x number of items)
Scores and categories of assessment by media experts can be seen in the table below.

<table>
<thead>
<tr>
<th>Number of Scores Obtained</th>
<th>the Teaching Material Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>0≤x≤25</td>
<td>Less</td>
</tr>
<tr>
<td>25≤x≤50</td>
<td>Enough</td>
</tr>
<tr>
<td>50≤x≤75</td>
<td>Good</td>
</tr>
<tr>
<td>75≤x≤100</td>
<td>Very Good</td>
</tr>
</tbody>
</table>

### 3.6 Data Analysis

The next data analysis is the effectiveness of local puppet-based media based on local wisdom for high-class students can be seen from:

a. Analysis of the results of the performance assessment of storytelling skills

Performance evaluation sheet storytelling skills then in the percentage of completeness of the minimum post-test more than 75% of students complete with KKM 70. Analysis of data effectiveness of the puppet media based on local wisdom for grade IV elementary school students is done using the processing results of storytelling skills obtained in research. To find out the level of effectiveness of the puppet media dami to the ability of students, it can be seen using a Score Test (N-gain) with the following formula:

\[
g = \frac{\text{skor post test} - \text{skor pretest}}{\text{skor ideal} - \text{skor pretes}}
\]

b. Comparative analysis of the average performance results and the percentage of storytelling skills was also carried out in the control class and the experimental class.

Then the researcher will compare the average results and the completeness of the performance of story telling skills between the control class and the experimental class with the following formula:

\[
t = \frac{X_1 - X_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r \left( \frac{s_1}{\sqrt{n_1}} \right) \left( \frac{s_2}{\sqrt{n_2}} \right)}}
\]

Information:
- \( t \) = \( t \) arithmetic which is further consulted with \( t \) table
- \( X_1 \) = sample average 1
- \( X_2 \) = sample average 2
- \( s_1 \) = sample standard deviation 1
- \( s_2 \) = standard sample deviation 2
- \( s_1^2 \) = sample variant 1
- \( s_2^2 \) = sample variant 2
- \( r \) = correlation
References

The Urgency of Indonesian Literary Text Book in Indonesian Learning at SMP/MTs

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Abstract. There are two purposes of this study, firstly to find out the type of textbook used in Indonesian language learning at SMP/MTs and secondly to find out the design of literary learning in Indonesian language learning at SMP/MTs. This research method uses qualitative descriptive methods. Data obtained from interviews and observations. Data processing was done by analyzing the data collected, namely the learning literature observation sheet. The results of this study were that most teachers need a special textbook containing literary material as a complement to the textbooks (compulsory) published by the Ministry of Education and Culture. Literary learning in SMP/MTs is still constrained by the lack of literary material in Indonesian language textbooks.

Keywords: textbooks, literary, learning.

1. Introduction

The teaching and learning process always requires adequate facilities and infrastructure. One of the main tools in supporting the process is the book. Books are part of the continuity of learning. Teachers can manage learning activities effectively and efficiently by means of books. Books can also help maximize the effectiveness of student learning. One type of book that is commonly used in the learning process is a textbook. Textbooks are classified into two namely mandatory textbooks and supporting textbooks. Mandatory text books are textbooks published by the government (Ministry of Education and Culture) which are also called textbooks. While supporting textbooks are textbooks published by private parties both written by individuals and groups. Textbooks mandatory are published and enforced nationally, for that in terms of content is more general. Therefore, supporting textbooks are needed that are able to complement the lack of mandatory textbooks.

Textbooks provided by the government are in accordance with the names of subjects that have been determined according to the curriculum structure of each level of education. In this case, for the Junior High School/Madrasah Tsanawiyah level, Indonesian textbooks have been provided. In Indonesian language lessons are also taught literature. However, so far there has been no textbook that specifically contains material and literary learning.

Based on observations made by researchers at MTsN 1 Pati, data were obtained that the Indonesian textbooks used were for grade VII using the 2016 revised edition of the Ministry of Education and Culture textbook, the 2016 revised edition of the Marbi textbook, and the revised edition of Intan Pariwara textbooks 2016; for grade VIII using the 2017 revised edition textbook of the Ministry of Education and Culture, the 2017 revised edition of Marbi textbook, and the revised edition edition of Intan Pariwara textbook; and grade IX uses textbooks
published by the Ministry of Education and Culture 2018 revised edition and textbooks published by Intan Pariwara 2018 revised edition. Especially textbooks published by Intan Pariwara are only used by teachers as companions to mandatory textbooks. So there is no textbook that specifically covers literary material to support Indonesian language learning.

Literature is a form of art that uses language as its delivery medium. Literature is an inseparable part of Indonesian language learning materials in SMP/MTs. There is a tendency for teachers and students to assume that literature is an exclusive material that can only be learned by talented people or writers. This is what causes literary learning to experience a gap. For this reason, appropriate media (textbooks) are needed so that learning runs better. This is because literary learning cannot be separated from language learning, and vice versa. Literature must be taught comprehensively with language skills, ranging from listening, speaking, reading, writing, and appreciation.

Literature has various genres and subgenres. Literature that is taught at the Middle School/Madrasah Tsanawiyah level broadly includes poetry, prose, and drama. For students, literature is a work of art that will hone the imagination and free students to expression. Literary learning that seems informal can make students seem not to be in learning activities. Therefore, proper literary learning with appropriate media and sources is able to explore and express students' talents, interests and creativity. This often happens in learning to write literature.

Curriculum 2013 has been implemented since 2014 and implemented nationally since 2016. One form of government readiness for the implementation of the curriculum is the publication of student books (textbooks) and teacher books as a means of learning. One of the things that is complained by the teacher is that the textbooks contain less material so that a textbook is needed as a companion and complement to the textbooks. This is in line with what was revealed by Purwanta (2012: 424) that today the position of textbooks is becoming increasingly central in the teaching and learning process because teachers find it difficult and hard to develop their own subject matter, either because of limited time or external pressure. These obstacles are also experienced by teachers who teach in SMP/MTs, especially in learning literary material. Because there are differences in the 2013 curriculum with the previous curriculum, among others, the simplification of the material, the addition of class hours, and so forth.

To obtain concrete data on this problem the researchers conducted field observations and interviews with teacher sources on Friday, April 26, 2019 at the Madrasah Tsanawiyah Negeri 1 Pati located in the Winong District area. Based on these observations, data obtained with the implementation of the 2013 curriculum caused teachers difficulties in adjusting, both in the readiness of teaching and in the readiness of teaching materials. Teachers are required to have extensive knowledge in all materials, while textbooks from the government only provide simple material. So, what many teachers experience is the difficulty in delivering deeper material in each subject. That is caused by the limited new material and supporting media, especially in the literature learning material in Indonesian subjects. The introduction of material to examples in literature learning causes the teacher difficulty in finding books that are suitable with the material and grade level of students.

From the problems above, the researcher concludes that literary textbooks are really needed in junior high schools. In learning literature, teachers and students often encounter difficulties, such as gaining material on various literary genres, finding similarities between literary differences, writing or producing literature, reading literature, listening to literature, staging literature, appreciating literature and many other difficulties. The use of textbooks is needed to make it easier for teachers to deliver learning materials and make it easier for
students to accept learning materials delivered by teachers. However, the use of textbooks that discuss literature specifically is still rare so that teachers and students have difficulty in learning.

There are two purpose of this study, firstly to find out the type of textbook used in Indonesian language learning at SMP/MTs and secondly to find out the design of literary learning in Indonesian learning at SMP/MTs.

There are two benefits of this study; first the theoretical benefit of describing the types of textbooks in learning Indonesian; the second practical benefit is as material in improving literary learning in SMP/MTs.

2. The Nature of Literature Textbooks

Textbooks are the main operational tools for curriculum implementation and non-textbooks are a supporting tool to facilitate the implementation, assessment, and development of learning for students and educators so they must meet the criteria for books suitable for use by education units (Permendikbud No. 8 2016).

One of the books in the world of education is a textbook. Textbooks have a very important role for the advancement of education. Textbooks are books that contain material about specific subjects or fields of study, which are arranged systematically and have been selected based on specific objectives, learning orientation, and student development to be assimilated (Muslich, 2010: 50).

Meanwhile, Kustanto and Hinduan (2009: 3) state that textbooks can be defined as sources of information arranged in structure and order based on certain fields of science.

Warso (2016: 38) revealed that, textbooks are learning materials that are prepared and presented in writing so that readers are expected to absorb the material themselves. Textbooks are created by making an issue of real problems in the field of formal education at an educational level.

Based on some of these opinions, it can be concluded that textbooks are books in the field of education that function as sources of information arranged according to the structure and order of certain fields of science aimed at facilitating the learning process.

Thus, literary textbooks are books that contain literary material as a source of information or teaching material used in the basic education units to tertiary education, arranged according to the structure and order of the field of literature which aims to facilitate the learning process.

3. Characteristics of Textbooks

As has been explained in general, a textbook is a printed teaching material used in a learning activity with the aim of helping understanding learning material. Characteristics of textbooks in general as stated by Muslich (2010: 60) as follows:

1. In terms of content. Textbooks contain a range of knowledge or information that can be accounted for by scholarship.

2. In terms of presentation. The material contained in the textbook is presented by following certain patterns of reasoning, as the patterns of reasoning in scientific offerings, namely patterns of inductive reasoning, deductive, or combination (inductive-deductive).

3. In terms of format. Textbooks follow the conventions of scientific books, both writing patterns, quotation patterns, distribution patterns, and discussion patterns.

In addition to the features above, textbooks also have a purpose for making. Textbooks are made based on the needs of teaching materials in schools. A good textbook is a textbook that
is in accordance with the demands of the curriculum by considering the needs of students, so that according to the characteristics of students and the social environment of students. Thus the textbook will help students in obtaining alternative teaching materials in addition to the available textbooks. In addition, textbooks can also facilitate teachers in carrying out learning. Textbooks become an alternative in learning activities. Making textbooks will provide many benefits such as students getting teaching materials in accordance with the curriculum, students do not depend on textbooks that are available only, students become richer in knowledge with more references, and many other benefits obtained.

4. Method

The method used in this research is descriptive qualitative. This research was carried out in MTs Negeri 1 Pati, Winong District. The subjects of the study were five Indonesian language teachers and Grade VII A students of MTs Negeri 1 Pati. Data collection techniques in this study were carried out through interviews and observations.

Interviews in this study were addressed to five Indonesian language teachers at MTs Negeri 1 Pati. The interview technique is to obtain data on the needs of literary textbooks. Meanwhile, observations were made to grade VII A students of MTs Negeri 1 Pati to obtain data on the conditions of literary learning in Indonesian language lessons.

5. Results and Discussion

Based on the interview results it is known that teachers need teaching materials in the form of textbooks that specifically contain literary material for SMP/MTs in order to support Indonesian language learning especially literary material to be more effective, interesting, and enjoyable. Most of the teachers stated that they had difficulty in obtaining sufficient material and examples of literary texts for the deepening of literary learning. While a small number of teachers consider that literary material is just ordinary material like other text material in learning Indonesian. The results of the guided interview about the need for literary textbooks as in the following table.

| Table 1. The Need for Literature Textbooks as Indonesian Language Learning Materials |
|-----------------------------------------|------------------|------------------|------------------|
| Indicator                              | Number of Teacher | Answers          | Intensity of Answers |
| Teacher's opinion on the presence of Literature textbooks | 5                | is very important | 3                |
|                                        |                  | Important        | 1                |
|                                        |                  | Less important   | 1                |
| Teacher expectations of textbooks used by teachers in learning literature | 5                | Text books that provide complete literature material. | 5                |
|                                        |                  | Interspersed with illustrations that facilitate imagination. | 1                |
|                                        |                  | Includes examples of literary texts, more than one text and based on local wisdom. | 4                |
The table shows the teacher's opinion on the importance of textbooks: 3 out of 5 teachers or 60% of teachers consider the presence of literary textbooks to be very important, 1 in 5 teachers or 20% of teachers consider the presence of important literary textbooks, and 1 in 5 or 20% of teachers consider the presence of literary textbooks is not important. Whereas the teacher's expectation of the textbooks used in literary learning that is, 5 teachers or 100% of teachers want textbooks that present complete literary material, 1 teacher or 20% of teachers want textbooks interspersed with illustrated images so as to facilitate imagination, 4 out of 5 teachers or 80% of teachers want textbooks that include more than one sample of literary texts and are based on local wisdom, and 3 out of 5 teachers or 60% of teachers want textbooks that help guide the production of literary texts. Based on the explanation, the researcher can conclude that the presence of literary textbooks in learning Indonesian in SMP / MTs is very necessary.

The results of observation of literary learning in class VII A (excellent) MTsN 1 Pati showed a variety of responses and activities of students and teachers namely 1) learning took place well, 2) most students were able to understand literary material well, 3) some students were able to appreciate literature, and 4) some students are able to produce literature. Observation results also show some obstacles in learning class, namely 1) some students are lazy to read, 2) some students are not interested, and 3) some students have difficulty in appreciating literature. Based on these observations, researchers can conclude that appropriate media and design are needed so that literary learning becomes more effective, interesting, and enjoyable so that learning objectives can be achieved optimally.

From the results of interviews and observations it can be concluded that literary textbooks are needed by teachers and students to support the effectiveness of learning, facilitate understanding, enrich and deepen the material, and increase students' reading motivation. This is in line with Contesa's research (2018) that the development of the textbook has a potential influence in improving the ability of students to understand Indonesian language material through examples, summaries, and exercises.

6. Conclusions

Literary textbooks are books that contain literary material as a source of information or teaching materials used in the basic education units to tertiary education, arranged according to the structure and order of the field of literature which aims to facilitate the learning process.

The results of interviews with the Indonesian language teacher MTsN 1 Pati showed the urgency of a literary textbook that 1) contained complete literary material, 2) included examples of literary texts, more than one text and based on local wisdom, and 3) helped guide the production of literary texts. Meanwhile, the results of observations of learning shows that there are obstacles in learning literature without the existence of literary textbooks, namely 1) some students are lazy reading, 2) some students are not interested, and 3) some students have difficulty in appreciating literature.

7. Suggestions
Based on the discussion, the researcher suggested that this research should be continued with research and development literature and textbook based on local wisdom literature.

References


The Development of Teaching Material of IPS Based Geographic Environment of Grade Students of Elementary School

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Abstract. This study has purpose to develop the teaching materials of IPS based geographical environment to improve the learning outcomes of the fifth grade students of elementary school. This study applied the Research and Development (R & D) method. The products produced was the teaching materials of IPS based geographical environment. This research was conducted in grade V elementary school in Gebog, Kudus Regency which was determined by using cluster random sampling technique. The data analysis techniques used in this study consists of quantitative descriptive data analysis related to the validity and readability of teaching materials, and to determine the effectiveness of the teaching materials used normalized gain test and t test. The results of this study indicated that (1) the results of the validation carried out on teaching materials of IPS based geographical environment were valid to be tested in the learning. Based on this description, it can be concluded that the development of teaching materials of IPS based geographical environment is effective in improving the learning outcomes of the fifth grade students of elementary school.

Keywords: Teaching Material, Geographic Environment, IPS

1. Introduction

Curriculum development continue to improve the quality of education. Curriculum development is one strategy to improve educational attainment. Student learning activities geared more towards a process approach that students find their own answers to a series of activities that support for the process of the invention will be the answer.

Problems in achieving the objectives contained in the social studies instructional strategies used. This is due to the false notion that social studies learning is rote learning, so the more dominant activity of teachers on students during learning, where teachers are busy teaching materials and students are only required to scrutinize the books that they have. Means of learning is another problem, because the teacher in the not utilize pictures or other media in pebelajaran.

Aligning existing IPS purpose of learning must weigh materials or tools used. Teaching materials that can help stimulate scientific thinking skills are teaching materials that make the students challenged so that students use their thinking skills to solve problems. IPS instructional materials that support for learning is required in aligning existing IPS educational purposes.
The approach to learning is required in order to make students more active and learn to be more fun. Scientific approach according to Kemendikbud (2013:18) is learning to adopt measures student scientists in building knowledge through scientific methods in the process. The activities in this scientific study carried out by scientists adopt measures in building students' knowledge through scientific methods in the implementation process.

Based on observations and information that in learning social studies in primary Gondosari found several problems, including learning activities in grade V SD 5 Gondosari less held the observations and experiments directly on the material being taught so that students seem just listening to the teacher's explanations and memorizing textbooks, teaching materials used glued to the text material and issues, and less develop student activities directly related to the student environment. Teachers also do not have a teaching material should be in accordance with the characteristics of the students' learning environment, so that the materials used can be more contextual.

The learning process by using existing materials have not been able to bring the maximum increase in learning outcomes evidenced by the many students who have not completed in social studies. Problems of low yields social studies based on the value of UAS Semester 1 at SD 5 Gondosari in the academic year of 2018/2019. From the 23 students, only 8 students, or 35%, which completed the KKM 70, the lowest score of 40 and the highest grade 82. Based on the interpretation of study results, the quality of learning still needs to be improved in order to KKM be exceeded. The learning result is still low at 35% of students who exceeded the completeness KKM showed IPS learning process needs to be fixed.

Seeing these foundations, teaching materials based on the geographical environment in which teaching materials to explore the ability of the students are developing the ability of attitudes, skills and knowledge. Teaching material linking the material studied with the environment as a source of learning and making learning meaningful. Teaching materials developed in this study a student textbook.

2. Research Methods

In this study refers to the development of research strategies by Borg and Gall (2003), the present study implementation only to the seventh step (7). This study was performed to improve or develop existing products or create new products by testing the effectiveness of the product produced. Products developed and tested in this study are based teaching materials IPS geographical environment.

Sampling in this study using cluster random sampling technique with a one-stage cluster sampling or making cluster in one step. The sample in this study is elementary that have implemented the curriculum, 2013 in Kudus regency is divided into clusters of districts and sub-districts randomly drawn first, then selected four elementary schools in the District Gebog using random sampling techniques. For the selected SD 3 Karangmalang, SD 1 Kedungsari, SD 10 Gondosari and 2 are located in the district Canyons Gebog.

The field trials conducted in class V Karangmalang SD 3, SD 1 Kedungsari with the number of 32 students as the experimental class. Utility testing conducted experiments teaching material that is pre-experimental model of one group pretest-posttest design according Sugiyono (2015:110-111).
3. Results and Discussion

3.1 Result

Teaching materials developed referring to the 2013 curriculum classes V theme 1 Organ Motion Animals and Humans. The IPS teaching materials developed according to the characteristics of the geographic environment based scientific approach and evaluation tools that make the implementation of student learning is student centered make students active in learning done, so learning more fun and interesting and can improve student learning outcomes. With the scientific stage is expected that students not only master the concepts but also master the skills of scientific thinking in learning.

IPS teaching materials based scientific approach based on geographical environment comprises components scientific approach, this can be seen on stages in the teaching materials. Components in the teaching materials referring to the exposure Hosnan (2014: 39) that the learning activities include measures include: (1) observing (observing), (2) ask (questioning), (3) collect data (experimenting), (4) megasosiasi (associating), (5) communicating (networking).

Validation IPS teaching materials based on the geographical environment thematic learning elementary school class conducted by five people validator. The results validate these materials are presented in Table 1.
Table 1. Results of Validation Environment Instructional Materials Geographic-Based IPS

<table>
<thead>
<tr>
<th>No.</th>
<th>validator 1</th>
<th>The average score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>validator 1</td>
<td>3.32</td>
<td>Very good</td>
</tr>
<tr>
<td>2.</td>
<td>validator 2</td>
<td>3.38</td>
<td>Very good</td>
</tr>
<tr>
<td>3.</td>
<td>validator 3</td>
<td>3.43</td>
<td>Very good</td>
</tr>
<tr>
<td>4.</td>
<td>validator 4</td>
<td>3.50</td>
<td>Very good</td>
</tr>
<tr>
<td>5.</td>
<td>validator 5</td>
<td>3.38</td>
<td>Very good</td>
</tr>
<tr>
<td></td>
<td>Average value</td>
<td>3.40</td>
<td>Very good</td>
</tr>
</tbody>
</table>

Validator assess teaching materials developed with success criteria (very valid) indicates that teaching materials based IPS geographical environment deserves to be implemented in a matter of learning the maps and natural appearance. Assessment conducted by the validator of the teaching materials developed theoretically suggests that the teaching materials are in accordance with the contents, materials and basic competence in material maps and natural features around because by theory, the learning device is said to be valid if aligned with the content, material and competence.

Test legibility legibility by using a questionnaire on 32 students of class V are already using teaching materials. Studentclass V Karangmala n S D 3, SD 1 Kedungsari with the number of 32 students as an experimental class asked to complete a questionnaire legibility teaching materials. This questionnaire is about the attractiveness, content and legibility of teaching materials. Details of the calculation results of the questionnaire legibility teaching materials can be seen in Table 2.

Table 2. Results of the attractiveness and readability Questionnaire Subjects

<table>
<thead>
<tr>
<th>No.</th>
<th>Indicator</th>
<th>Average Percentage</th>
<th>D</th>
<th>LA</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attraction</td>
<td></td>
<td></td>
<td></td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Clarity material</td>
<td></td>
<td></td>
<td></td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Legibility</td>
<td></td>
<td></td>
<td></td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

Information:
D : Disagree
LA : Less agree
A : Agreed
SA : Strongly agree

Seen from Table 2, it is known that 85% of students strongly agreed that the teaching materials that have been developed by this peneliti interesting. They can declare these materials attractive for these materials has an attractive overall appearance. Teaching materials are furnished with attractive colors and images so that students become more enthusiastic about learning. In terms of clarity of the material, 82% of students strongly agree that the teaching materials developed by the researchers has a structure very clear decomposition of the material. Delivery of content in these materials related to everyday life and the geographical environment around the residence of students, making it easier for students to provide direct description. Legibility in terms of teaching materials, as many as 93% of students strongly agreed that the teaching materials developed is easy to read.

The effectiveness of teaching materials developed are measured using the ratio of a given learning outcome before (pretest) and after (posttest) using teaching materials. Questions used in the form of multiple choice questions and problem descriptions. Number of questions used are 30 questions consisting of 20 multiple choice questions and 10 questions description.
Validity calculated by correlating the score item with a score total, valid criteria or not. An instrument tests compared with a table, if $t_{	ext{hitung}}> t_{	ext{table}}$ the test items as valid (Suharsimi, 2006: 72). Furthermore, the reliability of their multiple choice items which gain coefficient of 0.835 reliability test and item descriptions were obtained reliability coefficient of 0.752, which means high reliability coefficient for high reliability if $0.70<r_{11}<0.90$.

The results of calculation posttest data normality about the experimental class are presented in Table 3.

<table>
<thead>
<tr>
<th>Data</th>
<th>Kolmogorov Smirnov $Z$</th>
<th>Sig.</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>initial conditions</td>
<td>0.724</td>
<td>0.032</td>
<td>Normal</td>
</tr>
</tbody>
</table>

Table 3. Normality Test Results

Based on Table 3 obtained significance value = 0.032. When compared with $\alpha = 0.05$, then the Sig $> \alpha$ so that it can be concluded that the results of the experimental class students come from normally distributed population.

The average increase science literacy experimental class students can be seen from the difference between pretest and posttest results. The resulting increase in measured using normalized gain test. Details of the results of individual improvement can be seen in Table 4.

<table>
<thead>
<tr>
<th>No.</th>
<th>Improvement Categories</th>
<th>Average Improvement</th>
<th>The number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High</td>
<td>0.95</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>Moderate</td>
<td>0.68</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Low</td>
<td>0.29</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4. Increased normalized Gain Index

From these results it can be seen that 22 students has increased to the high category value increase of more than 0.70, which means a very effective teaching materials. Then 8 students has increased with the medium category with a value increase of between 0.30 to 0.70 which means the effective teaching materials to be used. But the two students has increased in the low category of less than 0.30, which means less effective teaching materials used for these children. Overall the data can be retrieved from an average improvement of learning outcomes is 0.64, which means the effective teaching materials developed to improve student learning outcomes. Furthermore, to prove the effectiveness of teaching materials then followed by t-test.

In a hypothesis test, there are some provisions that should be used as guidelines. The provision is that if $t < t_{\text{table}}$ or significance value $> 0.05$, $h_{0}$ is received, and if $t > t_{\text{table}}$ or significance value $<0.0$, then $h_{0}$ rejected. In this study, researchers used a sample of 32 people, then the value of degrees of freedom (df) = $n - 2 = 32 - 2 = 30$ and 5% error level to test two parties then can be value = 2.042 (Priyatno, 2010: 113). The result of the calculation hypothesis test using SPSS version 23 independent sample t test results are shown in Table 5.
Table 5. The results of T-test analysis

<table>
<thead>
<tr>
<th>Value</th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>mean Difference</th>
<th>Std. error Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>assumed</td>
<td>5.721</td>
<td>30</td>
<td>0.000</td>
<td>14.642</td>
<td>2.455</td>
</tr>
<tr>
<td>Equal variances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not assumed</td>
<td>5.897</td>
<td>52.488</td>
<td>0.000</td>
<td>14.642</td>
<td>2.471</td>
</tr>
</tbody>
</table>

Table 5 is known that the data in the study is homogeneous, then to find out the results of hypothesis testing can be seen in the column assumed equal variances. Conversely, if not homogeneous, to find out the results of hypothesis testing can be seen in the column equal variances not assumed. Based on the results of a calculation with SPSS version 23 column assumed equal variances can be seen that the value of \( t = 5.721 \) and significance of 0.000. From the results of these calculations can be seen that 5.721 > 2.042 or \( t > t \) table and 0.000 < 0.005 or significance value < 0.05. Based on t-test that has researchers have described above, then H0 is rejected and Ha accepted. So it can be concluded that the teaching material based IPS geographical environment is effectively used in teaching social studies classroom elementary school student.

3.2 Discussion

Technology development and rapid information giving a strong influence in many areas of life, one of which is education. Teachers must have the ability to choose from a variety of teaching methods and models and can use a variety of teaching materials to support learning. According to Yeni (2014) forms of learning are carried out through a contextual approach which connects the contents of academic subjects in the context of everyday life to find meaning and methods that promote the active involvement of students in learning. Stages in the steps of the scientific is a learning process to achieve a resolution. The process here is the stages that must be passed so as not necessarily a direct problem can be solved. The basic competencies that students have with the process to meet existing problems can be systematically completed.

Research on the scientific approach carried out by Kruijering, Et al (2013) which revealed that scientific learning experiences can grow the student's attitude, as long as the level of difficulty of properly matched prior knowledge of the learner. Further research is needed to determine how to improve the curriculum of active research to maximize the impact on learners. Teaching materials based on this scientific approach to interact with the geographical environment in line with the students' learning theory developed by Vygotsky which have the idea that learning for children to do in interaction with the social and physical environment.

According to Nasution (2004: 90) the development of teaching materials have several functions including that as a guideline for students to competencies that must be mastered, as a guideline for teachers to direct the learning activities, and as a means of evaluation. Building a high-grade social studies in elementary school (grades 3-5) is essential in order to build a foundation of knowledge to equip students in the secondary school curriculum (Clullo, 2015). To present the learning material in the IPS utilizes concepts, generalizations and construct a learning model that was introduced by Marlin L. Tanck (in Sapriya, 2016: 57-58) as a model of the structure of science. In carrying out learning social studies in elementary school, teachers must pay attention to the characteristics of children of primary school age are still at
the stage of concrete operations. Teachers should be able to design learning that can arouse the students and connecting material pembelajaran with the geographical environment around the child.

These results are consistent with research conducted by Munir (2014) states that the learning device that is about the IPS-based teaching materials around the neighborhood with a constructivist approach emphasizes learning that is sourced from the surrounding students with learning using the constructivist approach. Effective device used to test the n-gain is 0.44 and the percentage of classical completeness> 80%. IPS learning devices with better environment-based approach of the student conventional learning and mastery of the concept of IPS students who take the learning environment based approach better than the students who follow the conventional learning.

4. Conclusion

IPS based teaching materials developed by phases of the geographical environment scientific approach which refers to the curriculum in 2013, combined with the geographical environment surrounding students. IPS teaching materials based on the geographical environment proven effective in improving learning outcomes IPS theme 1 Organ Motion Animals and fifth grade first semester

IPS teaching materials based geographical environment cannot only be used with the scientific approach to learning, but teachers should also be able to develop with other innovative learning methods such as Problem Based Learning, Discovery Learning, Project Based Learning, which is effective for improving students' thinking skills.

References

Teacher’s Need toward Indonesian Textbook Material Based on Pati Local Wisdom for SMP/MTs

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Abstract. This research aims to describe the teacher's needs for Indonesian textbook material based on Pati local wisdom for SMP/MTs. This research method is qualitative descriptive. The subject of this research was Indonesian language teachers who were in MTs Negeri 1 Pati. The object of this research is nonliterary material of class VII SMP/MTs. The methods of data collection methods are observation and interviews. Data result of the research were analized by qualitative descriptive with three concurrent lines, namely, data reduction, data presentation and conclusion. The results showed that grade VII teachers of MTs Negeri 1 Pati needed the material of Indonesian language textbooks based on Pati local wisdom as a companion book published by the Ministry of Education and Culture. The researcher suggests that, teachers should develop Indonesian textbooks according to learning needs.

Keywords: textbooks, local wisdom, SMP/MTs

1. INTRODUCTION

Language skills taught in SMP or MTs consist of listening, speaking, reading and writing. These skills in Indonesian learning activity have an important role in to understand Indonesian texts.

With the skills of listening, speaking, reading, and writing students expectedly can follow developments in the world of education. These skills are included in Indonesian subjects SMP/MTs level, so they must follow the rules in accordance with the current 2013 curriculum. One of the goals of education is to improve and develop the quality of students in all aspects of life.

The seventh grade SMP/MTs Indonesian language material in the 2013 curriculum now has several additions in the form of description texts, procedures, and observational reports. Nowadays learning in SMP or MTs especially Indonesian subjects still uses textbooks from the government published by the Ministry of Education and Culture. In the textbook there are texts/material sourced from other regions and are commonly known by students. The existing text does not introduce the local culture that should be known by students where they live, and the lack of students interest in learning Indonesian. Another problem is students tend to be lazy, not enthusiastic about learning and not on time in doing the assignments given by the teacher. This raises new problems in learning. Even students who ask the teacher sometimes are not satisfied with the teacher’s explanation because of the lack of material resources.
owned by the teacher. Textbooks are books that contain material descriptions about specific subjects or fields, which are arranged systematically and have been selected based on specific objectives, learning orientation, and student development, to be assimilated (Muslich, 2017: 50). Furthermore Muslich (2017: 98) textbook presentations must pay attention to (1) children's growth and development; (2) individual differences and types of child development needs; (3) and children's learning styles. So a book used by students must adjust the needs, development, differences, and learning styles of children in learning.

Textbooks are textbooks in a particular field of study, which are standard books, compiled by experts in the field for instructional purposes and objectives, which are equipped with teaching tools that are harmonious and easily understood by the users in schools and universities so that they can support a teaching program (Tarigan and Tarigan, 2009: 13-14). Textbooks are books that contain material about specific subjects or fields, which are arranged systematically and have been selected based on specific objectives, learning orientation and student development to be assimilated. This book can be used as a learning tool in schools (Agustina, 2011: 10). (Patombongi et al., 2008: 7) textbooks are a learning tool commonly used in schools for support the teaching program. So the textbook is a learning tool for students to be applied in schools.

In the implementation of the 2013 curriculum at this time, students need textbooks that contain material from their own area. That way, students can easily capture the message contained in the text expressed or implied. The book in question is a textbook based on local wisdom. Local wisdom here such as regional culture, customs, regional specialties, regional specialties. With the emergence of local wisdom, students more easily recognize the region, and not easy to forget their own culture. Local Wisdom is a culture that refers to the cultural wealth that grows and develops in society, is recognized, trusted, and recognized as an important element that is able to strengthen social cohesion among community members (Asnawi, 2016).

Local wisdom is human intelligence possessed by certain ethnic groups which is obtained through community experience. This means that local wisdom is the result of certain communities through their experiences and not necessarily experienced by other communities. This value will be attached very strongly to certain communities and that value has gone through a long time, as long as the existence of these communities (Rahyono, 2009: 11). According to Juniarta et al (in Dhamri, 2016) local wisdom is a value system of life inherited from the next generation in the form of religion, culture or customs which are generally oral in the form of a social system of a community. The existence of local wisdom in the community is the result of a process of hereditary adaptation over a very long period of time to an environment where interactions often occur in it. According to Sumardjoko and Muhammad Musyiam, local wisdom is the values that live in the community, which are believed to be true and become references in the daily behavior of the local community. So local wisdom is a particular community life value inherited from ancestors and its existence is not necessarily owned in other regions.

Local wisdom here is Pati Regency. Pati Regency is a regency located in the eastern part of Central Java Province. Pati is located east of Kudus Regency, north of Blora Regency, and west of Rembang Regency. Pati Regency has a local wisdom that does not exist in other areas. Pati local wisdom that is still thick in its specialty should be appreciated.

Examples of Pati's local wisdom are earth alms, kupatan, the origin of Pati City, Pati's special food namely barren rice. In addition there are tourist attractions namely the gate of Majapahit.
Based on this, the researcher took the title of the research "Teacher’s Need Toward Indonesian Textbook Material Based on Pati Local Wisdom for SMP/MTs". This study aims to describe the needs of teachers of Indonesian language textbook materials based on Pati’s local wisdom for SMP/MTs.

2. RESEARCH METHODS

This type of research is a qualitative descriptive study. Qualitative research is research that intends to understand the phenomena about what is experienced by the research subjects. While descriptive is not intended to test certain hypotheses, but only describe "what it is: about something certain variables, symptoms or circumstances (Arikunto, 2016: 234). Data collection methods used are observation and interviews. Observation is used by observing the material of Indonesian non-literary class VII MTs N 1 Pati. The interview in this study aimed at VII grade teachers of MTs N 1 Pati.

The research data were analyzed descriptively qualitatively with three concurrent channels, namely data reduction, data presentation, and drawing conclusions.

3. RESULTS AND DISCUSSION

The results of observations and interviews revealed that teachers need Indonesian textbook material based on Pati’s local wisdom so that learning is more easily understood by students. In addition, students appreciate the culture that exists in their own environment.

Some of the findings in schools that researchers found when observing and interviewing them, the material in Indonesian textbooks currently uses text that contains readings from outside the student area. In class VII a description of the text that presents the reading entitled "Parangtritis nan Indah". Next in the procedure text there is a reading entitled "Cara Melakukan Gerakan Tari Tor-Tor". Another text is the text of the observation report entitled "Museum". Texts from outside the area received less in-depth attention from students because they were less or even unknown to students who had never been there. The teacher has explained the reading. But there are still some students who don't understand. This of course inhibits learning in the classroom. Judging from the material that is already in the book published by the Ministry of Education and Culture, teachers still need supporting books in addition / supporting material so that students are more interested in learning.

The opinions of grade VII teachers on Indonesian textbook material for SMP/MTs, that they on average agree and need Indonesian language textbook materials based on Pati’s local wisdom. This is in accordance with the table below.

<table>
<thead>
<tr>
<th>Number of</th>
<th>The answer</th>
<th>The intensity of the</th>
</tr>
</thead>
<tbody>
<tr>
<td>335</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicator</td>
<td>teacher’s</td>
<td>answer</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>Indonesian textbook material based on Pati Local wisdom for SMP / MTs</td>
<td>3</td>
<td>very important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>less important</td>
</tr>
</tbody>
</table>

Based on the table above, it can be described that the 3 teachers who were the subjects of the study were mostly interested in and needed Indonesian textbook materials based on Pati's local wisdom. This is evidenced by 2 teachers answering very important, and 1 teacher answering important. The teacher has indeed obtained the means of textbooks from the Ministry of Education and Culture, but the book is deemed lacking in the learning process. Teachers still need books containing Indonesian language materials based on Pati's local wisdom.

Research that is relevant to this research is the Kaldum journal (2016). The purpose of his research was to determine the readability of nonfiction discourse in the textbooks of 2013 XA Curriculum High School students. The readability was analyzed using the Fry Graph Formula. The research method used is quantitative descriptive method. The data used in this study is discourse data contained in the Indonesian textbooks of Self-Expression and Academic handle of 2013 XA High School Curriculum students published by the Ministry of Education and Culture. The similarity in the journal with this research is that they both study textbooks. The difference is that the journal examines the readability of nonfiction discourse, while this research is the need for textbooks.

4. CONCLUSION

Based on the results and discussion described above, it can be concluded that the Indonesian language textbook material based on Pati's local wisdom is needed by Grade VII Indonesian language teachers to support the learning process. With these supporting materials, it is expected that teachers can more easily provide explanations to students. Besides that students can preserve their culture by reading material from their own environment.

Suggestions that researchers can convey is that a teacher should be able to develop their own material for the learning process. In addition, the material that can be taken is from the scope of the local culture itself.

REFERENCES


Effectiveness of Learning Model *Concept Sentence* With Media Puzzle of Activities and Description of Learning Outcomes Writing Skills Class III SD District of Kudus

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**Abstract.** This study aimed to analyze the effectiveness of the application of learning models Puzzle Concept Sentence media on the activities and results of the third grade students in learning Indonesian Writing materials Description. The research is a quasi-experimental study with a control group design nonequivalent form. The population of this research was grade III primary school curriculum of 2013 more than 2 years in Kudus regency 2019/2020 school year as many as 11 elementary schools in the District Dawe. Selection of sampling in this research is techniques *purposive sampling*, Data collection through testing. The method uses the data analysis gains scores and t-test. Results of the analysis showed that N-gain media Puzzle Concept Sentence with the experimental class showed 0.63 and N-gain the control class 0.52 so that both are included in the medium category. The results showed that the effectiveness of the model with the media Puzzle Concept Sentence t-test is based is known that tcount 7.405 greater than the value tabel 2.0030. Conclusions This study is the Concept Learning model Sentence with Puzzle media more effectively used in the activities and learning outcomes Indonesian Writing materials Description of third grade students of elementary Holy District of the conventional learning models.

**Keywords:** Concept Sentence, Puzzle, Indonesian

1. **Introduction**

   Education is an effort to develop students’ abilities optimally through the influence of the environment with the aim of changing the behavior of students in order to be in harmony with the values developed in the community. Hamalik (2010: 3) discloses a process of education is to influence students to be able to adapt as best as possible with the environment and cause a change in him so strongly to function in society. Effective learning is a measure of the success of teachers in classroom management. Learning is said to be effective if the learning outcomes and learning activities of students who use the learning approach is better than the conventional learning is still a certain level of completeness (Susanto, 2015: 54).

   Based on the National Education Minister Regulation No. 22 of 2006 states that the language has a central role in the development of intelektual, social, and emotional learners and is supporting the success of learning across all subject areas. Learning the language is expected to help students know themselves, their culture, and the culture of others. Learning Indonesian directed to improve the ability of learners to communicate everyday written and
spoken in the Indonesian language properly. Indonesian Education is expected to help students in expressing ideas and opinions, find and use analytical skills, communicate effectively in accordance with good ethics and correct.

Language skills are divided into four skills of listening, reading skills, speaking skills and writing skills. Tarigan (2008: 4) describes listening skills is a process which listened to the sounds of language, identify, interpret, assess, and react on the meaning contained in it. Tarigan (2008: 9) states that the skill of reading is to understand the language patterns of picture writing. Tarigan (2008: 16) the speaking skills is the ability to pronounce sounds articulation or words to express, express or convey thoughts, ideas, and feelings. Tarigan (2008: 3) describes the skill of writing is a language skill that is used to communicate indirectly, not face to face with another person.

Fourth language skills are very important in everyday life, particularly writing skills. Writing skills is one very important language skill to master because it requires someone to be able to use the language in writing properly. A person can express his ideas through writing without having to meet in person. However, most people do not realize the importance of writing skills, feeling lazy and reluctant to think and express his ideas through writing. Writing is a productive activity and expressive, so the writing should go through training and practice are numerous and regular. Through writing exercises regularly, can train the skills of a person to express his ideas through writing.

Based on observations, it is known that the ability of third-grade students in writing a description of the still low. In addition, the students' interest towards learning to write descriptions have not seen, because it is not accustomed to expressing ideas through writing. The problem is also supported by the value of Indonesian students learning outcomes based on the value of Deuteronomy Final II 2018/2019 academic year. Some students have not been getting grades that meet minimum completeness criteria (KKM). Of the 20 third-grade students, there are 11 students who earn grades completed by KKM 70. Students who pass are: 12 out of 20 students (55%). Low student learning outcomes showed that most students understanding of the material to write the description on the Indonesian pembelejaran not meet the standards that have been set.

The problems that affect learning skills to write descriptions in need find a way out. To that end, the need for new models of learning, to improve the ability to write the essay description. Through models and instructional media, combined with the good, can be easier for students to express their ideas in writing and attract students to participate in the learning process. One model used is a model Concept Sentence. Huda (2013: 315) reveals that the sentence concept learning model is a model of learning that begins with the delivery of competency, grain material, the formation of a heterogeneous group, the keywords corresponding presentation materials, group assignments and presentation of results of learning and inference material.

In addition to learning models that have not implemented the teachers, the limitations of the media also affects textual and limitations of learning media to be one cause poor performance of students learning Indonesian. The media is one of communication, namely as a messenger from the communicator to the communicant. Learning media is a tool / vehicle used educators in the learning process to assist the delivery of learning message (Rifa'i 2012: 161). One medium that can be used for learning Indonesian is material to write descriptions of media puzzle.

Ismail (2012: 199) states that the puzzle is a game that make up an image or object that has been broken down into several parts. Use of the puzzle in the learning objectives are to
improve the cognitive, affective, and psychomotor. Puzzle is expected to be an intermediary in the child's ability to optimize the three aspects.

2. Research Methods

The population in this study is the third grade students of elementary school that has implemented the curriculum in 2013 more than 2 years in the District Dawe Kudus district consisting of 11 SD. Sampling using purposive sampling techniques which have 2 SD in accordance with the judgment. So that the selected SD 5 Cendono the control class and SD 1 Cendono the experimental class.

The method used to obtain research data is to use the test. The test method in the form of a pretest-posttest used to obtain data on student learning outcomes Indonesian. The learning model used in each of the same class, but the difference is the medium used, the experimental class using a model puzzle Concept Sentence with media control class while applying the learning model Sentence Concept models without media.

Test analysis conducted the analysis instrument and data analysis. The analysis includes the instrument validity test. The data analysis method consists of testing requirements analysis and final data analysis. Test requirements analysis includes median equality test, normality test, homogeneity and N-Gain test while final data analysis is by t test.

3. Result dan Discussion

Data Indonesian student learning outcomes obtained from the pretest and posttest. Pretest and posttest scores of students experimental class and control class is shown in Table 1 below.

<table>
<thead>
<tr>
<th>Data</th>
<th>K</th>
<th>LS</th>
<th>N</th>
<th>Ideal score</th>
<th>score Min</th>
<th>Max score</th>
<th>Average</th>
<th>P (%)</th>
<th>Ket</th>
</tr>
</thead>
<tbody>
<tr>
<td>pretest</td>
<td>E</td>
<td>20</td>
<td>100</td>
<td>50</td>
<td>85</td>
<td>67.75</td>
<td>68</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K</td>
<td>20</td>
<td>100</td>
<td>40</td>
<td>80</td>
<td>65.33</td>
<td>65</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>posttest</td>
<td>E</td>
<td>20</td>
<td>100</td>
<td>85</td>
<td>100</td>
<td>88.33</td>
<td>88</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K</td>
<td>20</td>
<td>100</td>
<td>65</td>
<td>100</td>
<td>83.50</td>
<td>83</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 it can be seen that the average value of learning outcomes Indonesian pretest experimental class 67.75 while the control class 65.33 both of which are included in the category. Scores increased after learning, the average score achieved by students experimental class 88.33 while the control class 83.50. Experimental class that gets the higher score is the class that uses a learning model Sentence with media puzzle Concept.

Before learning to do, learning outcomes Indonesian students from two classes studied in the category C (medium). After learning Indonesian level learning outcomes of students in the experimental class reached category A (high) and the control class category B (high).

Test 2 the average statistical difference conducted to know the difference between pretest and posttest scores 2 class studied. At posttest have done tests of normality and homogeneity tests all normal distribution. Furthermore, to know the difference between pretest and posttest value then continued test of N-Gain.
Test gain score performed to determine the difference between the pretest and posttest. Gain test performed after all the test prerequisites are met, both the average similarity test, test for normality and homogeneity. Based on tests of normality and homogeneity note that the data were normally distributed and homogeneous, then the next test N-Gain. N-Gain test results can be seen in Table 2 below.

<table>
<thead>
<tr>
<th>Group</th>
<th>Average Initial tests</th>
<th>Final test</th>
<th>N-Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>classroom Control</td>
<td>65.33</td>
<td>83.50</td>
<td>0.52</td>
</tr>
<tr>
<td>experimental class</td>
<td>67.75</td>
<td>88.33</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Table 2 it can be seen that the results of the N-gain the experimental class showed 0.63 and N-gain the control class showed 0.52. N-Gain classification is as follows: g <0.30 = low, 0.30 <g> 0.70 = medium, g> 0.70 = high. Results N-gain experimental class showed 0.63 and N-gain the control class 0.52 so that both are included in the medium category. The gain test results we can conclude that the difference between the experimental class is higher than the control class, it can be concluded that learning the experimental class is better than the control class. Furthermore, to prove the hypothesis then followed by t-test.

In a hypothesis test, there are some provisions that should be used as guidelines. The provision is that if t <t table or significance value> 0.05, h0 is received, and if t> t table or significance value <0.0, then h0 rejected. In this study, researchers used a sample of 55 people, then the value of degrees of freedom (df) = n - 2 = 55 - 2 = 53 and standard error of 5% for the second test it can be seen the value = 2.042 (Priyatno, 2010: 113), The result of the calculation hypothesis test using SPSS version 23 independent sample t test results are shown in Table 3.

**Table 3.** The results of the t-test analysis of the effectiveness of the learning model Sentence with media puzzle Concept on learning outcomes Indonesian students of class III SD

<table>
<thead>
<tr>
<th>Value</th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>mean Difference</th>
<th>Std. error Difference</th>
<th>95% Confidence Interval of the Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>7.405</td>
<td>38</td>
<td>.000</td>
<td>-20.56754</td>
<td>2.72347</td>
<td>25.00765, 12.42213</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>7.405</td>
<td>38.575</td>
<td>.000</td>
<td>-21.56754</td>
<td>2.72347</td>
<td>25.00765, 12.42213</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Table 3 it can be seen that the calculation results of hypothesis test by using SPSS version 23 independent sample t test results showed equal variances assumed column on column t indicates 7.405; df is 38; sig. (2 tailed) 0.000; mean difference of 20.56754; lower at
25.00765; Upper amounted to 12.42213. The next column equal variances not assumed in the column t indicates 7.405; df amounted to 38.575; sig. (2 tailed) 0.000; mean difference of 21.56754; lower amounting to 25.007645; Upper amounted to 12.42213.

Note that the data in the study is homogeneous, then to find out the results of hypothesis testing can be seen in the column assumed equal variances. Conversely, if not homogeneous, to find out the results of hypothesis testing can be seen in the column equal variances not assumed. Based on the results of a calculation with SPSS version 23 column assumed equal variances can be seen that the value of \( t = 7.405 \) and significance of 0.000. From the results of these calculations can be seen that \( t > t \) table and 0.000 <0.025 or significance value <0.025. Based on t-test that has researchers have described above, then \( H_0 \) is rejected and \( H_a \) accepted. Thus, the conclusions of this study are learning Sentence Concept model of the experimental class against Indonesian student learning outcomes more effectively.

Implementation of effective learning model Concept Sentence for by Huda (2014: 317) has the following advantages:

- a. Improving student learning spirit.
- b. Help create a conducive learning atmosphere.
- c. Bring up the excitement in learning.
- d. Encourage and develop creative thinking processes.
- e. Encourage students to look at things in a different view.
- f. Raising awareness to change for the better.
- g. Strengthen self-awareness.
- h. Better understand the key words of the subject matter.
- i. Students who are smarter teach students who are less intelligent.

Concept Sentence learning model and lectures with discussion and question and answer variations together requires that students learn in groups. This is done so that students can exchange information and opinions to complete the task. Differences were seen in both classes are on a cooperative learning model Concept Sentence students practice stringing sentences of keywords submitted by teachers so that students learn more pleasant atmosphere and all students can participate actively in learning.

Benefits puzzle according Soedjatmiko (2009) are as follows.

- a. improve cognitive ability, the ability to know and remember,
- b. improve motor skills, the ability to coordinate limbs such as hands and feet,
- c. improve the ability of logic, the ability to think properly and regularly,
- d. improve the ability of creative / imaginative, the ability to generate ideas within the context,
- e. improve visual ability, the ability of the eye catching shapes and colors of objects.

Average increase student learning outcomes were also obtained from the gain test the experimental class in middle category is 0.63 while the control class are also on the criteria being that is 0.52. This shows that the use of cooperative learning model Sentence with media puzzle Concept effectively improve student learning Indonesian writing description materials class III.

This shows that the use of cooperative learning model Sentence with media puzzle Concept effectively improve learning outcomes Indonesian students writing description of the class III material.

This is supported by the results of research conducted by Purnama Sari Asih (2014) which shows the difference in student learning outcomes significantly between learning the concept model of sentence and which are not. The results of student learning outcomes U test showed
0.000 <0.05. The results showed an increase in student learning outcomes. The average percentage of student learning outcomes in experimental class is 88.28, while the control class is 80.71.

Another study was also carried out by Nida Qurrati Ain (2018) shows the results obtained by t test \( t = 13.618 \) price while the price table = 2.056. Because \( t > t \) table ie 13.618 > 2.056, the null hypothesis is rejected.

Research conducted by Natalia Wit, et al (2017) with the results of hypothesis testing on the data obtained posttest note that the value was 19.84 whereas Zhitung Ztabel value at \( \alpha = 5\% \) was 1.96. This means that the value Zhitung> Ztabel (19.84> 1.96) then H1 accepted.

Based on the description, the use of models Concept Sentence with media puzzle learning to write descriptions Indonesian material is effectively used when learning activities that can be used as an alternative in learning Indonesian material to write descriptions in class III.

4. Conclusion

Concept Sentence learning model with puzzles media more effectively use the learning outcomes Indonesian Writing materials Description of third grade students of elementary Holy District of the conventional learning models. Models Concept Sentence effectiveness with media based puzzle t-test is known that tcount7.405 greater than the value ttabel 2.0030.

Teachers in selecting instructional media models and should be tailored to the characteristics and abilities. So that when the learning material presented will be easier to understand and create a fun learning environment.

References

Pertama Negeri 1 Kayan Hilir Tahun Pelajaran 2017/2018. JP BIO (Jurnal Pendidikan Biologi), Vol. 2 No. 1 April, ISSN 2540-802x. (2017)
Principal's Strategies and Approaches to Perform Effective Academic Supervision

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Abstract. Academic supervision is one of the main tasks of the principal. In practice, it is not uncommon for academic supervision to be conducted not following applicable regulations. This resulted in ineffective academic supervision activities. In carrying out effective academic supervision activities, principals need mastery of supervisory competencies and indicators. However, the principal still needs to have a strategy that is a standard educational process and approach to conducting academic supervision. Good academic supervision results allow principals and teachers to take the actions needed to overcome any academic problems that arise. Anticipatory anticipation and solutions to problems that are solutive allow educational activities in schools to run smoothly.

Keywords: principal’s strategies and approaches, effective academic supervision

1. Introduction

The quality of education can be measured by the readiness of schools in addressing, understanding, and carrying out learning tasks and responsibilities. The principal as the leader in the school plays a very vital role in this matter. One of the strategies undertaken is to carry out the supervision of the school principal to monitor, foster, and improve teaching and learning in the classroom [1]. Academic supervision is one of the principal's duties which is intended to improve the quality of continuing education in schools [2].

Academic supervision activities are often found only formally to fulfill the reporting obligations of supervision. Principals tend to assess the structural conditions and completeness of documents alone, without the right approach, long-term, detailed, and problem-based aspects of sustainability [3]. Another problem that often arises is the lack of school supervisory competency. The principal lacks the ability to use a variety of supervisory techniques and strategies. Training and seminars on supervision of school principals are often held, but not a few principals only carry out supervision activities when instructed only or do not carry out supervision activities as they should [4].

This article main purpose is to spell out the strategies that the principal can do to carry out effective academic supervision. This article is expected to provide learning material and information to better understand the principal's academic supervision implementation strategies. Specifically for principals, this article is input and motivation to improve performance in leading and managing schools so that school goals are achieved effectively and efficiently.
2. Academic supervision

2.1 Definition of academic supervision

Supervision consists of the word super (meaning above) and vision (meaning view). Supervision can be interpreted freely as a vision/view from above. The definition of supervision in general in the Cambridge Advanced Learner's Dictionary is the act of watching a person or activity and making certain that everything is done correctly, safely, etc. While the definition of supervision in the organizational context in the Cambridge Business English Dictionary is the activity of managing a department, project, etc. and of making sure that things are done correctly and according to the rules.

Supervision activities in the world of education are called academic supervision. Academic supervision is a series of activities in helping teachers develop their ability to manage the learning process to achieve learning objectives [2]. Academic supervision is a supervisory effort carried out by the principal to provide improvements and enhancements so that learning can be done well and of high quality. Educational supervision is a process of providing professional education services through continuous guidance to teachers and other school personnel to improve and enhance the effectiveness of personnel performance to achieve student growth [5].

Academic supervision activities in schools are generally carried out by the principal toward the teacher. Academic supervision in The Greenwood Dictionary of Education is explained as a process of validation, empowerment, and is part of work professionalism. Supervision activities include providing direction, regulation, and management, but do not fully control the situation. Commitment to high goals and standards is more easily realized when using shared professional norms than strict bureaucratic control. Some forms of academic supervision activities can be in the form of group discussions and peers' suggestions to a process that allows teachers to work independently and be able to supervise themselves [6].

Academic supervision can also be interpreted as a form of service, guidance, assistance, and supervision carried out by the principal to develop, improve, and improve the quality of teaching teachers. The assistance and guidance are professional in nature and are carried out through dialogue to solve learning problems. The principal as a supervisor has the task of assisting and fostering teachers to be more professional in carrying out their duties, functions, and obligations. Academic supervision is carried out in a planned, patterned, and the programmed manner in changing teacher behavior in order to improve the quality of the learning process. Supervision of the principal is important to be carried out to create social situations and conditions that can foster motivation and performance of teachers [7].

Academic supervision is a series of activities assisting teachers in developing the ability to manage the learning process. The intended capacity development is not only limited to increasing teacher knowledge and teaching skills. Capacity building also includes increasing teacher commitment, willingness, and work motivation. Improved learning management capabilities that are supported by high teacher work motivation can be expected to improve the quality of learning in general [2].

2.2 The purpose of academic supervision

Academic supervision programs are carried out to provide guidance and technical assistance to teachers in improving the quality of the learning process. Academic supervision
activities are carried out technically to evaluate the quality of teacher performance in carrying out their duties and responsibilities as a professional educator. For principals, good academic supervision competencies can support principals' leadership in managing all school programs effectively and efficiently. For teachers, other than as a means of performance evaluation, academic supervision conducted by school principals can provide positive input for the development of teacher competencies [1].

The Ministry of National Education of the Republic of Indonesia had specifically formulated 3 (three) general objectives of the academic supervision program, namely:
(1) Professionalism development
(2) Quality control
(3) Growth of motivation

2.3 Principal's academic supervision competencies

The competency of the principal is inseparable from the main tasks and functions as the principal. Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 6/2018 concerning the Assignment of Teachers as Principals defines competence as knowledge, attitudes, and skills inherent in the dimensions of personality, managerial, entrepreneurship, supervision, and social competence. The principal's academic supervision competency is the 4th competency. Academic supervision regulated in Regulation of the Minister of National Education of the Republic of Indonesia No. 13/2007 concerning Principal/Madrasah Standards, which includes planning, implementing, and following up on academic supervision results. Each dimension of supervision competency is further explained in the Supervision Competency Indicator in the Principal/Madrasah Competency Test.

Competence 1
Planning an academic supervision program in order to improve teacher professionalism.
   a. Develop an academic supervision program.
   b. Formulate stages of the technique of academic supervision.
   c. Outlines the objectives of academic supervision in each of the scopes of the implementation and evaluation of learning.
   d. Use an effective academic supervision approach.
   e. Develop monitoring and evaluation procedures for academic supervision.
   f. Formulate the criteria for achieving the objectives of academic supervision (output).

Competence 2
Implementing academic supervision of teachers using appropriate approaches and supervision techniques.
   a. Carry out academic supervision based on the needs and real problems faced by the teacher.
   b. Build relationships with teachers and all parties involved in supervision activities based on the principles of academic supervision.
   c. Use academic supervision approaches and techniques that are appropriate and following the objectives of academic supervision.
   d. Solve the problem of developing academic supervision learning.
   e. Use information technology to support the effectiveness of academic supervision.
Competence 3
Following up on the results of the academic supervision of teachers to improve teacher professionalism.

a. Formulate the criteria for achieving the effects of academic supervision (outcome).
b. Developing instruments for measuring the achievement of direct results (output) academic supervision.
c. Analyze the results of the evaluation for the benefit of follow-up.
d. Develop a follow-up program based on the results of an evaluation of academic supervision.
e. Determine clinical supervision steps.

A school principal is required to have good managerial skills as a leader in a school. The principal's competence in supervising is one of the abilities in the managerial dimension. Supervision activities carried out primarily on the activities, creativity, and performance of teachers. Competent principals will be able to carry out supervision effectively and efficiently to assist teachers in the learning process and can improve teacher performance [8].

3. Effective academic supervision

3.1 The principle of academic supervision

Academic supervision can be said to be effective if it can provide support, guidance, and coaching to teachers to be better in guiding learners and be able to improve teacher performance [9]. For maintaining effective academic supervision, the principal needs to understand the principles in conducting academic supervision activities. The application of these principles aims to create a good relationship between the principal, teachers, and other parties concerned. There are some principles of academic supervision set by the Ministry of National Education of the Republic of Indonesia to ensure effective academic supervision:

1. Practical (it is easy to do according to school conditions)
2. Systematic (it is developed according to the planning of a mature supervision program and learning objectives)
3. Objective (input is the following aspects of the instrument)
4. Realistic (based on actual reality)
5. Anticipatory (being able to deal with problems that might occur)
6. Constructive (developing the creativity and innovation of educators in developing the learning process)
7. Cooperative (there is good cooperation between supervisors and educators in developing learning)
8. Kinship (considering mutual, caring, and fostering in developing learning)
9. Democratic (supervisors cannot dominate the implementation of academic supervision)
10. Active (educators and supervisors must actively participate)
11. Humanist (being able to create harmonious, open, honest, consistent, patient, enthusiastic, and humorous human relations)
12. Continuity (academic supervision is carried out regularly and continuously by the school principal)
13. Integrated (it is integrated with the education program)
14. Comprehensive (it fulfills the three objectives of academic supervision)
3.2 Strategies for implementing effective academic supervision

Academic supervision should be based on the results of the identification of the problems faced by teachers. Therefore, strategies for implementing effective academic supervision must be considered step by step. The main strategy is summarized in a standard educational process compiled by the Ministry of National Education of the Republic of Indonesia.

First, monitoring the learning process is carried out at the planning, implementation, and evaluation stages of learning outcomes. Monitoring is carried out through, among others, focus group discussions, observations, recording, interviews, and documentation.

Second, supervision activities of the learning process are carried out at the planning, implementation, and evaluation stages of learning outcomes carried out through, for example, modeling, discussion, consultation, or reporting training.

Third, the results of the monitoring, supervision, and evaluation of the learning process are compiled in the form of a report for the benefit of continuing follow-up of the professional development of educators on an ongoing basis.

Final, following up on the results of supervision is carried out in the form of reinforcement and appreciation for teachers who demonstrate performance that meets or exceeds standards, and providing opportunities for teachers to take part in ongoing professional development programs.

3.3 Approaches to perform effective academic supervision

Schools as educational service provider institutions, ideally need to have qualified teachers. However, in reality, the abilities, conditions, and personalities of the teachers vary greatly. This requires a different approach to supervision strategy for each teacher and problem situation. There are 3 (three) approaches that can be applied in academic supervision [2], including:

1. Direct approach (directive)
   A direct approach is a strategic approach to the problem approach that is direct. The principal will give directives to educators. The direct approach has the consequence that the influence of the principal is more dominant during supervision. Generally, supervision with a direct approach is done face-to-face.

2. Indirect approach (non-directive)
   The indirect approach is the opposite of the direct approach and was chosen to overcome indirect problems. Principals tend to listen and provide reinforcement in the problem-solving process. The indirect approach can also be done through intermediary media, such as through correspondence, mass media, electronic media, radio, cassettes, internet, and so forth.

3. Collaborative approach
   The collaborative approach combines direct and indirect approaches into a new approach. Principals and teachers agree on the structure, process, and criteria for supervision.

   Also, based on the dynamics of the academic supervision approach above, 2 (two) academic supervision concepts are known [2], namely:

1. Class supervision
   Class supervision is done as an effort to identify learning problems that occur in the classroom and develop alternative solutions. Class supervision is top-down which is technically determined by the school principal.

2. Clinical supervision
Clinical supervision is supervision based on the demand/needs of teachers. Clinical supervision is carried out because of problems that have not been completed in the implementation of classroom supervision. Clinical supervision is bottom-up which technically is determined by the implementation of authentic problems experienced by the teacher, and then it is used as a basis in the preparation of academic supervision programs.

4. Conclusion

This article is tried to show that to perform effective academic supervision, the principal needs to master the required academic supervision competencies and the indicators. Principals need adequate training to improve their managerial skills to ensure that academic supervision is conducted accordingly. Principals must adhere to applicable regulations related to academic supervision activities. The strategy that allows for effective academic supervision starts with the problems faced by each teacher in each school, which is then supervised to find solutions to their completion. Academic problems that have been solved are valuable experiences for teachers and principals in relation to developing their abilities through follow-up recommended from the findings of academic supervision until new problems are discovered.

The accuracy of the selection of approach strategies greatly determines the success of technical supervision activities. The choice of approach is determined by applying psychological principles. Therefore, principals need to hone their competence and sensitivity in determining the academic supervision approach.

Acknowledgements

The work on this article is supported by all teachers and staff at SD 2 Medini, Kudus Regency, Indonesia.

References


Mora’akeke Ceremony as a Local Indigenous Material in Indonesian for Speakers of Other Language Class: an Autoethnography studies in Palu, Central Sulawesi

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Abstract. Mora’akeke was one of the famous a local indigenous ceremony in Palu, Central Sulawesi. Thus, a popularity of this indigenous should be introduced to the foreigner who came to Palu, as well as Universitas Tadulako. This study aimed to describe 1) Mora’akeke ceremony as a local indigenous in as a learning material in BIPA; 2) the cultural function of Mora’akeke ceremony for BIPA learners in Palu, Central Sulawesi; 3) Mora’akeke ceremony as a cultural diplomatic way through BIPA. In this study, the authors used autoethnography method. Furthermore, the experience in BIPA class will be described as a research data.

Keywords: mora’akeke ceremony, local indigenous, bipa

1. Introduction

BIPA or Indonesian for foreign speakers has several dimensions (Suhardijanto[1] 2016; Wurianto[2] 2016; and Damaiant[3] 2016). These dimensions are BIPA as a science, as an industry, as a profession, and as a means of diplomacy. For this reason, the mandate of BIPA is not just in the classroom as teaching Indonesian for foreign citizens. However, BIPA has become a complex space that includes a vision of introducing Indonesian culture on the international cooperation.

Various cultures have colored the teaching of BIPA over time. Local culture is also an integral part of BIPA teaching, both domestically and abroad (Widianto[4] 2016 & 2017[5]; and Siroj[6] 2012). Local culture not only provides students with archaeological insights, it is also a bridge to cultural understanding or is often called cross-cultural understanding. Thus, the BIPA class provides a supply for its students to avoid cultural shock.

The introduction of culture in language learning can be done by preparing local-based teaching materials. The culture that BIPA students will teach is a local tradition or tradition that they will learn during language learning. One of the cultural introductions that will be included in the teaching as a development of local culture-based teaching materials is the Mora’akeke Ceremony. The ceremony is a tradition practiced by the people of Central Sulawesi to avoid natural disasters.
2. Method

This research was designed using the autoetnographic method. A study by directly involved in the process and the discovery of its results. For this reason, in this study, researchers also act directly as practitioners. In addition, the data is presented with a qualitative descriptive method with interpretation of non-formal data.

3. Discussion

1) Mora'akeke ceremony as a local indigenous in as a learning material in BIPA

The ceremony for rain in the Palu region of Central Sulawesi in the Kaili tribe is known by the term Mora'akeke which is etymologically formed from the word Mora ' and Keke. Mora 'is a traditional form of ritual performed through the symbol of sacrificial acts, that is, sacrificing / slaughtering animals to obtain blood as a ransom for the sins of the individual parties. Next, Keke is in the Kaili dialect which means river. Keke is the center of ceremonial maintenance, because the river is considered sacred, easy to associate with water gods and is considered the right place to drain the blood of sacrificed animals. Mora'akeke is a traditional form of rejection of the occult because of drought by sacrificing certain animals upstream in an effort to establish a magical world connection to keep the drought away.

After the community felt a prolonged drought and noticed that the water flowing from the headwaters of the river was getting less, then through traditional parents it was proposed to the king about the necessity of holding a ceremony for rain. The King was asked for blessing and the considerations regarding the ceremony period were emphasized at the meeting.

The ceremonial place is a place that is considered sacred to have magical resources, because of the existence of a power that is in that place, and asks for the occurrence of natural events according to his wishes. It is described as a guardian and occupant of a certain place called the God of water.

According to the community budget, if the water that flows from the headwaters of the river is increasingly decreasing, it indicates the wrath of the water god, so in that place it is necessary to hold a ceremony by offering certain animals based on customary guidance. Reduced water in the headwaters of the river, closely related to rainfall. Both are determined by one natural force controlled by one god, the god of water. The water god named Inteka who inhabits river water.

There are several unique or mythological locations in the ceremony. These mythologies are, 1) the Kaili people hold deliberations to reach consensus without discriminating social status; 2) Kaili people are used to working together in doing a job; 3) the Kaili people highly respect their ancestors; and 4) the Kaili tribe believes that all the calamities that have taken place are a form of reprimand for the sins committed.

This particular Moraakeke culture can be used as teaching material in teaching BIPA. This is in line with text-based teaching in BIPA. Moraakeke is located as a complex text and gives a complete description of life in Palu. Students can learn the values that develop in Palu as the main provision in socializing and socializing. As such, they don't just learn languages. However, they are also able to recognize, appreciate, and practice the local culture that is trusted by the local community.
2) The cultural function of Mora’akeke ceremony for BIPA learners in Palu, Central Sulawesi

The Moraakeke ceremony in Palu has several functions. First, this ceremony serves to maintain the sustainability of rainfall, so that the only source of livelihood of the population is given fertility and blessing, so as to provide multiple and satisfying results. In addition, the community also believes that this ceremony was carried out so that the water god named Intenka could give his blessing through religious magical nature. In addition, this ceremony is used as an effort to cleanse humans from all sins that cause the misery of society by causing prolonged drought.

The Moraakeke tradition needs to be introduced to BIPA students, especially in the Palu area. It aims to provide local insights for learners. In addition, this tradition has a sacred value. Therefore, values that are trusted by the local community need to be known by BIPA students. Thus, students can be wise and be able to respect the local specialties in their homes.

3) Mora’akeke ceremony as a cultural diplomatic way through BIPA.

The introduction of culture in BIPA still relies on the culture of the archipelago that is commonly known. The culture explored by teachers has not yet penetrated into the local peculiarities that exist near learners. This is due to the lack of local cultural literature. For this reason, local culture needs to be explored as teaching materials and learning media in the BIPA class. Thus, local cultural diplomacy can also be one of the BIPA teaching missions both at home and abroad.

The introduction of Moraakeke culture brings BIPA students closer to Palu with the local socio-cultural situation. Moraakeke as a mythological tradition is an attraction for BIPA students. In addition, this culture can also instill the noble values that exist in Palu to BIPA students. The effect of this learning can provide wisdom in the learner. In addition, students also get closer to the socio-cultural conditions in Palu, Central Sulawesi.

This introduction result to Moraakeke culture can also strengthen Indonesia's identity as a multicultural country. Other nations will recognize Indonesia with its cultural diversity. Culture that is known not only cultures that are already popular, but local cultures that exist and develop in the midst of local communities. Thus, cultural diplomacy occurs well in the teaching of BIPA.

4. Conclusion

Local culture or Moraakeke ceremony is considered appropriate as teaching material in BIPA. This culture can be used as a means of local cultural diplomacy. The process of local cultural diplomacy is not only able to raise local uniqueness on the international scene. However, it is also able to instill local values in the lives of BIPA students while living with the local community. Thus, they can live wisely and respect each other with Indonesian citizens.

References


The Impact of School Culture on Social, Independent And Disciplined Characters on Elementary Students In The District Mranggen Districts Of Demak

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Abstract. The purpose of this research is (1) find out how much the impact of school culture on social character development in elementary students; (2) knowing how much the impact of school culture on developing independent character in elementary students; (3) find out how much impact the school culture has on the development of the character of discipline in elementary school students; (4) knowing the highest character impact of the application of school culture to the development of social, independent, and disciplined characters in elementary students. The number of student violations that occur at school such as being late for school, students skipping during study hours, lazy learning, often not attending school, not doing assignments given by the teacher, not doing homework, etc. This has received attention from school institutions by implementing policies such as applying school culture to have an impact on good character for students. This method of research uses quantitative research. Research subjects include principals and high-class elementary school students in Demak district. The data collection techniques used are interviews, polls, and documentation. Sampling techniques using random sampling techniques. The data analysis technique uses data analysis techniques of correlation, regression, and ANOVA testing. The results showed that (1) there was the impact of the school's culture on social characters with the correlation 0.638 (2) There was a school culture impact on the independent character with the correlation 0.294 (3) There was a school culture impact on the character discipline with the correlation 0.335. The highest cultural impact is on social character.

Keywords: culture, school, character, social, independent, and discipline

1. INTRODUCTION

Reality in the field shows that there are still many educational organizations in this school, yet produce quality output because of the learning process and the character of the culture has not been good. School culture seems to be a monotonous rule and a mere slogan because of its rules but rarely implemented. The school still tends to maintain the old school's habits and policies, although it is sometimes outdated.

Anden (2013:168-169) suggests that school culture is an adoption of the organizational culture, which is the norm that tells people what it's welcome and what it doesn't, the dominant values that the organization has appreciated The organization's main rules, a philosophy that is adopted by an organisation in interacting with people inside or outside the organization.
As a typical character embraced by all members of the school, school culture can be a guide that provides a good framework and foundation in the form of ideas, spirits, ideas, and ideals that lead the performance of teachers to achieve school objectives and quality expected education. This is in line with the thought of Ansar and Masaong (2011:187) that suggests that the school culture affects how the work is done as well as how the school citizens behave. Thus the culture prevailing in the school run by its members, plays an important role in improving the quality of the Members’ performance in it.

Researchers conducted research at Mranggen Elementary School in Demak District, because reality in the field is still found learners who level of social character, independent, and discipline is still low. The problem formulation in this study is: 1) How does the school's cultural impact on the development of the social character of elementary students?. 2) How the school's cultural impact on the development of independent-character elementary students. 3) How to impact the school culture on the development of the discipline character of elementary students? 4) What is the highest character impact of the school's cultural implementation on the development of social, independent, and disciplined character in elementary students?

The purpose of this research was to: 1) Find the school's cultural impact on the development of student social character. 2) Find the school's cultural impact on the development of students independent character. 3) Find the school's cultural impact on the development of student discipline character. 4) Describing the highest character impact of the school's cultural implementation on the development of social, independent and disciplined character in elementary students.

This research is expected to provide benefits for teachers to add knowledge development and insight into the impact of school culture on the social character, independent, and the discipline of SD students in the district Mranggen district of Demak, can help teachers in carrying out its task to be able to improve the quality of learning based on the planting of values of social character, independent, and discipline, and make students understand that the success of education is not only measured from cognitive but also characters including social, self-reliant, and discipline.

Marzuki (in Supardi (2014:121), school culture is a cultural condition around school and a comfortable atmosphere that is suitable and conducive to learning which can improve academic achievement. According to Creamers and Scheerens (in Supardi (2014:121), school culture depicts the cultural state of all the school residents in a harmonious, friendly or caring manner. A friendly relationship to school culture occurs because there is a good relationship between the principal, the teacher, and the learners.

Hoy and Miskel (2008:234), school culture are: "School culture climate is a relatively enduring quality of the school environment that is experienced by participants, affects their behavior, and is based on their collective perceptions of behavior in school". According to Rivai and Murni (2009:231) school culture is a characteristic that distinguishes one school from another and that it affects the individual behaviour of the school organization. They further explain that school culture is a broad requirement that refers to teacher perception to the main working environment of the school, the formal organization, the informal, the personality of the participants, and the leader of the organization that influenced it.

From the explanation above it can be interpreted that school culture is the totality of habits and behaviors that appear in school society, including the enforcement, belief, art, norms, beliefs, morals, hopes, and abilities gained as members Community of school citizens.

Lickona (in Imas Kurniasih & Berlin Sani 2017:78) states that three components of good character include moral knowing (knowledge of morals), moral feeling (feelings of moral),
moral action (moral deeds). So with these components, one is expected to be able to understand, feel, and work on religious values, social norms, regulations or laws, academic ethics, and principles of human rights.

Lickona (in Wibowo 2012:32) explains that character is a person's natural nature in responding to the situation immoral. This natural nature is manifested in real action through good behaviour, honesty, responsibility, respect for others, and other noble characters.

Jack Corley and Thomas Philip in the Samani (2016:42) Declare the character a person's attitude and habit of enabling and easing moral action. The character building process is a long journey. It takes steps to be passed by anyone who wants to form a character, including social, self-reliant, and disciplined characters.

Social characters are attitudes and actions that always want to give help to other people and communities in need. Beron and Byrne (2005:111) states that caring is an attitude that one has to give attention to the neighbor or the surrounding environment, in this research is only focused to attention to each other because of its scope Only on social care characters.

Factor that affect a person's social character consist of: (1) genetic or congenital factors from birth; and (2) environmental factors. Genetic or congenital factor of birth is everything that has been brought from birth, both mental and physical. Environmental factors are something that exists outside the human being, both alive and dead.

The educational environment factors become one that affects the social character formation of learners in addition to environmental factors and others. The school as a formal educational institution trusted by the public to educate their children, in addition to providing science, technology, and Art, should also be able to develop aspects of moral and religious values in order Forming attitudes and behaviors of people who are noble (noble) character, so that it can be a nation that is a polite and dignified.

Social character is part of a character education that hints at the formation of human beings' personal values. This social character is important because of the interaction of human personal interactions in his life. Social characters formed in human personal will equip them to be able to live alongside compassion, mutual respect, democratic, cooperation, peace, and mutual attention.

The word independent according to the Bahasa Indonesia dictionary is in a state of being able to stand alone; Not dependent on others. The word is self-reliance which means that things or circumstances can stand alone without relying on others. The synonym of the word independent is self-reliant, which is standing on the feet alone; not relying on the help of others.

From the above sense, Suparman (2003:31), it is that the independent character education is an education that forms morality, character, and human mentality so that his life does not depend on or rely on other parties, not dependent on the help of others. Self-esteem is aimed at the human beings who believe in themselves in the business of doing things. Independent characters encourage and spur a person to solve his or her life issues, so he is motivated to take initiative, create, innovate, proactively and work hard. The education of self-sufficient ethics spur one's courage to do or react, not be resigned and frozen, remain dynamic, energetic and always optimistic towards the future.

Discipline is one of the values of character that can be implanted in students as one attitude in learning. The Salahudin (2013:111) defines discipline as an act that demonstrates orderly behavior and adhering to various provisions and regulations. Samani (2012:121) believes that the character of discipline is the attitude and behavior that arises as a result of training or habit of obeying rules, laws or orders.
Suryadi (2013:8). The disciplinary indicators include: 1) on-time task completion 2) reminding each other of friends so that all class assignments are carried out well, 3) always inviting friends to keep class order and classroom environment, 4) dressed modestly and neatly.

Based on the understanding, the character of discipline is a behavior by someone in order to obey the existing rules. A disciplined character is a behavior that a student can show at school.

**Skeletal thinking**

The cultured nation usually has a reliable and powerful human resources and can implement it in everyday life. The character of a child needs to be applied early because at an early age child character formation is easier to implement. Character education can help students to have good habits and behaviors in everyday life, whether at home, in school, or in society.

The study sought the impact of school culture on social characters, independent characters, and the discipline of elementary school students in the Mranggen sub-district of Demak district. Students’ character can be formed through a conducive school culture.

To give explanations of the framework think this research can describe as follow.

**School culture**
Departing and returning home schools. Implement class picket, perform schoolwork well, have your own stationery, find your own learning resources, have confidence and sense of responsibility, self-regulate, self-control if you make mistakes

**Social character**
Empathize with fellow schoolmates, perform social action, build harmony

**Independent characters**
Depart and go home independent schools, implement class picket, perform school assignments well, have your own stationery, find your own learning resources, have confidence and sense of responsibility, set yourself up, control yourself if you make mistakes

**Character discipline**
Familiarize your presence on time, familiarize meet regulations, use
This research uses quantitative research design with multivariate analysis method because it presents the data in the form of numbers and then described using readable words.

In this research the techniques to be used in collecting data are interviews, questionnaires, and documentation.

Instruments in quantitative research can be tests, interview guidelines, observation guidelines, and questionnaires. In this research the instruments to be used are interview sheets and questionnaires.

Sugiyono (2018:335) data analysis is a process of finding and structuring systematic data obtained from interviews, field records, and documentation by organizing the data into the category, describing into units, Perform syntheses, devise into patterns, choose which are important and to be learned, and make conclusions so that they are easy to understand by themselves and others.

2. RESULTS OF RESEARCH

The research results of data on school culture, social characters, and discipline can be seen as follows:

Table 1. The student's category of school culture, social character, and discipline No aspect category student percentage of high-categories

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect</th>
<th>Student Category</th>
<th>Percentage of high category students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>School culture</td>
<td>High</td>
<td>73%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>14%</td>
</tr>
<tr>
<td>2</td>
<td>Social characters</td>
<td>High</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>78%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>11%</td>
</tr>
<tr>
<td>3</td>
<td>Self-reliant characters</td>
<td>High</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>12%</td>
</tr>
<tr>
<td>4</td>
<td>Discipline characters</td>
<td>High</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>11%</td>
</tr>
</tbody>
</table>

Testing of normality was frozen using Kolmogorov-Smirnov to variable school culture and social character, independent, and discipline. Variable Data is said to be a normal distribution if the level of significance Kolmogorov-Smirnov more than 0.05. Summary of test results normality can be seen in table 2.

Table 2. Normality Test Summary

<table>
<thead>
<tr>
<th>Variable Research</th>
<th>Aspect</th>
<th>Significance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent</td>
<td>School culture</td>
<td>0.498</td>
<td>Normal</td>
</tr>
<tr>
<td>Independent</td>
<td>Social character</td>
<td>0.894</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Independent character</td>
<td>0.634</td>
<td>Normal</td>
</tr>
</tbody>
</table>
Based on table 2, all variables are normal distribution with all levels of significance of more than 0.05. Test the correlation of school culture against social characters, independent characters, and disciplined characters tested by the correlation test product moment, can be seen in the table as follows:

**Table 3.** Correlation of school culture with social characters

<table>
<thead>
<tr>
<th>School_culture</th>
<th>Character_social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1 ( \times ) .638**</td>
</tr>
<tr>
<td>N</td>
<td>68</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>Character_social</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td>N</td>
<td>68</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
</tbody>
</table>

Interpretasi r menurut pearson, yaitu:

- 0 : No correlation
- > 0 – 0.25 : Very weak correlation
- > 0.25 – 0.5 : Enough correlation
- > 0.5 – 0.7 : Strong correlation
- > 0.75 – 0.99 : Very strong correlation
- 1 : Perfect correlation

From the analysis, it is known that respondents as much as 68 resulted in a correlation value of 0.638, so that the school culture variable (Y) with the social character Variable (X1) has a very strong relationship.

**Table 4.** School culture correlation with Self-reliant characters

<table>
<thead>
<tr>
<th>School_culture</th>
<th>Character_independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1 ( \times ) .294</td>
</tr>
<tr>
<td>N</td>
<td>68</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.086</td>
</tr>
<tr>
<td>Character_independent</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td>N</td>
<td>68</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.086</td>
</tr>
</tbody>
</table>

From the analysis, it is known that respondents as much as 68 resulted in a correlation value of 0.294, so that the school culture variable (Y) with the Self-reliant character Variable (X2) has enough relationship.

**Table 5.** Correlation of school culture with character discipline

<table>
<thead>
<tr>
<th>School_culture</th>
<th>Character_discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1 ( \times ) .335</td>
</tr>
<tr>
<td>N</td>
<td>68</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.057</td>
</tr>
<tr>
<td>Character_discipline</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td>N</td>
<td>68</td>
</tr>
</tbody>
</table>
From the analysis, it is known that respondents as much as 68 resulted in a correlation value of 0.335 so that the school culture variable (Y) with a variable of character discipline (X3) has enough relationship.

3. CONCLUSION

The conclusion of the study is that there is a significant impact between the school culture and the 0.638 social character with a strong correlation value, there is a significant impact between the school culture and the self-reliant character 0.294 with the value of Enough correlation, there is a significant impact between the school culture towards the discipline character of the 0.335 Sebasar with sufficient correlation value. From the impact of the three characters, social characters, independent characters, and disciplinary characters, the highest significant impact is the school culture with the social character of 0.638 with a strong correlation value.

BIBLIOGRAPHY


The Strategic Orientation of Entrepreneurship on The Small and Medium Business At Batik Kudus As A Heritage Culture

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Abstract. Kudus is a small town with a variety of diversity found in the community. In the city of Kudus there are also 2 Sunan namely “Sunan Muria” and “Sunan Kudus”. Sunan Kudus himself left a teaching "Gusjigang", which is an acronym for "bagus, ngaji, dagang". This philosophy motivates Kudus residents in trading and entrepreneurship, in Kudus the trade and SME sectors are the economic drivers and one of the backbone of the economy of Kudus Regency, including Kudus Batik. The Kudus Batik Industry is an industry that elevates the local wisdom culture of the "Local Wisdom" of Kudus Regency, in terms of its motives raising the local culture and the folklore of Kudus into a uniqueness & distinctiveness compared to other batik. In the product development program, the theme of the sacred batik was focused on activities (1) Marketing and management training, (2) Digital marketing training, (3) Batik application training and assistance with J Batik Digital Program, (4) Production Improvement, (5) Marketing Expanses.

Keywords: Batik, marketing, production, management, SMEs

1. INTRODUCTION

Kudus is a small town with a variety of diversity found in the community. Starting from religion, work, trade, to culture. In the city of Kudus, there are also 2 Sunan of Walisongo who spread Islam on the ancient island of Java. Sunan Kudus himself left a teaching “Gusjigang”. Gusjigang is an acronym for "bagus, ngaji dan dagang". Gus means good, ji means the pray, gang means trade. In terms of good morals, diligently reciting the Qur'an, and good at trading. Gusjigang itself has been firmly attached to the life of the Kudus community. From this philosophy that motivates the citizens of Kudus in trading and entrepreneurship, it's no wonder that in Kudus the trade and SME sectors are the economic drivers and one of the backbone of the Kudus Regency's economy. Among them are UKM Batik Kudus, Kudus Batik expected to be popular from 1880 - Just like batik in other coastal areas such as Pekalongan batik, Jepara batik, Pati batik and Lasem batik, Kudus batik also has bright colors with unique motifs that are so distinctive. One thing that distinguishes Kudus batik from other batik is the cultural
acculturation between Chinese, indigenous, and Islamic elements. 1940 and developed until 1970.

Local wisdom is a product of the past culture that should be continuously used as a guide for life. Although the wisdom is local, the values contained in it are universal. The source of the value of local wisdom comes from religious values, or religion in general, in addition to the values learned by humans from nature. These values are accepted by the community and used as a way of life (Sartini, 2009: 9-10). Batik art is one of the results of culture known since the ancestors. Batik is highly admired not only for its complicated processes but also in its unique and beautiful motifs and colors, which are full of symbolic meanings (Indarmaji 1983: 123).

One of the Batik UKM that started to develop now is in Gebog sub-district, precisely in the villages of Gribig and Karangmalang with a fairly bright export prospect. The UKM is Alfa Shoofa with its design that lifts traditional arts and stories - the history of Kudus city has a pretty bright export prospect.

Batik craftsman must be able to read market trends that are developing at this time, not to supply abundant similar products, but must be able to develop different designs or motifs that have particular characteristics, especially not mutually imitating each other. One of the classic problems in developing batik is that the color of batik is still monotonous, dominated by dark colors and tends to be black or brown.

Management of business management that is still low is also one of the problems in UKM Batik. Financial structuring and financial records from UKM UKM are still done simply like a family business. Corporate finance is still mixed with owner's finances. There are no accounting / financial programs / software yet used to record cash inflow and cash outflow and budget preparation. Tax obligations have been fulfilled by SMEs, but sometimes it becomes a separate obstacle due to the lack of understanding of taxation procedures, the current problem is the government requires employers to fill SPT on line which for SMEs themselves are still having difficulty in filling e-filing and how to access them.

Most of the capital operated by the majority of UKM UKM is own capital. Most SMEs do not understand the procedure for lending to banks. Without financial reports prepared according to PSAK standards by SMEs, SMEs will have difficulty accessing loans to banks. Through guidance and assistance from the government of research and technology (RISTEK DIKTI) through the regional superior product development program (PPPUD) through universities team on an ongoing basis to be able to increase production capacity, production quality, improvement management, marketing, environment and other aspects.

2. IMPLEMENTATION AND METHODS

The implementation of the activities of the Regional Superior Product Development Program for the second year will be carried out starting in February 2019 at UKM partners, UKM Alfa Shoofa. The methods used in carrying out the Batik Kudus Regional Superior Product Development program in Kudus Regency, Central Java Province, are (1) Marketing and management training, (2) Digital marketing training, (3) Batik application training and assistance with J Batik Digital Program, (4) Production Improvement, (5) Marketing Expanses

3. RESULTS AND DISCUSSION
This community service activity is aimed at increasing the production of Batik as well as developing towards the Regional Superior Products of Kudus Batik in Mitra UKM, namely UKM in the Alfa Shoofa Batik craft industry. The results of the activities that have been carried out include:

1. **Marketing management training**

   The aim of the training and mentoring is to provide insight for partner SMEs in innovating products in the form of goods, services, ideas. Improving the quality and quality of Kudus batik because consumers will love the products that offer the best quality, the best performance and the best traits so that Alfa SMEs must focus on continuous product improvement, like products that are easily available and very affordable, therefore management must focus on improving production efficiency and distribution.

![Fig 1. Marketing management accompaniment](image)

2. **Digital Marketing Training**

   This digital marketing training workshop was carried out with the theme "On Line Business Training" with UKM Alfa Shoofa participants and also invited SMEs in Kudus district. This activity brought in expert digital marketing experts from Bukalapak. Digital marketing is now a trend that is starting to develop in the world of entrepreneurship. Almost everyone around the world uses internet services for their daily needs. This makes a great opportunity that can used by partner SMEs to reach a wider market. To develop its market SMEs must plunge into cyberspace and have special tricks to be able to lure more customers to buy this Kudus batik product. But there is a major problem faced by SMEs, which is that they are still constrained in the field of technology. The purpose of this training and mentoring activity is expected that SMEs especially SMEs of Kudus Batik service partners can open their horizons about the digital world and can start marketing their products to all corners of the
world, so as to increase the export activities of Holy Batik, and open the way to become SMEs worldwide.

![Accompaniment in PPPUD team activities](image1.png)

**Fig 2.** Accompaniment in PPPUD team activities

3. **Batik application training and assistance with J Batik**

So far, the batik SMEs only know that the process of making batik patterns can only be done with canting and a piece of cloth, but now along with the development of information technology software has been developed to design batik, one of which we introduce to UKM Alfa Shooafa and Muria batik is J-Batik software. With JBatik design software, the process of making batik patterns can be done by mapping batik patterns mathematically which will then be translated into digital batik patterns by batik software with jBatik. Even with just one pattern when combined with other patterns in jBatik can produce new batik patterns (Elam, 2001).

![Create Pattern with J-Batik Program](image2.png)

**Fig 3.** Create Pattern with J-Batik Program
4. Production Improvement

In order to improve production and increase production capacity, the service program is enhanced by: (1) supplying two electric stoves for written batik for each UKM as many as two, with the following specifications: Power: 125 Watt, voltage: 220 Volt, and working temperature: 600°C - 900°C.

(2). Procurement of “kenceng tembaga”, kenceng tembaga is useful as a cloth container in the process of releasing wax night on the fabric by dipping in boiling water, this copper kenceng is needed by SMEs. Its in the “pelorodan” process in addition to its large capacity compared to the drum, because so far in the two SMEs washing process still use drums, while these drums have many disadvantages of which often experience leaks, so often replace the drum and instead lead to waste.

Fig 4. Layout and Edit with J-Batik

Fig 5. “Kenceng Tembaga” from PPPUD team investment to production in Batik Kudus
Fig 6. Production tool from PPPUD team

Fig 7. “Pelorodan” Process in Production Kudus Batik Crafts Industries

Fig 8. The Process called “Mencanting”
5. Marketing Expanses

In the context of marketing expansion, among others, it is done by improving and developing marketing through the website. In addition, in order to increase product sales turnover by participating in exhibitions both at home and abroad, including in Malaysia taking part in the Indonesia Creative Product Festival at the Kuala Lumpur Malaysia Putra Word trade center, Muslim Fashion Festival, Civex Exhibition in Batam, Riau, Exhibition at JCC Senayan, following the Indonesian Fashion Chamber, and also through coverage in television and print media. In an effort to expand the market network, the PPPE team has also prepared brochures, business cards and product catalogs.
3. CLOSING

3.1 Conclusion

1. The service activities of the Export Batik Development Program have provided benefits for SME Partners namely Alfa Shoofa Batik. The PPPUD program in the first year focused on increasing production, improving administrative management, and marketing. From the PPPUD service program activities, investment in tools for each partner has been given, namely copper plates and electric stoves, as well as accounting and inventory sales and accounting software. The productivity of each SME partner has also increased, production capacity has increased, sales have also increased, so that the turnover has also increased.

2. Market expansion of each SMEs has also increased, getting customers from various regions, agencies, and also exporting to various countries both directly and indirectly, including to Malaysia, Singapore, Brunei, and Korea. Marketing expansion was also carried out by participating in both national and international expo events, through exhibitions in several cities including Jakarta, Semarang, Batam, Bali, as well as overseas expos in Kuala Lumpur Malaysia. Besides collaborating with the local government of the Kudus district, the industry and trade service, the Cooperative and SMEs service, the BUMN, also cooperated with well-known designers such as Denny Wirawan and Ivan Gunawan. The introduction of Kudus batik through mass media both print and television, through TV station coverage, has been broadcast on MNC and metro TV.

3. Human resources capacity has also increased, in addition to training provided to improve the quality of human resources as well as the number of employees has also increased, in addition to improving the welfare of employees at UKM Batik has been registered on health social security to protect the health of its employees.

4. With the improvement and improvement of aspects of management, financial management and administration have also been carried out well, with the implementation of a sales system using computerization and financial records and inventories with computer
applications make financial statements can be arranged properly according to Financial Accounting standards so that it can be known profit and definite business costs.

REFERENCES


THANK-YOU NOTE

With regard to the implementation of PPPE program of Kudus Batik Craft Industry in Kudus Regency of Central Java Province, we would like to extend our greatest thanks to:
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2. Rector of Muria Kudus University with permission and direction given in the implementation of this program.
3. Chairman of LPPM Muria Kudus University for the direction and encouragement given during this and in the future.
4. Both partner SMEs are SMEs Alfa Shoofa and SME Muria Batik for cooperation and participation during this and in the future.
Analysis Of Need Development Of Literacy Pocket Book Based Cerpen – Gram To Empower Multicultural Characters Of Primary School Students

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Abstract. This research aims to analyze problems related to Multicultural Character Education Empowerment (PPK) at higher class of Primary School and to analyze need development of literacy pocket book based on cerpen – gram as multicultural character empowerment for higher class of Primary School. This qualitative descriptive research used observation, interview, and documentation study techniques by using the researcher as the main instrument. The data was analyzed by data reduction, data explanation, data comparison, and data conclusion steps. The data validity was done through triangulation. The findings of the research showed that PPK in empowering multicultural character based on culture and exemplary method got model limitation. There was almost no variative model at schools, especially in villages, which could be modeled directly by students. Since school society at village was relatively homogeneous and different to urban school society which was heterogeneous, their roles were not fully relevant to the students’ mindsets. In another hand, adult school society members had maturer mindset while the students remained with their child mindsets. In fact, children are not miniatures of adults. There is a need of exemplary model as social – cultural reflection packaged into literacy pocket book based on cerpen – gram (table diagram of short-story intrinsic elements). The book consisted of description of child multicultural perspective, the examples of using the book to empower child multicultural character, and forms to fill by students as well as the guidance as internalization strategy of multicultural values.

Keywords: Cerpen-Gram, character education, pocket book, multicultural.

1. Introduction

Multicultural enriches social – cultural knowledge and is also known as potential cause of conflict [1]. Especially, when it is not well managed so it triggers anti-multicultural characters [2]. Inside of society which has a lot of multicultural, such as Indonesia, should have developed multicultural character. It is a sincere character to recognize and respect differences.

It is very relevant when Indonesia anticipates by empowering character education at school, included multicultural character by sharpening affective aspect as stated in 2013 curriculum. The government also releases several breakthrough as hidden curriculum, such as well – attitude development which is originally taken from school literacy movement (GLS). Then, there are several programs such as character education empowerment (PPK), school literacy movement, and PPK with different nomenclature. All of those efforts are purposed to foster more structured, systematic, and massive character education. However, the fact at several school samples of the preliminary research, the implementation of GLS and PPK still had problems.
PPK basically aims to promote more structured character education, more systematic and massive. However, until its second year, it has not been maximized promoted, especially in case of empowerment. The preliminary findings at several High Class Primary Schools showed that bullying phenomenon in their environment was not only within joking context. It had led to anti-multicultural characters which could be developed into intolerance, radicalism, or terrorism.

Therefore, there is a need of analysis to (1) causes creating less maximum PPK in empowering multicultural character at High Class Primary School and (2) need analysis to overcome PPK problems in empowering multicultural characters at the class level.

2. Method

This descriptive qualitative research gathered the data from observation, interview, and documentation study. The main instruments were observational guidance, interview guidance, and documentation study procedure. The data was analyzed through data reduction, data explanation, data comparison, and data conclusion. The credibility test of the data was done by observation extension, determination increase in the research, triangulation, peer discussion, negative case analysis, and member check [3].

3. Result and Discussion

Multicultural enriches social – cultural knowledge and is also known as potential cause of conflict (Choirul Maftud, 1997: 8). Especially, when it is not well managed so it triggers anti-multicultural characters (Ki Supriyoko, 2004). Inside of society which has a lot of multicultural, such as Indonesia, should have developed multicultural character. It is a sincere character to recognize and respect differences.

4. Findings and Discussion

4.1 Difficulties in Empowering Multicultural Characters

At most primary schools, PPK had serious difficulties while empowering the multicultural characters based on culture and exemplary methods. PPK had limitation in multicultural characters. Since there was almost no variative multicultural behavior at schools which could be imitated directly by the students in the village, thus their citizens were homogeneous. However, at urban school society which were heterogeneous, then their acted roles by adult members (teacher and staff) were not fully relevant to the students' mindsets. In another hand, the school society members needed to think maturely while the students should remain having mindset as children. It is important to remember that children are not miniatures of adults.

As formulated by Article 1, clause (1) President Decree Number 82 year 2017 – a rule determined by the president — jo Article 1 (1) Rules of Indonesian Education Ministry 20 Year 2018 jo Article 1 (1) Rule of Directorate General for Primary and High Education Levels Number: 097/D/HK/2019 that education is under educational unit responsibility to empower character education through affective harmonization, affective management, mindset management, family, and society as parts of National Movement of Mental Revolution (GNRM).

PPK has purpose to develop and prepare learners as golden generation. Indonesia in 2045 with its Pancasila’s spirit and proper character education are expected to be able in facing dynamic changes in the future (Article 2 (a) President Rule Number 87. Year 2017).

As regulated by Article 6 (1) Rule of Educational Ministry Number 20 Year 2018 and Article 9 (2) Rules of Directorate General of Primary and High School Number 097/D/HK/2019 that PPK promoters which optimize three – center partnership (school, family, and society) should promote it based on school culture, class, and society approaches.
PPK with school – culture approach could be done by providing exemplary model for school society members (Article 6 (3) (b) rule of education ministry 20 Year 2018). The school society meant by Article 2 (3) Rule of Directorate General of Primary and High Education Levels Number: 097/D/HK/2019 are habitualization, exemplary, and commitment realized by the principals, teachers, educational workers, and school committee.

Exemplary method is a way for individuals in having educational process through action and behaviors which are suitable to model (Modelling) (Syaepul Manan, 2019). Meanwhile, exemplary in education is influential method proven to be successful in preparing and fostering moral, spiritual, and social ethos of the children. According to Ulwan (1992, p.2), educators are the best models within students’ perspectives since their politeness and behaviors will be imitated by students unconsciously.

4.2 Need Analysis of Multicultural Character Empowerment

Problems dealing with appropriate and variative exemplary about multicultural character in the environment of the students could be overcome by utilizing short – story literature work. In these instrinsict short – story elements, there are characters with various characteristics and profiles – developed within child mindset corridors. Literature work is an imitation and reflection of social – cultural realities so that the characters and the plots could be used as exemplary models (example non-example) which indirectly have strength points and does not seem patronizing.

Utilization of short – story as exemplar media and method to empower multicultural characters of the students could be done by synergizing them into School Literacy Movement (GLS). GLS as explained by Faizah, Dewi Utama [4] in GLS manual book for primary school – it is an effort to create school as learning organization to make literate community for their life through public involvemnt. Meanwhile in GLS context, it is ability to access, understand, and use literately through various activities by reading, observing, listening, writing, and/or speaking.

Elma Exacavanti Tamaya et al [5] concluded that reading – writing could be used as a meant to comprehend substantial learning material (learning method) to its determined competences. Secondly, the principles used as bases of reading – writing utilization as learning model surely put students to be willing and able in accessing various learning sources from various perspectives. Third, summarizing, comparing, providing solution, expressing table, and creating visual display are series of activities to create meaningful and comprehensive learning experiences. Fourth, reading – writing could answer 21st century challenges which demanded academicians to be skillful in finding and processing information as well as to use it effectively and sustainably.

Mohammad Kanzunnudin [6] concluded that: (a) literature had important role in education character, (b) literature functioned as catalyst media in learning literature utilized receptively and expressively in character education, (c) it used various theme as media for learners to recognize and understand level quality of characters and their own characteristics, (d) it told and drew various types of characters used as education character media for learners by giving example of character and personality levels to model (Proceeding of National Education Seminar: UMK Kudus). Secondly, literature functioned as learning media used receptively and expressively in character education.

General purposes of GLS are to create better characters of the students through empowering school literacy ecosystem realized in GLS to make them long – life learners. There are three steps of GLS promotion: 1) habitualizing step, to create reading interest by having 15 minute reading time (Rule of Education Ministry Number 23 Year 2015), 2) developing step, to improve literacy ability by responding to enrichment book activity, and 3)
learning step, to improve literacy skill on all lessons by using enrichment textbooks and reading strategies on all lessons. Here is the map of school literacy development within three schemes of steps.

<table>
<thead>
<tr>
<th>Table 1: Map of School Literacy Development in 3 Step Scheme [4]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Habitualization</strong></td>
</tr>
<tr>
<td>1. What literacy skill is needed on each habitualizing step?</td>
</tr>
<tr>
<td>2. What is the focus and principle of activity in each habitualization?</td>
</tr>
<tr>
<td>4. Reading activity and arrangement of rich literacy environment in the habitualizing steps?</td>
</tr>
<tr>
<td>5. Steps of the activities:</td>
</tr>
<tr>
<td>a) Reading 15 minutes before learning started;</td>
</tr>
<tr>
<td>b) Arranging the facilities and literacy environment;</td>
</tr>
<tr>
<td>c) Creating rich text environment;</td>
</tr>
<tr>
<td>d) Selecting reading books at primary school;</td>
</tr>
<tr>
<td>e) Public involvement;</td>
</tr>
<tr>
<td>6. Achievement Indicators on each steps</td>
</tr>
<tr>
<td>7. Literate school ecosystem makes teachers literate by performing their working features.</td>
</tr>
</tbody>
</table>

Utilization of short story as exemplary media to empower multicultural characters for high class primary school students during GLS could be started by developing stages since the stages had activity to respond the enrichment books. The literacy ability of the developmental stages at the level as follows.

<table>
<thead>
<tr>
<th>Table 2: Literacy Skill of High Class Primary School on Developmental Stages [4]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skills</strong></td>
</tr>
<tr>
<td>Listening</td>
</tr>
<tr>
<td>Reading</td>
</tr>
<tr>
<td>Speaking</td>
</tr>
<tr>
<td>Writing</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

It was determined principles of activities in the development stages: reading book should be followed up by drawing, writing, moving, creating, and acting out to respond the text. It
should be adjusted to the levels and abilities of the students. Its assessment toward reading was non-academic in nature and focused on the students’ behaviors. It is suggested for the educators to always motivate the students.

Besides to improve their reading understanding, discussion could help them to analyze the intrinsic elements. To develop better analysis understanding and ability, teacher could make question list as the table shown.

Table 3: Question List

<table>
<thead>
<tr>
<th>Elements of the Story</th>
<th>Low Class Primary School</th>
<th>High Class Primary School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics/Themes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Can you guess the content of the story by looking at the illustration on the book’s cover?</td>
<td>• What message is delivered by teller/character?</td>
</tr>
<tr>
<td></td>
<td>• What do you learn from this story?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• What message is delivered by teller/character?</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Question List

<table>
<thead>
<tr>
<th>Elements of the Story</th>
<th>High Class Primary School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characters</td>
<td>• Who is the main character?</td>
</tr>
<tr>
<td></td>
<td>• What problem is faced?</td>
</tr>
<tr>
<td></td>
<td>• How did he solve it?</td>
</tr>
<tr>
<td></td>
<td>• Do you like the actions in the story?</td>
</tr>
<tr>
<td></td>
<td>• What are differences of the characters’ natures?</td>
</tr>
<tr>
<td></td>
<td>• Did you ever experience the same thing as the characters did?</td>
</tr>
<tr>
<td></td>
<td>• What do you like from the A character? Why?</td>
</tr>
<tr>
<td></td>
<td>• Do you agree with the actions of A? Why?</td>
</tr>
<tr>
<td></td>
<td>• Did you ever meet someone like him?</td>
</tr>
<tr>
<td></td>
<td>• How is your impression of the character?</td>
</tr>
<tr>
<td>Story Plot</td>
<td>• Can you map the story in the beginning, middle, and the ending of the story?</td>
</tr>
<tr>
<td></td>
<td>• Did the solution make sense?</td>
</tr>
<tr>
<td></td>
<td>• Can you separate the facts from such fiction story?</td>
</tr>
<tr>
<td>Story Development</td>
<td>• Which part do you want to modify? (beginning, middle, or the ending)</td>
</tr>
<tr>
<td></td>
<td>• How do you change this story plot to be more interesting?</td>
</tr>
<tr>
<td></td>
<td>• If you were the main character, what would you do?</td>
</tr>
</tbody>
</table>
Besides the question guided by GLS manual at primary school, it was provided notes after reading such as these rubrics: 1) Me and the Characters, 2) What is said by the character? 3) background knowledge activation, 4) story map, 5) story plot, and 6) new word list.

However, the question list and rubrics still had difficulties in answering and filling them up since the students had difficulties to identify the elements of short story directly. It was needed a medium between short story and the process to answer and fill the rubric. This medium is called cerpen – gram, a table diagram to explain intrinsic elements of short story [7]. The elements explained in cerpen – gram reflected multicultural. Besides that, within multicultural context, the rubrics had not specifically directed students to use child short story to empower multicultural characters. Therefore, students and teacher expected to have literacy pocket book development based cerpen – gram (called as Busali Cerpen – Gram) to empower multicultural characters. It was called as pocket book to make it flexible in facilitating the students anytime and anywhere [8] as the short – story characters which could be read anytime and anywhere.

Literacy pocket book based cerpen – gram consisted of multicular description of child perspectives, for example the use of cerpen – gram to empower multicultural characters of children, and the forms to fill by the students plus the directions as multicultural value internalization strategy. The principles of Busali’s work – Cerpen Gram are 1) reading short story, 2) writing intrinsic elements of the short story on cerpen – gram [9], and 3) internalizing values by analyzing and reflecting multicultural values [10], existing in short-story elements, especially the character’s profile.

According to Robert, value internalizations were identified as value integration of individuals, or psychologically, it is adjustment of belief, value, behavior, practice, and standard rules on individuals. In internalization process was closely related to student guidance. There are three stages representing internalization process, such as 1) value transformation step, 2) transactional value step, and 3) trans-internalization step [11]. Here are the analysis of short-story character analysis by using cerpen – gram.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Title</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morale</td>
<td>We are stronger when we unite.</td>
<td>Union</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Names</th>
<th>Profiles</th>
<th>Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Kevin</td>
<td>-</td>
</tr>
<tr>
<td>Female</td>
<td>Low</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>A son of businessman</td>
<td>Badminton</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>Hobby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Characteristics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sympathy</td>
</tr>
<tr>
<td>Ekrak</td>
<td>A son of a driver</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Badminton</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Polite</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin</th>
<th>Head</th>
<th>Hair</th>
<th>Eye</th>
<th>Nose</th>
<th>Eyebrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>-</td>
<td>Straight</td>
<td>Slanted</td>
<td>Pointed</td>
<td>Thin</td>
</tr>
<tr>
<td>Brownish</td>
<td>-</td>
<td>Curly</td>
<td>Wide</td>
<td>Flat</td>
<td>Thick</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chin</th>
<th>Mouth</th>
<th>Lip</th>
<th>Beard</th>
<th>Face</th>
<th>Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharp</td>
<td>Tiny</td>
<td>Thin</td>
<td>Thin</td>
<td>Handsome</td>
<td>Tall</td>
</tr>
<tr>
<td>Flat</td>
<td>Wide</td>
<td>Thick</td>
<td>Thick</td>
<td>Sweet</td>
<td>Short</td>
</tr>
</tbody>
</table>

| Table 5: Topics and Titles of the Short Story by Cerpen – Gram 1 |
| Table 6: Names, Profiles, and Behaviors of Cerpen – Gram 2 |
| Table 7: Physical Appearance of Cerpen – Gram 3 |
| Table 8: Accessories of Cerpen – Gram 4 |
The examples of task after making cerpen – gram as seen below.

Find the similarities between the differences of the short – story characters.

- The names of the characters in Cerpen – Gram 2 are Kevin and Ekrak.
- The students were guided to connect those two characters’ names by finding out the similar elements. It could be done by Venn diagram as follows.

- Given $A = \text{Kevin}$ and $B = \text{Ekrak}$.
- Although they are different but they have similarities.
- From these differences, the students were trained to find the similarities to get the harmony. Then, they were asked to write it as reflection.
- For example:

  *Kevin is a Chinese breed born in Banyuwangi. Ekrak is a native of Solo – Javanese. They are a badminton male couple. They respect each other. Ekrak, which means as a bin, for Kevin is not a thing to be humiliated. Kevin understands well that the name, Ekrak, was given to him since all of Ekrak’s brothers passed away. According an ancient Javanese belief, such kid should not be named as a human to avoid the same thing, same disaster. Thus, the name – Ekrak, does not mean to humiliate him. It has meaning. “Asma Kinarya Japa”.*

5. Conclusion

PPK in empowering multicultural character based culture and exemplary methods had limited variative and accurate mindset models. There was a need of “role model” by utilizing multicultural of child short story characters which reflect social-cultural realities. They should be packaged into a literacy pocket book based cerpen – gram (table diagram of intrinsic short – story elements).

It is suggested for further investigations to develop literacy pocket book based on cerpen – gram to empower multicultural characters of primary school students.
Reference

Abstract. This study has the main objective of conducting an investigation into the benefits of gusjigang for the community (traders) in Kudus. The researchers used the case study method to uncover the reality of gusjigang in Kudus society. The research findings reveal that gusjigang has benefits in the form of economic independence of citizens. Such independence is formed from benefits in a financial and non-financial perspective. The results of this study can be used as a reference for the development of citizenship education, especially the study of civic education on the domain of civic community education, and more specifically on the economic study of citizens. In addition, the development is adjusted to the local culture of each citizen to be more familiar with the culture.

Keywords: Local Wisdom; Gusjigang; Economic Independency

1. Introduction

Gusjigang is an acronym of bagus, meaning good quality (of character), ngaji (learning) and dagang, related to commerce (entrepreneurship) [1] People of Kudus believe that gusjigang is a philosophical teaching conveyed by the Sunan Kudus (shech Jafar Sodiq) [2]. Such teachings are supposed to be preserved as provision in life to improve self and economic qualities. In other words, gusjigang is a knowledge system that has become a living guideline for people of Kudus [3]. From this point, gusjigang can be interpreted as local wisdom since it is a philosophical teaching loaded with values to be used as guidelines and preserved. Local wisdom has two forms, namely tangible and intangible. Gusjigang is one of the intangible local wisdom because it is abstract in the form of philosophical teachings manifested in oral tradition for generations. Local wisdom is knowledge and understanding that is believed to have value that can be used to regulate the lives of local people in a wise and prudent manner, and they are preserved [4][5][6].

From the perspective of ethnopedagogy, local wisdom can be a source of innovation and skills that can be empowered for the welfare of society because there is ethnophilosophy [7]. Thus the local wisdom of Gusjigang can be used as one of the innovations and skills to guide the development of education. The implementation can be done in four ways, namely: conservation, restoration, adaptation, and discovery [8]. Local wisdom as a source of value education development has proven to be effective in shaping student character through civic education [9]. The formation of the character of independence in students can be carried out through various forms of activities both spiritually, knowledge transfer and skills training [10].
There have been many studies exploring the impact and influence of the local wisdom of *Gusjigang*, some of which have been linked to financial literacy and customer loyalty. *Gusjigang* has a significant impact on premarital financial literacy [11]. This proves that the concept of local wisdom gusjigang is a source of knowledge for Kudus people about premarital literacy.

In addition, service quality, customer satisfaction and *gusjigang* culture have a positive and significant impact on customer loyalty both partially and simultaneously [12]. Nevertheless gusjigang local wisdom will be examined again by accommodating what already exists in order to conduct an investigation of the benefits of gusjigang local wisdom as economic independence for the community (traders) in Kudus.

The main purpose of this research is to investigate the benefits of the local wisdom of the gusjigang for the community (traders) in Kudus. The method used by researchers is a case study to uncover the reality of *gusjigang* local wisdom in the Kudus community, with the hope that it will be able to uncover the benefits of the gusjigang local wisdom for the Kudus community (traders) on economic independence. The results of this study will be used as a reference for the development of civic education in the domain of civic community specifically in the civics ecconomy study. In addition, the development can be adapted to the local culture of each citizen.

2. Research Methodology

This research is a qualitative descriptive study through the investigation of the local wisdom of Gusjigang and exploring its benefits for the community (traders) in Kudus. The study was conducted in Loram Kulon Village, Jati sub-district, Kudus Regency, Central Java Province, Indonesia. Respondents in this study were 12 people, consisting of 1 expert on local wisdom *gusjigang*, 1 community leader and the rest are traders. The data was obtained through interviews about the understanding of Kudus community (traders) on the concept of local wisdom *gusjigang*, combined with consistent observations of behavior both as individuals and the community, as well as documentation studies such as the results of previous research and publication of scientific papers relating to local wisdom *gusjigang*. The data that have been obtained are then analyzed qualitatively by its components consisting of data collection, data reduction, data presentation, and drawing conclusions[13].

3. Result and Discuss

3.1 Benefits of Gusjigang Local Wisdom as Economic Independency.

The implementation of the local wisdom *gusjigang* for the community (traders) in Kudus certainly has a goal to be achieved. The purpose of the implementation of local wisdom by the younger generation as a socio-cultural capital for the creation of peace and improving the welfare of the next generation [14]. Thus the implementation of local wisdom gusjigang has benefits for the community (traders) Kudus. The research findings revealed the benefits for the community (traders) in Kudus, namely independence - specifically - in the economic field of citizens. These benefits can be grouped in two points of view, namely: the benefits of Gusjigang local wisdom as independence in financial perspectives and the benefits of Gusjigang local wisdom as independence in non-financial perspectives.
1) **Benefits of Gusjigang Local Wisdom for Kudus Community (traders) as Independency in Financial Perspective.**

Becoming an entrepreneur is the livelihood of the people of Kudus. This choice is motivated by the local wisdom of Gusjigang [15]. As entrepreneurs they have a very important function - specifically - in the economic field (Praag, 2008). The benefit of entrepreneurs in an economic perspective is that there is an increase in income even to national economic development [16]. Increased income in the economy of the community (traders) in Kudus was obtained by implementing the gusjigang local wisdom values in managing the business as a trader. The gusjigang values include: honesty, tolerance, discipline, social care, curiosity, fond of reading, hard work, creative and independent [17]. The character values are internalized in the community (traders) in Kudus, which is manifested in running a business as a trader. From a financial point of view, the benefits of gusjigang local wisdom for Kudus traders are that they get financial wealth, in addition to getting personal satisfaction and fulfilling the necessities of life [18]. Thus the benefits of local wisdom gusjigang in a financial perspective are met economic needs in the family such as the cost of living; children's education costs; saving for the future; provide business capital for children; even to the implementation of the Hajj which for them is the highest achievement of worship. The benefits from the financial point of view in addition to being felt by the community individually can also contribute to regional progress. In the trade sector this has a contribution to the Gross Regional Domestic Product (GRDP) of 80.82 percent so that it becomes a pillar of the economy of Kudus Regency [19, p. 307]

2) **Benefits of Gusjigang Local Wisdom for Kudus Community (traders) as Independency in Non-Financial Perspective**

A very important finding about the benefits of the local wisdom gusjigang for the community (traders) Kudus as independence in a non-financial perspective, namely: the provision of employment and human resource development. Both are the benefits of the local wisdom gusjigang for the community (traders) Kudus in terms of independence, autonomy, work, increased market share and increased welfare which is the benefits of entrepreneurship from a non-financial perspective [16].

The first benefit of gusjigang's local wisdom for people (traders) of Kudus for the economic independency of citizens in a non-financial perspective was the provision of employment opportunities for the community. The availability of jobs was influenced by the number of companies / industries [20]. In 2017 there were industrial companies listed in Kudus [19]. Thus the availability of jobs for the people of Kudus will have an impact on reducing unemployment.

The second benefit of the local wisdom gusjigang for the people (traders) of Kudus in term of independency in a non-financial perspective was human resource development. The development of human resources was carried out by companies in Kudus through CSR (Corporate Social Responsibility) and creative industry entrepreneurs. Each has different goals, the guidance carried out by the company is aimed at the general public through education and training on entrepreneurship with the aim of the people having the knowledge and skills to become entrepreneurs. This was quite different from creative industry entrepreneurs, where the practice is more emphasized on the development of human resources. The target of human resource development carried out by creative entrepreneurs was their own employees. The goal was that these employees would have the knowledge, character of morality and performance and skills of the creative industry targets have to met. Initially, the
aim was setting the employees to be able to work in accordance with what was expected by creative industry entrepreneurs, then after a long time working they had the knowledge, attitudes and skills gained from direct education in the workforce. Then after getting their knowledge, attitudes and skills out of work to establish their own creative industries. The development of human resources can inspire the community to become entrepreneurs. This would in turn influence the people of Kudus to choose traders as their livelihood[20]. Thus the benefits of local wisdom gusjigang in a financial and non-financial perspective could shape the economic independency of Indonesian citizens, in this case the people (traders) of Kudus.

4. Conclusion

Starting from the findings and results of the discussion it was revealed that the local wisdom of the gusjigang has the benefit of the economic independence of Indonesian citizens, in this case the people (traders) of Kudus. This independence was formed because the people of Kudus carried out the gusjigang values in conducting their business as traders. Thus, the local wisdom of Gusjigang was financially beneficial to meet economic needs such as living costs, children's education costs, saving money, providing financial capital for children even to the implementation of the pilgrimage (Hajj) – the highest level if the religious practice - for the people of Kudus. While the benefits of a non-financial perspective are the availability of jobs and coaching to increase human resources.

Acknowledgments

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References


Conceptuals Understanding: As The Effect of Reciprocal Teaching Assisted By Macromedia Flash

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Abstract. Based on the observation, conceptuals understanding of student in SMA N 1 Jetis still need to be improved. This study aims to determine the effect of reciprocal teaching assisted by macromedia flash on understanding concepts in ecological material. This designe of this research was quasi-experimental which used 2 groups, class X IPA 1 as the experimental group and class X IPA 5 as the control class. The result showed that eksperimental group was 0,38 (moderate) and The control group was 0,16 (low) from N-Gain value. As for the independent simple t-test analysis was 0,000<0,05 were significant differences between control and experimental class on the value of conceptual understanding. The conclusion of this study is that Reciprocal Teaching assisted by Macromedia Flash has an effect on conceptuals understanding of student.

Keywords: conceptual understanding, effect, macromedia flash, reciprocal teaching

1. Introduction

In the 21st century, the development of all fields is progressing very rapid, both in terms of science and technology. In order to keep up with the development progress, it is important to develop in the world of education. This is because education is an important component for developing potential or human resources. Developments in education can be marked by curriculum changes. Curriculum changes are made so that the quality of the learning system can keep up with developments so that future needs can be met. The curriculum used is the K-13 curriculum in which it supports student-centered learning where students are more active in learning activities so that they are able to achieve success in learning.

The success learning factor that must be achieved is understanding the concept of the material that is being taught. Understanding concepts in students is characterized by being able to build meaning from learning messages, whether oral, written or electronic. Understanding concepts to students is identified as the ability of students to interpret, model, clarify, summarize, conclude, compare and explain[1]. A student is accustomed to gain understanding through experience of the characteristics possessed and not possessed from a group of objects. Students are encouraged to be able to grasp the understanding of a concept through observation of examples and not examples [2]. Understanding the concept becomes very important because it reflects the competencies that can direct students to become competent in various sciences. Dimension understanding of the concept according to [3],includes factual and procedural
knowledge, connections, knowledge transfer and Metacology. So, understanding the concept is very necessary to obtain mastered the material so that it can get good learning outcomes in school.

One of Biology scopes taught at school is Ecology material which in this material includes several things that must be studied namely the ecosystem component, energy flow and biogeochemical cycle (Permendikbud Number 22 of 2016). Ecology material that is taught in schools is inseparable from natural events therefore to get good results in learning it is necessary to understand the concepts of why these events can occur.

The problem that often arises in learning is because it is still not entirely centered to students. One of them is caused by the method used by a teacher that still cannot support students to be more active during the learning process so that the learning outcomes obtained are still low. Whereas, the activeness of students in learning can help students to obtain a good understanding. [4] the relationship of activity with learning achievement has a significant effect, the more students being active, the higher the learning achievement. Besides, the teacher can also use technology or use learning media as a tool to deliver a material, so that it will facilitate students in understanding and increasing student interest in the material being taught. Based on observations at SMA N 1 Jetis, in learning biology there is still a need for methods and learning media that can help students to better understanding in the material presented. Learning which is carried out outside the classroom often faces several obstacles including the difficulty of conditioning students to study, limited by time and place

The teacher's role in teaching is very necessary, a teacher has to be able to help students to gain knowledge and solve problems. One of the methods in teaching is using learning models and media that can make students more interested and easier to understand about the material being taught. According to [5] Learning model is a systematic procedure or pattern that is used as a direction to achieve learning objectives in which there are strategies, techniques, methods, materials, media and learning assessment tools. While learning media according to [6] is a tool to convey information about what is taught to students so that the information can be received correctly. [7] states that, the function of media in education is to clarify the presentation of messages, overcome the limitations of space and time, increase students 'enthusiasm for learning, overcome students' passive attitudes and provide the same perception of subject matter. One of the models and media that can be used in learning activities is the reciprocal teaching and macromedia flash models. Learning by using this model can help students to play an active role during learning activities in class. Reciprocal teaching is one model that can improve reading comprehension, where learning is aimed at encouraging students to develop their skills [8]. There are four special techniques in this model, namely, predicting, question generation, summarizing, and clarifying [9]. Reciprocal teaching is one way for a student to be able to understand an idea through reading text. In the reciprocal teaching model using four techniques including, predicting (guessing what will be learned and what will be asked by other groups), question generation (making questions about material not yet understood), summarizing (summarizing readings and processing them in their own language and clarifying (answering questions that have been given). [10]. The advantages of learning using the Reciprocal Teaching model include, can develop student creativity, foster cooperation between students, foster student talent, especially in speaking and developing attitudes, students pay more attention to lessons because they live themselves, cultivate the courage to think and speak in front of the class, train students to analyze problems and draw conclusions in a short time [11].

In addition, the use of macromedia flash as a learning medium can help students because this application can use various forms of animation, images and videos so that students are able
to use auditory and visual abilities to improve their conceptual understanding. Macromedia flash is a multimedia application that contains animations or videos that can be used as media for teaching materials and presentations in learning process activities [12]. In addition, this media can also increase student interest in learning, this is because Macromedia Flash is able to display an event that is difficult to see directly. Through this macromedia flash events that occur can be displayed via video or animation. Some research that has been done shows that macromedia flash can improve students’ understanding of concepts. [13] states that learning using macromedia flash as a teaching medium is able to increase students’ conceptual knowledge compared to learning without using media as teaching aids. [14] states that macromedia flash is effective for improving conceptual understanding and student learning interest for the better. Based on the explanation, the researcher conducted a research on the effectiveness of the Macromedia Flash-assisted reciprocal teaching model on students’ conceptual understanding.

2. Method

The study was conducted at SMA N 1 Jetis in July-2019. The type of the research is a quasi-experiment employing Pretest-Posttest Control-Group Design. The population of the study is X IPA class. The sample taken was X IPA 1 class which consisted of 32 students as the experimental class and X IPA 5 class which consisted of 32 students as the control class. The sampling technique used in this study was cluster random sampling. Data collection techniques used were documentation (in the form of pictures or photographs) and the delivery of tests used the concept understanding test instrument. The data analysis to measure the level of improvement in students’ understanding employed the concepts of N-Gain

\[ < g > = \frac{S_{post} - S_{pre}}{100 - S_{pre}} \]  

Description:
Spost : score of post test
Spre : score pretest

Then the results of the N-gain calculation are interpreted in the following categories:

<table>
<thead>
<tr>
<th>Table 1. N-gain criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-gain</td>
</tr>
<tr>
<td>g ≥ 0,7</td>
</tr>
<tr>
<td>0,3 ≤ g &lt; 0,7</td>
</tr>
<tr>
<td>g &lt; 0,3</td>
</tr>
</tbody>
</table>

After the N-gain test is performed, then to test whether there is a significant difference between the experimental class and the control class, the t-test is carried out, namely the independent sample t-test.
3. Result and Discussion

Recapitulation of the test results of the concept understanding test,

<table>
<thead>
<tr>
<th>Description</th>
<th>Experiment Class</th>
<th>Control Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td>Average</td>
<td>66.79</td>
<td>79.59</td>
</tr>
<tr>
<td>Maximum Score</td>
<td>87.5</td>
<td>87.5</td>
</tr>
<tr>
<td>Minimum Score</td>
<td>52.5</td>
<td>67.5</td>
</tr>
<tr>
<td>N-Gain Score</td>
<td>0.38</td>
<td></td>
</tr>
</tbody>
</table>

Based on the table above the average value before learning (pretest) in the experimental class is 66.79 and the control class is 65.23, this indicates that the initial ability of each class is balanced. Then after learning in the experimental class using reciprocal teaching models assisted by macromedia flash the value of students' concept understanding increased to 79.59, as well as in the dick class there was an increase in the value of students' understanding of concepts after learning to 70.93. In addition, the results of the N-gain test showed that the experimental class received a score of 0.38, this score was included in the category of the score range $0.3 \leq g \leq 0.7$ with the category of medium criteria. Whereas the control class obtained a score of 0.16 included in the range of scores of $0.00 \leq g \leq 0.3$ with a low criteria category. To see more clearly the average value obtained from each class can be seen in the picture below.

![Graph of conceptual understanding between experiment-control class](image)

Fig. 1 Graph of conceptual understanding between experiment-control class

Based on the fig. 1 it can be seen that the increase in value after learning in the experimental class or the class using learning with reciprocal teaching assisted by macromedia flash is higher than the class using conventional learning. An increase in grades in classes using reciprocal teaching assisted by macromedia flash in learning because the characteristics of this learning are able to encourage students to actively engage in learning. To find out the difference in the value of students' understanding of concepts between the experimental class and the control class can be seen in the test results table The independent sample t-test is answered.
Table 3. Difference Test Results of Independent Sample T-Test of Conceptual Understanding

<table>
<thead>
<tr>
<th>Understanding Concept Skill Scores</th>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.021</td>
<td>.087</td>
<td>5.670</td>
<td>62</td>
<td>.000</td>
<td>8.43750</td>
</tr>
</tbody>
</table>

Based on the results of the different independent sample t-test on the value of the concept understanding ability shows the value of sig. (2-tailed) of 0.000, this means that the value is more than 0.05, so Ho is rejected and Hi is accepted, so that it can be interpreted that there are significant differences between the experimental class and the control class. This significant difference in influence indicates that learning using the reciprocal teaching model assisted by Macromedia Flash can improve student understanding of concepts better compared to classes that use conventional learning. The effect of the increasing grades on students can be influenced by learning activities that make them more active in learning activities because the reciprocal learning model encourages students to read and summarize the material that has been given the material provided. [15] states in her research revealed that reciprocal teaching can improve reading comprehension. In line with the results of research, [16] states that the application of biology learning models based on reading-concept map-team games tournaments, reading can help students to get cognitive learning outcomes for the better. In addition, reciprocal teaching also encourages students to ask questions about material that is not yet understood, and can trigger students to dialogue with each other. The results of the dialogue will construct ideas or ideas and students can better understand the concepts learned. [17] states that dialogue can help individuals to develop understanding of concepts. [18] revealed that the benefits of this dialogue allow students to gain understanding, both from their roles as recipients of information and as people who convey information. The results of research conducted by [19] show that reciprocal teaching is able to improve learning outcomes because it helps in giving students the memory to understand the material. [20] individuals are better able to explore teaching material through dialogue in the classroom so that it can have an impact on knowledge that is not yet known to be more comprehensible and comprehensible. Likewise, according to [21] the advantages of reciprocal teaching is that one of them is able to improve students' academic achievement.

In addition, macromedia is used as a technology-based learning media that can contain text, animation, and video where students will more easily understand and increase interest in the material being taught because students will use their auditory and visual abilities during the learning process. [22] states that learning using macromedia flash has a better knowledge gain because individuals consider learning to use this material provided more clearly and not monotonous so that no boredom appears. In harmony with [23] states that classes using learning with Macromedia Flash have higher learning outcomes compared to classes using conventional methods. Macromedia flash when used as a learning medium will increase individual interest in learning so that it will have an impact on learning outcomes. In addition, macromedia flash can also load events which can then be displayed through simulations [24]. In line with the research, [25] states that the relationship of interest and learning outcomes is directly proportional, the higher an individual's interest in learning will have an impact on better learning outcomes. The
results of this study are supported by [26] reciprocal teaching learning using multimedia capable of improving student learning outcomes.

4. Conclusion

Learning using the reciprocal teaching model assisted by macromedia flash is effective to improve students' understanding of the concept of class X SMA N 1 jetis. This result is proven by the different independent sample t test results with the significance value obtained 0.000 <0.05. Increased ability to understand concepts occur in each class. However, the class that uses a reciprocal teaching model assisted by macromedia flash has a higher N-Gain value of 0.38 (moderate), while the class N-Gain value using conventional methods is 0.16 with low criteria.

References


Safe School to Deal with Bullying at School in Industrial Revolution 4.0 Era: A Study Review

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Abstract. Children spend more time in school in their daily lives. Therefore, the school is the closest environment to children besides the family environment. This certainly does not rule out the possibility that children can experience abuse or violence in school or commonly referred to as bullying. Bullying in schools is rampant in Indonesia and is one of the main reasons children commit suicide. Therefore, it is necessary to create a school environment that can ensure the safety of children both physically and non-physically so that the learning process and development of children in schools can run optimally. The school environment is better known as Safe School is very important nowadays especially in industrial revolution 4.0 era.

Keywords: Safe School, Bullying, Students

1. Introduction

Schools and teachers are two things that greatly affect children's lives and have a long-term impact on children's attitudes and behavior. At school, children learn to shape their relationships with others, self-image, and independence. They try to foster interpersonal abilities, find and improve the strengths they have, and fight against vulnerabilities. Thus schools must provide a safe environment for children to develop academically, relationally, emotionally, and behaviorally (Dorian, 2004). Various studies have examined how education and the social climate of a school can increase or decrease student development and achievement. Researchers have found common characteristics in schools that are positive. These general characteristics include an emphasis on academic achievement, a positive relationship between students and teachers, respect for all members of the school, policies of fair and consistent discipline, attention to security issues, and the involvement of families and communities (Dorian, 2004).

Most educators agree that creating a safe school is more than removing knives, fights and shootings. Violence can also be in the form of simple things such as calling someone's name with an inappropriate name (name calling), fear of being teased, teasing, offensive touch, racial, ethnic, cultural, or sexual humiliation, and intimidation (Hernandez & Steem, 2004). Without adequate monitoring, reporting and referral mechanisms, children in schools often face severe physical punishment, violence from friends to friends and sexual abuse or exploitation. Actors can include teachers, other authority figures and staff of international organizations and non-governmental organizations. The risk of exploitation and abuse is higher at the upper and basic levels, when children reach adolescence. The nature of the violence inflicted on children in the learning environment can be emotional, physical and
psychological, and ranges from the subtle to the very explicit (UNHCR).

The United Nations has stated that 40% of children in Indonesia are victims of oppression in Indonesia (Herlinda, 2015). Previous research on violence against Indonesian children conducted by the Global School-based Student Health Survey (GSHS) (in Hadiyono & Saraswati, 2015) identified that 40% of 80 million Indonesian children aged between 13 and 15 years had intimidat experiences physically at school (Saraswati & Hadiyono, 2015). Many cases of violence against children occur in schools, whether it is done by students to students, or from teachers to students so that not a few causes trauma to injury to students (Viva news, 2018). The Indonesian Child Protection Commission/Komisi Perlindungan Anak Indonesia (KPAI) noted that in 2012 there was an increase in school cases of violence against children to more than 10 percent. In addition, Deputy KPAI, Apong Herlina said that violence against children in the school environment occurred in various types both carried out by teachers and between students. Cases of violence also occur evenly in almost all regions in Indonesia. This note is based on the results of the KPAI survey in 9 provinces of more than 1,000 female students both from the Elementary School/MI, Junior High School/MTs, and Senior High School/MA levels. This survey showed 87.6 percent of students claimed to experience acts of violence. Both physical and psychological violence, such as being reprimanded, beaten, yelled, insulted, are given a negative stigma to be hurt by sharp objects (Yulianto, 2016). Therefore, the Indonesian Child Protection Commission/Komisi Perlindungan Anak Indonesia (KPAI) encouraged all Education Offices to create child-friendly school.

One item demanded by Indonesian children to go to the government at the 2016 Indonesian Children's Congress in Mataram is "Make our school and curriculum child friendly up to remote areas" (DP3AKB Jabar, 2016). KPAI encourages the Ministry of Women's Empowerment and Child Protection, the Ministry of Education and Culture, and the Ministry of Religion of the Republic of Indonesia to work together to create safe and comfortable schools. This was followed up in the Child-Friendly School/Sekolah Ramah Anak (SRA) program. Acceleration of SRA must be carried out throughout the Ministry of Institutions/Kementerian Lembaga (KL) (Harsono, 2018). Based on this program, this article was written with the aim of providing an overview of Child-Friendly School that need to be implemented to prevent bullying in Indonesia.

2. Method

In this study, a search for published literature was conducted through various database including E-Journals, Journal School of Health, Google, UNICEF and UN website, Google Scholar, and reference lists from key studies were also used to find information relevant to this topic. Articles were limited to primarily peer-reviewed journals, with scholarly works included to provide background and support information about the topic published between 2004 and 2019. The reference lists of key articles were searched to add support for several discussions throughout the paper and obtained by conducting Google searches for their titles. The following key words were searched: bullying, school bullying, school bullying prevention, school bullying in Indonesia, Sekolah Ramah Anak, and Child-Friendly School. Besides, correspondence with some researchers were conducted. The correspondence was conducted through e-mail with Olweus. It aims to discuss and identify the exact definition of bullying and how to measure bullying.
3. Definition of Child-Friendly School

The word 'school' in language, comes from Latin, namely skhole, scola, scolae, and schola which means "free time". According to Sokobere (2011) in Krisnamurti, explain more about the meaning of the word "free time". Free meaning has unlimited time to observe what is happening around it and what goes on in itself; have free time to listen, and to see clearly. Free that has an inner meaning of calm, no motive, and therefore no direction. This is free, and only in this situation can the mind learn, not only science, history, mathematics, but also about itself.

Child-Friendly School was developed by UNICEF which uses the concept of child-friendliness as an ideology by providing safe and protected schools, trained educators, adequate resources and learning environments. According to UNICEF Innocenti Research in the word 'child-friendly', child-friendly means guaranteeing the rights of children as citizens of the city. Whereas Indonesian children in society, the word 'child-friendly' means an open society, involving children and adolescents to participate in social life, and encouraging child growth and welfare. Therefore, it can be said that child-friendly means placing, treating and respecting children as human beings with all their rights. Thus child-friendly can be interpreted as a conscious effort to guarantee and fulfill children's rights in every aspect of life in a planned and responsible manner. The main principles of this effort are non-discrimination, the best interests of the child, the right to life, survival, and the development and appreciation of children's opinions.

As stated in article 4 of Act Number 23 of 2002 concerning child protection, states that children have the right to be able to live grow, develop, and participate fairly according to human dignity, and get protection from violence and discrimination. Mentioned above, one of them is participating which is described as the right to opinion and hear his voice. Child-Friendly Schools are schools that openly involve children to participate in all activities, social life, and encourage child growth and welfare.

Based on this explanation, the Child-Friendly School/Sekolah Ramah Anak (SRA) is a school that is open, safe, healthy, green, inclusive, and comfortable for physical, cognition, and psycho-social development for children and adolescents including children who need special education and/or special service education to participate in social life, as well as encouraging child growth and development.

4. Definition of Bullying

The term 'bullying' was introduced by Daniel Olweus. In the 1990s, a lot of research on bullying adopted the definition of bullying it made. Olweus (Flynt & Morton, 2006) defines 'bullying' as an aggressive behavior that is intended to harm or make individuals feel troubled, occur repeatedly from time to time and takes place in a relationship that has an imbalance of power or strength in it. Olweus in the Olweus Bully/Victim Questionnaire (Solberg & Olweus, 2003) dividing aspects of bullying includes:

1. Verbal: say something that means to hurt or laugh at someone (making it a joke) by calling/greeting him/her with a name that hurts him/her, telling lies or spreading false rumors about someone.
2. Indirect: completely rejecting or removing someone from a friendship group or leaving it intentionally or sending notes and trying to make other students dislike them.
3. Physical: Hit, kick, push, play or terrorize and do things that aim to hurt.
There are 7 factors that influence the occurrence of bullying (Astuti, 2008):

1. Class differences (seniority), economics, religion, gender, ethnicity, or racism. Basically, the difference (especially if the difference is extreme) of an individual with a group where he/she joins, if it cannot be addressed properly by members of the group, can be a factor in bullying.

2. Seniority tradition. Seniority that is wrongly interpreted and used as an opportunity or reason to bully juniors sometimes does not stop in a period. This is often an unwritten rule that is passed down from generation to generation. For example, one of the Senior High Schools in Jakarta has an unclear reason, that is, class X students are prohibited from passing through class Y. If, it is violated, the student who passes by will be yelled at. Students do not dare to violate this rule, because the prohibition has been going on for generations for many years.

3. Seniority, as one of the bullying behaviors, is often extended by students themselves as latent events. For them the desire to continue the problem of seniority is for entertainment, revenge, jealousy or seeking popularity, continuing traditions or showing power.

4. Families that are not harmonious. The complexity of family problems such as absence of a father, mother suffering from depression, lack of communication between parents and children, divorce or disharmony of parents and socioeconomic incapacity are the causes of significant acts of aggression.

5. School situation that is not harmonious or discriminatory. Bullying can also occur if ethical supervision and guidance from teachers is low, schools with very rigid discipline, improper guidance and inconsistent regulations.

6. Individual/group character. The character of individuals/groups that can be a factor in the occurrence of bullying is revenge or jealousy, the enthusiasm of wanting to control the victim with physical power and sexual attraction, to increase the popularity of the perpetrators among peers, and the perception of the wrong value of the victim's behavior. Victims often feel that they deserve to be treated as such (bullied), so that the victim just silences it repeatedly on him.

According to Prasetyo (2011), bullying can have short-term and long-term impacts. The short-term impact of bullying is to cause feelings of insecurity, isolation, feelings of low self-esteem, depression or suffering from stress that can lead to suicide. The long impact is that victims of bullying can suffer emotional and behavioral problems. Prasetyo (2011) also explained that the long-term effects of bullying may not be realized by both the perpetrators, victims and teachers and parents because the impact is more psychological and emotions that are not visible and the process is very slow, long lasting and does not appear immediately.

5. The Purpose of Creating Child-Friendly School

Based on the Child-Friendly School Guidelines compiled by the Ministry of Women Empowerment and Child Protection of the Republic of Indonesia, the policy of making Child-Friendly School is to be able to fulfill, guarantee and protect children's rights, and ensure that education units are able to develop children's interests, talents and abilities and prepare children for responsible for a life that is tolerant, mutual respect, and cooperates for the progress and spirit of peace. The education unit is expected to not only give birth to generations that are intellectually intelligent, but also give birth to generations that are emotionally and spiritually intelligent.
6. Principles for Organizing Child-Friendly School

According to the KPAI Commissioner for Education, Retno Listyarti, Child-Friendly Schools have only been understood as limited to schools which are safe from violence. Whereas in fact Child-Friendly Schools are safe and comfortable schools to deliver Indonesian children to become a reliable next generation. In addition, according to Retno Listyarti (Harsono, 2018), Child-Friendly Schools are not just zero violence in the form of physical, psychological, and sexual violence that occurs in the school environment. But the principle of Child-Friendly Schools must also have a canteen that provides healthy food and is obliged to create a school environment that is physically safe, beautiful and green. Schools must have disaster evacuation routes, smoke free, drug free, and have a complaint number.

National Coordinator of the Indonesian Education Monitoring Network/Jaringan Pemantau Pendidikan Indonesia (JPPI), Ubaid Matraji (in Abdi, 2019), indicator of Child-Friendly Schools, that there should be no violence in schools, both physical and non-physical, facilities and infrastructure in schools must support children, the learning process must apply positive discipline patterns and the establishment of effective communication between children, parents, and schools.

Safe and Supportive Schools Model developed by the Department of Education of United States based on listening sessions and consultations with researchers and practitioners can also be one of the references in conducting Child-Friendly Schools. This model includes three main components: Engagement, Safety, and Environment.

![Safe and Supportive Schools Model](image)

*Fig. 1. Safe and Supportive Schools Model developed by the Department of Education of United States*
School engagement is very important in building a positive academic success and school atmosphere. School engagement consists of relationships, respect for diversity, and school participation. Analysis of data from the Longitudinal Study of National Education in the United States shows that supportive and caring relationships between students and teachers, as well as positive perceptions of teachers about the efforts of students in the classroom, produce higher academic achievement for students.

School Safety refers to the security of school settings and school-related activities that are felt and experienced by all stakeholders, including students, teachers, school staff, families, and communities. School safety includes emotional and physical safety, and is influenced by the positive and negative behavior of students, teachers, and school staff, and the presence of drug use in the school environment. Students' perceptions of feeling or not feeling safe at school have proven to have an impact on their educational outcomes. School environments characterized by victimization and hostility were found to be associated with lower levels of involvement and achievement in mathematics and reading; and personal experience with threats, theft, or attacks on school has been shown to increase the likelihood of students dropping out of school.

The use and sale of drugs in schools is also associated with negative educational outcomes for students. A study conducted by Department of Education of California found that schools that reported having a large percentage of students who said they were drunk or offered drugs in the school environment showed lower scores on academic achievement than other schools whose students did not report this experience.

School environment refers to the extent to which school settings prioritize student safety and student health. The environment referred to here includes all aspects of the school—its academic component, its physical and mental health support and services, its physical building and location, and its disciplinary procedures.

7. Child-Friendly School as Bullying Prevention

In Indonesia, the process of education which still makes children an object and the teacher as the party that is always right, easily creates bullying in schools/madrasa. Schooling is not always a pleasant experience for children. Data from KPAI (2014-2015) concerning Cases of Violence (Physical, Psychic, Sexual Violence and Neglect of Children), as many as 10% were carried out by teachers. Data from KPAI (2013) explained the forms of violence that were mostly found in the form of bullying, as well as forms of punishment that did not educate students, such as pinching (504 cases), shouting out loud (357 cases) and reprimanding (379 case). The details of the data on child violence in the world of Education reported from 2011 to 2017 reached 2,961 cases so that it became the basis that Child-Friendly Schools needed to be implemented.

The absence of violence in schools is one factor among the positive factors that characterize a safe and effective school. Previous researchers have framed the problem of school violence into two conceptual models of school security which include the concepts of development and education and emphasize the prevention and effectiveness of schools (Jimerson & Furlong, 2006). Recognizing that no school can create 100 percent of a friendly school environment, Sprague & Walker (2005) conceptualizes child-friendly schools in a bipolar dimension.

This bipolar dimension is illustrated in a series from unsafe to safe. Relative school security is shown in terms of the number and nature of the risk factors and protective factors. Like individuals, the risk factors and conditions direct the school to unsafe conditions. The
greater the number of risk factors or conditions, the greater the risk, and the longer they become evidence, the greater the destructive impact on school security. Protective factors have the potential to reduce the destructive impact of risk conditions on school status and operations. Schools can be distributed along this dimension in terms of performance indicators that document the relative safety or insecurity of their schools - for example, the number of victimization at school; crime in school and in the surrounding environment; the number of examples of discipline, suspension, and expenditure per student and for the entire school; level of academic achievement; presence; the quality of school discipline training; school social climate; presence or absence of gang activity, and so on. Although there is no reliable composite index of these actions, it is likely that this concept can be developed and used to find individual schools along this continuum (Sprague & Walker, 2005).

School security continuity cannot be analogized in absolute terms as safe or unsafe, but rather analogous to comparative terms such as safer versus less secure. It is the responsibility of school leaders and communities to do everything in their power to maximize the safety and security of their schools. As with social conditions (family and community environment) in a deteriorating environment, the challenge for educators — maintaining an acceptable level of school security — is difficult to develop. School security focus requires greater investment of resources if it is not allocated for positive student social and academic development (Sprague & Walker, 2005).

8. Discussion

Child-Friendly Schools/Sekolah Ramah Anak (SRA) can be realized if education centers (schools, families, and communities) work together. Family is the closest community of children. The ideal family environment for children is a harmonious family environment, both physically and mentally. In addition, creating a positive environment in school is also important. Research conducted by Maghfirah & Rachmawati (2010) shows that the more positive the school environment is, the lower the tendency of students to bullying. According to Prasetyo (2011), there are several steps that can be applied by schools to prevent bullying, i.e. changing the way to educate and how to treat students, build an active communication network with parents, provide proper understanding of bullying to teachers, students and parents through workshops, training or seminars, declaring an anti-bullying campaign involving the active role of all elements of the school, from teachers, employees, students, parents, alumni, and the surrounding community, and as a prevention as well as handling bullying cases, schools need to provide some kind of bullying center for students. Counseling guidance in schools can add this function and act as a place of complaint that is very confidential, meaning that the identity of the reporting victim will be kept confidential. This section also has the role of providing counseling and therapy for students who are victims and perpetrators.

9. Result

Based on various school bullying reported by KPAI and other cases happened and researched, Child-Friendly Schools are supposed to be realized by following its principles mentioned in previous section. Its implementation also should be supervised by children’s environment surrounding (family, friends, school itself, their society, and the government). It is important because according to previous research shows that the more positive the school
environment is, the lower the tendency of students towards bullying.

10. Conclusion

Schools are not always a safe place for their children to experience violence such as bullying in schools. Bullying that occurs in children in the learning environment can be emotional, physical and psychological, and can occur from mild to very violent acts of violence. Bullying in schools can cause short-term and long-term effects for children's development both physically and mentally. Therefore, schools as one of the closest environments for children after families need to create a conducive environment known as Child-Friendly Schools. The implementation of Child-Friendly Schools (SRA) is carried out by referring to six important components, i.e. SRA policy, implementation of child-friendly learning processes, trained educators and education personnel, children's rights and SRA, SRA facilities and infrastructure, participation of children, and participation of participation of parents, institutions community, business world, other stakeholders, and alumni.

References

[2] Hadiyono, V., & Saraswati, R. (2016). Bullying at schools and its prevention through the school rules (case study in ten senior high schools in semarang, Indonesia), Proceedings of 1st international conference on women and children legal and social issues, 105-112
The Effectiveness of Using Student Worksheet Through Guided Inquiry Model to Improve Senior High School Students Understanding on Ecosystem Material for Grade X Science Class

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Abstract. This research aims to examine: the effectiveness of Guided Inquiry Model and worksheet to student’s understanding of ecosystem materials. It is a quasi-experimental study a pretest-posttest control group design. The hypothetical population is all students of SMA Negeri 1 Temon. With 61 students as the sample which is divided into two groups; 29 students as the experimental group and 32 students as the control group. The data for students understanding on ecosystem material were collected using a multiple choice test. The result show that the Guided Inquiry Model improves students understanding on ecosystem materials especially for grade X Science with an average score of 50.79 (experimental group’s pretest) and 78.59 (posttest), while in the control group, students gain 51.06 (pretest) and 64.97 (posttest) with significant score 0.000 < 0.05.

Keywords: Guided inquiry, worksheet, understanding.

1. Introduction

According to Moeed (2015: 2) [5] states that learning science involves the development of conceptual understanding, procedural, and also understanding of natural knowledge. Biology, which is part of science, systematically examines nature in all aspects, so that it can provide opportunities for students to explore their potential or abilities through direct experience.

Based on the results of interviews with biology subject teachers at SMA Negeri 1 Temon, it is known that learning done at school especially for ecosystem material is still inefficient, because most teachers are still doing learning in class with monotonous models such as discussions and lectures so that only one learning occurs the direction in which students only receive information conveyed by the teacher and still lack the courage to convey the ideas or ideas they have during the learning process. The habits of these students in learning activities still depend on the full delivery of the teacher in conducting scientific activities resulting in the inability of students to work independently in their activities to find and explore information related to the material discussed, moreover in understanding problems and finding solutions from problems that arise from real life in the environment around students.

Besides, when implementing the learning process the teacher only relies on student worksheets contained in the textbooks provided by the school so that students' knowledge of the subject discussed is limited to books, which results in a lack of student stimulus in digging deeper into the material. being taught, besides that learning activities on ecosystem material
only revolve around the school environment, teachers have not utilized the local potential of the area even though SMAN 1 Temon is close to rice fields, which if explored can increase students’ knowledge so based on that it is expected that students will be more dare to express their opinions when doing the learning process onwards. Therefore, we need a learning model that can develop students’ understanding of concepts. Guided inquiry is one of the learning models that have the opportunity to increase students' self-potential. According to Bilgin (2009: 1039)[2] which states that in the guided inquiry method, teachers and students play an important role in asking questions, developing answers, and arranging material and cases.

According to the NRC (Şimşek, 2010: 1193)[6] states that inquiry is defined as a series of interrelated processes in which scientists and students ask questions about the natural world and the investigation of phenomena; in doing that, students gain knowledge and develop a rich understanding of concepts. Furthermore, Örlich (Bilgin, 2009: 1038)[2] states that the inquiry model requires a high level of communication between the environment, content, material and students and teachers.

According to Atasoy and Akdeniz (Töman, 2013: 174)[7], there is a need for material that will guide students to learn core knowledge more actively, pay attention to misunderstandings and promote more effective concept learning. Worksheets are one of the teaching methods that can be done individually or in group work and allow conceptual development (Saka, Akdeniz, and Enginar, 2002). Furthermore, Michaelis and Garcia (Töman, 2013: 174)[7] state that worksheets are written material consisting of individual activities that students will do when studying a topic and will also allow students to take responsibility for their learning with the process steps given related to activities.

2. Methods

This type of research is quasi-experimental, and data collection techniques used are test instruments consisting of pretest and posttest that have been validated by the validator lecturer. Data analysis using prerequisite test analysis and hypothesis testing using SPSS 24 for windows. This research was conducted at SMA Negeri 1 Temon, Kulon Progo Regency, Special Region of Yogyakarta. The population used in this study were all students of SMA Negeri 1 Temon in class X MIA even semester consisting of 2 classes with a total of 61 students. The population is also used as a research sample, which consists of 2 classes which are then drawn to determine the experimental class and the control class. The experimental class was given research treatment, that is, a guided inquiry learning model accompanied by student worksheets and for the control class, the conventional learning model used by subject teachers were used. The research design used was Pretest-Posttest Control Design, so that both classes would test before and after treatment. The research subjects were 61 students of class X MIA consisting of 29 students of class X MIA 2 as the experimental class, and 32 students of class X MIA 1 as the control class.

3. Result

The results were obtained using descriptive analysis, giving pretest and posttest to find out the students' understanding of concepts before and after learning with guided inquiry learning models accompanied by student worksheets. Measurement of concept understanding by giving tests to students both the control class and the experimental class. The results of measuring students' understanding of concepts are presented in the data recapitulation table below:
Table 1. Data Recapitulation of Understanding the Concepts of Control and Experiment Classes

<table>
<thead>
<tr>
<th>Data</th>
<th>Experiment Class</th>
<th>Control Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td>N</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Mean</td>
<td>50.79</td>
<td>78.59</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>9.91</td>
<td>8.47</td>
</tr>
<tr>
<td>Maximum Value</td>
<td>69</td>
<td>94</td>
</tr>
<tr>
<td>Minimum Value</td>
<td>31</td>
<td>63</td>
</tr>
</tbody>
</table>

Based on Table 1 above, a description of the data in the form of the number of students (N), average (Mean), standard deviation, maximum value, and minimum value. The mean pretest value of the experimental class was 50.79 and the mean posttest value was 78.59. Based on the description, it can be concluded that there is an increase in understanding of concepts in both classes. Following is the presentation of the average diagram of the analysis of the pretest and posttest value of understanding the concepts presented in Figure 1 below:

![Figure 1. Data Bar Diagram of Average Results of Pretest and Posttest Understanding of Students' Concepts Experiments and Control Classes](image)

3.1 Testing Prerequisite Analysis

Prerequisite testing is done to find out whether the data is normally distributed and homogeneous or not. This prerequisite test uses the pretest and posttest result data of the experimental class and control class students. Data is said to be normally distributed if the
value of sig $> 0.05$, conversely if the value of sig $<0.05$ then the data are not normally distributed. From the results of the normality test using SPSS, the results are presented in Table 2 below:

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Significance</th>
<th>Keterangan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pretest experimental class</td>
<td>.200</td>
<td>Sig values $&gt; 0.05 = $ data normally distributed</td>
</tr>
<tr>
<td>2</td>
<td>Posttest experimental class</td>
<td>.196</td>
<td>Sig values $&gt; 0.05 = $ data normally distributed</td>
</tr>
<tr>
<td>3</td>
<td>Pretest control class</td>
<td>.102</td>
<td>Sig values $&gt; 0.05 = $ data normally distributed</td>
</tr>
<tr>
<td>4</td>
<td>Posttest control class</td>
<td>.74</td>
<td>Sig values $&gt; 0.05 = $ data normally distributed</td>
</tr>
</tbody>
</table>

Based on the results of the normality test above, it can be seen that the distribution of concept understanding data is normally distributed because the significance value is greater than 0.05 so that the data can be further analyzed. The second test carried out was a homogeneity test using the results of the pretest and posttest results of the experimental class and the control class. Homogeneity test is performed to determine the similarity of the two variances, the data is said to be homogeneous if the sig value $> 0.05$. Vice versa, if the sig value $<0.05$ then the data are not homogeneous. Following is the presentation of homogeneity test results using SPSS assistance presented in Table 3 below:

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Levene Statistik</th>
<th>Significance</th>
<th>Keterangan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pretest</td>
<td>.603</td>
<td>.441</td>
<td>Significance $&gt; 0.05 = $ homogeny</td>
</tr>
<tr>
<td>2</td>
<td>Posttest</td>
<td>.127</td>
<td>.722</td>
<td>Significance $&gt; 0.05 = $ homogeny</td>
</tr>
</tbody>
</table>

Based on homogeneity test results obtained pretest data of 0.603 and posttest data of 0.127, both of these data are greater than 0.05 so that both samples have the same variance (homogeny).

### 3.2 Hypothesis testing

Hypothesis testing is done to see whether the application of guided inquiry learning models accompanied by student worksheets is effective in increasing students' understanding of concepts in SMA Negeri 1 Temon, Kulon Progo Regency, Yogyakarta Special Region on ecosystem material. The analysis uses an independent sample t-test test on the SPSS 24 for windows program. The research hypothesis is as follows:

Ho: there is no significant difference between the average value of students' understanding of concepts using the guided inquiry model accompanied by student worksheets and students who do not use the guided inquiry model with student worksheets.

Ha: there is a significant difference between the average value of students' understanding of concepts using the guided inquiry model accompanied by student worksheets and students who do not use the guided inquiry model with student worksheets.

The Ha criterion is accepted if the sig value $<0.05$, which means there is a significant difference between the experimental class and the control class. The following presents the
results of the t-test understanding of the concepts of the experimental class and the control class:

<table>
<thead>
<tr>
<th>Data</th>
<th>Sig. (2-tailed)</th>
<th>α</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest</td>
<td>.000</td>
<td>0.05</td>
<td>Significantly different</td>
</tr>
</tbody>
</table>

Based on the above t-test results obtained sig. (2-tailed) of 0.000 < 0.05 so it can be concluded that H₀ is rejected and Hₐ is accepted, which means there is a significant difference between the average value of students' understanding of concepts participating in learning with guided models inquiry accompanied by student worksheets with students who did not take part in the guided inquiry model accompanied by student worksheets, that is, following conventional learning. So that it indicates that the application of guided inquiry learning model accompanied by student worksheets influences the students' understanding of the concept of class X MIA SMA Negeri 1 Temen.

### 3.3 N-Gain Testing

Improved understanding of the concept of students in the experimental class and the control class is obtained by calculating the value of the pretest and posttest, namely the N-Gain test with the help of an excel program, from the N-Gain analysis it will be known how much increased understanding of the concept of students before and after treatment. The following N-Gain calculation results are presented in Table 5 below:

<table>
<thead>
<tr>
<th>Class</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N-Gain</td>
</tr>
<tr>
<td>Experiment</td>
<td>0.55</td>
</tr>
<tr>
<td>Control</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Based on Table 5 above, it can be seen the difference in the increase in the value of N-Gain in students' understanding of the experimental class by 0.55 and the control class by 0.28. From these results, an increase in the value of understanding the concept of the experimental class is moderate, while the increase in the control class is categorized low. From the results of the N-Gain test with the help of the excel program, it can be seen that the increase in students' understanding of the experimental class concept is higher than that of the control class.

### 4. Discussion

This research was conducted in March 2019 to May 2019 in SMA Negeri 1 Temen, Kulon Progo Regency DIY. The purpose of this research is to determine the effectiveness of the guided inquiry model accompanied by student worksheets on the understanding of students' concepts in the even semester X class ecosystem material. Before conducting research, researchers first conduct pre-research activities, where the activities carried out are
interviewing class X biology subject teachers regarding learning activities at school then compiling a research instrument consisting of syllabus, Learning Implementation Plan, student worksheets, and understanding test instruments concept. After that, the research instrument is validated by expert lecturers. After being declared valid, the research instrument is used in research. As explained in the research method, that the control class is class X MIA 1 that gets the treatment of learning with conventional models while the experimental class is class X MIA 2 that gets the guided inquiry model treatment accompanied by student worksheets.

The allocation of research time in each class is 9 hours of study (3 meetings). Before the class is given treatment, the first two classes are given a pretest in the form of a written test of conceptual understanding. At the time of learning, students who are in the control class are shown pictures of the material to be studied and they are allowed to submit their arguments about the picture. As for the experimental class, students are divided into several groups and divided into student worksheets in each group, then conduct observations in the environment around the rice fields, while making observations they are instructed to fill in the student worksheets. After they finished observing and filling out the student worksheets they were given, they were instructed to present the results of their group discussions in front of the class, and other groups were allowed to give opinions, refute, and give questions to the presenter groups. At the end of the meeting, the two classes were given a posttest to get data understanding concepts after being given treatment.

Based on the results of the study, the effectiveness of the guided inquiry model accompanied by significant student worksheets in improving students' understanding of concepts as evidenced by the t-test was determined from a comparison of the average posttest scores of students' understanding of the concept of the ecosystem material. This can be seen from the diagram in the research results above. The diagram also explains that the value of understanding the concepts of the control class and the experimental class have different values as evidenced by the t-test, where sig. (2-tailed) posttest data is 0.000. This shows that if \( p < 0.05 \) so the value of understanding the concepts of these students is significantly different. To see an increase in students' understanding of concepts in the control class and the experimental class is done by the N-Gain test, from the N-Gain analysis the data for the experimental class is 0.55 in the medium category, while for the control class the N-Gain score is 0.28 for the low category. These results indicate that the increased understanding of the concept of experimental class students is higher than the control class. These results are in line with the theory revealed by McDonnell (2013: 10)\[4\] which states that guided inquiry learning has the power to improve the ability to understand concepts and higher-order thinking skills and scientific attitudes. In line with this statement Margiastuti., Parmin & PamelaSari (2015: 1042)\[3\] stated that learning with a guided inquiry model can facilitate students in understanding the material provided to improve understanding of students' concepts. Increased understanding of students' concepts is obtained from their experience in implementing learning through investigation and concluding activities. According to Ambarsari., Santoso & Maridi (2013: 90)\[1\] stated that the activities in the guided inquiry model were more student-centered compared to conventional learning. In guided inquiry learning, each student is allowed to determine and find their problems that are presented to be solved. This indirectly trains students to think about how the results of the problem solving are done resulting in students understanding the concept of learning as a whole. Different conditions occur in conventional learning wherein conventional learning the activities of students are very limited namely only listening, taking notes, and asking questions.
5. Conclusion

Based on the results of the research that has been done, it can be concluded that the guided inquiry learning model accompanied by effective student worksheets to improve students' understanding of concepts. This is based on the results of data analysis which shows that there are significant differences between students who are given learning with conventional models and students who are given learning with guided inquiry models accompanied by student worksheets, because in learning with guided inquiry models students do their learning through the process of gathering information or facts and then analyze and conclude it into understanding so that students do learning not just memorizing it but comprehending it thoroughly from the beginning to the end of learning.

References


The Effect of Guided Inquiry Models With Student Journals on Student Critical Thinking Skills in Environmental Change Subject

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Abstract. This study aimed to determine the effect of guided inquiry models with student journals on critical thinking skills in environmental change subject. This study was a quasi-experimental research using cluster random sampling. The population of this study was all students of X Science Class of SMA Negeri 2 Ngaglik. The sample of this study was 2 namely 31 students from X Science Class as the control class and 31 students from X Science 3 class as the experimental class applying the guided inquiry model with student journals. Data collection was performed using a test instrument. The data obtained were analyzed using the Independent sample test of the T-test. The calculation results showed a significant value of 0.000 <0.05, so it can be concluded that there are differences in critical thinking skills between the control class and the experimental class.

Keywords: guided inquiry with student journals, critical thinking, environmental change

1. Introduction

The education world is one of the various fields required to undergo change in the 21st century. This is because the education sector plays a role in producing human resources involved in the development of the 21st century. Therefore, schools as one of the institutions in the education field must hold a curriculum based on the demands of the 21st century development. One of the aspects developed in educational institutions is the aspect of skills. Skills needed in the face of 21st century development are critical thinking skills and problem solving skills (Özyurt, 2015) [19]. This is supported by the opinion of Liliasari (2009) [15] stating that in the demands of an increasingly advanced and complex era of globalization, the process of science education must prepare qualified students, such as students who own scientific literacy, and have values, attitudes, and higher order thinking skills so that human resources that can think critically, creatively, be able to make decisions, and be able to solve problems will appear.

The importance of the ability to think critically as capital to deal with the demands of the times has apparently not been well implemented by educational institutions in Indonesia (Mundilarto, 2012) [17]. Based on preliminary studies conducted by Rosyid, Jatmiko & Supardi (2018) [22], secondary school students' thinking skills are still low owing to the fact that the learning process is still one-way or there is only a transfer of knowledge from teacher to student so that students have difficulty building their own knowledge.

Biology is a subject included in the science family. Science is a subject of nature that can help individuals survive in an ever-changing scientific and technological world (Shishigu, Hailu dan Anibo (2018) [20]. As a subject being taught, biology has a variety of materials...
expected to be understood by students, one of which is the subject of environmental change which is very closely related to daily life. It is expected that this subject can be understood by students. However, frequently, students do not understand this subject and even just learn about existing theories. Environmental change subject should be the one that trains students’ ability to think critically, because it is related to environmental problems.

The challenge is indeed for educators to design new learning and curricula that really encourage motivation and independence so as to equip students with learning and thinking skills (Tan, 2003)\(^\text{[23]}\); (Mundilarto, 2012)\(^\text{[17]}\); (Wartono et al., 2018)\(^\text{[25]}\). Learning biology is very closely related to the investigation, so it should be in the learning process that the teacher conducts practicum activities to prove the existing theories. Students can learn not only scientific concepts, but also scientific thinking skills and experimental skills. Based on the above explanation, (Nariman & Chrispeels, 2015)\(^\text{[19]}\) in their study said that the learning process designed by the teacher must focus on students. In the student-centered learning model, the learning activities are related to inquiry activities and are based on students’ real-life problems. Being able to improve critical thinking skills is a guided inquiry inquiry model (Simanjuntak, Elvis Napitupulu, Manullang, Manalu, & Sinambela, 2019)\(^\text{[22]}\); (Kitot, Ahmad, & Seman, 2010)\(^\text{[13]}\); (Hein, 2012)\(^\text{[9]}\).

Guided inquiry model of learning is included in constructivist learning (Chase, Pakhira, & Stains, 2013)\(^\text{[3]}\); (Hein, 2012)\(^\text{[9]}\); (Conway, 2014)\(^\text{[4]}\). Constructivist learning basically states that knowledge cannot be transferred from one person to another (Hmelo-Silver, Duncan, & Chinn, 2007)\(^\text{[10]}\); knowledge must be actively built by students through interaction with the environment (Domin, 1999)\(^\text{[5]}\). Inquiry-based activities are inductive, have unspecified results, and require students to make their own procedures (MacKay & Wetzel, 2014)\(^\text{[6]}\); (Douglas & Chiu, 2012)\(^\text{[9]}\). There are 6 syntaxes or steps in the guided inquiry inquiry model used in this study, namely directing students to engage in learning, displaying problems or questions, formulating hypotheses, collecting data, making conclusions, and reflecting (Arends, 2011)\(^\text{[1]}\). The study conducted by (Koksal & Berberoglu, 2014)\(^\text{[14]}\), shows that students in the experimental class taught using guided-inquiry learning models have a positive impact on cognitive and affective characteristics. Similar findings stated (Kitot et al., 2010)\(^\text{[13]}\) that guided inquiry inquiry model is effective in improving students' academic abilities, which are critical thinking skills so it must be applied in school.

This study also uses student journals in the learning process. The use of student journals is expected to help students learn independently in order to obtain optimal results through the difficulties and allow improvements that need to be made by the teacher. According to Silbermen (2013)\(^\text{[22]}\) a journal is a reflective note that students make on their own every day. Student journals are expected to help students practice connecting and associating problems with the knowledge they have and can think critically and be able to relate to everyday life.

The effectiveness of guided inquiry learning models with student journals in improving students’ critical thinking skills needs to be reviewed and tested empirically for further consistency in improving the ability to think critically of biology in high school students in Indonesia. This study is very important to develop learning models and theories that are able to answer the challenges and skills needs of this century.

2. Methods

2.1 Research Design

This study was a quasi-experiment. This study was conducted at the SMA Negeri 2 Ngaglik in Yogyakarta in April 2019. The population of the study was all 126 grade X
students. The research sample consisted of one experimental class totaling 31 students and one control class totaling 31 students. The sampling was done randomly.

2.2 Data and Analysis

Data collection techniques used were in the form of description as the test instrument. The test instrument used was validated by the validator lecturer. In the control class and experimental class, the test before and after the learning process was done. The research design used was a Pretest-Posttest control-group. Following is the table of research design used:

<table>
<thead>
<tr>
<th>Class</th>
<th>Pretest</th>
<th>Treatment</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Y₁</td>
<td>X₁</td>
<td>Y₂</td>
</tr>
<tr>
<td>Experiment</td>
<td>Y₁</td>
<td>X₂</td>
<td>Y₂</td>
</tr>
</tbody>
</table>

Remarks:
Y₁ : Pretest
Y₂ : Posttest
X₁: using the guided inquiry model with student journals
X₂: using scientific approach

To find out the increase in students' critical thinking skills, a normalized gain score calculation using the formula is performed:

\[
\text{Gain score (g)} = \frac{\text{posttest score} - \text{pretest score}}{\text{maximum score} - \text{pretest score}}
\]

In addition to the Gain score test, to find out whether there are differences in critical thinking skills in the control class and the experimental class, the research data were analyzed using an independent sample t-test with the help of the SPSS program.

3. Result

The results were obtained using descriptive pretest and posttest analysis to determine the critical thinking skills of the experimental class and control class students. The results of the measurement of critical thinking skills are presented in the table below:

<table>
<thead>
<tr>
<th>Description of Mean</th>
<th>Experimental Class</th>
<th>Control Class</th>
<th>Value of Measurement Applying Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Postest</td>
<td>Pretest</td>
</tr>
<tr>
<td>Mean</td>
<td>63.84</td>
<td>92.20</td>
<td>65.01</td>
</tr>
<tr>
<td>Number of Students (N)</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>6.657</td>
<td>5.130</td>
<td>7.114</td>
</tr>
<tr>
<td>Maximum Value</td>
<td>75</td>
<td>100</td>
<td>79</td>
</tr>
<tr>
<td>Minimum Value</td>
<td>50</td>
<td>83</td>
<td>50</td>
</tr>
</tbody>
</table>
Based on the data from the description it can be seen that there is an increase in critical thinking skills in both classes. Next is the presentation of the diagram of mean regarding the analysis results of the pretest and posttest values of students' critical thinking skills in the figure below:

Figure 1. The mean value of students' critical thinking skills measurement

3.1 Testing Prerequisite Analysis

The prerequisite test is carried out to find out whether the data obtained is normally distributed and homogeneous or not. The data used were pretest and posttest value data for the experimental and control classes. The first prerequisite test is the normality test, and the data can be said to be normally distributed if the sig value > 0.05 and vice versa, if the sig value < 0.05 then the data are not normally distributed. From the normality test with the SPSS program, the results are presented in the table below:

Table 3. Results of normality test for critical thinking

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Critical thinking pretest of experimental class</td>
<td>0.111</td>
<td>Significance &gt; 0.05 = normal</td>
</tr>
<tr>
<td>2</td>
<td>Critical thinking posttest of experimental class</td>
<td>0.066</td>
<td>Significance &gt; 0.05 = normal</td>
</tr>
<tr>
<td>3</td>
<td>Critical thinking pretest of control class</td>
<td>0.127</td>
<td>Significance &gt; 0.05 = normal</td>
</tr>
<tr>
<td>4</td>
<td>Critical thinking posttest of control class</td>
<td>0.155</td>
<td>Significance &gt; 0.05 = normal</td>
</tr>
</tbody>
</table>

Based on the results of the normality test, it can be seen that the distribution of critical thinking skills of students is normally distributed because it has a significance value greater than 0.05 so that it can be analyzed further. The second test was the homogeneity test using pretest and posttest data of the two classes as well. Homogeneity test is performed to determine the similarity of the two variances, the data is said to be homogeneous if the sig value > 0.05 and if the sig value < 0.05 then the data are not homogeneous. Following is the presentation of homogeneity test results using the SPSS program:

Table 4. Data on homogeneity test of critical thinking

<table>
<thead>
<tr>
<th>Data</th>
<th>Levene statistic</th>
<th>Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klas Ekperimen</td>
<td>63,84</td>
<td>0</td>
<td>0.20</td>
</tr>
<tr>
<td>Klas Kontrol</td>
<td>65,01</td>
<td>0</td>
<td>0.40</td>
</tr>
<tr>
<td>Klas Ekperimen</td>
<td>81,05</td>
<td>0</td>
<td>0.60</td>
</tr>
<tr>
<td>Klas Kontrol</td>
<td>81,05</td>
<td>0</td>
<td>0.80</td>
</tr>
</tbody>
</table>

Based on the results of the homogeneity test, it can be seen that the homogeneity test results of the two classes are not significant if the sig value > 0.05 and if the sig value < 0.05 then the data are not homogeneous.
Based on the homogeneity test results in the above table, the pretest and posttest values in both classes are greater than the significance value of homogeneity, so the experimental class and control class data values have the same variance (homogeneous).

3.2 Hypothesis testing

Hypothesis testing is conducted to determine whether the application of guided inquiry with student journals increases the critical thinking skills of students of X Science class in SMA Negeri 2 Ngaglik on the subject of environmental change. Data analysis used independent sample t-test in the SPSS program. The hypothesis in this study is:

$H_0$: there is no difference in critical thinking skills of experimental class and the control class

$H_a$: there is difference in critical thinking skills of experimental class and the control class

The $H_a$ criterion is accepted if the sig value < 0.05, which means there is a difference between the experimental class and the control class. The following is the presentation of the t-test results in critical thinking skills of experimental and control class students:

<table>
<thead>
<tr>
<th>Type of Data</th>
<th>Sig.(2-tailed)</th>
<th>A</th>
<th>Decision</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postest</td>
<td>.000</td>
<td>0.05</td>
<td>Ha is accepted</td>
<td>Significant difference</td>
</tr>
</tbody>
</table>

Based on the results of the t-test in the above table, it can be seen that the significance value (2-tailed) of 0.000 < 0.05 so that it is concluded that $H_0$ is rejected and $H_a$ is accepted. This means that there is a significant difference between the results of the critical thinking skills scores in the experimental class that applies guided inquiry model with student journals in the learning process and in control class that does not apply guided inquiry model with student journals. Therefore, the results of this t-test indicate that the application of guided inquiry models with student journals affected the critical thinking skills of students of X Science Class in SMA Negeri 2 Ngaglik on environmental change subject.

3.3 N-Gain Test

Increased students' critical thinking skills in the control and experimental class were obtained by calculating the pre-test and post-test scores using the N-Gain test with the help of an excel program. From the N-Gain analysis, it will be known how much the increase in students' critical thinking skills before and after treatment. Following are the results of the N-Gain calculation presented as presented in table 6:

<table>
<thead>
<tr>
<th>Mean value</th>
<th></th>
</tr>
</thead>
</table>
From the table above it can be seen that the difference in the mean of increase in students’ critical thinking skills in the experimental class was 28.4 and the N-Gain value was 0.77, while that in the control class was 15.9 and the N-Gain value was 0.44. From these results an increase in the critical thinking skills in the experimental class was categorized high, while the category of that in control class was moderate. From the results of the N_Gain test with the help of the excel program it can be seen that the increase in the critical thinking skills of the experimental class students is higher than the control class.

3.4 Student Journals

In this study, student journals are assessed based on students' ability to write learning reflections after students have done the guided inquiry model. The following is the recapitulation of student journal scores:

<table>
<thead>
<tr>
<th>Student Journal Criteria</th>
<th>Score Range</th>
<th>( \sum ) student</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>( x &lt; 1.7 )</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Moderate</td>
<td>( 1.7 &gt; x &lt; 3.3 )</td>
<td>3</td>
<td>9.68</td>
</tr>
<tr>
<td>Good</td>
<td>( x &gt; 3.3 )</td>
<td>28</td>
<td>90.32</td>
</tr>
</tbody>
</table>

\[ \sum = 31 \]

Mean grade score = 3.85

Journal writing scores after the learning process with the guided inquiry model was made by the experimental class students at each meeting. From the table above, it is known that there were 3 students in the medium category and 28 in the good category. Thus it can be said that the experimental class students are included in good category for writing journals in the guided inquiry learning model.

4. Discussion

This research was conducted in April 2019 at SMA Negeri 2 Ngaglik. The objective of this study was to find out whether there was an effect of guided inquiry models with student journals on students' critical thinking skills on environmental change subject in class X. Before conducting research, researchers first conducted a pre-study where the activities carried out were interviewing biology class X subject teachers regarding learning activities at school then compiling research instruments (syllabus, lesson plans, worksheets, and description questions). After that, the research instrument was validated by the expert lecturers. After being declared valid, the instruments were used in this study.
Based on the results of this study the guided inquiry model with student journals has the effect of increasing students' critical thinking skills as evidenced by the t-test determined from the comparison of the mean posttest scores of students' critical thinking skills on environmental change subject. This can be seen from the diagram in the research results above. The diagram also explains that the value of students' critical thinking skills in the control and experimental classes had different values as evidenced by the t-test, where sig. (2-tailed) posttest data was 0.000. This shows that if \( p < 0.05 \), the value of students' critical thinking skills was significantly different.

The increase in students' critical thinking skills in the control and experimental class can be seen through the N-Gain test. From the N-Gain analysis the data for the control class was 0.44, while for the experimental class was 0.77. These results indicated that the increase in students' critical thinking skills in the experimental class was higher than in the control class. Research conducted by Glandys U. Jack (2013)\(^{[1]}\) stated that learning with concept of mapping and guided inquiry is more effective in teaching difficult concepts and able to improve student performance and retention. In line with this opinion, in the study conducted by Evrim Ural (2016)\(^{[2]}\), it is said that the guided inquiry learning model can improve student achievement, including critical thinking skills. Furthermore, research conducted by Florida F. and Mariam Abdul Rahman (2014)\(^{[3]}\) highlighted that using reflective journal writing can provide opportunities for students to connect theory and practice so as to enhance student learning experiences. In addition, in research by Rama Cahyati (2018)\(^{[4]}\), student journals provide an increase in the ability to apply student concepts in environmental change subject. So learning using guided inquiry learning models with student journals for students will affect students' critical thinking skills and achieve learning goals.

The guided inquiry learning model with student journals used in this study departed from interviews and observations with biology subject teachers which indicated that this model has never been implemented in environmental change subject. Students only learn from textbooks and other learning resources without experimenting about problems faced in the environment. With this guided inquiry model students learn through experiments conducted with the guidance of the teacher as a facilitator, so students can investigate problems that occur with scientific expertise owned. In addition, with this model, the teacher's role leads to curiosity, encourages thinking with his own initiative, actively processes information, and avoids memorizing habits on students. \(^{[1]}\)A student's journal is a student's reflective notes made by students to find out what students have learned. Student journals that are written are expected to be able to link and connect between problems and knowledge possessed by students so that students are able to think critically in facing the facts of problems in daily life. Development of critical thinking skills can be done by exposing students to factual problems.

5. Conclusion

Based on the results of research, it can be concluded that the guided inquiry model with student journals has an effect on increasing students' critical thinking skills. This is based on the results of data analysis which shows significant differences between students that apply guided inquiry models with journals and students that do not apply such learning model.

References


The Effectiveness of 5E Learning Cycle Accompanied by Mind Mapping on Creative Thinking

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Abstract. The development of technology and information in the 21st century raises the problems that need to be solved by creative thinking ability. As a result, it is needed the learning that can support the students to increase their ability to think creatively. This research aims to find out the effectiveness of 5E learning cycle model accompanied by mind mapping on creative thinking ability. This research used quantitative research with quasi experimental design. The data collecting technique was test in form of essay to measure the aspects of fluency, flexibility, and originality. Based on the results of the independent t-test analysis, the significance was 0.001<0.05. As for the N Gain value of the experiment class was 0.70 with high criteria and the control class was 0.57 with moderate criteria. Thus, it can be concluded that 5E learning cycle model with mind mapping is effective to increase creative thinking ability.

Keywords: Effectiveness, 5E Learning Cycle, Mind Mapping, Creative Thinking

1. Introduction

Rapid development of technology and information in the 21st century creates complexity and uncertainty in various areas, such as economic and social (Shum dan Crick, 2016)[13]. All efforts to meet the needs of life in 21st century in the fields of education, economics, and industry are now based on knowledge (knowledge age). Knowledge is the main capital to face the occurrence of a period shift from the industrial age to knowledge age. Knowledge is a solution in creating high quality human resources who are ready to face the knowledge age in the 21st century (Wijaya, Sudijimat, dan Nyoto, 2016)[16]. Education that is said to be successful today is education that can expand and apply to new situations that have never been encountered before in real life. That is education that involves thinking abilities such as creative and critical thinking in solving problems, communicating and collaborating abilities and not merely obtaining knowledge (content knowledge) (Schleicher, 2011) [12], (Marope, 2014) [8]. From those various competencies that are necessary to have in the 21st century, the ability to think creatively is a competency that needs to be had in the 21st century. It is because creative thinking allows a person to be flexible to various conditions that may occur as a result of the rapid development of the age (Ritter dan Mostert, 2016)[9].

The process of creative thinking will produce creativity. Creativity is the ability to create new ideas by combining and manipulating the knowledge. It is important to use creativity to solve various problems (Wong & Siu, 2012)[17]. However, based on the survey results by Martin Prosperity of 139 countries on Global Creativity Index (GCI), Indonesia ranks 115th. These results indicate that Indonesia’s creativity is still low. This happens because schools in
Indonesia have not yet developed the ability to think creatively. Based on the interview results in SMAN 1 Pundong, learning has not yet focused on mastering creative thinking abilities. The problems given in learning have not been linked to the real problems which are encountered by students in their daily life. As a result, students’ creative thinking abilities are still low. Alternative solution offered to overcome these problems is by using the 5E learning cycle model.

5E learning cycle model is a learning model that is based on constructivism approach, student-centered, and has five steps: engage, explore, explain, elaborate, and evaluate (Lederman, 2010) [6]. 5E learning cycle model facilitates students to develop concepts which are used to solve problems (Hardiyasa, Suma, & Sadia, 2014)[4]. In addition, it enables students to know more about the real world and help them to analyze and synthesize the information obtained so students can develop their ability to solve problems (Yaman & Karaşah, 2018)[18]. In line with those opinions, the steps of 5E learning cycle model allow students to examine and test the materials, then find and build concepts based on the results of the test and apply that concept to new ideas (Salameh Al Majali, 2013)[11]. Those ideas will be used as solution to solve the problems, so that the teacher plays a major role in stimulating students to emit the ability to think creatively to produce diverse ideas. The effort that teachers can make to help students create ideas is by combining 5E learning cycle model with mind mapping.

Mind Mapping is a note taking technique that uses visual and non-linear thinking processes and this technique is developed by Tony Buzan (Royal, 2010)[10]. Mind mapping consists of interconnected networks and aims to find creative associations of various ideas or concepts (Davies, 2011)[1]. Mind mapping helps students to organize the information, ideas, and thoughts and then solve problems (Mandal, 2014)[7]. Accordingly, in this paper, the researchers intend to conduct the research on the effectiveness of 5E learning cycle model with mind mapping on creative thinking ability.

2. Method

2.1 Type and Design of Research

This research used quantitative research with quasi experimental design. The quasi experimental design used was nonequivalent control group design. This research used experimental group and control group. Experimental group was given the treatment of 5E learning cycle model with mind mapping. Meanwhile, control group was given the treatment of 5E learning cycle model.

2.2 Population and Sample

This research was conducted in SMA Negeri 1 Pundong, Bantul Regency, Yogyakarta in February to March 2019. The research population was all students of class XI IPA in SMA Negeri 1 Pundong and the target population was the population that have characteristic such as population research. The research samples were students of class XI IPA 1 as an experimental group and students of class XI IPA 2 as a control group with each class totaling 32 students. The research samples were taken by using cluster random sampling.
2.3 Data Collection Techniques and Instruments

The technique of collection data was test. The instrument test used were essay test which arranged to measure the ability to think creatively at the cognitive level of analyzing (C4) and evaluating (C5) the material of excretory system. The scoring test of creative thinking ability refers to Diakidoy (Kind & Kind, 2008: 16)[5] which assesses the aspect of fluency, flexibility, and originality.

2.4 Data Analysis Technique

The results of pre test and post test were analyzed by parametric prerequisite tests in the form of normality and homogeneity test with SPSS version 17,0 for windows. Normality test was conducted to find out whether the data was normally distributed or not. Meanwhile, homogeneity test was conducted to find out that the two samples used were from population that had the same variations. After the analyzed data fulfilled the parametric requirements, then the hypothesis test was carried out, namely independent t-test. Pre test and post test data were also measured to increase the ability to think creatively using N-gain in order to find out the effectiveness of the two treatments used. The formula of N-gain proposed by Hake (1999)[3] is as follows:

\[
g = \frac{\text{posttest score} - \text{pretest score}}{\text{maximum score (100)} - \text{pretest score}}
\]

(1)

Next, N-gain result was interpreted according to the criteria in the following table:

<table>
<thead>
<tr>
<th>N-Gain value</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>g &lt; 0,3</td>
<td>Low</td>
</tr>
<tr>
<td>0,3 ≤ g &lt; 0,7</td>
<td>Medium</td>
</tr>
<tr>
<td>g ≥ 0,7</td>
<td>High</td>
</tr>
</tbody>
</table>

3. Result

Based on the results of the research, it was obtained the descriptive analysis of pre test and post test of the ability to think creatively in experimental and control group, as presented in table 2. Based on the data, the average pre test score of experimental and control group were 16,27 and 14,58. It showed that the initial students’ ability of think creatively before got the treatments in the experimental and control group were not significantly different. After getting the treatments, there were differences in the average score of experimental and control group. As for the average score of the experimental and control group were 76,43 and 62,50.

| Table 2. The Description of Creative Thinking Ability of the Experimental and Control Group |
|----------------------------------|----------------------------------|----------------------------------|------------------|
| Description                      | Experimental (5E learning cycle model+ Mind Mapping) | Control (5E learning cycle model) |                  |
|                                  | Pre test | Post test | Pre test | Post test |


Based on the data in table 3, it showed that the significance value of the pre test in the experimental group was 0.200 and control group was 0.062. The significance value of pre test score in both groups showed a higher value than α value (0.05). This showed that both groups were normally distributed. After the treatments, the normality test was carried out on post test result, the result of normality test was presented in table 3. The result of normality test on post test showed that experimental group had significance value of 0.200 and control group was 0.130. The two significance values were higher than α value (0.05). This showed that both groups were normally distributed.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Kolmogorov-Smirnov*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Df</td>
</tr>
<tr>
<td>Pre test</td>
<td></td>
</tr>
<tr>
<td>Experimental group</td>
<td>32</td>
</tr>
<tr>
<td>Control group</td>
<td>32</td>
</tr>
<tr>
<td>Post test</td>
<td></td>
</tr>
<tr>
<td>Experimental group</td>
<td>32</td>
</tr>
<tr>
<td>Control group</td>
<td>32</td>
</tr>
</tbody>
</table>

Based on the results of the homogeneity test presented in table 4, it showed that pre test and post test score had a higher significance value than α value (0.05). As for each pre test significance value was 0.634>0.05 and post test significance value was 0.129>0.05. This showed that pre test and post test variance in each group of experimental and control group were homogeneous.

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>0.229</td>
<td>1</td>
<td>62</td>
</tr>
<tr>
<td>Post test</td>
<td>2.371</td>
<td>1</td>
<td>62</td>
</tr>
</tbody>
</table>

Based on the results of independent t-test as presented in table 5, the significance value of pre test was higher that α value (0.05), that was 0.451>0.05. It showed that Ho was accepted which means there was no significant difference between the average score of experimental group which used 5E learning cycle model with mind mapping and control class which used 5E learning cycle model. Meanwhile, the significance value of post test showed that it was lower than α value (0.05), that was 0.001< 0.05. It means Ha was accepted or there was significant difference between the average score of experimental group which used 5E learning cycle model with mind mapping and control group which used 5E learning cycle model.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Sig. (2-tailed)</th>
<th>α</th>
<th>Decision</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>0.451</td>
<td>0.05</td>
<td>Ho is accepted</td>
<td>There is no significant difference</td>
</tr>
<tr>
<td>Post test</td>
<td>0.001</td>
<td>0.05</td>
<td>Ha is accepted</td>
<td>There is significant</td>
</tr>
</tbody>
</table>
Based on the results of the analysis of N-Gain as presented in Figure 1, it was known that N-Gain value of experimental group was higher than control group. Experimental group which used 5E learning cycle model with mind mapping had N-Gain of 0.70 which categorized as high whereas control group which used 5E learning cycle model had N-Gain of 0.57 which categorized as medium.

**Fig. 1.** The Diagram of Pre test, Post test, and N-Gain of Creative Thinking Ability

4. Discussion

Learning by applying 5E learning cycle model accompanied by mind mapping is effective in increasing creative thinking ability in excretory system material. It is proven by the result of independent t-test which shows that significance value is lower than $\alpha$ value, that is $0.001 < 0.05$. It means that there is a difference in the average score of students’ creative thinking ability between the students who are given the treatment of 5E learning cycle model with mind mapping and 5E learning cycle model. The average score of experimental group after being given the treatment is 76.43 while the average score of control group after being given the treatment is 62.50. Based on the analysis of N-Gain, experimental group gets 0.70 which categorized as high and control group gets 0.57 which categorized as medium.

5E learning cycle model with mind mapping is effective to increase creative thinking ability because of its steps which facilitate students to express their ideas/thoughts based on the knowledge they have to solve problems. This learning model stimulates students to be active to build their own knowledge. The questions are given at the beginning of learning which is called engage stage. Then in the explore stage, students explore the concept based on the topic being discussed in groups. The interactions which occur while discussing in groups give students the chance to share ideas and experiences to solve problems, so that it increases their ability to think creative. Discussion activities train students to think fluently, flexibly, and originally (Yuliawati & Panjaitan, 2017)[19]. Next, students explain the concepts and ideas they have got by using their own language in the explain stage. Then, the concepts that
have been obtained are expanded by applying the concepts to new situations or different problems at the elaborate stage. The elaborate stage can improve the ability to think creatively on aspects of fluency, flexibility, and originality. The problem will stimulate students to think of many ideas (fluency), try to find the right solution (flexibility) and generate new ideas (originality). Students are asked to apply the obtained concept to new situations by making mind map. The problems which have to be done become the theme in mind map. Then, each students gives ideas of the problem by making branches completed with pictures, colors, and letters. Mind map helps students to remember, organize and associate the concepts they have with their problems. This process triggers students to think creatively. In line with the research results, Tee, et al. (2014)\[15\] state that mind mapping helps students to remember all of the information given and increase the ability to think creatively. At the end of learning which is called evaluate stage, the knowledge obtained is evaluated to find out the extent to which students get knowledge.

Learning by applying 5E learning cycle model can increase creative thinking ability. This result is in line with the previous studies. Based on the study conducted by Hardiyasa et al. (2014)\[4\], 5E learning cycle model increases the creative thinking ability because this model uses constructivism approach proposed by Piaget. According to the study conducted by Soon, Meng, & Jong (2017)\[14\], 5E learning cycle model enhances the aspect of creative thinking, namely the aspect of flexibility in producing various solutions conceptually. Students apply the knowledge obtained to various situations, so through that process students’ creative thinking ability in solving problems can develop. Solving new problem is easier to obtain by connecting various concepts which have been obtained. Mind mapping technique improves the ability to think creatively. These results are also in line with the study proposed by Fatmawati (2016)\[2\] which shows that mind mapping helps students in expressing ideas fluently, flexibly, and originally.

5. Conclusion

5E learning cycle model accompanied by mind mapping is effective to increase the creative thinking ability of eleventh grade students in SMA Negeri 1 Pundong. This result is proven by the results of independent t-test analysis which show that significance value is lower than α value (0,001< 0,05). There is improvement of creative thinking ability in both groups of experimental and control group which showed by N-Gain scores. Experimental group which uses 5E learning cycle model with mind mapping has N-Gain of 0,70 which is categorized as high. Meanwhile, control group which uses 5E learning cycle model has N-Gain of 0,57 which is categorized as medium.

References


Empowering Teaching Materials Of Approaches And Methods In English Language Teaching (Amelt) Subject Matter Through Lesson Study

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Abstract. This study is aimed at reconstructing the teaching materials of Approaches and Methods in English Language Teaching (AMELT) subject matter. This four semester credit compulsory subject is taught to students of English Education Department of University of Muria Kudus, Central Java Indonesia to make them competence in teaching English as a foreign language to senior high school students. The design of the study is Research and Development and the overall development program was done in the framework of lesson study. The lecturer of this subject matter functioned as the researcher and reconstructed the teaching materials of AMELT. The finding of the study showed that lesson study empowered teaching materials of AMELT in at least three important points, a) sharing different teaching experience, b) sharing different pedagogical competence, and c) sharing teaching method and strategy. On the basis of the above finding, the researcher concluded that lesson study can practically empower the teaching material of AMELT.

Keyword: Lesson Study

1. Introduction

Developing teaching or learning materials of subjects matters is generally agreed by almost all scholars as a very valuable step in the teaching and learning process (Harsono, 2007; Nikoopour and Farsani, 2011; Rashidi, 2011). Common reasons for materials development usually start from a point of view that education as a political enterprise, should also be aware of their sociopolitical surroundings and to fight against the status quo, with the intent of transformation both in the classroom and in the larger society (Norton & Toohey, 2004). Dealing with Norton and Toohey idea, teaching materials development can be programmed as a periodical activity which help teacher responds dynamically to the overall society problems, students’ needs and political situation. In the other words, a teacher should always be sensitive and responsive as well to get success in teaching in learning process by scheduling teaching materials development as a tool to cope with sociopolitical environment which may influence educational activity.

Other studies for developing teaching materials were done by implementing sociolinguistic approach and multicultural context (Rokhmnan and Yuliat, 2010), practical undertaking (Harsono, 2007) and Lesson study (Nai, Degeng, Setyosari and Widianti, 2016). All approaches have their own benefits and positive impact, depend on the teaching materials
which will be developed, the context which underlines the development and the purpose of the development. However, lesson study has been noticed as a good strategy to improve learning quality as well as teaching materials development as in one of the lesson study steps, discussion is done to improve teaching materials (Nai, Degeng, Setyosari and Widianti, 2016). The beneficial impact of lesson study to improve teaching quality and materials also proved by Nesusin, Intrarkhamhaeng, Supadol, Pienkes, and Poonpithana (2013) in their research. They found that by implementing lesson study they did not only develop lesson plan, but also increased students achievement and students satisfaction score. This study was of course done under the consideration of the above idea. However, the main purpose was to gain better teaching materials of AMELT subject matter as well as to have better quality in teaching and learning process. Before having this study, the materials of AMELT subject matter were just compiled from several textbooks and other resources. The compiling materials were as a matter of fact good to give references to students. However, it needs some developments and inputs as teaching and learning English in Indonesia have been greatly developed due to the development of technology and global life.

Another consideration for materials development related to the fact that great movement to gain high quality and performance in high education in Indonesia, especially in a private University is a necessity. University of Muria Kudus, Central Java Indonesia is a private University and the English Education Department is one of the Department which educate English teacher candidates. Students of this department are hoped to be competent in teaching English in the setting of English as a Foreign Language. The AMELT subject matter is one of the compulsory subject they have to learned to provide them with teaching English competence for Senior High School students.

The contents of the subject matter provides students with theory and practice about approaches and methods in English language teaching and learning. The term approach will always flower discussion on teaching and learning a language because it has been long time ago stated by Antony (1963) that approach is a set of correlative assumptions dealing with the nature of language and the nature of language teaching and learning. This statement gives a clue of how a teacher handles a language teaching and learning process which is assumed to be greatly influenced by his or her assumption on the nature of language and language learning and teaching. In can be declared that the success of language teaching and learning may depends on the teacher’s basic thinking on the subject matter being taught.

Antony’s idea on a language teaching approach is supported by Richards and Rodgers (1986) who further state that there are three levels of consideration to understand what approach is. The first level deals with definition of approach as assumptions, beliefs, and theories about the nature of language and the nature of language learning. Those definitions are then consciously functioned and even operated as background knowledge or reference points. This function provides theoretical foundations for what language teachers always do and practice with learners in classrooms.

The second level has something to do with the system and design which specify the relationship between theories of language and learning. These relationships determine the form and function of instructional materials and activities in instructional settings.
The third level, procedure, comprises the classroom techniques and practices which are consequences of particular approaches and designs. In other words, certain approach will end at applicable and specific procedures which can be adopted or practiced by any teacher in his or own class. Any observer then can also evaluate and judge if procedures being practiced belongs to the approach or not.

On the other hand, the discussion on methods cannot be separated from approaches, as a method always defined generally as a practical implementation of an approach. It is clear then, that any theory or even assumption on language and language learning will be realized through a method or methods in a classroom. In other words, as it is stated by Richards and Rodgers (2001), a method is theoretically related to approach which then practically realized in procedures. Richard and Rodger’s statement is agreed by Brown (2001), who explained that a method is a generalized set of specification in the classroom for achieving linguistic objectives, method main concern is to teachers and learner role and behavior.

However, a teacher should consider many things before selecting a certain method for his or her teaching, such as the subject matter or skill to be taught, how he or she will take a role in his or her class, etc.

The problem is how to provide suitable teaching materials for English teacher candidates which will facilitate them not only the theoretical background knowledge but also other additional skills related to teaching and learning management. For this concern, this study was held under the frame work of lesson study as it has also been proved that lesson study has successfully improve teaching (Rock and Wilson, 2005; Cerbin and Kopp, 2006; Gómez, et.al, 2015). Another study has also proved the success on integrating lesson study in teaching practice of social study student teachers to improve the quality of learning (Towaf, 2016).

This study was done due to the need of providing teaching materials of AMELT subject matter with the spirit of improving student teacher competence on that subject matter. The framework of lesson study was chosen because of those consideration discussed above.

2. Methodology

2.1. Research Approach

The approach for developing model was Research and Development of the third level (Sugiyono, 2019) which is proposed by Borg and Gall (2003) in the simple procedures of seven steps, i.e. Preliminary research, Planning, Developing a draft of the product, Preliminary Field Testing, Product Revision, Main Field Testing , Revision. The simple procedures of model development was applied in this study with the reason that this study was also managed in the framework of lesson study which will cover the overall step of exploration and model development

2.1.1. Preliminary Research

This was done by investigating the gaps between the existing teaching materials and the needs of development. The activities included having literature review and small group discussion with some colleagues to get several inputs and ideas sharing. Some contributive points were also suggested by some English teacher at senior High Students, especially on developing materials of teacher character and competence.
2.1.2. Planning

The results of Preliminary Research were then discussed more technically to have a plan to develop a new material which of course formed in the framework of accommodating the preview materials. In Planning, the approach and steps of lesson study were applied. The steps of lesson study applied in the model development were planning, doing/seeing and reflecting (Lewis, 2002).

In the planning stage, the lecturer as the researcher conducted discussion on the aims of teaching and learning AMELT, the teaching materials and its development, the teaching and learning approach, strategy and method as well as the media. The result of the discussion was a new lesson design which was ready to be implemented. Above all, a new draft of teaching materials has also been ready to be discussed and learned with students.

In the doing/seeing stage, the lecturer implemented the lesson design and the draft of teaching materials in teaching and learning activity. Some colleagues take roles as observers during the teaching and learning process. Nothings were done by the observers unless seeing (observing) and taking notes when they thought they needed to document something during the class to be discuss in the next stage.

In the reflecting stage, all participants discussed important issues, comments some other notes to clarify and reflect the teaching and learning process. The results of the discussion during the reflecting stage were very valuable to improve not only the teaching but also the final draft of the teaching materials.
2.1.3. Developing Initial Model/ Draft

The initial draft of the teaching materials was then shared to get final contributions from other lecturers of AMELT or TEFL subject matter from another University. The procedure of model sharing was simple as it was included in teaching learning process of AMELT or TEFL subject matter there. The lecturer and the students were pleased to give contributions to the draft. They might also discuss the contents of the drafts, from the instructional purposes, materials development, discussion and example and evaluation. Any comment or contribution was very valuable to better the draft.

2.1.4. Preliminary Field Testing

The final draft of AMELT teaching materials was applied in teaching and learning process to get evaluation. In the class of AMELT, discussion was done with students to make them understand the overall materials development with the hope that they can take a proper position in teaching and learning process. The next is sharing the final draft to the department (in a small group discussion) to make sure that the final draft fulfills the program of the department. Field testing was also done by presenting points of development in an international conference.

2.1.5. Revision

Some notes were of course taken during the previous stages. Those are very significant and valuable inputs to revise the model/ the product. Lesson study was also applied again in the form a reflection discussion with the main goal of getting contribution to revise the model/ the product.

2.1.6. Main Field Testing

The revised draft was then field tested in the same department of a different University with the purpose of getting inputs or contributions from another institution which has different culture and academic atmosphere. The researchers took roles as observers during the main field testing.

2.1.7. Final revision

All contributions were considered important and properly examined and discussed in the final revision session. However, not all contributions were taken as new materials to revise the previous one. The final draft was then processed to get “ISBN” serial number.

3. Findings and Discussion

It is interesting to state here that the most valuable advantages of applying lesson study for materials development of AMELT subject matter was sharing activity which unexpectedly happen during the study which was done under the framework of lesson study. There were at least three sharing activities which were noted during this study, i.e. sharing different experience, different pedagogical competence and teaching method and strategy.
3.1. Sharing Different Teaching Experience.

Teaching experience is unique as teachers have never have the same experience although they teach at the same school and the same years of teaching experience. The uniqueness is a result of a long time teaching service with different students, different academic atmosphere from year to year and different school culture. However, the discussion on teaching experience mostly worked in the area how to manage time allotment, manage classroom setting, select a proper teacher’s role and set student and student interaction and student and teacher interaction.

Managing time allotment seems to be something simple and easy to do. Most of the participants in this study argue that they have never thought about it because their daily activities deal with consuming the time for teaching. The way they use their time is almost natural, just like letting everything runs in the way it has to run. Practicing this way, none of the participants feel wrong as teaching and learning process run well so far, and no complain from whoever, especially from the students.

Managing classroom setting is also interesting to discuss because it reflects the taste of the teacher in preparing the meeting with his or her students. It also reflects what roles the teacher will take during teaching and learning process. Teacher’s role has something to do with students’ role in the classroom because teacher’s activities will consequently results on students and teacher interaction and students and students interaction.

3.2. Sharing on Pedagogical competence,

Pedagogical competence may support teachers’ effort to master background knowledge and material resources which are very important for the success of teaching and learning activities. A teacher without knowledge may teach the concept incorrectly, and students may end up with the same incorrect belief as their teacher (Sadler et.al, 2013). Knowledge and resources sharing are therefore very important to build professional competence of the teacher.

According Mulyasa (2009), pedagogical competence is the ability of teachers in the management of education of students who at least include: 1) The ability to manage learning, 2) Understanding of the learners. 3) Design of learning. 4) Execution of educational learning and dialogue. 5) Utilization of Technology Education, 6) Evaluation of Learning Outcomes and 7) Development of learners.

However, the sharing on pedagogical competence in this study includes discussion on the novelty and the relevance of the theory with the content of teaching materials of the subject matter. The novelty of the theory will help both teacher and students to cope with newest learning problems which might not be faced by students who took the subject matter in the previous academic year. Students learning problems are usually different form year to year depends on the context of learning and the academic atmosphere which is developed at that academic year.

Fahruddin et al (2016) found that teachers’ pedagogical competence have a positive influence directly and indirectly to the learning outcomes of students of economic high
3.3. Sharing teaching method and strategy

The need for presenting and managing the language in a good circumstance is realized as a prior need by not only the teacher, but also by the students as well. As the most world-widely learned second or foreign language, English is challenging for both students and teacher. Therefore, any meeting or discussion concerning with the teaching of the language is always interesting.

There are three popular methods which are implemented in foreign language classroom, i.e. Communicative Language Teaching (CLT), Grammar Translation Method (GTM) and Total Physical Response (TPR) (Intarapanith, 2012). Communicative Language Teaching (CLT) is the most popular method because it is claimed as the newest trend of teaching method which facilitates students to explore their learning. It is also stated that this method works well for improving students speaking skill. Grammar Translation Method (GTM) is a very well method which applied in English class in Indonesia with the assumption that the students will be easily facilitated in learning the foreign language if it is translated. Similarly, Total Physical Response (TPR) is also perceived as a motivational method because it integrates physical activity and language act.

4. Conclusion

Lesson study which was formerly created to improve teaching and learning quality has widely explored to other purposes, including developing teaching materials. This study has proved the significant role of lesson study to develop teaching materials of AMELT subject matter. The finding even proved that lesson study empowers teaching materials development of the subject matter. The overall steps of lesson study contributed significantly in designing the draft and the final product.

The functional contribution of Lesson study in empowering teaching materials development can be the roles and active participation of all participants. The excellent of lesson study is on the collaborative activities in the form of focus group discussion in the overall steps of lesson study. During focus group discussion, all participants shared concept, experience and idea to develop the materials, especially on the step of planning and reflecting.

5. Acknowledgment

Thanks to the Ministry of Research and High Education of the Republic of Indonesia. This paper is an additional outcome of the study which was funded by DRPM Kemenristek Dikti, the Republic of Indonesia.
6. References


[14] Rokhman, Fathur and Yuliati. The development of the Indonesian teaching material based on multicultural context by using sociolinguistic approach at junior high school. Procedia Social and Behavioral Sciences 9 1481–1488.5


The Influence of Javanese Cultural Value on Local Wisdom of The Community Through Traditional Ketoprak Mataram Art in The City of Yogyakarta

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Abstract: This study aims to find out: 1) The value of local wisdom in traditional Ketoprak Mataram art in the city of Yogyakarta. 2) The influence of the local wisdom of Ketoprak mataram traditional arts on the values of Javanese culture in the people of Yogyakarta. The research method used is quantitative descriptive. Data collection techniques use a survey method, where researchers use questionnaires. This study uses judgmental sampling. The number of samples used was 100 respondents with the criteria of the people of Yogyakarta city who had watched and knew about Ketoprak Mataram. Data analysis using statistical methods, regression analysis and hypothesis testing. The results of this study indicate that; 1) Local knowledge has a significant influence on Javanese cultural values. t statistic value is 2.297> t table 1.985, with a significant 0.024. 2) Local skills significantly influence Javanese cultural values. t statistic value 3.231> t table 1.985, with a significant 0.002. 3) Local social processes significantly influence Javanese cultural values. t statistic value is 3.122> t table 1.985, with a significant 0.002. 4) The value of education has a significant influence on Javanese cultural values. Value of t statistic value 3.179> t table 1.985, with a significant 0.004. 5) Religious values do not significantly influence Javanese cultural values. t statistic value 1.217 < t table 1.985, with a significant 0.227. 6) Local knowledge, local skills, local social processes, educational values, and religious values simultaneously have a significant influence on Javanese cultural values. F statistic 22,043 > F table 2,469, with a significant 0.000.

Keywords: Local wisdom, traditional arts, ketoprak Mataram, Javanese cultural values

1. Introduction

The impact of Globalization today is increasingly widespread in Community Life, as we feel that today human life in society is questioned by different cultures, causing humans to improve their territorial existence in social life physically and non-physically. Preserving Traditional Arts is the main topic in this journal. There is local wisdom in an identity which is a result of local genius from various ethnic groups, this kind of local wisdom should be formed in a unity of culture (Culture) so that a nation can be realized, namely, the Indonesian Nation. Humans in society live surrounded by art and culture of each region that is different, this is because humans strive to maintain their existence in life that demands that they always relate to the environment, both in the physical and non-physical environment. In Indonesia, in general, cultural riches are represented by a wide variety of traditional, diverse regional arts. According to the Asian Brain, 2010 (in Ernawi: 2010): ‘Indonesia has approximately 389 ethnic groups that have different customs, languages, values and arts and one another.’. If you look at the current phenomenon of the swift currents of modernization, globalization, and the
tightness of puritanism, it will be feared that it can impact the fading of a sense of love or a sense of care for traditional arts. As a result, local culture that has been possessed and inherited by ancestors trampled by foreign cultures, was eliminated in its own place so that over time it will be forgotten by the heirs, even today many people do not recognize their own regional arts, especially teenagers. According to WHO, so-called adolescents are those who are at the transition stage between childhood and adulthood. The WHO age limit for adolescents is 12 to 24 years. At this age teenagers tend to be more proud of foreign works, and westernized lifestyles than their own local culture.

The city of Yogyakarta is the capital and center of government of the Special Province of Yogyakarta, this is in accordance with the Law of the Republic of Indonesia Number 13 of 2012 concerning the Privileges of the Yogyakarta Region. Besides that it is also the residence of Sultan Hamengkubuwana and Adipati Paku Alam. This city is one of the largest cities in Indonesia and the city according to the population of the city of Yogyakarta is the fourth largest city in the southern part of Java after Malang, Bandung and Surakarta. This is in accordance with one of the sub-districts in Yogyakarta, namely Kotagede which was once the center of the Mataram Sultanate between the years 1575-1640. The Palace which still functions in its true meaning is the Ngayogyakarta Palace and Puro Paku Alaman, which is a fraction of the Mataram Sultanate. The city of Yogyakarta is located in a valley of three rivers, namely the Winongo River, the Code River (which divides the city and culture into two), and the Gajahwong River. The city is located at a distance of 600 KM from Jakarta, 116 KM from Semarang, and 65 KM from Surakarta, on the intersection of Bandung - Semarang - Surabaya - Pacitan. The city has a height of around 112 m. There are also boundaries of the Yogyakarta region to the north bordering Sleman regency, south of Bantul regency in the south, Sleman in the west and Sleman in the east.

The city of Yogyakarta consists of 14 sub-districts: Mantrijeron, Keraton, Mergangsan, Umbul Harjo, Kota Gede, Gondokusuman, Danurejan, Pakualaman, Gondomanan, Ngampilan, Wirobrajan, Gedongtengen, Jetis and Tegalrejo, based on BPS Regency / City statistics in DI Yogyakarta in 2011 ) as many as 3,509,997 people, in (2012) as many as 3,552,462 people, in (2013) as many as 3,594,854 people, in the year (2014) amounted to 3,637,116 people, in the year (2015) there were 3,679,176 and in (2016) 3,720,912 people. If seen by the type of mineral in 2017 the population of the city of Yogyakarta is 200,425 men, 210,496 women, and a total of 410,921 people in total. Yogyakarta is a city known as a student community, in addition to the city of Yogyakarta also known as the City of Arts, namely in this city a variety of regional arts are still very thick and upheld by the people of Yogyakarta. For example, wayang kulit and ketoprak mataram are also popular outside Indonesia. In addition, various senior dances also have several times in other countries such as Japan. So we also have to be proud of the Indonesian culture, especially Yogyakarta, which has been asked to make the nation proud. As the name implies, ketoprak mataram is a senior performance that tells the kingdom of Mataram. Ketoprak mataram has now become a cultural heritage, so many people come and watch Ketoprak performing arts. Until now, ketoprak mataram is still popular as an interesting spectacle, usually presented directly on senior stages or broadcast on TV. But according to what the researchers saw in the field of teenagers today more people who do not understand or even are not good at playing the art of ketoprak mataram are even less frequently performed in the city of Yogyakarta.

Planting artistic values in adolescents is not just knowing but caring for and preserving this art. In the opinion of researchers, this traditional art must always be maintained to strengthen the character of the nation's children. Regional art is an art that is highly respected by ancestors and some indigenous people. But what happens to teenagers is now very different
from what we understand about traditional arts, even regional art has been eroded and replaced by foreign cultures that we do not understand at all. For this reason, it is very necessary for our role as outside education staff to pay attention to how much adolescence and especially the public care about the influence of the local wisdom of traditional Ketoprak mataram arts on the values of Javanese culture, especially for teenagers in the city of Yogyakarta.

2. Research Methods

2.1 Population and Samples

Population is a generalization area consisting of objects / subjects that have certain qualities and characteristics set by researchers to be studied and then conclusions drawn (Sugiyono, 2011). The population in this study were all communities in the city of Yogyakarta. The sampling technique used in this study was using non-probability sampling technique that is judgmental sampling. Judgmental sampling or purposive sampling is a sampling technique from the population based on a criterion in the form of a particular consideration (Jogiyanto, 2008). In this study the criteria used were respondents who were people in the city of Yogyakarta who had seen (watched) and knew about ketoprak mataram.

The formula used in determining the amount or number of samples of this study uses Hair et al., (2010), namely:

\[ n = \frac{15}{s/d} \times k = \frac{(15-20)}{4} = 60-80 \text{ respondent} \]

Based on the calculation of the number of samples, the sample used in this study were 100 respondents.

2.2 Data Collection Techniques

This type of research is a descriptive study with a quantitative approach. Quantitative research is to estimate the magnitude of the quantitative influence of an event on other events using statistics (Singarimbun & Effendi, 1995). Quantitative Research Methods according to Sugiyono (2012), namely research methods that are based on the philosophy of positivism, are used to examine the population or a particular sample, data collection using research instruments, data analysis is quantitative/statistical, with the aim to test the hypothesis that has been set.

2.3 Research Instruments

This study uses two variables, namely dependent variable and independent variable. Independent variables are variables that explain or influence other variables and dependent variables are variables that are explained or influenced by independent variables. The research variables to be examined are the values of Javanese culture as the dependent variable (Y), while the independent variable (X) is local wisdom which consists of:

1. X1 is a local knowledge variable.
2. X2 is a local skill variable.
3. X3 is a local local social process.
4. X4 is the value of education.
5. X5 is a religious value.

2.4 Variable Operational Definitions

1. Local knowledge (X1)
   Typical knowledge belonging to a particular society or culture that has developed long ago as a result of the process of reciprocal relations between the community and its environment (Mitchell: 2003)

2. Local skills (X2)
   Expertise and ability of the local community to apply and utilize knowledge (psychomotor aspects) that are hereditary. (Ridwan: 2007)

3. Local social processes (X3)
   Local wisdom that can be seen as social capital because it is built with the existence of shared values or norms, in the form of a network of cooperation and on the basis of trust between members and traditional leaders. (Ridwan: 2007)

4. Educational Value (X4)
   Educational values which include individual attitudes in personal life and social life (community life). (Wardani 2011)

5. Religious Value (X5)
   Religious value is a concept of the highest appreciation given by citizens to some of the main problems in religious life. (Mangunwijaya: 1982)

6. Javanese cultural values (Y)
   Values derived from Javanese culture and adopted by Javanese people, especially DIY. (Oktaviani: 2010)

2.5 Data analysis

1. Data Validity and Reliability
   Analysis technique is a tool that is used to present data in a more concise form (Supramono & Utami, 2003). Following are the steps in analyzing data:
   a. Validity test
      Validity tests are used to measure the validity or validity of a questionnaire. A questionnaire is said to be valid if the question in the questionnaire is able to express something that will be measured by the questionnaire (Ghozali, 2011).
      1) If r count > r table and is positive, then the variable is valid.
      2) If r counts < r table, then the variable is invalid.
      3) If r count > r table but has a negative sign, then H0 will still be rejected and H1 will be accepted.
      The criteria for submitting an item are said to be valid if the correlation coefficient of r count is positive and equal to or greater than r table with a significance level of 5%, if the coefficient is smaller than the r table 5% then the correlation is said to be insignificant.
b. Reliability Test
Anastasia and Susana (1997) state that reliability is something that refers to the consistency of scores achieved by the same person when they are retested with the same test on different occasions, or with a different set of equivalent items, or under different test conditions. Measurement of reliability in this study uses the method of One shot or measurement once and then the results are compared with other questions or measuring the correlation between the answer questions. Using Cronbach Alpha statistical test where a variable is said to be reliable if it gives the value of Cronbach Alpha> 0.60 (Nunnally in Ghozali, 2011). There are three levels of reliability according to (Sekaran, 2006), namely: (1) Alpha 0.8 - 1.0 value is categorized as good reliability (2) Alpha 0.6 - 0.79 is categorized as acceptable reliability (3) Alpha value <0.6 is categorized as poor reliability

2. Test of Classical Assumptions
In order to obtain a statistical value that can be a parameter of a good regression value, it is necessary to test the classic assumption:

a. Data Normality Test
Data must be tested using a normality test before being analyzed. Normality is carried out with the aim of knowing whether the data follows or approaches the normal distribution. The normality test tool used in this study is Kolmogorov-Smirnov One-Sample. The data is concluded to be normally distributed if the significance value obtained (p value) is greater than the specified significance value (α = 5%). Conversely, if the significance value is smaller than the value (α = 5%), then the data is concluded not to be normally distributed.

![Figure 1. Normality distribution](image)

b. Multicollinearity Test
Multicollinearity test aims to test whether the regression model found a correlation between independent variables (Ghozali, 2009). To detect the presence or absence of multicollinearity, it can be seen from the tolerance value and the opposite of the variance inflation factor (VIF). Both of these measures indicate which independent variables are explained by other independent variables. Tolerance measures the variability of selected independent variables that are not explained by other independent variables. So a low tolerance value is the same as a high VIF value (because VIF = 1 or tolerance). The common cutoff value used to indicate multicollinearity is tolerance value <0.10 or equal to VIF value> 10.

c. Autocorrelation Test
Autocorrelation is a correlation between members of observations arranged in the order of time. The causes of autocorrelation include (Purwanto, 2004):
Autocorrelation test is used to test whether in a regression model there is a correlation between interfering errors in the current period with errors in the previous period. A good regression model is free from autocorrelation. The autocorrelation test was carried out using the Durbin Watson test. If the Durbin-Watson statistical test is smaller than one and greater than three, then the regression model occurs autocorrelation (Uyanto, 2009).

<table>
<thead>
<tr>
<th>DURBIN WATSON D TEST DECISION FULLES</th>
<th>Null hypothesis</th>
<th>Devison</th>
<th>If</th>
</tr>
</thead>
<tbody>
<tr>
<td>No positive auto</td>
<td>Reject</td>
<td>0&lt;d&lt;dL</td>
<td></td>
</tr>
<tr>
<td>No positive auto</td>
<td>No decision</td>
<td>dL≤d≤dU</td>
<td></td>
</tr>
<tr>
<td>No negative auto</td>
<td>Reject</td>
<td>4-DL&lt;d&lt;4</td>
<td></td>
</tr>
<tr>
<td>No negative auto</td>
<td>No decision</td>
<td>4-dU≤d≤4-dL</td>
<td></td>
</tr>
<tr>
<td>No positive or negative auto</td>
<td>Do not reject</td>
<td>dU&lt;d&lt;4Du</td>
<td></td>
</tr>
</tbody>
</table>

Sumber : Gujarati, 206:A39

Figure 2. Test of Durbin-Watson Statistics (d)

Figure 3. Regional Groups in the Durbin Watson Test

If d statistics are at du ≤ d ≤ 4 then there is no autocorrelation, if d statistics are in dL≤ d ≤du and 4- du ≤ d ≤ 4- dL then further testing is needed to determine whether or not autocorrelation in regression is present. If d statistics are at 0 ≤ d ≤ dL and 4- dL≤ d ≤ 4, there is autocorrelation in regression.

d. Heteroscedacity test

Heteroscedacity test is used to test whether in a linear regression model disturbance errors (e) have the same variance or not from one observation to another. To test it, the Scatter Plot is used, where if the variation of the data studied is spread in a graph, it can be said that there is no problem of heteroscedasticity in this regression model. Heteroscedasticity means that the variance error term is not the same for each observation (Mulyono, 2003). The heteroscedasticity test aims to examine the similarity of the variance of the residuals from one other observation observation in the regression model. This test is carried out to see whether the data deviates too far (outlier). How to detect the presence or absence of heteroscedasticity by looking at a scatterplot graph. In the scatterplot graph, if there are certain patterns such as dots that form a certain pattern that is regular, namely wavy, widened and then narrowed, it indicates that heteroscedasticity has occurred. If there is no clear pattern then the symptoms of heteroscedasticity do not occur.
3. Regression Analysis

This study uses a simple linear regression analysis method and multiple linear regression analysis to see the effect of independent variables on the dependent variable. Testing of the analysis in this study uses simple linear regression analysis techniques and multiple regression analysis, namely the analytical technique used to reveal whether there is an influence between two or more variables which makes it easy for users to enter more than one predictor variable.

a. Simple linear regression formula

Simple regression analysis is a linear relationship between one independent variable (X) and the dependent variable (Y). (Sugiono, 2011) This analysis is to find out the direction of the relationship between the dependent variable whether positive or negative and to predict the value of the dependent variable if the value of the independent variable increases or decreases, the data used is usually interval or ratio scale.

\[ Y = a + bx \]

Information:
- \( Y \) = dependent variable (predicted value)
- \( X \) = independent variable
- \( a \) = constant (Y value 'if X = 0')
- \( b \) = regression coefficient (value of increase or decrease)

b. Equation of Multiple Linear Regression

The multiple linear regression equation for this research model is as follows:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 \]

Information:
- \( Y \) = Preservation of ketoprak marama traditional arts
- \( a \) = Constant
- \( b \) = Regression coefficient
- \( X_1 \) = Local knowledge
- \( X_2 \) = Local skills
- \( X_3 \) = Local local social process
- \( X_4 \) = Educational value
- \( X_5 \) = Religious value

4. Test the Hypothesis

a. Determination Coefficient Test

The coefficient of determination is part of the total diversity of the dependent variable that can be explained or calculated by the diversity of independent variables (Purwanto, 2004). The coefficient of determination (R square) is used to measure how far the ability of independent variables to explain the dependent variables. If the R square value is small, it means that the ability of the independent variables to explain the variation of the dependent variable is very limited. If the value of R square approaches 1, then the independent variables can provide almost...
all the information needed to predict the variation of the dependent variable. The equation for the Determination Coefficient is as follows:

$$ KD = R^2 \times 100\% $$ \hspace{1cm} (4)

While the partial determination coefficient is as follows:

$$ k_{x_1y} = r_{x_1y}^2 \times 100\% $$ \hspace{1cm} (5)

$$ k_{x_2y} = r_{x_2y}^2 \times 100\% $$ \hspace{1cm} (6)

b. Test Statistics (t)

The t test is used to test the significance level of the effect of the independent variable on the dependent variable partially. Decision making is done based on the comparison of the value of t count each regression coefficient with t table according to the level of significance used. If thitung regression coefficient is smaller than t table, then the independent variable individually does not affect the dependent variable, meaning the hypothesis is rejected. Conversely, if t count is greater than t table, then the independent variables individually affect the dependent variable, meaning the hypothesis is accepted.

c. Test F Statistics

The F test hypothesis has a provision, a significance level of 0.05 if:

1. F count > F table, then Ha is accepted which means that the independent variable as a whole has an influence on the dependent variable.
2. F count < F table, then Ha is not accepted which means the overall independent variable does not have an influence on the dependent variable (Sugiyono, 2011).

3. Research Results And Discussion

3.1 Data Validity and Reliability

a. Validity

Validity testing in this study was conducted using computer aids by using Product Moment Correlation with Statistical Product and Service Solution (SPSS) program version 25 for Windows. Validity testing is determined by the value of Corrected Item-Total Correlation. Items that are declared valid must meet the requirements of the correlation value above the r table value which is 0.1966. The results of the validity test in this study are presented in table as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Question</th>
<th>Corrected Item-Total Correlation</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local knowledge (X1)</td>
<td>1</td>
<td>0.486</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0.499</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>0.497</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0.405</td>
<td>Valid</td>
</tr>
<tr>
<td>Local skills (X2)</td>
<td>5</td>
<td>0.698</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>0.784</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>0.683</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>0.659</td>
<td>Valid</td>
</tr>
<tr>
<td>Local social processes</td>
<td>9</td>
<td>0.381</td>
<td>Valid</td>
</tr>
<tr>
<td>(X3)</td>
<td>10</td>
<td>0.659</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>0.719</td>
<td>Valid</td>
</tr>
</tbody>
</table>
Based on Table 1, it is known that all questions on all variables are declared valid. This is evidenced by the value of \( r_{count} > r_{table} \), which is the corrected item total correlation greater than 0.1966. This means that each question is declared valid.

### b. Reliability

Reliability Test is used to measure the consistency of constructs or research variables. Measuring reliability testing is done using the Cronbach Alpha (\( \alpha \)) statistical test. Test reliability in this study using the SPSS version 25 for Windows. Based on the provisions of Cronbach Alpha (\( \alpha \)), a variable is said to be reliable if it gives a Cronbach Alpha value > 0.60. The results of measuring reliability in research can be seen in Table 1. The following:

**Table 2. Variable Reliability Results**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach Alpha</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Knowledge (X1)</td>
<td>0.678</td>
<td>Reliable</td>
</tr>
<tr>
<td>Local Skills (X2)</td>
<td>0.858</td>
<td>Reliable</td>
</tr>
<tr>
<td>Local social processes (X3)</td>
<td>0.839</td>
<td>Reliable</td>
</tr>
<tr>
<td>Educational Value (X4)</td>
<td>0.887</td>
<td>Reliable</td>
</tr>
<tr>
<td>Religious Value (X5)</td>
<td>0.828</td>
<td>Reliable</td>
</tr>
<tr>
<td>Javanese Cultural Values (Y)</td>
<td>0.861</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Based on Table 2, it can be seen that the value of Cronbach Alpha on all variables (local knowledge, local skills, local social processes, educational values, religious values, and Javanese cultural values greater than 0.60), meaning that each variable is declared reliable or reliable.

### 3.2. Test of Classical Assumptions

**a. Data Normality**

Normality testing is performed on residual values in linear regression equations. The normality test used in this study is the P-Plot test. The basic concept of P-Plot
is to look at the probability of the mean. The application of the P-Plot test is that the probability of approaching and following the diagonal, the data is declared to be normally distributed. The normality test is presented in the following figure:

**Figure 4.** Normality of Variable Data Local Knowledge

**Figure 5.** Local Skills Variable Data Normality
Figure 6. Normality of Variable Data Local social processes

![Normal P-P Plot of PROSES SOSIAL LOKAL](image1)

Figure 7. Variable Data Normality of Educational Value

![Normal P-P Plot of NILAI EDUKASI](image2)
Based on images 4 to 9 can be seen that all variables used in this study are normally distributed. Expressed normal distribution because the probability of the mean value of each variable is, follows and approaches the diagonal line.

b. Multicollinearity

Multicollinearity testing in this study uses VIF (Variance Influence Factor). If the VIF value counts each independent variable is not greater than 10, and the tolerance value is greater than 0 and less than 1, the regression equation is free from the symptoms of multicollinearity. The results of multicollinearity testing in this study can be seen in table the following:
Based on table 3, it can be seen that the value of VIF (Variance Influence Factor) of each independent variable is smaller than the critical value (10.0). The tolerance value of each variable is greater than 0 and smaller than 1. This shows that the regression equation produced does not experience the symptoms of multicollinearity.

c. Autocorrelation

Autocorrelation test is used to test whether in a linear regression model there is a correlation between interfering errors in period t with errors in period t-1 (before). Autocorrelation test was seen from the value of Durbin Watson (DW), which is if the value of 1 < DW < 3 means free from symptoms of autocorrelation. The results of the autocorrelation test analysis can be seen in table the following:

<table>
<thead>
<tr>
<th>Model</th>
<th>Durbin-Watson</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.949</td>
<td>Non Autokorelasi</td>
</tr>
</tbody>
</table>

Based on table 4 it is known that the DW value is 1.949. The requirement for autocorrelation not to occur is 1 < DW < 3. This number (1.949) is greater than 1 and smaller than 3 or 1 < 1.949 < 3. This means that the data of this study did not experience symptoms of autocorrelation. So it can be concluded that in the linear regression model there were no symptoms of autocorrelation or there was no correlation between interruption errors.

d. Heteroscedasticity

Heteroscedasticity testing in this study uses a scatterplot between the predictive value of the dependent variable and the residual. Detection of the presence or absence of heteroscedastic symptoms can be done by looking at the presence or absence of a particular pattern on the scatterplot, Note Figure below this:
Based on Figure 10, it can be seen that there is no clear pattern, and the points spread above and below the number 0 and the Y axis, it can be concluded that heteroscedastic does not occur.

3.3. Multiple Linear Regression

The analytical tool used to find out whether the independent variables significantly influence the dependent variable is to use Multiple Linear Regression analysis. Multiple regression analysis is used to determine the effect of all independent variables on the dependent variable. Based on the results of the analysis using the SPSS 25 for windows program, multiple regression results were obtained as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.430</td>
</tr>
<tr>
<td>Local Knowledge (X1)</td>
<td>0.193</td>
</tr>
<tr>
<td>Local Skills (X2)</td>
<td>0.320</td>
</tr>
<tr>
<td>Local social processes (X3)</td>
<td>0.379</td>
</tr>
<tr>
<td>Educational Value (X4)</td>
<td>0.344</td>
</tr>
<tr>
<td>Religious Value (X5)</td>
<td>0.155</td>
</tr>
</tbody>
</table>

Based on Table 5, it can be seen that the highest beta value in the local local social process variable is 0.379. The second highest in the education value variable is 0.344, the third in the local skill variable is 0.320. The next beta value on the local knowledge variable is 0.193, and the last on the religious value variable is 0.155. Beta values indicate the dominance of the dependent variable in influencing the independent variables. These results indicate that the dominant local social process variables in influencing the variables of Javanese cultural values are followed by educational value variables and local skill variables compared to the action variables of local knowledge and religious values. This is proven by the beta value of...
the social process variable is higher than the other variables. The regression model obtained is as follows:

\[ Y = 0.430 \times 0.193 + 0.320 + 0.379 + 0.344 + 0.155 + e \]  

(7)

This means that if there is an increase of 1 point on variable X1, the value of Y will increase by 0.193. Likewise, if there is an increase of 1 point on variable X2, the value of Y will increase by 0.320, and so on until the variable X5. An increase of 1 point for each variable X (X1, X2, X3, X4, and X5) will increase the value of Y the amount according to the value of each variable X. Conversely if there is a decrease of 1 point on variables X1 and X2, X3, X4, and X5, the value of Y will also decrease by the beta value of each of these variables.

3.4. Test the Hypothesis

Hypothesis testing in this study uses t or partial tests, and f or simultaneous tests. The t test is used to determine the effect of independent variables on the dependent variable partially. While the f test is used to determine the effect of independent variables on dependent variables simultaneously. The coefficient of determination (R square) is used to measure how far the ability of the independent variables to explain the dependent variable. If the R square value is small, it means that the ability of the independent variables to explain the variation of the dependent variable is very limited.

a. Coefficient of Determination

R\(^2\) (coefficient of determination) is used to determine how much the ability of the independent variable to explain comprehensively the dependent variable. The determination coefficient has a range between 0-1. The greater the coefficient of determination identifies the greater the ability of the independent variable to explain the dependent variable. The coefficient of determination can be seen in the following table:

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Percentase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.540</td>
<td>54%</td>
</tr>
</tbody>
</table>

The results of multiple linear regression using SPSS obtained R\(^2\) of 0.540. This value (0.540) multiplied by 100% is obtained by 54%. This means that variations in the dependent variable (values of Javanese culture) can be explained by variations in the independent variables (local knowledge, local skills, local social processes, educational values, and religious values) by 54% while the remaining 46% is explained by other factors outside the model.

b. Test Statistics (t)

Testing the hypothesis in this study uses statistical tests t to find out the effect of independent variables (local knowledge, local skills, local social processes, educational values, and religious values) in a paraisal or individual manner against bound varaibel (values of Javanese culture). The results of hypothesis testing using the t test are presented in the following table:

<table>
<thead>
<tr>
<th>Variable</th>
<th>t statistics</th>
<th>Sig.</th>
<th>T table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Knowledge (X1)</td>
<td>2.297</td>
<td>0.024</td>
<td>1.985</td>
</tr>
<tr>
<td>Local Skills (X2)</td>
<td>3.231</td>
<td>0.002</td>
<td>1.985</td>
</tr>
</tbody>
</table>
Based on table 7, it is known that partially the local knowledge variables proved to be significant (0.024 < 0.05). It means that local knowledge variables have an influence on the variables of Javanese cultural values. The hypothesis proved that H0 was rejected and H1 was accepted. Partially the local skills variable proved significant (0.002 < 0.05). Means that local skill variables have an influence on the variables of Javanese cultural values. The value of Titung is 3.231 > Ttable 1.985, meaning that the local skill variable has a significant effect on Javanese cultural values. The hypothesis proved that H0 was rejected and H2 was accepted. The variables of local social processes partially proved to be significant (0.002 < 0.05). Means that local social process variables have an influence on the variables of Javanese cultural values. Titung value is 3.122 > Ttable 1.985, meaning that the local social process variables significantly influence Javanese cultural values. The hypothesis proved that H0 was rejected and H3 was accepted.

Variable values of partial education proved significant (0.004 < 0.05). It means that the educational value variable has an influence on the variables of Javanese cultural values. Thitung value 3.179 > Ttable 1.985, meaning that the educational value variable significantly influences the values of Javanese culture. The hypothesis proved that H0 was accepted and H4 was rejected. While the religious value variables partially did not prove significant (0.227 > 0.05). This means that religious value variables do not have an influence on the variables of Javanese cultural values. Calculation value 1.217 < Ttable 1.985, meaning that the variable religious value does not significantly influence the values of Javanese culture. The hypothesis proved that H0 was accepted and H5 was rejected.

c. Test F Statistics

Statistical test f, to find out the effect of independent variables (local knowledge, local skills, local social processes, educational values, and religious values) simultaneously or jointly to the dependent variable (values of Javanese culture). The F statistic test results are presented in the following table:

<table>
<thead>
<tr>
<th>Model</th>
<th>F statistic</th>
<th>Sig.</th>
<th>F table</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22.043</td>
<td>0.000</td>
<td>2.469</td>
</tr>
</tbody>
</table>

Based on the results of the regression analysis in Table 8, it is evident that simultaneously local knowledge variables, local skills, local social processes, educational values, and religious values have a significant effect on the variables of Javanese cultural values. This is indicated by a significant value of 0.000 < 0.05. Fstatistik value 22.043 > Ftable 2.469, meaning local knowledge variables, local skills, local social processes, educational values, and religious values simultaneously have a significant effect on Javanese cultural values. These results prove that H0 is rejected and H6 is accepted.
1. The Effect of Ketoprak Mataram Local Art of Traditional Art on the Javanese Cultural Values in the City of Yogyakarta.

   The results of testing the first hypothesis (H1) indicate that local knowledge has a significant effect on Javanese cultural values. Local knowledge here is a typical knowledge of the people of the city of Yogyakarta or Javanese culture that has developed for a long time as a result of the process of mutual relations between the people of Yogyakarta and its environment. The Ketoprak Mataram that is shown contributes to the people of Yogyakarta in the form of local knowledge. Based on local knowledge held by the people of Yogyakarta city in particular, they are more familiar with traditional arts, namely Ketoprak Mataram. The value of local wisdom in Ketoprak Mataram traditional arts is local knowledge. Local knowledge in the form of knowledge of local culture, traditional arts, preservation of traditional arts, and also Javanese customs. Ketoprak mataram traditional arts in addition to providing cultural values also provide entertainment value. The community is given knowledge in the form of art that is also entertaining. This research is in line with the results of Hasanah's research (2014) the value of local wisdom in traditional arts is cultural values, educational values and entertainment values. The values of Javanese culture will continue to exist and can be preserved for generations with local knowledge in the traditional Ketoprak arts of Mataram.

2. Effect of Local Skills on Traditional Art of Ketoprak Mataram on the values of Javanese culture in the city of Yogyakarta.

   The results of testing the second hypothesis (H2) indicate that local skills significantly influence Javanese cultural values. Ketoprak Mataram traditional arts that developed in the city of Yogyakarta have the value of local wisdom in the form of local skills. Local skills are the skills and abilities of the people of Yogyakarta city to apply and utilize knowledge (psychomotor aspects) that are hereditary. Local skills possessed by people from generation to generation developed from generation to generation as a form of Javanese culture. One of the local skills possessed by the Javanese people, especially the city of Yogyakarta, is traditional artistic ability. Some people are capable or possess traditional art skills, namely Ketoprak Mataram. Dancing, nembang, nabuh gamelan, and even becoming a performer in the traditional Ketoprak Mataram arts is a skill he has. Their skills can be used as a profession (artists) and also as an effort to preserve Ketoprak traditional arts in Mataram. Preserving Ketoprak Mataram traditional arts is the same as preserving Javanese cultural values. Ketoprak Mataram show always presents Javanese culture. The values contained in the local skills of traditional Ketoprak Mataram art are among other things artistic value, economic value, educational value, entertainment value and beauty, and cultural values. This research is in line with Hasanah's research (2014) and Irmayanti (2015) the results of his research show that the value of local wisdom in traditional arts is the value of beauty, entertainment value, artistic value, cultural value, educational value, economic value, and sportsmanship value. In addition, this research is also in line with Maria's research (2017) that traditional art is part of local wisdom. Javanese cultural values can be preserved, one of which is by cultivating local skills in the community through traditional Ketoprak Mataram arts.
3. **The Influence of Local Social Processes in Traditional Ketoprak Mataram Arts on Javanese Cultural Values in the City of Yogyakarta.**

The results of testing the third hypothesis (H3) indicate that local social processes significantly influence Javanese cultural values. Local social processes are local wisdom that can be seen as social capital, because they are built with the existence of shared values or norms in the form of networks of cooperation and on the basis of trust between members and traditional leaders. Local social processes that developed in the people of Yogyakarta include mutual cooperation, obedience to leaders, social relations of the community, social actions of the community, and social control of the community. Javanese culture teaches the importance of respecting fellow humans, but it also respects older people. Mutual cooperation is one of the many things that has been developed from generation to generation in Javanese society, especially the city of Yogyakarta. Every act of the community is certainly controlled by the community. This is needed so that the community acts in accordance with customs and does not violate applicable norms. Local social processes that occur in society will influence Javanese cultural values. Ketoprak Mataram traditional art at each performance or performance presents stories in the era of the Mataram kingdom where there are messages conveyed to the audience. The messages contained in the Ketoprak Mataram story are among others the community's obedience to the leader or king, mutual cooperation in helping others, saying words and acting well, and so on. Social relations that occur in Javanese society are in accordance with Javanese culture, in Javanese culture it is important to maintain relations between humans and groups to be harmoniously interwoven. In addition, Javanese culture teaches people to live a simple life and be able to maintain harmony with each other and with the environment. Local social processes are part of local wisdom that reflects Javanese cultural values. This research is in accordance with the results of research by Rohana, Sumarmi, and Amirudin (2016), that the community has a life that is simple, harmonious, and able to preserve the environment in the region.

4. **Effect of the Value of Ketoprak Mataram Traditional Arts Education on the values of Javanese culture in the city of Yogyakarta.**

The results of testing the fourth hypothesis (H4) indicate that the value of education has a significant effect on Javanese cultural values. The value of education is the values of education which include individual attitudes in personal life and social or community life. The values of Javanese culture are influenced by one of the values of eduction. The value of education in Ketoprak Mataram includes discipline, tolerance between people, morality, social community or public interest, cultural education, and also virtuous. Every story in the Ketoprak Mataram teaches people to do good, both with fellow humans, with the environment, and also in the universe. One of the local wisdom on traditional Ketoprak Mataram art is the value of education. Education or non-formal education is presented in the form of art, dance, song, gamelan or music, and also the character of the characters in the story. One of the cultural education teaches how to preserve Javanese cultural arts.
The effort to preserve Ketoprak Mataram traditional arts as a Javanese cultural heritage cannot be done without the role of the community itself. The education that can be learned from Ketoprak Mataram is to maintain Javanese traditions. Every element in the Ketoprak Mataram arena has a value of local wisdom that is not only education, skills, religion and others. This is in line with the results of research by Sularso and Maria (2017) that traditional art accompanied by gamelan turns out to have deep local wisdom. In addition, this research is also in line with the research of Irmayanti (2015), one of the values of local wisdom contained in traditional art performances, namely the value of education.

5. The Effect of Traditional Arts Religious Values on Ketoprak on Javanese Cultural Values in the City of Yogyakarta.

The results of testing the fifth hypothesis (H5) indicate that religious values do not significantly influence Javanese cultural values. Religious value is a concept of the highest appreciation given by the community to some of the main problems in religious life. The value of education teaches about human relations with God, human relations with humans, human relations with the environment, and also religious education. The results of this study require that religious education does not affect Javanese cultural values. This is because the Mataram Ketoprak performance does not specifically provide religious or religious education. Mataram's Ketoprak tells of life in the Mataram era where religion developed at that time as Hindu and Kejawen religion or the religion of the earth. While the Javanese people, especially the city of Yogyakarta, are predominantly Muslim. Religious education in the Ketoprak Mataram story is described as human obedience to the Almighty Power or God in general, does not carry one or the other religion. Spiritual values still exist, in a more general or universal form. Besides teaching spiritual values also teaches moral values in people's lives. The results of Sularso and Maria's (2017) study show that traditional art is a local culture that has spiritual, moral and social values. While the results of the research by Fauzan and Nashar (2017) state that traditional arts which were originally used to spread the religion of Islam later evolved as performing arts which served as entertainment with Islamic songs. This means that religious values in traditional arts remain and are presented in the form of entertainment and songs. Religious values will not directly affect cultural values.


The results of testing the fifth hypothesis (H5) show that local knowledge, local skills, local social processes, educational values, and religious values simultaneously have a significant effect on Javanese cultural values. The values of Javanese culture are values derived from Javanese culture and adopted by the Javanese community. The elements in Javanese culture include customs, ethics, art, divinity, manners, patience, harmony and so on. Based on the results of research all the variables used are local knowledge, local skills, local social processes, educational values, and religious values can
simultaneously influence the values of Javanese culture. Local knowledge, local skills, local social processes, educational values, and religious values are found in the local wisdom of the traditional Ketoprak arts in Mataram. The story displayed at the Ketoprak Mataram performance contains all of these elements, and reflects Javanese culture.

4. Conclusion

1. Local knowledge has a significant influence on Javanese cultural values. The value of \( t \) count 2.297 > \( t \) table 1.985, with a significant 0.024.
2. Local skills significantly influence Javanese cultural values. The value of \( t \) count 3.231 > \( t \) table 1.985, with a significant 0.002.
3. Local social processes significantly influence Javanese cultural values. The value of \( t \) count 3.122 > \( t \) table 1.985, with a significant 0.002.
4. The value of education has a significant influence on Javanese cultural values. The value of \( t \) count 3.179 > \( t \) table 1.985, with a significant 0.004.
5. Religious values do not significantly influence Javanese cultural values. The value of \( t \) count 1.217 < \( t \) table 1.985, with a significant 0.227.
6. Local knowledge, local skills, local social processes, educational values, and religious values simultaneously have a significant influence on Javanese cultural values. \( F \) count 22,043 > \( F \) table 2,469, with a significant 0.000.

5. References


Challenges Of Inquiry Based Learning In Physical And Health Education

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Abstract. Inquiry based learning (IBL) is a learning process in which students engage in their learning, formulate questions, investigate extensively and then build new knowledge. The key role of physical education is to encourage the development of cognitive and physical competencies to provide individuals with confidence and motivation to continue physical activities outside of school and maintain a healthy lifestyle. The IBL approach makes physical education relevant, meaningful, challenging and allows students to collaborate on assignments given in a safe and positive context. This factor affects student motivation positively and can encourage students to continue physical activities outside of school. Systematic reviews to identify the difficulties and challenges faced by physical education and health teachers using IBL as a learning method. The article search on Scopus by using keyword inquiry based learning and physical education. Based on our literature review, identified six challenges that affect the learning outcomes using IBL.

Keywords: Inquiry based learning, Physical and health education

1. Introduction

Inquiry based learning (IBL) is a learning process in which students engage in their learning, formulate questions, investigate extensively and then build new understanding, meaning, and knowledge. Knowledge is used to answer questions, to develop solutions or to support a view. This knowledge is presented to others and can produce an action [1]. Inquiry provide valuable opportunities for students to improve their ability to understand scientific content and scientific practice [2]. This learning method involves several phases: orientation, conceptualization, investigation, conclusion and discussion [3].

The orientation phase is focused on generating student interest and curiosity about the problems. Output from this phase is a problem statement. Conceptualization is the process of understanding the problem concept. At the end of the conceptualization stage students make open questions that relate to the problem and formulate hypothesis. Students then look for answers to the questions and hypotheses arranged at the investigation stage. Students collecting data by exploring and experimenting. The data collected is then interpreted into a new knowledge that will be used to answer the hypotheses that have been compiled at the conclusion stage. students present the results of data collection during the investigation phase at the discussion stage to get comments and input. when discussing, students learn to listen others opinions and maintain their views. The learning process ends with a reflection of the learning [3].
Ecohydrological system learning using IBL in Texas students produce a better conceptual understanding than conventional learning methods [4]. Application IBL in science class resulted in a higher academic score compared to traditional learning methods [5]. IBL makes students more engaged in the learning process and understand the learning material better [6]. The key role of physical education is to encourage the development of cognitive and physical competencies to provide individuals with confidence and motivation to continue physical activities outside of school and maintain a healthy lifestyle. The IBL approach makes physical education relevant, meaningful, challenging and allows students to collaborate on assignments given in a safe and positive context. This factor affects student motivation positively and encourage students to continue physical activities outside of school [7].

The application of IBL in the learning process faces several challenges. In science class, there are five challenges faced by the IBL method. The first challenge is motivation, the IBL method requires higher motivation from students to contribute compared to other traditional learning methods. The second challenge is students must understand what is needed in the investigation process. Students must understand the purpose of learning and can interpret the obtained results. Scientific investigation require a higher level of accuracy and attention than doing daily activities. The third challenge is the formulation of research questions, arranging research plans, collection, analysis, and interpretation of data all require knowledge of science content. The fourth challenge is to achieve the final goal requiring the regulation and management of complex activities. Scientific investigation requires planning, coordinating activities, managing resources and work products that are not needed in traditional learning methods. The fifth challenge is the implementation of IBL must be in accordance with the resources and schedules available [2]. As in science class, the application of IBL in the process of learning physical and health education also found several challenges. This article aims to identify the challenges faced in using the IBL method in the learning process of physical and health education.

2. Method

A systematic review was conducted to identify the challenges faced in applying the IBL method in PJOK learning. The data base used is SCOPUS by using the search term: Inquiry based learning and "physical education". Reviewers assess the title and abstract of all identified studies. All studies that potentially meet the requirements are reviewed in the article. Articles included in the study must meet the following requirements: 1) research conducted on school-age children 2) learning methods carried out in research is inquiry based learning 3) lessons studied are physical education or health education 4) research articles discuss the challenges of implementing IBL. Figure 1 shows a process diagram for selecting research articles used in a systematic review. The reviewer also conducted interviews with two PJOK teachers to find out the challenges faced in applying the IBL method.
Fig. 1. Systematic review was conducted to identify the challenges faced in applying the IBL method in PJOK learning.

3. Results and Discussion

The initial search on the database found 61 articles that matched the search keywords. A review of the title and abstract of the article was only 31 articles carried out on school children, using IBL as a learning method in physical education and health. A full article review of 31 articles found 4 articles (Table 1) which discussed the challenges of implementing IBL in learning physical and health education.

The reviewer interviewed two teachers to find out the application of IBL in physical and health education. The interview results showed that they did not know and understand the IBL method, so they never applied it in learning activities.

The IBL method can provide constructive understanding, because this method encourages students to think about problem solving [9]. In physical education students can be more involved in the activity of increasing knowledge (cognitive) and physical (psychomotor) activities [8]. The involvement of students in more depth is expected to be able to make students’ motivation higher to do physical activities outside of school (Affective) [7]. The application of IBL in the learning process has several challenges that hinder the achievement of learning goals.

The first challenge faced is the motivation of students to get involved in the learning process [8]. IBL requires more motivation than traditional learning, because this method requires students to hypothesize and find answers to these hypotheses. The search process requires more time, so high motivation is needed to get good results [2].

The second challenge is teacher motivation. The teacher must facilitate and guide students for example by providing relevant literature information and references, or demonstrating equipment that can help students conduct further investigations [10]. This role requires a
positive attitude, preparation and practice before this method can be applied [11]. Without high motivation, teacher will find it difficult to prepare for learning and practice the IBL method so that learning outcomes are not optimal.

The third challenge is student knowledge about IBL learning. The IBL method requires students to understand the instructions given by the teacher clearly. Students must understand the instructions clearly so the learning process runs smoothly. If students do not understand the instructions then they will spend more time asking what they should do than to investigate the problem [8].

The fourth challenge is teacher knowledge about IBL. In IBL, the teacher acts as a facilitator and mentor so that a teacher must understand how IBL must be implemented. The teacher must also be able to provide direction and motivation to students to conduct scientific investigations that require more precision and attention than what they do everyday [7, 10].

The fifth challenge is student communication skills. One phase in the IBL learning process is discussion. During the discussion, students present the results of their investigation and get feedback. After the question and answer process, students reflect on the learning process. Limitations in communication skills will prevent students from expressing their opinions, responding to feedback from friends and teachers and maintaining their opinions [7].

The sixth challenge is structural support. The success of the IBL learning method requires not only the participation of students and teachers, but also requires support from the environment. Support from the school and the surrounding environment will provide the resources and time needed by students in scientific investigations [11].

References


The Character Education of R.A. Kartini Perspective

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Abstract. The background in this research because of a long and endless moral crisis. To form good character, effective and appropriate methods are needed so that students easily understand and love and implement character values in everyday life. The purpose of this research is to examine the letters from R.A. Kartini about character education. This research is a type of library research because it is done in a library with the aim of analyzing the contents of the book. The methods used in this study are rational, interpretation, inductive, and analogical methods. The findings indicate that there are several methods that can be applied in an effort to shape children's character, namely exemplary methods, play methods, and methods with reading books.

Keywords: character, R.A Kartini, formation of child character

1. Preliminary

The moral crisis that is currently afflicting the Indonesian people seems endless. A decrease in moral quality occurs at every age level, from age children, adolescents, and adults. Their morale feels increasingly away from the noble values that have been possessed and exemplified by the founders of this nation. Values of manners, mutual respect, love for each other, help and so on are increasingly fading because they are continually eroded by the progress of the times.

The younger generation in an effort to find their identity is also getting heavier, because of the influence of outside culture that continues to invade living spaces, without a strong filter and moral and moral character, they will be easily affected by the external culture. The existence of violent attitude, uncaring attitude, narrow fanaticism and sectarian and emotional attitudes become new cultures and become part of his life. Negative behavior is an indicator of their low character. As a result, they acted anarchically, intolerantly and without any sense of humanity, so history has recorded a bad tragedy that hit football in the country, namely a supporter who died because of being beaten by other supporters.

Even more concerning, students who should have studied at school to study in order to prepare for their future and will receive the leadership baton in this country, among them there are those who are held hostage to social problems. Among the social problems that hold them hostage are drug and alcohol addiction, out-of-control teenage pregnancy, excessive reliance on child care outside the home, acceptance im morality on television and in the arts, cheating scandals and bullying of explosive violence in schools[1].

Fights between students often occur and involve young people who in fact they are educated children and have sufficient intellectual capacity. In addition to brawls between
students, bullying or violence in the school environment is endless. A senior student who
should provide a good example actually acts intimidating and acts immoral to his juniors. At
school they should be able to study calmly and comfortably, but the fear and tense atmosphere
they get. This is due only to the actions of a handful of irresponsible students.

The quality of the menu shows that there is a failure in our education system in creating
Indonesian people who are noble and virtuous. Because religious education and Pancasila
moral education taught in schools have not succeeded in forming human beings with
character. Even if we look at the material, the two subjects contain pretty good religious and
moral values, and in teaching and learning activities many students experience completeness
in following these two subjects. This means that the level of mastery of students in
understanding the material of these two subjects is very good, but to apply the values
contained in these two subjects is still far from expectations.

According to Azra[2], the moral degradation that we are experiencing is more or less
influenced by the education system that we have applied so far. The curriculum that we use is
quite heavy and is only oriented to the development of mere cognitive domains. Whereas the
domain of affection and psychomotor hardly received proper attention. Though the
development of these two domains is very important in the formation of character and good
caracter. The important thing and need serious attention in education is the formation of
caracter. Indonesian as a developing country also echoes character education. Good news for
observers of character education in the country manifested in the policy set forth in the
National Education System Law no. 20 of 2003. In chapter 2 article 3, it is stated that the aim
of national education is to develop the potential of students to become human beings who
believe and devote to God, have noble character, are healthy, knowledgeable, capable,
creative, independent, and become responsible and democratic citizens.

Considering the importance of character education in an effort to save the morale of the
successor young generation of leadership and to advance the civilization of a nation, various
thoughts emerged among educational thinkers and figures. One of them is R.A. Kartini.
According to Sudarjat[3], R.A. Kartini was one of the few Indonesian women who had far-
reaching thoughts in their time. Critically, Kartini highlighted the role of Indonesian women
who were marginalized due to cultural contractions. Kartini's struggles and thoughts included
unity, nationalism and education.

Kartini's thoughts on education, had received appreciation from Arbaningsih. In his book
entitled Kartini dari Sisi Lain: Melacak Pemikiran Kartini tentang Emansipasi “Bangsa””, it is
stated that Kartini's thoughts are arguably far ahead, fostering character national building as a
process of forming national character. The concept of character education according to Kartini
requires examples of reliable and virtuous teachers[4].

The opinions above may not be excessive, because Kartini herself said that education
should not only prioritize aspects of knowledge, but character education also needs attention.
In the letter sent to Mrs. R.M. Abendan Madri, Kartini writes: “Give the Javanese
education! and this education must not only develop the intelligence, but also the
conscience[5].

From the fragment of the letter above it can be understood that in the view of Kartini
education should not only develop intelligence of reason (aspect of knowledge), but also must
pay attention to mind education (aspects of attitude). In other words, the education expected
by Kartini is education that can help humans to be smart, and also help them become good
humans.
Making smart people can be easy to do, but making good people and having noble character, seems much more difficult. Thus it is very natural to say that noble character is very important for humans.

2. Method

This research is a type of literature research (library research). Library research is activities relating to collection data method from literature research, read, record and processing of research[6]. According to Arikunto[7], Literature research is research conducted by book content analyzing (content analyses). So the result of literature research is conclusion about language book style, tendency of book content, the writing system, lay-out, illustration, and others. The book using the main book “Habis Gelap Terbitlah Terang” by R.A. Kartini.

This research is also categorized as qualitative research, namely research that emphasizes that data collection is not guided by theory, but is guided by facts found and then constructed into hypotheses or theories[8]. In other words, this qualitative research emphasizes that every finding must be based on data and used to build theory. Qualitative research can also be seen as a research procedure that produces descriptive data, in the form of written or oral words from people and behaviors[9], that can be observed in accordance with the understanding and interpretation of the researcher.

In addition to descriptive, qualitative research is also intended to obtain explanatory data, which is to provide explanations about the relationship of meaningful events, especially to the perceptions of participants[10]. So that in this study the author will describe the data and facts that have been obtained in order to be clear.

Because this research has this type and nature, the author will make every effort to collect data based on the book by R.A. Kartini by reading, studying, and reviewing her writing in depth and by interpreting the womb and giving annotations or comments on her thoughts.

3. Results and Discussion

a. Kartini’s Biography

Raden Ajeng (R.A.) Kartini was born on April 21, 1879 (28 Rabiul Akhir 1808). She was born to a male aristocratic family R.M. Sosroningrat, son of prince Ario Tjondro Negoro IV, Regent of Demak[11]. Raden Ajeng was the title given to the Princess of the nobility before she married. When the noble daughter has married, the title will automatically change to Raden Ayu (RA).

When he was still a wedana in Mayong, R.M. Sosroningrat married Mas Ajeng (M.A.) Ngasirah. The marriage took place in 1972. At that time the age of the M.A. Ngasirah is still very young because she was only 14 years old. M.A. Ngasirah is a child from Kyai Haji Madirono, a famous religious teacher in the village of Telukawur. Aside from being a teacher, Kyai Haji Madirono is also a copra trader in the Mayong area. While her mother Nyai Hajah Siti Aminah also comes from Telukawur. Both parents of M.A. Ngasirah comes from a family of ordinary people[12].

brother. The age difference between the two is about two years, this is one factor that causes the relationship between the two very close.

In 1875, R.M. Sosroningrat remarried a high-ranking noble daughter, Raden Ajeng Woerjan or Moerjam, Putri R.A.A. Tjitrowikromo, regent of Jepara before Sosroningrat. Based on lineage, Raden Ajeng Moerjam is located as garwo padmi (main wife or empress) R.M. Sosroningrat, while Mas Ajeng Ngasirah got the position as garwo ampil or concubine's wife. The results of his marriage with R.A. Moerjam, R.M. Sosroningrat has three children, namely R.A. Soelastri, R.A. Roekmini, dan R.A. Kartinah.

b. R.A. Kartini's thoughts about character education.

R.A. Kartini's thoughts about character education include material, methods and punishment. But in this paper the author only focuses his thoughts on methods that can be applied in character formation.

1. Exemplary

Exemplary or giving examples is absolutely necessary in a life. Can not a child speak a word because he imitates the words that are heard from those around him? Likewise, character building efforts must be given an example first. This is as stated by Kartini “that all needs is to take the first step, that is, for someone to provide an example. And if this is seen to have practical benefit, and can be adopted by others, than it will undoubtedly gain support”[14].

In line with the letter above, R.A. Kartini also reminded about the importance of giving examples. The letter was written to Mrs. R. M. Abendanon Mandri on 31 December 1901. There must be someone who sets the example we are convinced that if one has but the courage to begin, many will follow her. There must always be a beginning. One must go first to show the way, and the example must be good, each one waits for the other, no one dares to be first[15].

More explicitly R.A. Kartini said that “there is no better sermon than setting an example, a good model to follow”[16]. What was conveyed by Kartini seemed to revive our memories, the meaning of the word “teacher”. In Javanese the teacher means “iso digugu lan ditiru”. This expression implies that a teacher of his words must be able to be used as a handle and all his behavior or actions must be able to be an example. The teacher must be able to provide good examples for his students, whether he is at school, at home, or where he is.

2. Play

Education organized by R.A. Kartini is an education for the age of children, so it is not surprising that R.A. Kartini wrote the importance of learning while playing.

We could lead the young hearts through play and help to form the young characters. During the hours when those children would be at school, we could take other little children of native chiefs here in our own neighbourhood and teach them elementary branches, handicraft and other things. All the while unperceived, we would be knocking at the little hearts and trying to get nearer to the little souls[17].

In another letter, R. A. Kartini wants to educate children while playing, but still gets lessons and education[18]. The idea of “educating children while playing” is the same as the concept of learning while playing. This means that the learning concept is packaged in the form of a game. In other words, even though children learn while playing, they still get school lessons and character building.
3. Reading books

In view of R.A. Kartini attempts to establish character in the school environment, the teacher has an important role. The existence of teachers in schools, both speech and behavior will be followed and emulated by their students. Besides the teacher, R.A. Kartini considers the importance of reading resources for education, and good reading sources will be able to educate, promote, glorify and elevate humanity\textsuperscript{[19]}. The availability of educating reading books must of course be adjusted to the age level.

In another letter, R.A. Kartini also considered the importance of reading books as a foundation in character education. R.A. Kartini writes:

How can one introduce this moral basis to adults and young adults? I think through appropriate reading matter. One should publish reading material that should include leisure reading (so that they would be eagerly read) but always with an educational aim\textsuperscript{[20]}.

In view of R.A. Kartini, character education can be pursued through the availability of significant reading books. Of course, the right reading for children's consumption is educational reading books, both in the form of books or magazines.

The fact that in the book there is a lot of information and knowledge needed by students, the book has a very big role. Primarily as a means to advance the nation's civilization. About the importance of reading books at school, R.A. Kartini not only wrote it in a letter, but confirmed it on an Education note. In the memorandum written in January 1903, related to the importance of reading books found in several paragraphs, namely:

A further means of education from which much benefit can be expected is reading material. It would be an excellent additional source of instruction. The Javanese has practically no reading material, what he does have are some epie poems and moral tales which even then are only available to very few, since almost all of them are hand written, they represent heirlooms passed down from generation to generation and many of them are written allegorically and in a language which is unintelligible to most people\textsuperscript{[21]}.

In the paragraph above, R.A. Kartini had the assumption that the availability of reading books in schools helped support education. These books can be in the form of poetry books and reading books that contain moral education. In order for readers to be easy to understand and capture the messages contained in these books, it should be written in a simple, fresh, and interesting language to read.

c. Contextualization of Thoughts R.A. Kartini About Character Education in Learning

1. Exemplary

In character education, capital or modeling is a commonly used strategy. Even according to Gunawan\textsuperscript{[22]}, exemplary is a more effective and efficient method. This method is said to be effective because the nature of students (especially students at the age of primary and secondary education) generally tends to imitate (imitate) the teacher or educator. And psychologically, a child does have a tendency to imitate the figure (model) in the surrounding environment. This method is considered efficient because it does not require a lot of money to make a display, but it is enough examples or good examples from the teacher.

If students find the model closer to be used as a role model, it will be easier and more effective for character education. Students need a real example, not an example in fantasy. Therefore, success in character education is strongly influenced by the figure being modeled by the child.

The model that can give a big influence on students is the closest model for students. The model can come from the family environment and school environment. The model of the
family environment can be obtained by children through examples given by father, mother and other family members. While the model of the school environment is obtained by the child through the example given by the teacher and other education personnel in the educational institution.

According to Zubaedi\textsuperscript{[23]}, to be able to use the exemplary method, there are two conditions that must be met. First the teacher or parent must act as a good model for students or children. Both children must emulate famous people of noble character, for example the prophet Muhammad. Thus, parents and teachers have a strategic role in providing models or role models to children. All sayings and actions of parents and teachers must be maintained. Speech from parents and teachers must contain wisdom and all their actions must be trustworthy. Through this example, it means parents and teachers have instilled positive values in their children's hearts.

Exemplary methods as one of the strategies in an effort to shape students' character must be supported by a conducive environment. In the family environment parents must be able to play a role as a good model, while in the school environment teachers and all education personnel must be able to act as a good model too “legitimized, modeled, and reinforced by school and teachers”\textsuperscript{[24]}.

2. \textit{Play}

Playing is a variety of forms of activities that give satisfaction to children that are non-serious, flexible, and even toys contained in activities and imaginative sex is transformed commensurate with the world of adults, so playing has an important meaning for the growth of children\textsuperscript{[25]}. 

Regarding the importance of playing, a prominent thinker, Al Ghazali, emphasized that students were allowed to play with light games and the game did not exhaust them after class. If children are prohibited from playing and forced to keep learning, then their hearts will die, their intelligence will be dull and they will feel bitterness with this life\textsuperscript{[26]}.

What was conveyed by Al Ghazali is still general, because it only provides opportunities for children to play when they are tired of participating in learning activities. So giving the opportunity to rest rather than playing when in learning. In other words at rest, children can play for a while so that their minds can refresh again while following the lesson.

According to Hamdani \textsuperscript{[27]}, teachers can create ways of learning while playing. This method can be done by the teacher when the child reaches saturation in learning activities. Admittedly, this method really demands the creativity of the teacher to create a fun game. Do not let the game in learning whose purpose is to make students happy, it becomes burdensome for them.

Games in learning if applied properly will have a function that is maintaining balance, anticipating the roles that will be lived in the future, perfecting skills with other children\textsuperscript{[28]}. In the game needed to maintain cohesiveness is not his greatness, especially in team games.

Through the method of playing, it is expected that children will find noble values in the game. The type of game should be adjusted to the age level and the level of development of children's knowledge, so that the game in fostering character values in children. The character values in the game are cooperation, discipline, responsibility, togetherness, tolerance, never giving up, hard work, honesty/ sportsmanship and concentration training.

3. \textit{Reading books}

According to R.A. Kartini, the availability of reading books in an effort to shape children's character is very important. There are many benefits obtained from reading books, one of
which is to be able to add insight or knowledge. If this effort is carried out, then as a consequence the school must educate, not a book containing only news about theft, fire and robbery. However, the author does not get the thought of a character who conveys his ideas about the method of reading. However, we cannot justify that this method does not have contextualization of character education.

According to Ilyas [29], the exemplary method can be applied in two forms, namely directly and indirectly. The purpose of the exemplary method directly is that a teacher gives a good example to students, while the indirect method means that educators set an example for their students by telling stories or students are told to read for themselves about good example stories, including can be a history of the prophets, stories of great people, heroes and martyrs.

Through the method of story, students are expected to be able to make these characters as idols in their lives and ultimately want to emulate the spirit and noble character of these figures. This is very important, so that children no longer only know the imported Heroes they watch through glass screens such as Masha, Shiva, Spongebob and Doraemon, as well as Upin and Ipin, but children also know national heroes who defend their people from the invaders, the figures who contributed in the surrounding environment, knew the prophets, the trustees or people who had other noble characters.

Thus the availability of reading books that are used as methods in an effort to form characters implicitly is included in the exemplary method. Exemplary given by educators indirectly, namely when children are told to read their own reading books about heroes, other great figures or Nusantara stories.

While Suparno [30], said that the formation and character development of a child is influenced by family (parents), teachers, friends or groups, school environment, community, reading books (media, television, video, internet, gadgets), and religion. Many children develop their character because of the contents of the books they read. The book he has read since school has an influence and inspiration for his life.

The provision of character-building reading books can follow the rules set out in curriculum guidelines or from teacher initiatives based on certain considerations[31]. As an input material that should be considered by the teacher in the provision of reading books is educational reading books. The books can be in the form of history about the nation (the country), the story of the heroes' struggles, the biographies of influential people, Nusantara stories, or motivational books.

It needs to be reiterated that, success in character education cannot be separated from the use of the right method. With the right method, students are expected to be able to easily digest or understand and love the character values taught. After that, students are expected to grow their awareness to internalize the character values that have been taught in their daily lives.

Nevertheless, character education clearly requires commitment from all parties, carried out intensively, and synergistically. The involvement of all components of education, both parents, schools, teachers, and the community needs to be utilized optimally in the effort to grow the character of children. This is a necessity because the enculturation process is ongoing.
4. Conclusion

From the series of discussions and some of the descriptions above, the methods that can be applied in an effort to shape the character of students according to R.A. Kartini is an exemplary method, playing method, and method by providing reading books. These three methods can be applied in education in the family environment and in education in the school environment.

Contextualization of exemplary methods can be applied in character education through models that can be used as examples by students. The model that can give a big influence on students is the closest model for students. The play method should be adjusted to the age level and the level of development of the child's knowledge. Through the method of playing, it is expected that children will find noble values in the game, such as cooperation, discipline, responsibility, togetherness, tolerance, never giving up, hard work, and honesty. Formation and character development of a child can be influenced by family (parents), teacher, friend or group, school environment, community or environment, and reading books. Therefore at school should provide educational reading books.

References

The Role of Principle in Internal Quality Assurance for 4.0 Era in Madarasah

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Abstract: The principal has a very important role in internal quality assurance in Madarasah. The role of school principals in era 4.0 is strongly related to the mastery of digitalization technology that is growing rapidly at this time. The purpose of this paper is to analyze the role of principals in madrasah on internal quality assurance in era 4.0. This research method uses a literate approach, a case study model. Analysis of the case study model has an output concept about the competency of the principal in mastering digital-based technology, which is used to facilitate the internal quality assurance process in Madarasah. The results of this study, the competency of principals’ knowledge of digital development has not been maximally responded, so that the technical mastery of digital technology that is useful in internal quality assurance is not in accordance with quality standards, and the low level of mastery of digital technology cannot be transmitted to educators and educated components in Madarasah that they manage. The conclusion of this paper, shows that the competency of the school principal in mastering the digitalization of technology in the quality assurance process in the Madarasah has an important role in era 4.0, in addition to other supporting competencies. The contribution of this paper is the need to standardize digitalization mastery competencies in quality assurance in Madarasah.

Keywords: principles, internal quality assurance, 4.0 era

1. Introduction

The development of science and technology becomes a trigger for every individual, to look for new knowledge innovations, new forms of thinking technology that are more effective and efficient, and which can be used to support performance, so that goals can be achieved more optimally, namely human quality, capable of competitiveness global, and technological mastery [1]. The urge to seek innovation, and creation, is needed to support harmony and harmony over the rapid flow of progress, which is increasing (from the era of 1.0 to 4.0). This progress becomes a challenge for individuals to immediately improve technology-based human resources, so that the hegemony shown by the new culture, namely the rapid technology, can be utilized in accordance with their respective fields, including in the world of education.

The world of education, namely educational institutions, has an important role in increasing competent and quality human resources. In the 4.0 era, educational institutions have a tough task, that is, they must show their quality more, to realize quality graduates who are able to compete globally, and master the products of technological development [1]. One effort that must be made is the 4.0-based quality assurance system, which is a quality assurance system that uses approaches from paradigm 4.0.
Paradigm 4.0, requires a complex role, between educational actors at the structural level to the field actors. Government policy, which was stated through, Undang-undang Nomor 20 tahun 2003 (regulation), Peraturan Pemerintah No. 19 tahun 2005 (regulation), Permendiknas Nomor 63 Tahun 2009 (regulation), be a fundamental basis, to determine the direction and steps of 4.0-based ideal quality assurance, which must be carried out by every educational institution especially in Madrasasah, where teachers and principals of Madrasah, have a primary role, in the implementation process. Field actors, namely educators and education staff (especially teachers), and school principals must be able to interpret, and apply government policies in accordance with specified quality standards.

However, the low performance of teachers and principals in Madrasah on quality assurance in Madrasah [2][3],[4], [5], shows things that are paradoxical, where on the one hand the interests of national education want teachers and principals of Madrasah to master the development of science and technology in the 4.0 era, on the other hand, teachers and principals of Madrasah are still held hostage by syncretism, where thoughts that don't want accept progressive and global changes. Syncretism is more likely to be conservative and fundamental.

The role of the principal must have double standards for quality assurance in schools. The double standard, in addition to the principal is able to play in accordance with their duties, authority and responsibilities [6]. Principals must also have good expectations for their students, provide reinforcement of basic skills for their students, so they can develop well, and be able to create a conducive atmosphere for teachers and employees, and create a comfortable atmosphere for students [7].

Several factors determine the quality of the educational process, including: a) the effectiveness of the principal's leadership style; b) active participation and sense of responsibility of teachers and staff; c) continuity of effective teaching and learning process, d) relevant curriculum; e) have a directed vision and mission; f) a conducive school climate, and g) intrinsic parent and community involvement [8]. In other words, the dominant factor in determining the realization of the quality of education is the principal, both about competence, [4], and performance style. [5], [9]

School principals are also required to be strong leaders, namely explaining the characteristics of resilient principals, namely: a) having far-sighted insights and knowing what actions to take and understanding correctly about the methods to be taken; b) has the ability to coordinate and harmonize all available limited resources; c) has the ability to make decisions, mobilize available resources, tolerance of differences, and d) has the ability to fight the enemies of the principal, namely ignorance, suspicion, not making decisions, mediocrity, imitation, arrogance, waste, rigidity, and duplicity in behaving and acting. [10].

Peraturan Pemerintah Pasal 12 ayat 1 PP 28 Tahun 1990 (regulation) that the principal is responsible for organizing educational activities, school administration, fostering other education personnel, and utilizing and maintaining facilities and infrastructure. Principals are appointed through certain procedures and requirements responsible for the achievement of educational goals through efforts to increase the professionalism of the teaching staff which implies improving learning achievement

Therefore, there needs to be a concept or effort that can be used to help resolve the issue, which is set forth in this study, with a focus on objectives, namely; the role of the principal in the 4.0 era quality assurance in Madrasah, which has the main substance that is the role of ideal competence and the role of mastery of technology to support quality assurance in Madrasah.
2. Research Method

This study used a literature review from some themes. There is teacher challenge from 21 century including the skills which has a relationship with the post critic paradigm (the sophisticated paradigm in the current era). It refers to the uncontrolled and rapid progress of science and technology, it means the theme of education and training should accelerate the development of knowledge and science using the method or complex and an effective model. The outcome of this research is about the idea about education and training in 4.0 era. The idea is adapted in some teacher skills in the 21 century. It can be as the complex delivering method. The data in this research is secondary. It is from the research outcome which is done by the previous researchers. The sources of the data are from the book and the original primary scientific report. Those are from the articles or journals (printed or unprinted). The data has a relationship with the theme and the skill in 21 century. The data analysis used bibliography annotation. The research procedure used the relevant theme of the article organization taken from journal and book. It synthesis with the finding and outcome of the article and identify the important idea. Moreover, it formulated the data which is used as research essence.

3. Result and Discussion

a. The Role of Principles in 3.0 Era

The role of the principal in paradigm 3.0, is as an educator, manager, supervisor, leader, innovator, and motivator. [11]

a. Educator

The principal as an educator, the principal is responsible for guiding teachers, education staff, students, following the development of science and technology, and setting a good example, creating a conducive school climate, giving advice to school members, encouraging all teaching staff, and implementing models interesting learning, forming a culture of teaching and learning conducive. Understanding the role of school principals as educators, does not sufficiently hold on to the definition of educators themselves, but must be interpreted by the meaning of education, educational facilities, and how the education strategy is implemented. For this purpose, the principal must try to instill, promote and enhance at least four kinds of values, namely mental, moral, physical and artistic development. [12]

Creating a conducive school climate requires cooperation or harmonious relations between all school members and is not only the responsibility of the school principal alone. Therefore, efforts that can be made by school principals in improving their performance as educators, especially in improving the performance of teaching staff and learning achievement of participants students are involving teachers in further education by encouraging teachers to start creative and achievement activities [13].

b. As manager

The principal has functions: planning, coordinating activities, supervising, evaluating activities, holding meetings, making decisions, managing the learning process, organizing administration, and managing administration, students, personnel, facilities, and infrastructure, financing [14]. Principals as managers are required to have readiness to manage schools. To carry out its role and function as a manager, the principal must
have the right strategy to: a) empower teaching staff through collaboration; b) provide opportunities for educational staff to improve their profession; and c) encourage the involvement of all education personnel who support school programs, because if it refers to the views of modern management, cooperation is a very fundamental thing in an organization [15]

c. **As administrator**
   the principal is responsible for the smooth running of all work and administrative activities in the school. The principal as a category of education administration must complete the insight of educational leadership with knowledge and anticipatory attitudes towards changes that occur in people's lives, including educational policies [15].

d. **As supervisor**
   Supervision is assistance and services provided to teachers so that they want to continuously learn, improve the quality of their learners, foster creativity, improve teachers together with events to select and revise educational goals. [16].

e. **As leader**
   Principal's leadership is one of the factors that can encourage schools to realize the vision, mission, goals and objectives of the school, through programs that are implemented in a planned and gradual manner. Leadership is the activity of influencing others to want to work to achieve predetermined goals. For this purpose, the principal must be able to influence and mobilize school resources for planning and evaluating school programs, curriculum development, learning, management of resources, learning facilities and resources, finance, student services, school relations with the community, school climate creation, and so on.[4]

f. **As innovator**
   The principal must have the right strategy to establish a harmonious relationship with the environment, find new ideas, integrate every activity, set an example for all teaching staff in the school and develop innovative learning models.

g. **As motivator**
   the principal must have the right strategy to motivate the education staff in carrying out various tasks and functions. Because the principal is believed to have the ability to build good motivation will build and increase the effectiveness and efficiency of work [14], [5], so that his subordinates are able to be creative in order to realize good quality education.

b. **The Role of Principles in 4.0 Era**
   a. **As educator with the mastery of digital learning technology**
      Principals are required to be able to use computer-based learning technology. Computers are tools and applications of information and communication-based technology that are used as the main device for processing data into useful information by processing, presenting, and managing information. Digital learning is not only related to hardware, but
also includes software in the form of data sent and stored which can be accessed at any
time. e-learning which includes static and dynamic web, discussion groups, e-mail, chat,
imstant messaging, video streaming, animation, application sharing, and video
conferencing.[17]

b. As manager with the mastery of digital learning technology

The principal is able to use information technology, which is used as a system to
plan, apply and evaluate every educational activity in the school. Information technology
includes hardware components (computers, infrastructure, communication tools, etc.) and
software (applications, operating systems, databases, etc.) that must be available to
produce a defined information system.[18]

c. As problem solver

The principal has the ability to solve problems, both from educational problems, as
well as social problems that occur in schools. The principal's ability to solve problems,
refers to 4 steps, namely: (a) defining the problem; (b) gathering choices; (c) evaluating
and making choices; (d) and implementing the problem solve options.

d. Mastery of critical thinking

The principal has the ability as a person who can think critically. Critical thinking is a
process of intellectual discipline that actively and skillfully conceptualizes, applies,
analyzes, synthesizes, and / or evaluates information collected from, or generated by,
observations, experiences, reflections, reasoning, or communication, as a guide for beliefs
and actions. Those are based on universal intellectual values that go beyond material
division: clarity, accuracy, precision, consistency, relevance, strong evidence, good reason,
depth, breadth, and fairness.

e. As negotiator

The principal has a strategy as a negotiator or as a reliable conflict manager, using the
right strategy. Negotiator is a safety valve, which has the task of being an agent of
resolving conflicts of interest that occur in the school environment. Agents of conflict have
the role of experts in peace, and promote togetherness. The agent must be able to become a
safety valve that must have expertise (1) standing in the middle of neutrality, working on
the two conflicting parties in order to reach a meeting point, synthesis agreement, (2)
striving for both parties to not lower their dignity and dignity and his self-esteem, (3)
striving for both parties to feel beneficial, equally gain and nothing is disadvantaged, (4)
strive for both parties to realize that life is dynamic, full of challenges and do not leave
together and harmony as a buffer social life.[19]

f. High emotional intelligence

The principal has the ability to receive, assess, manage, and control his emotions and
those around him. Emotional intelligence is the ability of individuals to recognize their
own emotions and those of others, distinguish between different feelings and label them
appropriately, use emotional information to guide thoughts and behavior, and manage and /
or adjust emotions to adapt to the environment or achieve one's goals [20]

g. As creativity
The principal has the ability to create something new, or new, and or breakthroughs. The school principal is creative, has extensive knowledge and experience, is hard working and has a habit of analyzing SWOT based. SWOT analysis can be applied by analyzing and sorting out various things that affect the four factors, then applying it in the SWOT matrix image, where the application is how strengths are able to take advantage of the opportunities available, how to overcome weaknesses (weaknesses) that prevent the advantages (advantages) of the opportunities (opportunities) that exist, then how strengths (strengths) are able to deal with threats (threats) that exist, and finally is how to overcome weaknesses (weaknesses) that can make threats become threats real or create a new threat.

h. flexibility cognitive

The principal must have extensive knowledge, in order to be able to make concepts that can be used as a foundation for thinking correctly. The philosophical foundation of the principal based on the paradigm that follows the conditions in the current era. In other words, the principal must think based on longlife thingking, meaning that following the times, not inclined to one thought, but based on several paradigms that develop in the community. A lot of knowledge, can create synthesis of rational thought, objective and in accordance with real conditions.

i. judgement and making decision

The principal must be able to be a judge of correct decision making. Decision making is a human process that is conscious and encompasses individual and social phenomena, based on the premise of values and facts, concludes a choice between alternatives, with the intention of moving towards something desirable. Decision making is a process of selecting the best alternatives from a number of alternatives systematically to be followed up (used) as a way of solving problems. [21]

Based on the description above, it can be explained that the role of the principal, has undergone a change from the role of the principal in the 3.0 era, to the role of the principal in the 4.0 era. These changes are strongly influenced by factors of the rapid development of science and information technology, which greatly affect the thinking patterns of life of society as a whole. The demands of school principals, in order to be able to harmonize with the needs of the current era, are key to quality assurance in schools / madarasah.

Principals as the main pillars of quality assurance in schools must adapt to conditions in the 4.0 era, in an era, where knowledge and experience, merged with a variety of current information technology, which can support every activity, so that it runs effectively and efficiently. Principal competencies must be increased, from competencies in 3.0 era, to competencies in 4.0 era, by creating 4.0-based quality standardization. Efforts are made is to compile indicators of the quality of 4.0-based principals, which are outlined in government policies, so that they can be realized immediately, towards the quality assurance of 4.0-based principals in Madrasasah.

4. Conclusion

Changes in the role of school principals in Madarasah towards era 4.0, must be taken seriously. Era 4.0 is an era that emphasizes information technology, which can be used by principals to perform roles as education, management roles, which are digital based, as well as
roles as critics, creativists, problem solvers, negotiators and decision makers who are fast and precise. Quality assurance in the 4.0 era is important, because it is adapted to the development of life at this time, or the role of the principal is still a paradox.

References
The Industrial Revolution 4.0 Impact on Vocational Education in Indonesia

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Abstract. 4.0 era, creating various dilemmas for the world of education in Indonesia, especially in vocational education, namely vocational schools. The demand for vocational education in vocational schools is increasingly large and global, in addition to having the function of creating human resources with special skills, and also being able to balance with technological developments in the 4.0 era. This study aims to analyze the impact of the industrial revolution 4.0 on vocational education in Indonesia. The method used is literature review. The results of this study indicate that, the impact of the industrial revolution 4.0 is strongly felt by vocational education in Indonesia today, where vocational education is still unable to answer the challenges of current technological developments, by creating high levels of employment for its graduates. The positive impact is the role of vocational education, namely vocational schools, to be able to balance the skills that are currently developing, as well as the quality of teacher competencies based on ideal standards. The conclusion of this study, the impact of the industrial revolution 4.0 for education, must be seen from the many positive sides. Domain and concept adjustments, so that they are aligned with dynamic changes in skills, and teacher competencies, must be based on professional quality standards.

Keywords: industrial revolution 4.0; vocational education; teacher competences

1. Introduction

Since the term industry revolution 4.0 emerged, accompanied by various phenomena. Industry 4.0 is characterized by an increase in digitalization of manufacturing driven by four factors: 1) an increase in data volume, computational power, and connectivity; 2) the emergence of analysis, capabilities, and business intelligence; 3) the occurrence of new forms of interaction between humans and machines; and 4) improvement of digital transfer instructions to the physical world, such as robotics and 3D printing [1]. The machine will operate independently or coordinate with humans [2], in other words, the mechanism of work is more oriented to the machine compared to human power.

Industry 4.0 is an approach to control the production process by synchronizing time by integrating and adjusting production [3]. Industry 4.0 was used on three interrelated factors namely; 1) digitization and interaction of economics with simple techniques towards economic networks with complex techniques; 2) digitalization of products and services; and 3) new market models. One of the unique characteristics of Industry 4.0 is the application of artificial intelligence [4]. One form of application is the use of robots to replace human...
labor so that they are cheaper, more effective and efficient. Technological advancements make automation possible in almost all fields. New technologies and approaches that combine the physical, digital and biological world will fundamentally change the patterns of life and human interaction.

Wolter identified the challenges of industry 4.0 as follows; 1) information technology security issues; 2) the reliability and stability of the production machine; 3) lack of adequate skills; 4) unwillingness to change by stakeholders; and 5) the loss of a lot of work because it turns into automation [2]. He simplifies industry 4.0 challenges namely; (1) industry readiness; (2) trusted workforce; (3) ease of socio-cultural regulation; and (4) diversification and job creation and industry opportunities 4.0 namely; (1) ecosystem innovation; (2) competitive industrial base; (3) investment in technology; and (4) integration of Small and Medium Enterprises (SMEs) and entrepreneurship [5].

Mapping the challenges and opportunities of industry 4.0 to prevent various impacts on people's lives, one of which is the problem of unemployment. Work Employment and Social Outlook Trend 2017 predicts the number of unemployed people globally in 2018 is expected to reach 204 million with an additional increase of 2.7 million. Almost the same as the conditions experienced by western countries, including Indonesia. Indonesia's open unemployment rate in February 2017 was 5.33% or 7.01 million of the total 131.55 million workforce [6].

BPS also shows, the number of unemployed people who came from Vocational High Schools (SMK) was in the top rank of 9.27%, graduates of High Schools (SMA) by 7.03%, Diploma III (D3) by 6.35% , and university 4.98%. The factor influencing the lack of interest in vocational education in Indonesia, which is balanced with the development of industry in the 4.0 era, is the conventional majors factor. [7] added that vocational training and skill acquisition greatly influence the development of a person's identity related to work. Another factor is that the quality of education in vocational schools is still low, [8]. The low quality of vocational education, is suspected by (a) Not being able to develop the potential / nature of students optimally; (b) Have not been able to organize a Fun Teaching and Learning Activity (KBM); and (c) Has not been able to produce graduates who have moral integrity.

The challenges and opportunities of the industrial revolution 4.0 drive the acceleration of innovation and the creation of vocational education. This study aims to analyze the impact of changes in the industrial era 4.0, on vocational education (SMK) in Indonesia, and analyze the revitalization efforts that should be undertaken so that vocational education (SMK) is not reduced by the impact of industrialization in the 4.0 era, and appropriated teachers competences in vocational schools.

2. Research method

This study uses a literature review, focusing on the challenges in vocational schools on changes in industrialization in the 4.0 era. The data used in this research is secondary data. Secondary data is data obtained from the results of research that has been done by previous researchers. The secondary data sources referred to are primary and original books and scientific reports contained in articles or journals (printed and / or non-printed). The data used is related to the theme, skills in the 21st century. Data analysis uses annotated bibliography. Research procedures with the organization of articles from journals and books, which are relevant to the theme, synthesize the findings of the article, identify ideas that are considered important, and formulate data that is used as the essence of research.

3. Result and Discussion
a. Adjustment of vocational education (SMK) to the industrial revolution 4.0

21st century learning is oriented towards digital lifestyle, thinking tools, learning research and the workings of knowledge, therefore, vocational education requires a high level of literacy [9]. The theme of information literacy is (1) determining the nature and level of information needs needed, (2) accessing the information needed, (3) using information effectively and efficiently, (4) using ethical and legal information [10], and (5) critically evaluate information and sources and incorporate selected information into pre-existing knowledge and value systems [11] (1) identify sources of information; (2) identify types of information; (3) choosing how to access information through the internet; (4) rediscovering information online; (5) establish criteria for assessing information from the internet; (6) establish criteria for assessing information from books; (7) uses new information to plan and create results; (8) communicating results or performance in writing; (9) understand various ethical, legal and socio-economic issues around information and information technology; and (10) recognizing the use of information sources used [12].

Based on Permendikbud (regulation) No. 23 of 2017 concerning School Days, there are several things that are strengthened from the 2013 Curriculum results of the 2017 revision, namely (1) strengthening of character education, (2) mastery of literacy, and (3) strengthening of high order thinking or high order thinking skills. While the character is focused on aspects of religiosity, nationalism, independence, mutual cooperation and integrity. In literacy mastery is emphasized in the 21st century literacy that is summarized in 4C, namely (1) creative, (2) critical thinking, (3) communicative and (4) collaborative. These 4C aspects include some high-level thinking competencies.[13].

Thus, learning in the 4.0 era focuses on the formation of IT-based digital lifestyles, the ability and innovation of learning, and the development of life skills, and more specifically, learning undertaken by teachers must be oriented towards developing four core skills: critical thinking skills and problem solving, communication skills, collaboration skills, and the ability to create new things (creativity), [9].

Revitalizing the learning system includes, 1) curriculum and character education, 2) learning materials based on information and communication technology, 3) entrepreneurship, 4) alignment, and 5) evaluation. Education units include, 1) new school units and new classrooms, 2) other learning rooms, 3) classroom rehabilitation, 4) student and teacher dormitories, 5) equipment, and 6) school management and culture. Elements of students include, 1) scholarships and 2) talent development of interest. Elements of educators and education personnel include, 1) provision, 2) distribution, 3) qualifications, 4) certification, 5) training, 6) career and welfare, and 7) appreciation and protection.

The number of unemployed SMK graduates had made the government take a policy to revitalize vocational education [6]. There are four points that become the focus of revitalization of SMK which is mandated in Presidential Instruction no. 9 of 2016. These four points include curriculum revitalization, educators & education personnel, cooperation, and graduates. (1). Curriculum: The curriculum is currently rigidly assessed. As a result, it is difficult to meet the needs of the workforce that is ready for business and industry. (2). Educators & labor; In addition to availability, revitalization is also aimed at improving teacher competence [14].

b. Ideal Vocational Teacher competencies

The teacher competencies are: (1) Competency exists in a real-life setting, (2) Competency follows a progression from simple to complex, (3) Competency is based on a set of resources, (4) Competency is based on the ability to mobilize resources in situations requiring professional action, (5) Competency is part of intentional practice, (6) Competency is demonstrated as a successful, effective, efficient, recurrent performance, (7) Competency is a project, an ongoing pursuit.
Therefore, based on The World Economic Forum warns structural changes in skills in the 21st century. In 2015, the structure of skills needed by the workforce is as follows: 1) complex problem solving; 2) cooperation with others; 3) people management; 4) critical thinking; 5) negotiation; 6) quality control; 7) service orientation; 8) assessment and decision making; 9) active listening; and 10) creativity. In 2020 the work structure changes to: 1) complex problem solving; 2) critical thinking; 3) creativity; 4) people management; 5) cooperation with others; 6) emotional intelligence; 7) assessment and decision making; 8) service orientation; 9) negotiation; and 10) cognitive flexibility.

Thus, the skills of vocational teachers in the 4.0 era, namely: leadership, collaboration, creative, digital literacy, effective communication, emotional intelligence, entrepreneurship, global citizens, problem solving and teamwork, and have supporting skills, namely: critical thinking, creativity and innovation, cross-cultural understanding, information and media literacy, career and learning skills.

4. Conclusion

The impact of the industrial revolution 4.0 on education must be seen from the many positive aspects. Domain, and concept adjustments, to be aligned with dynamic changes in skills, and teacher competencies, must be based on professional quality standards, so that there is compatibility between domains in the 4.0 era.

References

[11] G. Shao, X., & Purpur, “Effects of Information Literacy Skills on Student Writing and


**Comparison Between How To Learn Using The Book Media With The Internet Media Towards The Results Of Learning Learning In Industrial Chemistry In PIP Semarang**

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**Abstract.** Learning is a process of changing one's personality where this change is in the form of improving quality, such as increasing knowledge, skills, thinking, understanding, attitudes, and various other abilities. Target of this research is first term cadet PIP Semarang. Researchers felt to do evaluation in teaching style following changing era dynamics. Question validity and reliability determined by 0.367 and 0.60. Test result shows that all question is valid and reliable. This research is quantitative research using correlational survey method. Research shows that, cadet need internet to help them study in studying process. There’s a difference between study achievement using press media and online in (PIP) Semarang, average study result using media is 51.25 meanwhile online media is 67.81. There’s a difference between study achievement using press media and online in PIP Semarang o need to be fixed in education field following the changing of era. Give permit using laptop with control from PMMK and use of private security. Use of modem and internet in group to increase study activities.

**Keywords:** Learn using the book, Internet Media, Study Result.

1. **Introduction**

Now we can access unlimited information on the internet. There is no more special material that can only be enjoyed by certain groups. Book is an information window. In this modern era, internet needed in education. Not only by reading book that can process and get information, internet can be larger than book as source of information. Information searching from internet is more faster and easy to do. Cadet has his way to get knowledge beside from teacher in campus.

Writer will point and compare study methode using online with book media. Is using internet media beside lesson book, cadet will be more good in achievement or the orther way around? How cadet study result that everyday commonly use internet with cadet that commonly use book media?

2. **Literature Review**

Cadet got knowledge from the teacher in the class, they are pressed to use knowledge following changing era. Hariyanto (2011: 9) said that “Study is an activity or a process to
getting knowledge, increase skill, fix manner, attitude and strength then personality”. Study result is abilities that student have after receiving study experience (Sudjana 2004: 22).

3. Research Methodology

This research, used quantitative research with correlational method with searching connected to cadet way to study that use book with online media regarding to cadet result. This population research is all first term cadet PIP Semarang. Sample taking technique using Cluster Proportional Random Sampling.

4. Analysis and Discussion

Descriptive Statistics

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<th>Mean</th>
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<tr>
<td>VAR00001</td>
<td>51.25</td>
<td>17.244</td>
<td>48</td>
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<tr>
<td>VAR00002</td>
<td>67.81</td>
<td>12.920</td>
<td>48</td>
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Average test score using press media is 51.25
Average test score using online media is 67.81

Independent Samples Test

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<th>Sig.</th>
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<th>Mean Difference</th>
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<td>VAR00001</td>
<td>3.621</td>
<td>.060</td>
<td>-</td>
<td>94</td>
<td>-16.563</td>
<td>3.110</td>
<td>-22.737 to -10.388</td>
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Output independent sample T-test above, got sig score. (2-tailed) 0.000 < 0.05, so according to decision taken in independent sample T-test, so can be concluded Ho got declined, Ha got accepted, than mean there’s a difference in study achievement using press media and online.

T-score counted negative mean average score using press media is lower than average score in online media.

Mean difference is 16.563 (67.81-51.25) and difference between 10.388 until 22.737 (can be seen on lower and upper).
5. Closing

A. Conclusion
1. Cadet need internet to help the learning process
2. There’s a difference between study achievement using press media and online media in Politeknik Ilmu Pelayaran (PIP) Semarang, show with average study result using press media is 51,25 meanwhile average study result using online media is 67,81.

B. Suggestions
1. Need fast used of internet for cadet to help studying process
2. There’s a difference between study achievement using press media and online in PIP Semarang that need to be fixed in education field following the changing of era.
3. Give permit using laptop with control from PMMK and using private security.
4. Use of modem and internet in group to increase studying activity.

REFERENCES

K. Handoko, Teknik Room Air Conditioner, 1996, Jakarta.
Kosasih. Engkos, Mesin Pendingin Dan Air Condition, Jakarta.

http://pakjalpidie.blogspot.com/2013/01/pemanfaatan-internet-sebagai-media.html
http://www.konsistensi.com/2013/01/theori-konsentrasi-belajar.html
https://id.wikipedia.org/wiki/Buku
https://www.academia.edu/4908893/Perbandingan_Antara_Cara_Belajar_Menggunakan_Media_Buku_dengan_Media_Internet_Terhadap_Tingkat_Konsentrasi_Belajar_Siswa
http://www.spssindonesia.com/2015/05/cara-ujj-independent-sample-t-test-dan.html

1 Diakses melalui: http://pakjalpidie.blogspot.com/2013/01/pemanfaatan-internet-sebagai-media.html pada 18 Juni 2013 pukul 13.00 WIB
2 Diakses melalui: http://www.konsistensi.com/2013/01/theori-konsentrasi-belajar.html Pada tanggal 18 Juni 2013 pukul 14.00 WIB
4 Diakses melalui https://id.wikipedia.org/wiki/Buku pada 19 Juni 2013 pukul 20.05 WIB
The Meaning and Function of Naga Raksasa (Giant Dragon) Myth in Hutabolon, Parbaba Village, Samosir Regency, Indonesia

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Abstract: The purpose of this study is to find out the functions and meanings in the daily lives of Hutabolon towards the Naga Raksasa (giant dragon) myth that is believed to be the incarnation of ancestors who preserve the natural preservation of Lake Toba. To achieve this goal, this study uses descriptive approach research with research informances namely indigenous people who live in Hutabolon, Parbaba Village, Panguruan Subdistrict, Samosir Regency, by conducting field observations and conducting unstructured interviews by interviewing key informants because they are considered know the problems that researchers are careful about. The results of the study show that the Naga Raksasa (giant dragon) myth is not an alien thing and is considered to have a function and meaning that is closely related to the daily lives of its people. In terms of his beliefs, as a guardian and protector of the community and told to every visitor and posterity, in order to continue to maintain the attitude around Lake Toba.

Keywords: function; meaning; perception; behavior; Naga Raksasa (Giant Dragon) myth; lake toba.

1. Introduction

Indonesia is a country that is very rich in cultural diversity. This is because Indonesia consists of various ethnic groups where each ethnic group has differences and uniqueness both in terms of regional languages, customs, and various other things that enrich the diversity of Indonesian culture itself. As Taylor's opinion [1] culture is the whole of knowledge, beliefs, art, morals, laws, customs, abilities and other habits acquired by someone. The era of globalization is a development of knowledge and technology that occurs in the world including Indonesia. In the current era of globalization, mastery of technology becomes a prestige and an indicator of a country's progress. The state is said to be advanced if it has a
high technology level, while countries that cannot adapt to technological advances are often referred to as failed countries [2].

One sign of the development of science in Indonesia is that many Indonesians are now able to achieve a high level of education and are supported by better technology, this makes many Indonesians think rationally based on science. The knowledge of the community resulted in people thinking more logically about something and more trusting to go to the police station when they lost something than a shaman or paranormal. This situation shows that culture is not a fixed thing but something that changes. Culture is as attitude and belief, ways of thinking, behaving, and remembering together by the members [3]. Cultural change is the process of shifting, reducing, adding and developing elements in a culture. In simple terms, cultural change is a dynamic that occurs due to collisions between different cultural elements [4].

Cultural changes in society can be characterized by logical thinking that can change beliefs in society in their daily lives. But there is still a lot of public trust regarding the myths of higher power, which encourages people in the modern era to believe in the magical powers that exist in their surroundings, one of which is that many people believe in sacred places and supernatural beings who dwell on the face of the earth. The myths that are believed in the midst of society at this time is something very interesting to study which is still often found in a particular region or region. Because of the many elements of society who still believe in a myth that is considered very influential in everyday life in society.

Various myths that develop among the people around Lake Toba. These myths are still alive and developing in Hutabolon, Parbaba Village, Samosir Regency. These myths include myths about Naga Raksasa (giant dragon) that are in the Lake Toba of Hutabolon, Parbaba village. Since ancient times, Samosir Regency is very well known by the community as a volcanic island in the middle of Lake Toba. Its height is 1,000 meters above sea level. This is what makes Lake Toba a concern for domestic and foreign tourists [5]. The myth of the Naga Raksasa (giant dragon) is a story that developed in Hutabolon area of Parbaba Village, where in this myth involves a giant dragon who is a guardian of the community around Lake Toba. Although this myth is passed down orally for years, the myth is not lost and is still believed in modern times.

The Hutabolon community in Parbaba Village still believes in the existence of a Naga Raksasa (giant dragon) myth that lives inside Lake Toba which is responsible for protecting the ecosystem of the surrounding area as a manifestation of ancestors. As informed, that there is a grandfather and teenagers in coastal Lake Toba see a giant dragon swim calmly in the waters of Lake Toba. Village elders also say, the giant dragon is thousands of years old, male sex. The color is yellowish green, along with more than half the length of the Lake Toba, and the width of more than a quarter of the lake [6].

Every society who believes in the existence of a Naga Rakasasa is of the opinion that the giant dragon is the guardian of Lake Toba which is entrusted by ancestors thousands of years ago. So when crossing Lake Toba is required to maintain the attitude and cooperation if not then the Lake Toba will sink the ship that is not obedient to the rules set by ancestors hundreds of years ago. But there are still many different views of the community about the existence of the Naga Rakasasa figure, some argue that the Naga Rakasasa is frightening when moving and will endanger the people who live on the coast of Lake Toba, if the Naga Rakasasa moves then the Naga Rakasasa will shake all the surface of Lake Toba. As a result of the shock that is too powerful, able to sink the ships that were sailing.

2. Research Methods
This research was conducted in Hutabolon, Parba Village, Panguruan District, Samosir Regency, North Sumatra, Indonesia. This type of research was qualitative research. Qualitative data according to Sugiyono was data in the form of sentences, words, or images. The term qualitative research was intended as a type of research whose findings prioritize processes and were not obtained through statistical procedures or other forms of calculation [7].

To achieve this goal, this study used a descriptive approach research method with informants, namely indigenous people who live there. This research conducted direct observations in the field and conducted interviews directly with informants. Briefly the author had made a summary, namely through the process of collecting data obtained from both interviews, observations, and from other literature. Next the researcher conducted groupings of answers that refer to the focus of the research that had been predetermined, the presentation of data was adjusted to the formulation of the problem in this study. Then the researcher drawn conclusions which were taken of course based on an understanding of the data that had been presented and made in a brief statement and easily understood by referring to the subject matter under study.

3. Results and Discussion

3.1 Naga Raksasa (giant dragon) myth in Hutabolon, Parbaba Village, Samosir Regency

Folklore is an English word. The word is a compound word, which comes from two basic words namely folk and lore. According to Alan Dundes, folk is a group of people who have physical, social, and cultural identifying characteristics, so that they can be distinguished from other groups. Identifying features include tangibility: the same skin color, the same hair shape, the same livelihood, the same language, the same level of education, and the same religion. But even more important is that they have a tradition, a culture that they have inherited from generation to generation which is at least two generations, which they can recognize as common property. Besides that, the most important thing is that they are aware of the identity of their own group [8].

According to Jan Harold Brurivand, folklore is a part of the culture of a collective, which is spread and passed down from generation to generation, among any kind of collective, traditionally in different versions, both in oral form and example accompanied by gestures or reminder aids (mnemonic device) [9].

Myth is part of the grouping of forms of folklore, oral folklore. In the distribution of verbal folklore, there are 6 divisions, one of which is the story of people's prose. According to William R. Bascom, the story of people's prose is divided into three major groups, namely: (1) myth, (2) legend (folkstory), and (3) folktale [10]. This myth of the giant dragon is included in the form of folk prose which is a division of oral folklore. The Naga Raksasa (giant dragon) myth is a concept from the myth itself that originates from oral folklore. The difference between the two is in its own meaning, namely 1) myths have something to be revealed while, 2) legend as something that is considered really happening.

Naga Raksasa (giant dragon) myth is a story that developed in Hutabolon area of Parbaba Village, where in this myth involves a Naga Raksasa (giant dragon) who is a guardian of the community around Lake Toba. The community still believes in the myth of a giant dragon inhabiting the lake of Toba. Even now the KM Sinar Bangun inauguration in mid-June also circulated the story of the dragon guarding the lake. Residents and elders around believe the dragon figure as the embodiment of Samosir, the Toba child who survived when the village
sank, and now there are still many people who cross Lake Toba must maintain their attitudes and ways of speaking.

3.2 Community Perception of Naga Raksasa (Giant Dragon) Myth in Lake Toba in Hutabolon Neighborhood of Parbaba Village, Samosir Regency

The people in the settlements around the village of Parbaba strongly believe in the existence of Naga Raksasa (giant dragon) in the vicinity of Lake Toba and even many people who believe the sinking of KM Sinar Bangun and many boats that sink when crossing the Lake Toba are caused by angry Naga Raksasa (giant dragon) at the bottom of Lake Toba, because the ships that cross do not comply with the existing rules. For the people of Parbaba Village, Naga Raksasa (giant dragon) myth is not a foreign matter and is even attached to the daily lives of its people. For the people of Parbaba Village, Naga Raksasa (giant dragon) myth is not foreign and even sticky with the daily lives of the people.

Understanding the perception of the psychological dictionary is derived from English, perception which means: perception, vision, response; is the process of a person becoming aware of everything in his environment through his senses; or environmental knowledge obtained through the interpretation of sensory data [11]. Factors that influence perception are internal factors: feelings, experience, thinking ability, motivation and frame of reference. While external factors are: the stimulus itself and the state of the environment in which the perception takes place [12] [13]. Based on the results of interviews with the local community that the social groups of the Parbaba community have confidence in the giant dragon myths based on social groups. First is people's perceptions seen in terms of age, research shows that the Parbaba people who believe in the giant dragon myth are old people and citizens native to the village of Parbaba. The second is the public perception seen from gender, namely the Parbaba Society still believes in the giant dragon myth, both men and women. This is according to the statement from Ibu Hutabarat, who is one of the resource persons of the researcher who lives in the village of Parbaba.

Third is public perception seen from the education level. In this case the results of the study show that the people of Parbaba who believe in Naga Raksasa (giant dragon) myth are usually high school graduates. The results of observations by researchers are still many people who are in the neighborhood around the village of Parbaba who have not tasted education to university. So that there are still many people who have not thought rationally about an event that occurred in the environment around them. Fourth, the public perception seen in terms of types of work are people who have jobs as fishermen who are always in the coastal area of Lake Toba. Many fishermen are of the opinion that when they cast nets to catch fish sometimes they get scales like snake scales and very large size and people think that it is Naga Raksasa (giant dragon) scales that reside at the bottom of Lake Toba.

3.3 Functions and Meanings of Naga Raksasa (Giant Dragon) Myth in the Surrounding Community

According to Bascom, myth or myth is a folk prose story, which is considered truly happening and is considered sacred by the owner of the story [14]. According to Malinowski myth is a sacred story that is almost always present in every culture in any society [15]. In accordance with the results of the study, it was found that Naga Raksasa (giant dragon) myth was seen from the belief factor, the community believed the giant dragon myth until now because the community considered that the Naga Raksasa (giant dragon) myth because of the ancestors who were useful for the security of humanity. In the village of Parbaba, the
dominant community is very confident that Naga Raksasa (giant dragon) myth inside Lake Toba is a guardian who acts as a protector.

According to the results of the study, it was concluded that Naga Raksasa (giant dragon) myth was seen from socio-cultural factors, many people still believe in the existence of Naga Raksasa (giant dragon) myth in Hutabolon neighborhood of Parbaba village because it had become a culture for the people of Parbaba and its surroundings. To every visitor and their children and grandchildren to continue to maintain the attitude around Lake Toba.

The existence of Naga Raksasa (giant dragon) myth is very influential on the activities of the people who are around Lake Toba today. Where each visitor arrives around the village of Parbaba, many people give input not to behave strangely and seem negative in the coastal area of Lake Toba especially when crossing Lake Toba. From the amount of advice given by the people around the village of Parbaba, many visitors to the village of Parbaba always maintain their way of speaking and they are always careful in doing things, so that they arrive at their destination safely.

4. Conclusion

For the people of Parbaba Village, now they still believe in Naga Raksasa (giant dragon) myth which is at the bottom of Lake Toba. This perception can be seen in terms of age, which is an elderly community and is a native of the village of Parbaba. Seen from gender, the Parbaba Society still believes in Naga Raksasa (giant dragon) myth, both men and women. Viewed from the level of education, it shows that the people of Parbaba who believe in Naga Raksasa (giant dragon) myth are usually high school graduates who have not tasted education until college, so there are still many people who have not thought rationally about an event that occurred around them. In terms of type of work, people who have jobs as fishermen are always in the coastal area of Lake Toba. The functions and meanings of the myths shape people's attitudes and behavior as individual efforts to maintain the natural environment around Lake Toba. In other words, when there is an individual who damages or pollutes the surrounding environment, then the individual will get reprimand in the form of seeing and feeling large animals near them. This is the impact of community behavior that does not preserve the natural preservation and cleanliness of Lake Toba.

References

Development of Interactive Ebook Media Based on Entrepreneurship in Student Learning in Elementary School

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Abstract: Development of Interactive E Book Based on Entrepreneurship in Elementary School Learning. The purpose of this study: 1). Applying entrepreneurship values to student learning in elementary school. 2). Developing entrepreneurship-based interactive e-book media on student learning in elementary schools. The research methodology uses the Borg and Gill research and development approach, consisting of 10 steps of development, namely research, planning, preliminary product development, preliminary trials, major product revisions, major trials, operational product revisions, operational trials, final product revisions, dissemination and distribution. Data collection methods using observation, interviews and questionnaires. The feasibility of the media is tested by material experts and media experts. Research results: 1). Entrepreneurship-based e-book media theme 5 class 6 Indonesian mupel and Natural Sciences. 2). The results of the assessment of material experts obtained an average score of 84 out of 104 (80.76%) feasible categories, the average media expert score of 60.5 out of 84 (72.02%) in the feasible category. Student responses to the media mean score of 61.86 out of 80 (77.32%) in both categories as learning media.

keywords: Media, E Book, Interactive, Entrepreneurship

1. Introduction

The role of the teacher is needed to support the creation of an atmosphere of teaching and learning that is fun, active and allows children to excel maximally. The teacher acts as a facilitator for students, which means the teacher provides learning resources that are broad and easy for students to use to learn. In accordance with Law No. 14 of 2005 concerning Teachers and Lecturers Article 20 concerning the duties of teachers, namely: a. Plan learning, implement quality learning processes, and assess and evaluate learning outcomes; b. Improve and develop academic qualifications and competencies in a sustainable manner in line with the development of science, technology, and art.

The development of entrepreneurship-based interactive e-book media is a medium that can be used as an alternative source of learning for teachers and students independently in the learning process. According to Ega Rima Wati, (2016: 2-8) states that the media can be interpreted as a tool that acts as a messenger or information to achieve learning objectives.
The development of Science and Technology (Science and Technology) in the substance of teaching materials and learning implementation tools is always changing and developing rapidly. According to Dian Mahsunah et al, (2012: 4) states that this learning process requires teachers to always improve their competence in order to be able to develop and present actual and interesting learning materials using various approaches, methods, and the latest learning technologies. One alternative learning source that is actual and current is entrepreneurial-based interactive e-book media. According to Widodo, (2016: 1) Electronic books (abbreviated as e-books or e-books) or digital books are electronic versions of books that contain digital information which can also be in the form of text or images. In the development of entrepreneurship-based interactive e-book media is the development of learning resources with entrepreneurial values in learning material to get results in the form of entrepreneurial character formation and habituation of entrepreneurial values into the behavior of everyday students through learning processes that take place both inside and outside the classroom on all subjects. In line with that, Putri R and Vicky D W stated that Entrepreneurship Education aims to develop attitudes, souls and the ability to create something of value for oneself and others. Creative, innovative, independent, leadership, good at managing money, and having an unyielding spirit are some of the entrepreneurial attitudes that need to be instilled in children from an early age. According to Endang Mulyani (2011) The implementation of entrepreneurship education starting from PAUD - SMA / SMK, SD / MI / SDLB, SMP / MTs / SMPLB, SMA / MA / SMK / SMALB, is something that does not conflict with national policy points in the education sector contained in the 2010-2014 RPJMN document, which has established as many as 6 core substances the program of action in the education sector is directed towards achieving economic growth supported by harmony between the availability of educated personnel and abilities. In line with this opinion, according to Prawirokusumo (1997) in (Endang Mulyani et al, 2010: 19) states Entrepreneurs are those who make creative and innovative efforts by developing ideas, and gathering resources to find opportunities and improvements (preparation) ) life.

The development of entrepreneurship-based interactive e-book media that was developed was focused on class 6 theme 5 entrepreneurship books on Indonesian Language and Natural Sciences. The material and evaluation are presented in the form of writing, drawing, animation, video and game education. Designed with an attractive and creative appearance. So that children become interested and easily understand the material presented. The teacher needs to direct students through the meaningful learning process that they themselves experience so that they can apply their knowledge in their daily lives. In Act No. 20 of 2003 concerning the National Education System in article 3 states that, national education functions to develop the ability and shape the character and perign of a dignified nation in the context of educating the life of the nation, aiming at developing the potential of students to become human beings who believe and be devoted to God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and become citizens of a democratic and responsible (Citra Umbara, 2017: 6)

To carry out the development of entrepreneurship-based interactive e-book media requires a curriculum as a basis for development. According to Loeloek et al, (2013: 115-126) states that an entrepreneurial vision curriculum is an education curriculum that teaches the willingness and ability of entrepreneurship to learners from sitting in elementary school to integrated universities. into the behavior of everyday students through a learning process that takes place both inside and outside the classroom on all subjects. In line with that, Putri R and Vicky D W stated that Entrepreneurship Education aims to develop attitudes, souls and the ability to create something of value for oneself and others. Creative, innovative, independent,
leadership, good at managing money, and having an unyielding spirit are some of the entrepreneurial attitudes that need to be instilled in children from an early age. But the reality found from research conducted at SDN Sayung Subdistrict, Demak Regency, in teaching and learning activities learning resources used by students are conventional textbooks and the material taught is not integrated with entrepreneurial values. Teaching material delivered by the teacher has not been able to foster student interest and motivation in the learning process. On the other hand, teachers still find it difficult to develop learning resources that are integrated with entrepreneurial values. Therefore, to solve such learning problems it is necessary to strive to develop an entrepreneurial based interactive e-book media in valid learning. Valid based on the needs of students in order to be able to build and compile existing knowledge and skills in themselves to improve student entrepreneurial attitudes.

Based on the above background, the formulation of the problem raised is how are the values of entrepreneurship applied in student learning in elementary schools? how is entrepreneurial-based interactive e-book media used as a learning resource? The research objectives are to apply entrepreneurial values to learning in primary schools and produce interactive entrepreneurship based e-learning media on primary school student learning.

2. Research methods

This research method was developed using a Research and Development (R&D) research design adopted from the Borg and Gall (1998) model. According to Borg and Gall (1998) in (Sugiono, 2016: 28-34) states that research and development is a process / method used to validate and develop products. This research is focused on the research and development of integrated e-books of entrepreneurial values in the learning of Grade 6 students in theme 5. The research and development procedure of the Borg and Gall model includes 10 steps of development namely research and information gathering, planning, preliminary product development, preliminary trials, revision of the product, main, main trial, operational product revision, operational trial, final product revision, and dissemination and distribution. In this study, the ten steps are grouped into four groups. Namely: 1) preliminary stage / needs analysis, 2) design / design of models / products, 3) product testing, and 4) Dissemination.

The product research and testing was conducted at SDN Sriwulan I, III and IV in Sayung Subdistrict, Demak Regency. Sources of data in this study consisted of, (1) material experts; (2) media experts; (3) grade 6 students at Sriwulan I, III and IV SDN. Validation of interactive e-book media is done by the validator, to get a valid interactive e-book media. The validator is determined by purposive sampling, which consists of 3 experts (material experts, media experts and linguists) and 3 6th grade teachers. The instrument used in collecting data was a validity test questionnaire arranged according to a Likert scale (Sugiyono, 2015: 165) that was modified with four alternative answers, namely 1 = less, 2 = enough, 3 = good, 4 = very good. Data analysis by determining the highest score and adding up the scores of each validator. Then provide validity values.

Data analysis in this study uses descriptive quantitative techniques that illustrate the application of entrepreneurial-based interactive e-book media. Quantitative data were obtained from the assessment of the feasibility of the product given to material expert lecturers, media, teachers and students. Data obtained through questionnaires collected were then analyzed with quantitative statistics.
From the results of the above analysis we will get the media validity with the criteria in Table 1.

3. Results and Discussion

Analysis of the data in this study uses quantitative descriptive techniques that illustrate the application of instructional media. Quantitative data were obtained from product feasibility assessments given to material lecturers, media, teachers and students. Data obtained through questionnaires collected were then analyzed with quantitative statistics.

Data of Expert Assessment Results Material feasibility of learning materials on interactive entrepreneurship-based e-book media can be seen from the results of validation by the material experts. In the aspect of design learning get a mean score of 31.5 which is included in the feasible category, in the aspect of content the material gets a mean score of 33.5 which is included in the very feasible category and in the aspect of effectiveness get a mean score of 19 which is included in the feasible category. Overall for the material on the learning media get an average score of 84 included in the feasible category. Can be seen in the following table.

<p>| Table. 2 Results of Expert Validation on Material |</p>
<table>
<thead>
<tr>
<th>Assessment Aspects</th>
<th>Average Scor</th>
<th>Categori</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Design</td>
<td>31,5</td>
<td>Valid</td>
</tr>
<tr>
<td>Fill in the Material</td>
<td>33,5</td>
<td>Very Valid</td>
</tr>
<tr>
<td>Efektifitas</td>
<td>19</td>
<td>Valid</td>
</tr>
<tr>
<td>Total Score</td>
<td>84</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Data analysis by media experts comes from a questionnaire that has been prepared by researchers. The feasibility of learning media on learning media can be seen from the results of validation by media experts. In the aspect of media display, the mean score was 45.5, which was included in the feasible category. In the aspect of software the media get an average score of 15.5 which is included in the feasible category. Overall, the media received an average score of 60.5, which was included in the feasible category. Can be seen in the following table.

<p>| Table. 3 Results and Discussion of Media Experts |</p>
<table>
<thead>
<tr>
<th>Assessment Aspects</th>
<th>Average Scor</th>
<th>Categori</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Display</td>
<td>45,5</td>
<td>Valid</td>
</tr>
<tr>
<td>Media Software</td>
<td>15</td>
<td>Valid</td>
</tr>
<tr>
<td>Total Score</td>
<td>60,5</td>
<td>Valid</td>
</tr>
</tbody>
</table>
Analysis of user data or respondents comes from a questionnaire that has been distributed to students include: Student assessment data on aspects of the content of the material that is in the very feasible category by 34.30% and the proper category by 65.70%. Student assessment data on aspects of media effectiveness in the very feasible category was 74.30% and the proper category was 25.70%. Student assessment data on the aspect of media display that is in the very feasible category at 8.60% and the feasible category at 91.40%. Data of student assessment results covering aspects of the content of the material get an average of 18.9 good categories. In the instructional quality aspect, the average score was 10.37 which was included in the excellent category. In the aspect of media display, the average score of 20.1 is in the good category. In the aspect of media software, the average is 12.51 which is included in both categories. Overall based on the users get a mean of 61,857 by including in either category.

<table>
<thead>
<tr>
<th>Aspek</th>
<th>Rerata Skor</th>
<th>Kategori</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fill in the Material</td>
<td>18.9</td>
<td>Good</td>
</tr>
<tr>
<td>Quality</td>
<td>10.37</td>
<td>Very Good</td>
</tr>
<tr>
<td>Instructional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media Display</td>
<td>20.1</td>
<td>Good</td>
</tr>
<tr>
<td>Software</td>
<td>12.51</td>
<td>Good</td>
</tr>
<tr>
<td>Media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>61.45</td>
<td>Good</td>
</tr>
</tbody>
</table>

Overall respondents' assessment results covering aspects of the content of the material get an average of 18.9 good categories. In the instructional quality aspect, the average score was 10.37 which was included in the excellent category. In the aspect of media display, the average score of 20.1 is in the good category. In the aspect of media software, the average is 12.51 which is included in both categories. Overall based on the users get a mean of 61,857 by including in either category.

4. Conclusions and recommendations

Based on the results of research and discussion on the development of entrepreneurship-based interactive e-book media on primary school student learning, conclusions can be drawn as follows:
1) Development of entrepreneurship-based interactive e-book media on elementary school student learning includes:
   a. The development of this entrepreneurship-based interactive e-book media uses the Brog and Gill method in 4 stages (preliminary / needs analysis, model / product design / product design, product testing, and dissemination)
b. Development of an entrepreneurial-based interactive e-book media focused on teaching materials in class 6 theme 5 entrepreneurship on Indonesian language and science learning content.

c. Development of an interactive entrepreneurship based e-book media in the form of text, images, animations, sounds, videos, and interactive games.

2) The results of the expert assessment of the material aspects of learning design, content, effectiveness of the media get an average score of 84 including categories suitable for use as learning media. The results of the media expert assessment aspects of media display and media software mean score of 60.5 included in the category suitable for use as learning media. Response of students' assessment of learning media aspects of the content, media effectiveness, media display and media software mean score of 61.857 included in both categories.

5. Suggestion

Suggestions from media experts, material experts and respondents stated that the development is not only on two subjects, but includes all subjects. In accordance with learning in elementary schools, namely thematic.

References


The Influence of Think Talk Write Model Implementation in Learning Theme Always Saving Energy

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Abstract. The research to determine the implementation of TTW model that has an impact in improving the quality of learning theme always save energy. This research is a quasi-experimental study with a population of fourth grade primary school students in the Sultan Agung Cluster and the research sample uses purposive sampling technique. Analysis of the data obtained using the t-test sig (2-tailed) is smaller than α = 0.05 (0.000<0.05) so, Ha= accepted and Ho= rejected. The result of the research concluded that the application of the TTW model has an effect in improve the quality of learning theme always save energy based on the acquisition of pretest and posttest scores from the experimental and control classes. Improved the quality of learning getting score 0.450 in the experimental class with medium interpretation and 0.253 in the control class with low interpretation.

Keywords: Think Talk Write Model, Learning Quality.

1. INTRODUCTION

The 2013 curriculum is a combination of several subjects shortened in a theme in the implementation of learning. The integration of several subjects intergrated in the theme has the effectiveness in changing, improving, and balancing the ability to think and act harmonized into three competencies, namely attitudes, skills, and knowledge (Murthia, 2017) [1]. The 2013 curriculum has a learning approach called interactive thematic learning approach. Integrative thematic learning in the 2013 curriculum is learning that emphasizes student involvement in the learning process and direct student to be active in the learning process (Murtono, 2017: 176) [2]. The application of interactive thematic learning that is appropriate and in accordance with its proportions, can train student to gain direct experience in solving problems independently or individually from a variety of knowledge that has been learned. But in reality, the quality of interactive thematic learning in primary school is not optimal. There are still some students who are passive in implementing learning, afraid to express opinion, argue, and provide comment on a problem given by the teacher in the classroom. Student prefer to equate opinions with friend and other group and, less confident with each
personal opinion when solving problem either in group, discussions, or independently. In addition, students with high abilities dominate learning and dare to express fearless opinions compared to students with medium and low abilities. Discrimination and not optimal implementation of thematic learning can have an impact on the low quality of learning. The low quality of learning is caused by the application of indicators of learning quality that have not been applied optimally to the process of teaching and learning activities. The application of indicators of the quality of learning is used as a benchmark to determine the direction and objectives of learning to be quality. The reference of achieving optimal learning quality can be seen from the improvement of students mindset, student activities, teacher teaching skills, student learning outcomes, and all teaching components related to the teaching and learning process. A quality teaching component gives a good effect on students so that, independently and in groups can solve problems related to the surrounding environment.

Agree with the Depdiknas about the definition of operational learning quality, the quality of learning has a close relationship with the teaching component including teacher, student, curriculum, teaching material, facilities and infrastructure, as well as the learning system in producing a process that has an impact on optimal learning outcome and is appropriate application of existing curriculum objectives (Depdiknas, 2004) [3]. The quality of learning theme two (Always Saving Energy) in primary school is low. Found a problem of lack of optimal quality of learning theme two (Always Saving Energy) in the Sultan Agung Cluster of Mejobo District fourth grade on the content of learning Indonesia Language and Natural Science has a low average. The results of the pre-research conducted on Agustus 1, 2019 in theme two (Always Saving Energy) of low quality can be seen in the following table.

Table 1. Student Pre-Research Results Theme II

<table>
<thead>
<tr>
<th>No</th>
<th>School Name</th>
<th>Average</th>
<th>KKM</th>
<th>The Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SD N 5 Mejobo</td>
<td>63.2</td>
<td>70</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>SD IT AL-Kausar</td>
<td>62.5</td>
<td>70</td>
<td>20</td>
</tr>
</tbody>
</table>

[Source: Students Pre-Research Results, 2019]

Based on observations on August 1, 2019, the problem of the low quality of learning the theme two (Always Saving Energy) is caused by two factors, namely internal factors and external factors. Internal factors that influence the low quality of learning are students feel difficulties and are not accustomed to description opinions both verbally and in writing, if faced with questions in the form of description. This can make it possible for some students to answer in the same language in describing the opinions of students with one another so that, it can be concluded that students are easily influenced by other peoples answers without thinking about the consequences of the truth. The second factor is that external factors are the most dominating factor and effect the low quality of student learning derived from teaching patterns and teacher learning in the classroom.

The pattern of teaching and learning carried out by the teacher in the process of teaching and learning activities, have not implemented model and method of learning that are effective in improving the quality of learning. Although it has implemented a collaborative learning method with peer tutor, in its application it has not been able to improve the quality of learning. Solution to overcome the problem of lack of quality learning in the Sultan Agung Cluster of Mejobo District by applying an innovative learning model that is adapted to the material and characteristic of student at school. Think talk write learning model can provide opportunities to improve the quality of learning and develop student thinking abilities to be improved individually or in group. In addition, the stages of the learning activities of the think
The learning model think talk write is a cooperative learning model that has stages of learning activities by way of thinking, speaking and writing that can make an impact in creating an atmosphere of learning fun, meaningful, social, democracy, enhance the activity of students in learning, increase participation and interest in learning, and improve students understanding and memory (Ardiansyah, 2013; Supraptinah, 2013) [4]. The result of the application of the TTW (Think Talk Write) model can have an influence in improving the quality of social studies learning in fourth grade primary school. Based on the results of the influence test data using the t-test obtained sig. 2-tailed <α (0.000<0.05), it can be concluded that Ha is accepted and Ho is rejected. Based on the data, proving that there is an influence of the use the TTW model in improving the quality of learning by increasing the quality of learning by 0.29 in low control category and 0.59 in the experimental class with a medium category so that the application of the TTW model can provide benefits in improving the quality learning, able to invite student to be able like learning, explore student thoughts, express the result of thought, and make an impact on positive activities in learning (Nurlindasari and Mulyani, 2018; Yazid, 2012: 32) [5]. Based on the explanation of the research objectives, the title of the research was taken entitled “The Influenced of Think Talk Write Model in Learning Theme Always Saving Energy”.

2. METHOD

This type of research is an experiment using a quasi experimental research design. Quasi experimental design is a research design that is used because researchers find it difficult to tightly control the entry of variables originating form outside even though they already have a dick group whereas, the design from is a non-equivalent control group design. Non-equivalent control group design has similarities with the pretest-posttest control design only, the difference lies in the taking of the experimental group and the control group that is not randoms selected for the non-equivalent control group design. The description of the research design used is as follow (Sugiyono, 2015: 116) [6].

![Fig 1. Research Design Non-equivalent Control Group Design](image)

Description:

- O1 = Experiment Group Pretest
- X = Treatment of TTW Learning Model
- O2 = Experiment Group Posttest
- O3 = Pretest Control Group
- O4 = Posttest Control Group

Experimental research was carried out in the fourth grade primary school of the Sultan Agung Cluster, Education and Youth Departement of Sport, Mejobo District. The research aims to determine the implementation of the TTW model influential in improving the quality of learning theme II in fourth grade by focusing on taking the contents of learning Indonesia Language and Natural Sciences. The study population was all fourth grade students of the
Sultan Agung Cluster, the sampling used a purposive sampling technique and two classes were used as research. Before selecting control and experiment classes, the data were tested for average similarity to find out the initial conditions of the two classes were not much different so, obtained class selection namely SD 5 Mejobo as an experimental class totaling twenty students and SD IT Al-Kausar as a control class that there are twenty students. The researcher divided the research procedure into three stages including preparation, implementation and reporting. The research variables consist of independent, control, and dependent variables. The independent variable in the research is the think talk write learning model. The dependent variable in the research is the quality of learning theme II (Always Saving Energy). The control variables in the research are in the form of learning material, pretest and posttest question sheets, and the use of learning models.

Data collection techniques using test and documentation. The validity used in the research is the validity of expert judgment. The validity stage is carried out in three stages including (a) the researcher submits the validation sheet and the instrument to be used in the research to the validator, (b) the validator conducts the content validation of the test instrument, and (c) the validator states the instrument is valid then the instrument meet the content validation, and the instrument said valid if the assessment indicator meet the minimum value is quite valid (Azwar, 2017: 112) [7]. Data analysis in testing hypotheses in the research of the effect of implementing think talk write model in improving the quality of learning theme II (Always Save Energy) through prerequisite test including average similarity test, normality test, homogeneity test, hypothesis test, and N-gain test (Siregar, 2018) [8].

3. RESULTS AND DISCUSSION

The process of data acquisition was done by giving a test twice in the experimental and control classes in the form of pretest and posttest. Pretest was given to students to know the initial ability of learning quality of theme II whereas, posttest was given to know the quality of learning after treatment was given. Measurement of students initial abilities was done by t-test (independent test). The following table shows the results of the average similarity of two classes pretest.

<table>
<thead>
<tr>
<th>Table 2. Average Similarity Test Result for Independent Sampel Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene's Test for Equality of Variances</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Equal variances assumed</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
</tr>
</tbody>
</table>

The results of the average similarity test using the t-test on results of students pretest scores showed that the quality of early learning in the control class an in the experimental class was relative same. Based on the results of statistical calculations the average value of the experimental and control classes obtained t-count of 0.288 and, the acquisition df n – 2 = 40 –
2 = 38 and sig (2 tailed) of 0.775. The results of the significance level in the sig (2-tailed) t-test table above, amounting to sig 0.775 > α = 0.005 then, in accordance with the provisions of sig > α conclude that Ha is accepted so, there is no difference in the average of the two classes so that it can be said to be two class experiment and control have the same initial ability. Furthermore, the results of the differences in pretest and posttest before and after the action of obtaining the data in the experimental and control classes are described in the table.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test Eksperimental</td>
<td>20</td>
<td>46</td>
<td>78</td>
<td>64.90</td>
<td>9.657</td>
</tr>
<tr>
<td>Post-Test Eksperimental</td>
<td>20</td>
<td>64</td>
<td>94</td>
<td>80.70</td>
<td>8.591</td>
</tr>
<tr>
<td>Pre-Test Control</td>
<td>20</td>
<td>46</td>
<td>78</td>
<td>64.00</td>
<td>10.073</td>
</tr>
<tr>
<td>Post-Test Control</td>
<td>20</td>
<td>58</td>
<td>88</td>
<td>73.10</td>
<td>8.885</td>
</tr>
</tbody>
</table>

Based on table 3 the experimental class pretest results obtained an average value of 64.90 with a minimum value of 46 and a maximum of 78 as well as, posttest value of the experimental class obtained an average value 80.70 with a minimum value of 64.00 with a minimum value of 46 and 78 whereas, the posttest value of the control class obtained an average of 73.10 with a minimum value of 58 and a maximum of 88. Based on the description analysis table shows that there is an increase in the average quality of student learning on theme II between the two classes. The improving learning quality can be seen from the average pretest and posttest results of the control class and the experimental class. The improving learning quality in the experimental class is higher that the control class. Improving the quality of learning is illustrated through a comparison diagram of the results of the pretest and posttest in the experimental and control classes.

Fig 2. Comparison Diagram of Pretest dan Posttest Results

The results of the pretest in the control class obtained an average value of 64.00 and the posttest of the control class obtained an average of 73.10. From the of the pretest and posttest the control class experienced an average increase of 9.1. In the experimental class obtained an average pretest score of 64.90 and posttest obtained an average of 80.70. In the experimental class an average increase of 15.8. Futhermore, the results of the pretest and posttest data were tested for normality. Normality test is used to find out whether data is normally distributed or not. Testing of normally distributed data is done by the kolmogrove-smirnov and shapiro-wilk. Data is normally distribute if it significance > 0.05 but, if the data is significance < 0.05 then
the data is not normally distributed. Testing data using parametric statistics with the help of SPSS version 23.0. The normality data test results are explained in the following table.

### Table 4. Normality Test Analysis Results

<table>
<thead>
<tr>
<th>Kelas</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Pre-Test Experimental (TTW)</td>
<td>.151</td>
<td>20</td>
</tr>
<tr>
<td>Post-Test Experimental (TTW)</td>
<td>.100</td>
<td>20</td>
</tr>
<tr>
<td>Pre-Test Control (Convensional)</td>
<td>.174</td>
<td>20</td>
</tr>
<tr>
<td>Post-Test Control (Convensional)</td>
<td>.131</td>
<td>20</td>
</tr>
</tbody>
</table>

The results of the pretest and posttest normality tests of the experimental class obtained sig 0.200 in the kolmogrov-smirnov whereas in the shapiro-wilk they obtained sig 0.230 for the pretest and 0.745 form the posttest. In the control class normality test using kolmogrov-smirnov in pretest and posttest obtained sig of 0.113 and 0.200 while in the shapiro-wilk test obtained sig 0.127 and 0.387. Based on the provisions of the pretest and posttest results of the experimental and control classes in the normality test it appears that the results of the kolmogrov-smirnov and shapiro-wilk test obtained significance value > 0.05 so, it was concluded that the data of the two classes were normality distributed. After the data is normally distributed homogeneity test is performed. Homogeneity test is used to find out homogeneous data or not. Homogeneity test using SPSS 23.0 with levene test.

### Table 5. Pretest Homogeneity Test Results

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.165</td>
<td>1</td>
<td>38</td>
<td>.687</td>
</tr>
</tbody>
</table>

Based on table 5 explains that the homogeneity test results of pretest data obtained 0.687 significance. Obtaining a significance results of 0.687 explains that the pretest question data in the control and experimental groups have identical or homogeneous variants. In addition to homogeneity tests on pretest data, homogeneity tests can be performed on posttest data. The results of homogeneity data analysis in the posttest data are explained in the following table.

### Table 6. Posttest Homogeneity The Results

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.318</td>
<td>1</td>
<td>38</td>
<td>.576</td>
</tr>
</tbody>
</table>

In the results of table 6 the homogeneity test results of the posttest data of the experimental and control classes show the significance results of 0.567. Based on the acquisition of sig in the posttest concluded the data have identical or homogeneous variants with the provisions of sig > α = 0.05. Hypothesis testing is used to determine the effect of the implementation of the TTW model in improving the quality of learning tested with the t-test formula. The basis for decision making on the t-test has provision that if the data is significant the Ha is accepted and Ho is rejected with the results of the hypothesis test there is an effect of implementation of the TTW model in improving the quality of learning theme II. Conversely, if the data are not significant, Ha is rejected and Ho is accepted, the results of hypothesis test conclude that there is no significant effect on the implementation of the TTW model in improving the quality of learning theme II. T-test test data processing is performed with the help of SPSS program version 23.0. The following table tests the results of hypothesis testing using pairet sample test
### Table 7. Results of T-test Test Analysis

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Paired Differences</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>95% Confidence Interval of the Difference</td>
<td>Lower</td>
</tr>
<tr>
<td>Pre-Test Experimen - Post-Test Experimen</td>
<td>15.80</td>
<td>10.360</td>
<td>2.317</td>
<td>-20.649</td>
</tr>
<tr>
<td>Pre-Test Control - Post-Test Control</td>
<td>9.100</td>
<td>7.269</td>
<td>1.625</td>
<td>-12.502</td>
</tr>
</tbody>
</table>

Based on the t-test results obtained a significant level in pair 1 of 0.000 and pair 2 of 0.000. From both pair 1 and pair 2 analyzes the results of sig 2-tailed is smaller than \( \alpha (0.000<0.05) \) so it can be concluded that there are differences in the average value between the two classes. Based on the results of pair 1 which is used as a hypothesis test, it explains that the results of sig 2-tailed is 0.000 < \( \alpha = 0.05 \). The results of the hypothesis test data using the t-test can be said that based on the results of sig 2-tailed pair 1 concludes that the data is significant then \( H_a \) is accepted and \( H_0 \) is rejected. The results of improving quality of learning theme II in control and experimental classes can be seen based on the normalized gain test. The table of N-gain test results is explained below.

### Table 8. Pretest dan Posttest N-gain Test Results

<table>
<thead>
<tr>
<th>Kelas</th>
<th>Average</th>
<th>N-gain</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
</tr>
<tr>
<td>Control Class</td>
<td>64,00</td>
<td>73,10</td>
<td>0,25</td>
</tr>
<tr>
<td>Experimental Class</td>
<td>64,90</td>
<td>80,70</td>
<td>0,45</td>
</tr>
</tbody>
</table>

The gain test results in table 8 explain that control class obtained 0.25 in the low category, with the gain score in the control class less than 0.30 referring to the N-gain category table according to Hake (0.25 < 0.30). In the experimental class the gain results are 0.45 in the medium category, with the experimental class gain results more than 0.30 referring to the N-gain category table according to Hake (0.45 > 0.30). Based on the results of the gain test it was concluded that there were differences in the quality of learning theme II on the experimental and control classes. Improving the quality of learning theme II between the experimental and control classes is higher than the experimental class control class. Based on the pretest and posttest data test in the experimental class with the implementation of the TTW model in its implementation it is more effective to improve the quality of learning. More details about improving the quality of learning are illustrated in the following diagram.
Fig 3. Diagram of Quality Improvement of Learning Theme II

Data analysis about the effect of implementing the TTW model in improving the quality of learning theme II is explained in table 7 using t-test test calculation. Based on the results of the t-test is known that the significance level of 0.000 is smaller than $\alpha = 0.05$ with the conclusion $H_a = $ accepted and $H_0 = $ rejected. In addition, it supported by the result of the average difference between the experimental and control classes. In experimental class the average pretest was 64.90 and the posttest 80.70 whereas, in the control class the average pretest was 64.00 and the posttest was 73.10. From the data it can be seen that there are different treatments from the two classes that make a difference in the average quality of learning outcome of theme II fourth grade students of the Sultan Agung Cluster. Different treatments can be seen in the use of learning model between conventional model and TTW model. Based on the analysis of influence test data, concluded that there is a significant influence of the use of models in improving the quality of learning on theme II between the use of the TTW model and conventional model. The use of the TTW learning model has a more significant influence in improving the quality of learning. Test for improving the quality of learning theme II fourth grade students can be calculated using the normalized gain test ($N$-gain). Based on the results of the gain test shows that the quality of learning has increased both in the experimental control classes. However, more effective increase in learning theme II was seen from the results of the gain test in the experimental class. The results of the $N$-gain test in the experimental class amounted to 0.45 in medium category whereas, in the control class it was 0.25 in low category. Although the control class has improved the quality, seen from the average results of the increase in the pretest and posttest value of 64.00 and 73.10 however, the gain test results in the control class cannot be categorized that the control class has improved the quality if learning theme II based on the assessment the category table according to Hake. Therefore based on the results of data analysis, the use of the TTW model implemented in the experimental class is better able to improve the quality of learning theme II (Always Save Energy). Strengthened by the opinions of Suprijono about the advantages of using the think talk write model is able to develop problem solving skills, develop thinking skills, foster students interest with student (Suprijono, 2012: 215) [9].

Improving the quality of learning theme II using the TTW model is more effective and is able to have a significant impact on learning. In the experimental class the learning activities are carried out optimally so that, it effects the increase in students mindset to further develop the ability to think, communicate, and interact between friends, teacher, and group. The improvement in students mindset is seen when applying the stage of the TTW learning model
implemented in experimental activities. The first stage of thinking the activities undertaken are students analyzing the problems contained in the worksheet through reading information. Then, students write important points in the reading using small notes related to the problems that exist in worksheet. The second stage talks about the activities the teacher gives the assignment and students formulating the results of group answers, group presentations, making conclusions and reflecting on activities. From the application of the stages of the TTW learning model in the experimental class, giving an impact to students to be more active in participating in learning, there are no gaps in learning, students can interact well in one group to exchange information, and all students are enthusiastic to answer questions from the teacher without feeling afraid of being wrong.

The implementation of learning in the experimental class using the TTW model is very helpful for improving the quality of student learning on theme II. Problems related to discrimination in learning can be minimized and student learning opportunities are average without distinguishing high, medium, and low ability students. All students are given the opportunity to express their opinions based on the results of their thoughts through writing and orally. This can trigger the enthusiasm of students in accepting learning and competing to find the right solution of the problems that have been discussed. In the implementation of learning in the control class, experienced many differences compared to the implementation of learning in the experimental class. In the control class the learning process has not been able to make students active, there are still students who are silent and do not pay attention to the teacher in learning, fear of answering questions from the teacher, and discrimination of students learning abilities seen between high, medium, and low ability students. Although the teacher has mastered the material well and applied the learning method, but in its implementation there are still many students who are indifferent in participating in learning. This can trigger the learning process to become monotonous and passive because, students who have high abilities dominate much learning compared to student who have medium and low abilities. Seeing the difference between the use of TTW and conventional learning model, the quality of learning will increase if several indicators of learning quality are optimally applied in the learning process. The implementation of improving the quality of learning using data TTW model has a great influence in improving learning theme II.

Supported by the results of previous studies, the application of the TTW model has an effect on improving the quality of learning as evidenced by the average learning outcomes of experimental class students higher than the average learning outcome in the control class that uses conventional learning model. As much as 54.25 in the first research experimental class and 40.07 in the control class in the first research explained that, the TTW learning model has an influence in improving the quality of learning seen from the indicator of the difference in average learning outcomes of the two classes in the first study. Learning increases with a significance level of less than 5% and an average of 47.12 in the second research control class and 92.12 in the experimental class in the second research then, the application of the TTW model has advantages in developing the ability to analyze, ask and answer, write, and able to encourage students to think individually and in groups (Arisa, 2015; Rizal, 2018; Yanuarta, 2014) [10].

4. CONCLUSION

Based on the results of the 2-tailed significance t-test of 0.000 < 0.05, it was concluded that there was a significant influence on the implementation of the TTW model in improving the quality of learning theme always saving energy in the fourth grade of the Sultan Agung
Cluster. In the implementation of learning the experimental class learning activities carried out can influence the improvement of students' mindset to further develop the ability to think, communicate, and interact between friends, teachers, and groups. Improved learning quality can be seen from the results of the N-gain test of 0.45 in the experimental class with medium interpretation and 0.25 in the control class with low interpretation. Therefore, the implementation of the use of the TTW model in teaching and learning activities has an effect on improving the quality of learning seen from the average results of student learning differences. In the experimental class of 64.90 the results of the pretest and posttest amounted to 80.70 while, in the control class of 64.00 in the pretest and 73.10 in the posttest.

REFERENCES

Development of Thematic Learning Materials Based on Jepara's Local Wisdom on the Theme “Daerah Tempat Tinggalku” for Grade 4 Students of Primary Schools

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Abstract: This study aims to describe the analysis of the needs of teachers and students of teaching materials, describe the process of developing thematic teaching materials based on Jepara local wisdom, and test the effectiveness of the teaching materials developed. This research was conducted in Semai Elementary School, SDN 1 Kecapi, SDN 2 Senenan, SDN 3 Senenan, SDN 5 Kecapi as the experimental group and SDN 1 Senenan, SDN 2 Kecapi, SDN 4 Kecapi, SDN 6 Kecapi, and SDN 7 Kecapi as a control group in Jepara Regency. The method of research and development of these thematic teaching materials using the Borg & Gall model includes the preliminary study phase, planning, developing the initial draft of the product, expert testing, revision of expert test results, limited trials, improvement of limited trials. The results of expert validation from aspects of the content and language aspects obtained a score of 91 on average 3.64 percent 91% with very good categories. The results of the validation from the media aspect scored 54 on average 3.6 percent 90% with very good categories. The results of testing the effectiveness of teaching materials based on local wisdom of Jepara Regency were obtained from the results of the t test in the experimental group and the control group namely 11,036> 1.969, so Ho was rejected and Ha was accepted. Based on the results of validation, teacher and student responses and t-test, it can be concluded that the development of local wisdom-based teaching materials in Jepara is effective and suitable for use in learning.

Keywords: Teaching Materials, Thematic Learning, Local Wisdom

1. Introduction

Modern civilization with the Industrial Revolution 4.0 or millennial era is experiencing various developments. His various attractions and propaganda must be responded critically especially to the increasingly widespread hate speech or hoax news that can anesthetize a person so that he forgets his identity and identity as an Indonesian nation. The edges are the erosion of the values of local wisdom and regional culture. According to Mungmachon (2012) the existence of outside influences that enter and then spread within the community makes the values of local wisdom and regional culture fade and can cause many hard environmental and social problems.

In line with the opinion of Hidayati (2016) which states that the fading of local wisdom has caused a shift in behavior and culture among the people. This makes the importance of strengthening local wisdom for the people of Indonesia. Strengthening local wisdom is a buffer against the development of the industrial revolution 4.0. Because it will function as a
weapon in responding and answering the currents of the times. Local wisdom is scholarship of the wealth of an area in the form of knowledge, beliefs, norms, customs, culture, insights and so on which are inherited and maintained as an identity and guidance in teaching us to act appropriately in life (Utari, 2016).
One example of a region where local wisdom needs to be maintained as a city identity is Jepara. The area known as the carving city began to experience a grave regeneration crisis. This has an impact on the existence of the wisdom of carving culture which became a superior potential began to be eroded by the times (Saidah, 2017). This phenomenon has occurred, making educational institutions feel lost space. Education should have an important role in determining the change and development of the way of thinking of society, especially for the development of the nation and state.

As the birthplace of R.A Kartini, education in Jepara should have more value and quality, so that it can produce a golden generation that is superior, skilled, characterized and able to preserve and preserve local wisdom from the legacy of its predecessors such as Ratu Kalinyamat, Ratu Shima and R.A.Kartini. The three female figures are pioneers who have made Jepara a prosperous, strong, and well-known area for its carving to foreign countries.

One way that can be taken to preserve and preserve the local wisdom of an area is by implementing education based on local wisdom. Local wisdom-based education means education that teaches students to stay close to the concrete situations they face everyday. According to Setiawan (2008: 30) education based on local wisdom (local wisdom) makes someone feel optimistic about the creation of education that is able to provide spirit and meaning for human life in Indonesia.

Education problems so far are the sources and teaching materials related to local culture are still minimal (Oktavianti et al, 2017). This is consistent with information obtained on January 5, 2019 from the results of interviews conducted with the fourth grade teachers of Semai Elementary School, SD Negeri 2 Senenan, SD Negeri 3 Senenan, SD Negeri 1 Kecapi, and SD Negeri 5 Kecapi that schools do not have specific guidelines (teaching materials) in delivering material related to the preservation of Jepara's local wisdom. While teaching materials used in learning are still general in nature, there is no local wisdom content in the area where students live.

According to the results of Muktadir's research (2017) the existence of cultural similarities taught by teachers, will accelerate students' understanding of the material presented and learning to be effective. Therefore in schools there needs to be lessons that contain material based on local wisdom to prevent the loss of local wisdom of an area. Local wisdom as one thing that needs to be preserved so as not to become extinct. According to Kasa (2011) "the important of local wisdom must also be considered as one of supporting efforts of decreasingly natural environment". This means that the importance of local wisdom must also be considered as an effort to support the natural environment which is declining naturally.

In accordance with the results of the study (Tanjug and Fahmi, 2016) which state that the implementation of the 2013 curriculum implies learning by raising local wisdom as material that needs to be developed, the researcher intends to develop thematic teaching materials based on local wisdom in Jepara Regency in fourth grade students in elementary schools as a solution the problems that have been described

2. Methodology

The research was carried out at SD Semai (20 students), SDN 1 Kecapi (28 students), SDN 2 Senenan (35 students), SDN 3 Senenan (26 students), SDN 5 Kecapi (23 students) as the experimental group and SDN 1 Senenan (25 students), Kecapi 2 SDN (28 students), Kecapi 4 SDN (30 students), Kecapi 6 SDN (28 students), and Kecapi 7 SDN (11 students) as a control group in the Annual District of Jepara Regency.

The research and development method of this thematic teaching material uses the Borg & Gall model which includes preliminary study stages, planning, initial product draft development, expert testing, revised expert test results, limited trials, refinement of limited trials (Sugiyono, 2016: 35). This teaching material is in the form of a teacher's book and a
learning cd that contains a local wisdom video in Jepara Regency which is validated by expert judgment.

Data collection instruments used in this study were observation sheets, open interview guidelines, expert validation sheets, teacher response questionnaires, test questions sheets and documents. The test instrument for evaluating learning outcomes in this study, before being tested on students, the feasibility test will be tested first by looking at the validity, reliability, difficulty level and distinguishing features of the questions.

The test results of the test instruments showed that 30 items were valid with sufficient, good, and very good validity. The instruments tested have high reliability criteria in the amount of 0.657 and r table in the amount of 0.266. So it can be concluded that r count> r table is declared reliable. Based on the results of the test of distinguishing power about the matter obtained by distinguishing power 30 items with very good criteria. In addition, the test instruments tested also had an easy and medium difficulty level.

Data obtained in this study were analyzed using qualitative and quantitative analysis. Data analyzed included need analysis data, the feasibility of teaching materials and the effectiveness of teaching materials. Data from observations, interviews, and questionnaires as a needs analysis for the development of teaching materials were analyzed using qualitative data analysis techniques based on the opinion of Miles and Huberman (2014: 12-14) which included 3 stages, namely data condensation (data condensation), data display (data presentation), conclusion drawing / verification (drawing conclusions / verification).

Data on the feasibility of thematic teaching materials based on Jepara's local wisdom was obtained from expert validation, questionnaire responses from teachers and students in the form of quantitative data. Quantitative data is then converted into qualitative data. The total score obtained is then converted into a scale of four with the following categories:

<table>
<thead>
<tr>
<th>Conversion Value</th>
<th>Classification</th>
</tr>
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<tbody>
<tr>
<td>81% - 100%</td>
<td>Very good</td>
</tr>
<tr>
<td>61%-80%</td>
<td>Well</td>
</tr>
<tr>
<td>41% - 60%</td>
<td>Enough</td>
</tr>
<tr>
<td>0%-40%</td>
<td>Less</td>
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</tbody>
</table>

Assessment is said to meet the criteria if the minimal category achieved is good. An analysis of the effectiveness of Jepara's local wisdom-based thematic teaching materials was carried out using a t-test.

3. Results and Discussion

The initial stage of this research and development is an analysis of the need for teaching materials conducted by observation and interviews with fourth grade students of elementary schools, observations and interviews with fourth grade teachers of elementary schools, and questionnaires given to fourth grade elementary school teachers and dabin 2 Annual Districts of Jepara Regency. Observations, interviews and questionnaires were carried out on November 4-6, 2018, January 5-8, 2019.

Based on data needs obtained from observations in five schools, Semai Elementary School an average of 2.47, SD Negeri 1 Kecapi an average of 2.39, SD Negeri 2 Senenan an average of 2.45, SD Negeri 3 Senenan on average 2.43, and Kecapi Public Elementary School 5 an average of 2.4. So it can be concluded that the average of the five schools scored less than 3 with enough categories.

Overall from the results of observations and interviews with students during thematic learning in class shows the attitude of students who have not been able to actively participate in learning because the material learned is a new thing that has never been known. Students also rarely get contextual material according to the local wisdom of the area where they live. The material taught is in accordance with the material in student
books, worksheets, or Bupena which makes students still experience a little difficulty in understanding it. This is because the material is far from where students live.

Whereas ideal learning is characterized by its nature which emphasizes the process of empowering students actively, the learning process that provides meaningful understanding, and can be learning outcomes can be applied in everyday life. This is in line with what was stated by Suyitno et al (2015) that meaningful learning can be created through learning based on local wisdom. By utilizing the potential of local wisdom in the neighborhood where students live, the benefits of learning can be more felt, because the results of learning can be applied in everyday life.

For the results observations of teacher needs for thematic teaching materials obtained results from five schools namely SD Semai an average of 2.86, SD Negeri 1 Kecapi an average of 2.28, SD Negeri 2 Senenan an average of 2.57, SD Negeri 3 Senenan an average of 2.43, and SD Negeri 5 Kecapi an average of 2.28. From these data it can be concluded that the average of the five schools scored less than 3 with enough categories. The results of the observation were strengthened by interviews with teachers that in carrying out thematic learning in schools still need a guide book containing complete material accompanied by strategies and methods that are able to create active and enjoyable learning. In addition, the material presented is also able to stimulate students to ask questions and give opinions. One stimulus that can be given is to link material to the local wisdom of the area where students live, because local wisdom of the region is concrete, close to students, and that students have seen before.

This is supported by the opinion of Shufa (2018) which states that learning based on local wisdom is very important to be applied by teachers in learning that is useful for increasing students' knowledge and understanding. According to Northcote, et al (2014) the integration of local cultural values in curriculum development such as setting learning objectives, designing teaching materials, determining learning strategies, learning media, and evaluating learning are important for quality of learning.

The results of the teacher's questionnaire, the results obtained that the teacher needs teaching materials based on local wisdom Jepara. The existence of teaching material that contains many interesting learning methods and contextual material in accordance with the area where students live and school environment is located, because it will facilitate students in understanding learning material. In addition, the display of teaching materials uses many colors to make it interesting, comic sans writing for easy reading and font size 12. Jepara's local wisdom-based teaching materials are also accompanied by cultural videos around Jepara.

Judging from the results of the needs of students and teachers, an effort was made to develop teaching materials based on local wisdom according to the area where students live and the school environment is located. Because the initial experience gained by students is the basis for implementing learning (Duncon, 2014).

This is also in line with the opinion of Meliono (2011) which states that local wisdom is the right teaching material for the education of Indonesia's young generation because they build several values such as nationalism, harmony, and morals to build identity. Prior to development, learning resources that are commonly used by grade IV elementary school teachers are first analyzed by researchers and teachers. The following components are teacher and student worksheets:

<table>
<thead>
<tr>
<th>The Ministry of Education and Culture Teacher's Book</th>
<th>Book LKS Maestro and Eksis</th>
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<tbody>
<tr>
<td>Study Instructions (instructions for teachers in using books)</td>
<td>Work instructions (procedural steps on how to carry out learning activities)</td>
</tr>
<tr>
<td>Competencies that must be achieved:</td>
<td>Competencies that must be achieved:</td>
</tr>
<tr>
<td>• Core Competencies</td>
<td>• Basic competencies</td>
</tr>
</tbody>
</table>
This teaching material was developed by linking the theme materials of class IV grade IV elementary school with local wisdom of Jepara which is the area where students live and the school environment is located. The following components are found in the development of teaching materials based on local wisdom in Jepara Regency:

### Development of Jepara Local Wisdom Based Learning Materials

#### Study Instructions

**Competencies that must be achieved:**
- Core Competencies
- Basic competencies
- Learning objectives
- Development of Indicators

The indicator map displays all the material that is the focus of each lesson. Indicator maps can connect and facilitate teacher's thought flow in presenting and managing learning. Students can also follow the pattern by integrating based on the themes raised.

**Supporting Information**
- Media / Tools and Learning Resources
  (adjusted to the learning activities in Jepara's local wisdom-based teaching materials)
- In the supporting information section examples of assessment rubrics are not included because they are already in the integrated government and thematic teacher book. From the results of the analysis of the need for teaching materials shows that examples of assessment rubrics are not the main needs, because teachers can easily get them from the internet or other assessment books.

**Work Instructions**
(procedural steps on how to implement learning activities tailored to Jepara's local wisdom-based material)

**Fill learning material**
- Adapted to CC and BC
- Accurate (material adapted to facts and data from local concepts / realities)
- Current (actual material presented in accordance with scientific developments and student characteristics).
- Foster a love character for the local culture in the area where students live (Jepara).
- Language in the material is straightforward, communicative, interactive and appropriate for student development

**Practice**

**Student worksheets** (assignments, projects and products)

The practice questions are presented in the form of student worksheets and practice questions at the end of the sub-theme. Student worksheets are intended to make it easier for teachers to provide assignments, projects that are useful to support the achievement of learning objectives. With worksheets, students can easily understand the tasks and projects that are given, so that in doing so students become enthusiastic, responsible, and good results.
1. **Introduction**

In Jepara's local wisdom-based teaching materials, the introduction includes a learning guide component that serves to facilitate teachers in using books. In addition to the instructions, there are also core competencies, basic competencies, learning objectives to be achieved by students, indicators as benchmarks to find out the learning outcomes to be achieved by students, and supporting information in the form of media or tools used in the implementation of learning.

![Figure 1.1 Introduction Section of Jepara's Local Wisdom-Based Teaching Material](image1)

2. **The core part of learning**

At the core of learning there are: (1) work instructions containing procedural steps in carrying out a series of learning activities so that they run systematically. (2) the contents of learning materials that are adapted to KI and KD, accurate, up-to-date, foster the character of love for the local culture of the area where students live (Jepara), the language in the material is straightforward, communicative, interactive and in accordance with student development.

![Figure 1.2 Examples of core material in Jepara's local wisdom-based thematic teaching materials](image2)

(3) practice questions are presented in the form of student worksheets and practice questions at the end of the sub-theme. Student worksheets are intended to make it easier for teachers to provide assignments, projects that are useful to support the achievement of learning objectives. With worksheets, students can easily understand the tasks and projects.
that are given, so that in doing so students become enthusiastic, responsible, and good results.

3. End / Final Section

Inclusion of bibliography is intended as a responsibility of the existing citations in teaching materials and provide information to the reader if the reader wants to know more about the material presented.

After teaching materials are developed, expert validation is carried out. The results of expert validation from material and language aspects obtained an average score of 91.64 percentage 91% with a very good category. The results of the validation of the media aspects obtained a score of 54 on average 3.6 percentage 90% with a very good category. After being validated, the teaching material was revised according to the validator's suggestion. In general teaching materials are appropriate to be used in learning it's just that teaching materials need to be revised in the following sections :

1) Revised teaching materials in the cover section of teaching materials need to be revised to be more interesting

<table>
<thead>
<tr>
<th>Before revision</th>
<th>After revision</th>
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</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Before revision" /></td>
<td><img src="image2.png" alt="After revision" /></td>
</tr>
</tbody>
</table>
2) The teaching material is revised in the writing section of the influence of the style of "making fish creations from plasticine" is converted into an image in accordance with the local wisdom of Jepara namely the thread woven by craftsmen into troso cloth.

<table>
<thead>
<tr>
<th>Before revision</th>
<th>After revision</th>
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<tr>
<td><img src="image1" alt="Before" /></td>
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</table>

3) The third revision is the writing of KD, indicators are made for mapping such as in the Ministry of Education and Culture teacher book and the colors of teaching materials must be bright and attractive

<table>
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<th>After revision</th>
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<tbody>
<tr>
<td><img src="image3" alt="Before" /></td>
<td><img src="image4" alt="After" /></td>
</tr>
</tbody>
</table>

4) The fourth revision in the text section "adapted from" to "abstracted from"
After being validated and revised, local wisdom-based teaching materials in Jepara Regency were tested in the experimental group, namely class IV SD Semai, SDN 1 Kecapi, SDN 2 Senenan, SDN 3 Senenan, and SDN 5 Kecapi by providing treatment which was carried out in May 2019. After completion treatment, students were given a post-test problem. Whereas the control group was only given a matter of posttest without any treatment. Product trial activities produce data on the effectiveness of teaching materials based on local wisdom in Jepara Regency. The results of student learning assessments are obtained by giving multiple choice questions totaling 30 questions to grade IV students. Questions were given to students in the experimental and control groups.

After completing the post-test, the next step is to calculate the test scores of the experimental group and the control group. Student grades show good results. The experimental group the mean value is greater than the average value of the control group. The following data is the value of the experimental group and the control group

<table>
<thead>
<tr>
<th>No.</th>
<th>Value</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nilai Tertinggi</td>
<td>97</td>
<td>87</td>
</tr>
<tr>
<td>2</td>
<td>Nilai Terendah</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Nilai Rata-rata</td>
<td>78,8</td>
<td>64,7</td>
</tr>
</tbody>
</table>

Source: Researcher (Primary Data)

Based on the above table, the values of the experimental and control groups can be presented in the diagram as follows:

Based on these diagrams, it can be seen that the effectiveness data in the use of teaching materials applied in learning experience significant differences. This can be seen in the diagram that shows the differences between the experimental group and the control group. The diagram shows that the average value of the experimental group is greater than the control group. From the average value, it shows that the use of Jepara's local wisdom-based teaching materials is effectively used in learning.

Then a prerequisite test is performed to see whether data is normally distributed or not, homogeneous data groups or not and also limited field trials. The normality test results obtained with a significance value $\alpha = 5\% = 0.05$. In the experimental group the values obtained were $0.058 > 0.05$ then $H_0$ was accepted and normally distributed. In the control group of $0.083 > 0.05$, $H_0$ was accepted and distributed normally. Based on the normality test, it can be obtained that the data is normally distributed. The next stage is homogeneity test, homogeneity test is done to describe whether the two groups have the same variance or not. Homogeneity test results showed that the significance was $0.183 > 0.05$. From these
data it can be concluded that the group has the same variance.

The final step is determining the effectiveness of Jepara's local wisdom-based teaching materials. To test the effectiveness of teaching materials is done using t-test. Based on the t-test obtained: t count > t table is 11.036 > 1.969 then Ha is accepted. So it can be concluded that the use of Jepara-based local wisdom teaching materials is effectively applied in class IV of Jepara Regency elementary school.

The effectiveness of teaching materials is also strengthened by the results of research conducted by Suherman (2016) in his research entitled "Development of Local Wisdom-Based Teaching Materials (AIQ Nyereng Tunjung Tilah Empak Bau) on the Theme of Getting to Know the Surrounding Natural Environment in Class III MI Mambaul Khair Mataram City" shows that teaching materials based on local wisdom (AIQ Nyereng Tunjung Tilah Empak Bau) Sasak Tribe Lombok Island West Nusa Tenggara is more effective and has a pull to be able to improve student learning outcomes. Evidenced by the results of t count = 10.89 while t table = 1.69. Because t arithmetic is greater than t table then Ho is accepted. So that local wisdom-based teaching materials (AIQ Nyereng Tunjung Tilah Empak Bau) can be used in learning.

The effectiveness and feasibility of local wisdom-based teaching materials in Jepara Regency were also obtained from the results of the teacher's questionnaire responses. Based on the questionnaire results, the teacher obtained a total score of 684, an average of 3.8 percentages, 95% with a very good category. At the beginning of teaching materials namely learning instructions and competencies that must be achieved obtain an average score of 3.9 and 4. This implies that teaching materials are easy to use by teachers because the learning instructions are very clear, between core competencies, basic competencies, indicators, and learning objectives in accordance with the material presented.

At the core of the teaching material which includes the content of the material, the exercises gained an average score of 3.5 to 4. This shows that the material in the teaching material illustrates the characteristics of thematic learning that is holistic, active, authentic, meaningful, using language that is in accordance with the level of cognitive and emotional development of students. For independent activities, joint activities and practice questions are also clear and appropriate. So it can be concluded that Jepara's local wisdom-based teaching material is already appropriate to be used as one of the teaching materials in thematic learning activities. In line with the opinion of Zinnurain & Muzanni (2018) based on the results of his research stated that teaching materials based on local wisdom can be used as one of the textbooks in thematic learning activities in primary schools because the results of questionnaire instruments and tests get scores with very good categories.

Based on the questionnaire responses of students obtained a total score of 473 an average of 3.9 percentage 98% with a very good category. So it can be concluded that the teaching materials based on local wisdom in Jepara Regency are feasible to be used in thematic learning. For student responses and comments, this teaching material is interesting, easy to understand and encourages learning. In line with the results of research Damayanti, et al (2013) which states that learning based on local wisdom can increase student interest and learning outcomes and be able to increase students' love for the local culture in the environment around students.

4. Conclusion

The conclusions in this study are as follows: 1) The needs of students and teachers in supporting an active and meaningful learning process are teaching materials based on local wisdom in Jepara Regency. 2) The validity of teaching materials based on Jepara's local wisdom in terms of material and language scores 91 an average of 3.64 percent 91% with a very good category. From the aspect of the media obtained a score of 54 on average 3.6 percentage of 90% with a very good category. The results of the teacher's response gained a score of 684 on average 3.8 percentages 95% with very good categories. The results of
student questionnaire responses obtained a 157 total score of 3.9 percentage 98% with a very good category. 3) The effectiveness of Jepara's local wisdom-based teaching materials is obtained from the results of the t-test in the experimental and control groups of 11.036. Data from the t-test shows that t arithmetic > t table is 11.036 > 1.969 then Ha is accepted. Based on the results of research and development, it can be concluded that Jepara's local wisdom-based thematic teaching materials are effective and appropriate for use in learning. So it can be used as a source of learning for teachers to improve learning outcomes and instill a sense of love for students of local wisdom where they live.

References:


Improvement of Student Critical Thinking Skills Through Multicultural Learning

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Abstract. The objectives of this research are to describe the effectiveness of multicultural learning and to improve students' critical thinking skills in elementary schools. The type of this research is Research and Development (R & D). The steps of this research are potential problems, data collection, product design, design validation, design revision, product trial, and product revision. This research was conducted in class IV SD 1 Tritis and SD 1 Karangnongko, as an experimental group and SD 1 Daren and SD 3 Nalumsari as a control group in Nalumsari sub-District Jepara Regency. Based on the result of this research is the classical average value in the experimental and control groups it can be said that students' critical thinking skills are still low and its needed to improve students' critical thinking skills. In this case multicultural learning can improve critical thinking skills and instill multicultural education.

Keywords: Critical thinking, Multicultural.

1. INTRODUCTION

Education must be oriented to the development of all aspects of student potential, including cognitive, affective, and implications on psychomotor aspects. Susanto (2016: 2), explains that "Elementary schools always make improvements and improvements in the quality of education to be able to achieve educational goals optimally, one of them through improving the quality of learning activities" [10]. The process of education has developed according to the process of the times. The development of education in the globalization era requires experts in the field of education to develop various innovations to advance students of high quality and character. The learning system must place students as subjects in learning. It aims to demand intellectual, emotional, knowledge, action, and direct experience involvement in the context of forming motor, cognitive and social skills and internalizing values in forming attitudes. Hamalik (2015: 171), states that "Effective teaching is teaching that provides opportunities for self-study or self-activity" [3]. Meaningful learning that is student-centered learning, learning systems that direct student centering will be able to foster and develop creativity and train students' critical thinking skills in learning as well as in solving problems encountered in daily life.
Fisher (2008:13), states that "Critical thinking is a skilled activity, which can be done better or vice versa, and good critical thinking will meet a variety of intellectual standards, such as clarity, relevance, adequacy, coherence, etc" [2]. Further Susanto (2016: 121), explains that "Critical thinking is an activity through the way of thinking about ideas or ideas related to the concept given or the problem presented" [12]. Critical thinking relates to the assumption that thinking is a potential that exists in humans that need developed for optimal abilities. Further Surya (2016: 123), explains that "Critical thinking is one cognitive strategy in solving problems that are more complex and require higher patterns".

Susanto (2016: 125), "explained five indicators of each aspect of critical thinking related to the subject matter, namely (1) Providing simple explanations, (2) Building basic skills, (3) Concluding, (4) Providing further explanation, and (5) Managing strategies and tactics" [12]. Critical thinking skills of students need to be developed starting from elementary school of habit in learning, habit in the learning process will improve students' critical thinking skills. One of the learning materials that need to be inserted is the students' critical thinking skills in learning, namely the Indonesian subject in Theme 4 of Various Occupations in class IV. The material in theme 4 is very close to all daily community activities as well as the environment of students. Based on observations and interviews conducted, it is known that there are still many students who have not been able to understand the material taught by the teacher, which makes students feel burdened in learning and inhibits the development of students' critical thinking skills. Passive students in learning activities, it can be the learning process has not been centered on students as objects. The teacher has innovated in developing learning activities using a number of learning models but they have not been maximized, and the teacher has not used the learning media optimally. In terms of reading material and supporting texts available in student books and teacher books are still not in accordance with the environment faced by students. Reading material and supporting texts do not insert multicultural education and do not reflect real problems that exist in the environment around students, this result in less contextual learning with actual student life experiences. Judging from the diversity, found gender diversity of men and women, white and black races, straight and critical hair races, and social strata, this certainly requires an understanding of the diversity that arises in each student.

As an alternative to overcome weaknesses in increasing critical thinking skills related to the learning process, it requires a development of learning, one of the developments of learning that can be done is to develop teaching materials as a support in improving students' critical thinking skills. Interesting teaching materials can encourage students to improve their critical thinking skills. Susiana (2017: 176), explains “Teaching materials are learning materials used in learning activities in the classroom for the achievement of learning objectives” [11]. Development of teaching materials as a source of learning in learning activities is needed. Teaching materials have a central role in learning, including thematic learning. Thematic learning is basically a combination of various disciplines, so this learning requires more complete and comprehensive teaching material. Prastowo (2014: 138), explains "Teaching materials are all materials (be it information, tools, or texts) that are arranged systematically that displays a complete figure of the competencies that students will master and are used in the learning process with the aim of planning and reviewing implementation learning" [7]. The development of Indonesian language learning by using teaching materials must be adapted to the demands of the curriculum and the needs of students with the characteristics and social environment of students.
Prastowo (2014: 141), explains the benefits and the making of teaching materials can be divided into two types, namely the uses for teachers and students. For teachers, the use of instructional materials is at least eight kinds, namely (1) Obtained teaching materials according to curriculum requirements and according to student needs, (2) No longer depends on textbooks that are sometimes difficult to obtain, (3) Teaching materials become richer because it was developed by using various references, (4) Adding to the teacher's knowledge and experience in writing teaching materials, (5) Teaching materials will be able to build effective learning communication between teacher and students because students will feel more confident in their teacher, (6) Obtained teaching materials that can assist in the implementation of learning activities, (7) Can be submitted as a work that is assessed to add credit points for the purposes of promotion, and (8) Increase teacher income if the results of his work are published. For students themselves, if teaching materials What is made is varied, innovative and interesting, so there are at least three uses of teaching materials for students, namely (1) Learning activities and become more interesting, (2) Will get more opportunities to learn independently with the guidance of the teacher, (3) Will get ease in learning each competency that must be mastered [7]. Ardianti (2018:83) describes teaching materials divided into 2 types namely printed materials and non-printed teaching materials. (1) Printed teaching material, as teaching material printed in printed form for the purpose of delivering learning information kinds of printed teaching materials, namely modules, LKPD (Student Worksheets), and handouts. And (2) Non-printed teaching materials, as a collection of learning information printed in non-print technology. Types of non-printed teaching materials are audio teaching materials, video teaching materials, as well as computer-based teaching materials [1].

The development of learning in this research is based on multicultural educational, it is important to realize that the educational process is the process of civilizing and the ideals of national unity are elements of national culture. Saptono (2011:122) states that “Prescriptively, multiculturalism is a model of public policy to manage cultural diversity in a pluralistic society whereas descriptively, multiculturalism refers to the condition of diverse cultural communities in a particular region and period” [8]. Multicultural education is a relatively new phenomenon in the world of education needs to be applied early on both in formal and non formal education, the implementation of multicultural education is considered one of the right ways to be able to instill the ability of people to live in diversity and a sense of mutual tolerance. Mahfud (2006, 169) explains “multicultural education includes all students without discriminating groups such as gender, ethnicity, race, culture, social strata, and religion” [5]. In principle, multicultural education is education that respects differences. Suryana (2015: 199), explains the purpose of multicultural education is (1) to help students, (2) understanding the background of self and groups in society, (3) respects and appreciate ethnic cultural and socio-historical diversity, (4) resolving ethnocentric and prejudiced attitudes, (5) understanding the social, economic, psychological, and historical factors that cause ethnic polarization and ethnic alienation, (6) increase the ability to critically analyze routine problems and issues through a democratic process through a vision of a better, fairer and free society, and (7) developing a meaningful identity for all people [9].

Based on this, the researchers was conduct a research with the title “improving Students Critical Thinking Skills through Multicultural Learning” The development of multicultural learning is a learning development solution that is suitable for improving students’ critical thinking
skills. This study aims to describe the effectiveness of multicultural learning to improve students’ critical thinking skills in elementary school.

2. RESEARCH METHODS

This type of this research is Research and Development (R & D). The purpose of this research is developing multicultural learning to improve critical thinking skills. This research was conducted in班 IV SD 1 Tritis and SD 1 Karangnongko, as an experimental group and SD 1 Daren and SD 3 Nalumsari as a control group in Nalumsari sub district, Jepara regency. The data collection techniques in this research and development were conducted through observation, interview, questionnaire, and documentation.

Observation is used by observing learning by teachers and grade IV elementary school students in Nalumsari sub district, Jepara regency. Interviews in this research are aimed at teachers and grade IV elementary school students. The questionnaire in this research was used to collect assessment data regarding teaching materials, data about the effectiveness of teaching materials addressed to teachers and students in relation to the development of multicultural learning. Then the documentation method is used to strengthen the data obtained in observation. The design of this research can be described in the following chart.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
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<tbody>
<tr>
<td>Potential Problem</td>
<td>Data Collection</td>
<td>Product Design</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
<th>Step 7</th>
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<tbody>
<tr>
<td>Design Validation</td>
<td>Design Revision</td>
<td>Product Trial</td>
<td>Product Revision</td>
</tr>
</tbody>
</table>

The Result of this Research
Indonesian teaching learning of Multicultural relation to development material.

3. RESULTS AND DISCUSSION
The results of observation and interviews note that students need learning development, one of the developments that can be done is to develop teaching materials that are appropriate to the characteristic so that learning can be more interesting and enjoyable. Then from the teacher’s point of view states the development of teaching materials is very necessary in the world of education, especially in Indonesian subjects so that learning is more interesting and not monotonous, with the development of teaching materials students can be motivated to be active in learning, as well as students can improve critical thinking skills and understand multicultural education. Some of the findings that researchers found when conducting observations and interviews include, there are still many students who have not been able to understand the material taught by the teacher, which makes students feel burdened in learning and inhibits the development of students’ critical thinking skills. Passive students in learning process have not been centered on students as objects. The teacher has innovated in developing learning activities using a number of learning models but they have not been maximized, and the teacher has not used the learning media optimally. In terms of reading material and supporting texts available in student’s books and teacher books are still not in accordance with the environment faced by students. Reading material and supporting texts do not adequately incorporate multicultural education and do not adequately reflect existing problems in the environment around students, these results in less contextual learning with actual student life experiences. Judging from the diversity, found gender diversity of men and women, white and black races, straight and critical hair races, and social strata, this certainly requires an understanding of the diversity that arises in each student.

<table>
<thead>
<tr>
<th>No.</th>
<th>Group</th>
<th>Average</th>
<th>Percentage</th>
<th>Criteria</th>
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<tbody>
<tr>
<td>1.</td>
<td>Experimental</td>
<td></td>
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<tr>
<td></td>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>SD 1 Tritis</td>
<td>69</td>
<td>69%</td>
<td>Sufficient</td>
</tr>
<tr>
<td></td>
<td>SD 1 Karangnongko</td>
<td>68</td>
<td>68%</td>
<td>Sufficient</td>
</tr>
<tr>
<td>2.</td>
<td>Control Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD 1 Daren</td>
<td>68</td>
<td>68%</td>
<td>Sufficient</td>
</tr>
<tr>
<td></td>
<td>SD 3 Nalumsari</td>
<td>68</td>
<td>68%</td>
<td>Sufficient</td>
</tr>
</tbody>
</table>

Based on the analysis table of multicultural-based learning development needs to improve students’ critical thinking skills, the average value of critical thinking in Indonesian language lessons at SD 1 Tritis as an experimental group obtained a classical average value of 69 with a percentage of 69% with sufficient criteria, then at SD 1 Karangnongko as a control group obtained a classical average value of 68 with a percentage of 68% with sufficient criteria. While the average value of critical thinking in Indonesian language lessons at SD 1 Daren as a control group obtained a classical average value of 68 with a percentage of 68% with sufficient criteria. Then in SD 3 Nalumsari as a control group obtained a classical average value of 68 with a percentage of 68%
with sufficient criteria. Judging from the classical average values in the experimental and control groups it can be said that students' critical thinking skills are still low and a development is needed to improve students' critical thinking skills.

As for some research that is relevant to this research and development, including research and development conducted by Lestariningsih (2017), about the development of thematic-integrative teaching materials based on local wisdom to enhance the character of care and responsibility [4]. This research and development was carried out in class IV MIN Jejeran. The results showed that the teaching material developed was feasible to use. This teaching material is effective to improve the character of caring and responsibility of students. There is a significant difference between the caring characteristics and responsibilities of students before and after participating in learning using integrative thematic teaching materials based on local wisdom. The similarity with the research that the author does is on the development of teaching materials, while the difference lies in the focus of improvement, the researchers focus on increasing the character of care and responsibility, while the writer focuses on increasing critical thinking skills.

Melindawati's research results (2016), in her research entitled the development of integrated thematic teaching materials with the model of problem based learning in grade IV elementary school [6]. This research and development aims to develop integrated and practical thematic teaching materials that are practical and effective. The results showed that the teaching material developed was valid and could be used in integrated thematic learning, integrated thematic teaching material with PBL models in grade IV elementary schools was declared practical, and student activities during learning were very good and learning outcomes showed effective results. The similarity with the research that the author does is on the development of teaching materials, while the difference lies in textbook based, that is, researchers develop teaching materials based on problem based learning models while the authors develop Indonesian language teaching materials based on multiculturalism.

From this explanation it can be concluded that the development of multicultural-based learning is very much needed in supporting the learning process and improving students' critical thinking skills. The development of learning by developing multicultural-based Indonesian teaching materials can also facilitate teachers in delivering material.

4. CONCLUSION

Based on the results and discussion that have been elaborated on increasing students critical thinking skills through multicultural learning, it can be concluded that the development of multicultural learning through Indonesian language teaching materials is effective in increasing students’ critical thinking skills. The developments of multicultural learning is very much needed by teachers in providing a varied and enjoyable learning experience so that students are interested, active, and motivated to participate in learning in the classroom, and instill multicultural education as a form of tolerance and respect for differences that arise in the learning process. Based on these conclusions, the following suggestions can be made (1) Teachers are expected to be able to develop innovative learning in learning activities to improve students’ critical thinking skills, and (2) Teachers are expected to be able to develop learning through teaching materials, media, and innovative models in Learning Activities.
REFERENCES

Development of Teaching Materials for Elementary School Statistics Material Based on Higher-Order Thinking Skills

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Abstract: This study was designed to describe and study Mathematics teaching materials based on higher-order thinking skills assisted by Media Karpinkas statistical material for elementary school students in Jepara Regency. The development procedure was adapted from Borg and Gall which involved three stages, namely preliminary study, development, ability test. Published validation, expert, field, and implementation. The research method uses quantitative and qualitative methods. The research data were obtained from questionnaires, observations, tests, and documentation in ten schools in Jepara Regency. During learning, students are more active and happy to use Media Karpinkas to learn while playing. Results Processing the data shows the posttest value of the experimental class is higher than the control class. The pretest and posttest t-test results were 17.9. The t-test results of the questionnaire are known to be t count 1.012 <t table 1.972. Thus it can be denied that teaching materials for elementary school based on higher-order thinking skill worthy in learning mathematics.

Keywords: Development of Teaching Materials, Higher-Order Thinking Skill, Statistics

1. Introduction

Statistics is one of the elementary school mathematics teaching materials. According to Permendikbud No. 37 of 2018 about Core Competencies and Basic Competencies in the 2013 curriculum, statistics are taught since third grade. As a prerequisite for elementary school statistics, it is certainly expected to provide the right concept planting. Even though the third-grade material is integrated with thematic learning. Therefore, to focus on elementary school statistics material it is necessary to develop teaching materials. Prastowo (2012: 16-19) teaching materials is the main problem that cannot be ruled out in a unified whole discussion on how to make teaching materials. The quality of learning becomes low when educators are only fixated on conventional teaching materials without any creativity to develop these teaching materials innovatively. The development of teaching materials that are by the mandate of the 2013 curriculum is one of them is teaching materials based on higher-order thinking skills.

Gazali (2016) teachers should prepare teaching materials that contain learning activities contained in teaching materials that should be related to daily life and are designed as fun activities for students and can choose learning strategies and approaches that fit the conditions in school. Mulyana (2012) the making of teaching materials is not only based on estimates or
assumptions from the instructors, which is assumed students will learn through certain learning trajectories, but the making of teaching materials is intended as one of the solutions to solve these problems.

Linkage to higher-order thinking skills, Cambridge English Teaching Knowledge test, The University of Cambridge (2015), high-level thinking skills is cognitive skills that teachers can teach their students. These skills include analysis and evaluation, where students are taught to make creative problem-solving decisions. Nugroho, (2010: 17) based on learning objectives in class, HOTS is categorized among others; HOTS as transfer (HOTS as a transfer), HOTS as critical thinking (HOTS as critical thinking), HOTS as problem-solving (HOTS as problem-solving). Amir (2018) in improving the metacognition ability of elementary school students needs to be developed teaching materials based on contextual problem-solving. This can be a solution to improve students' metacognition abilities because in solving contextual problems, students do stages of problem-solving by arousing prior knowledge that has been associated with the context of the problem which is then linked to formal knowledge learned previously.

Nugroho (2018: 18) HOTS as problem-solving is defined as the skill of identifying problems and solving problems using nonautomatic strategies. With this ability, students will be able to solve their problems and work more effectively. Anggo (2011: 25) learning mathematics that presents problem-solving can lead students to develop abilities that are building new knowledge, solving various context problems, applying various strategies, and reflecting on the problem-solving process. Ardya (2018) well-designed learning can develop critical thinking skills. Critical thinking skills are important for students. The ability to think critically can help students analyze ideas or ideas. Critical thinking skills are needed for students to analyze because they can face global challenges.

In developing this teaching material also uses learning media. Arsyad (2013: 69) factors that must be considered in choosing media, among others are 1) barriers to development and learning including funds, facilities, and equipment available, time, resources (human and material). 2) content requirements, assignments, and types of learning. 3) obstacles from the student's side should consider the ability and initial skills and other characteristics of students. 4) other considerations such as the preferences of institutions, teachers and students and cost-effectiveness. Sundayana (2014: 28) explained that Mathematics media is a vehicle for learning information channeling, where information in Mathematics learning aims to make abstract concepts and symbols of Mathematics concrete under students' level of thinking. From the above explanation, it can be concluded that the media is an intermediary and a tool to construct contextual problems. Media in learning mathematics can foster mathematical creativity.

Mathematics is one of the subjects that students are not interested in. Though mathematics is a subject that is indicated as important in the change of human civilization. Firdaus (2015: 81) Mathematics is a universal science that underlies the development of technology and has an important role in various disciplines and can advance human thought. Wijaya, (2012: 5-6) Adam & Hamm mentioned four kinds of views about the position and role of mathematics, namely: 1) mathematics as a way to think. Logical and systematic thinking, 2) mathematics as an understanding of patterns and relationships. In learning mathematics, students need to connect mathematical concepts with the knowledge they already have, 3) mathematics as a tool. An example of this mathematical application is the concept of one-on-one correspondence which underlies the development of numbers, 4) mathematics as a language. Mathematical symbols have the same meaning for various terms from different languages.

NCTM (2000) school mathematics learning is learning that develops students' mathematical power through mathematical content standards that are taught by teachers in the
form of Basic Competencies as a path or media in developing reasoning, connection, problem-solving, communication and representation. Math power is the basic ability for students to be able to have high thinking skills. Sumarni (2018: 11) the process to develop this mathematical power can be done by the teacher to make qualified planning because in processing Basic Competence, the teaching material must be planned as learning media which includes the process of exploration, conjecture or conjecture, generalization, and verification.

2. Method

This type of research is research and development that adopts from Borg and Gall with a ten-step. The stages are simplified into three steps, namely introduction, development, and testing. Setyosari (2016: 292-293) to produce products, materials or designs as a research and development cycle. Sources of data in this study include students, teachers, and media experts and learning material experts. This research was conducted in ten elementary schools in Jepara Regency. Data collection techniques through questionnaires, observation, pretest, and posttest.

3. Results and Discussion

The validation of the development of teaching materials on elementary school statistics material based on higher order thinking skills includes product validation by media experts and material validation. The percentage criteria for validation results can be seen in the following table.

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>Mean Level</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>84 – 100</td>
<td>5</td>
<td>Very effective / feasible / appropriate</td>
</tr>
<tr>
<td>68 – 84</td>
<td>4</td>
<td>effective / feasible / appropriate</td>
</tr>
<tr>
<td>52 – 68</td>
<td>3</td>
<td>Fairly effective / feasible / appropriate</td>
</tr>
<tr>
<td>36 – 52</td>
<td>2</td>
<td>Not effective / appropriate / appropriate</td>
</tr>
<tr>
<td>36</td>
<td>1</td>
<td>Very ineffective / appropriate / appropriate</td>
</tr>
</tbody>
</table>

The results of the hypothetical model validation to test the effectiveness of the development model that will be carried out. The hypothetical model test was carried out by two experts. The results of the test of the effectiveness of the hypothetical model are used to conduct research and development on teaching materials of elementary school statistics based on higher-order thinking skills. Eligibility in the hypothetical model if the results obtained score 52-68% with an average score of 3 and are categorized accordingly.

The results of product validation by media experts were carried out by two experts. Product validation by media experts aims to determine the feasibility of the product development of elementary school statistical material teaching materials based on high-level thinking skills. After obtaining the results of product validation by the media expert in the form of teaching materials, further improvements will be made according to the evaluator’s instructions or suggestions. Teaching material products based on high-level thinking skills.

The results of product validation by material experts were carried out by two experts. The validation instruments include statements related to high-level thinking skills-based learning in elementary school statistics material. Material high-level thinking skills in elementary school statistics teaching materials in the form of display problems to develop higher-level thinking skills. One ability to improve higher-order thinking skills is by presenting open-ended questions.
Arifin (2017) learning high-level thinking skills are needed to measure, know the readiness and abilities of students one of them with critical thinking skills. The ability to think critically can be done by giving problems. Contextual problems aim to provide critical and creative thinking exercises when dealing with problems. This is reinforced by the opinion of Conklin (2012), about the characteristics of higher-order thinking skills "characteristics of higher-order thinking skills: higher-order thinking skills encompass both critical thinking and creative thinking". Characteristics of higher-order thinking skills include critical thinking and creative thinking. Critical and creative thinking are two basic abilities in humans because critical thinking and creative thinking can encourage someone to look at and understand the problems that can be faced critically. Also, someone also tries to find a solution creatively. Thus a person gets a new thing that is better and useful for his life.

The assessment of the use of statistical material based on higher-order thinking skills was practiced in ten elementary schools in Jepara Regency. Implementation of the use of statistical material based on higher-order thinking skills by planning learning preparations such as lesson plans and activity sheets contained in the teaching materials of elementary school statistics based on higher-order thinking skills.

The results of product validation by media experts, material experts, and also the implementation of the use of teaching materials for elementary school statistics based on high-level thinking skills are said to be valid if there is a link between the components of content validity and product validity. Plomp (2013: 29) products are said to be valid if the product components are based on the principle of knowledge called content validity. Then, the components must be related to each other or referred to as construct validity. Product validation is also carried out on content, language, presentation, and graphics.

Based on the explanation, the teaching material of elementary school statistics based on high-level thinking skills can be declared feasible if the components of content validity and construct validity are interrelated, the average score is 3 or at a percentage of 52% to 68% with the proper category used.

4. Discussion

The effectiveness test of teaching material development is carried out by researching ten elementary schools in Jepara Regency. The study design uses the Prates-post-test control group (pretest-Posttest Control Group Design) research design. Setyosari (2016: 213) pretest-posttest control group design research design was an experimental design because both groups were selected according to the criteria required by the study. both groups were given prates. Both groups are treated differently. The groups that were treated differently or not treated were called the control groups. After the implementation of the treatment in the experimental group is completed, then both of them will get a post-test or post-test measurement.

The effectiveness test results are said to be effective if there are differences in the results of the pretest and posttest in the control class and also the experimental class. If the value in the experimental class is higher than the control class it can be said to be effective. Sarmidi (2012) is said to be effective if there are significant differences between the control class and the experimental class.
5. Conclusions

Based on the results of research and development of teaching materials of elementary school statistics material based on high-level thinking skills, it can be concluded that teaching material is said to be feasible if it meets the criteria by obtaining a percentage of 52% to 68% with enough categories so that it is suitable for use in learning. The development of statistical material based on high-level thinking skills is said to be effective if there is a higher value difference in the experimental class than in the control class.

6. Suggestion

For teachers to develop teaching materials following the applicable curriculum, the needs of teachers and students. Development of teaching materials is also adjusted to the characteristics of students. Students should use teaching materials developed by the teacher to facilitate the interaction of learning, so that learning will be more uplifting and enjoyable.

7. Thank-you note

Thank you to the Kemestriskt Dikti for providing funding for this thesis research. Thank you to the Head of Master of Education PGSD UMK. Thank you to the supervisor who provides direction guidance so that you can complete the thesis report on time.

References

Development of Thematic Assessment Based on Interactive Game in Elementary School

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Abstract. In carrying out the assessment, the teacher is important to create fun situation and conducive. The purpose of this research is knowing development and effectiveness of thematic assessment based on the interactive game of snake and ladder in class 3 theme 1 elementary school. The research method has been used is research and development (R&D) the Borg and Gall model. Validity data is obtained through observation, interviews and questionnaires which has been given to experts, and teachers as users. The product is validated and tested to understand level of validity qualitatively and quantitatively through credibility testing, validity testing, reliability testing and test item analysis. To understand the effectiveness level of data, product has been analyzed by t-test. The results have been obtained: strengths, limits and level of effectiveness of the development of interactive game-based thematic assessment products which can be used to measure the level of knowledge, skill and attitude of elementary school students

Keywords: Thematic assessment development, Game-based assessment, Interactive Games

1 Introduction

Assessment becomes a very important component in the administration of education. The quality of learning and the quality of the assessment system are two interrelated components. A good learning system will produce good quality of learning, while the quality of learning can be seen from the result of the assessment. As revealed by Rasyid (2009:6), effort to improve the quality of education can be achieved by improving the quality of learning and the quality of assessment system.

It’s explained by Permendikbud Number 23 of 2016, as a reference for curriculum learning assessment 2013, that Assessment is the process of collection and processing information to measure the achievement of student learning outcomes. Assessment of learning outcomes by teacher aims to monitor and evaluate the process, progress of learning, and improvement of student linearly. Based on the result of observation, researcher has found some problems generally, about the assessment of studying in elementary schools. These are assessment instruments to measure student’s learning result still less innovation and interesting. The application of learning outcomes is less successful. This happens because the teacher are more priority to the learning process only.

Therefore, it’s needed a creativity to develop assessments in elementary school and accordance to the competency which has been taught, so the teacher can improve the
quality of learning. As expressed by Rosyid (2009: 7), a good assessment system will encourage teachers to determine good learning strategy and it can motivate students to learn better.

Assessment of study result neither formal nor informal should be held in a fun atmosphere. So, students can show what they are understood and can be done because it is done without fear, anxiety and stress (Uno, 2012: 35). The psychological of people to be tested includes students, of course they have a different feeling of anxiety. If the level of anxiety in students is high when tested, they will get an assessment result that tends to be lower than the real ability (Rosyid, 2009: 10).

So the mood of student can give influence to results of the assessment process. anxious and bored will influence the assessment. A condition which support, fun and unworried can make students express their ability easily and maximally. one of the solution which has been offered to minimize the problem is creating a fun atmosphere during the assessment.

Kusuma hassaid (2018: 26), that teacher can innovate to determine technique and method assessment, one of which is game-based assessment. We need to remember that students of elementary school who are in the 7-12 years age very happy with the game especially the lower class level, they are 1st grade to Class 3rd grade. Suyanto said (2005: 114), that in essence all children like playing, only children who are not feeling well do not like to play. Because the game is an activity which has a low level of difficulty but has a high level of entertainment (Kusuma, 2018: 26)

Playing is an activity that is very liked by children at elementary school age. So, the teacher can use his enjoyment of games to improve the quality of children's learning. When playing, children's mental condition tends to be stable and vibrant so that conducive situations and this condition is beneficial for students to learn easier. (Kusuma; 2017: 898)

According to Latuheru (in Yuliatun; 2014: 31), games used in learning can provide cognitive and creative benefits for students because it is able to provide a fun, relaxed atmosphere, but always conducive. The part of students will give a positive response to the game as reward to bored situation in the learning process.

The development of thematic assessment based on interactive games in the form of snake and ladder games in elementary schools can be used as one of the solution to create varied, innovative, creative, interesting assessment instruments and create a fun atmosphere for assessment.

2 Literature Review

Thematic Assessment. When discussing the concept of assessment in education, there are several terms that almost have the same meaning, namely measurement, assessment (assessment), and evaluation. For the reason, researcher will discuss three terms to equalize perception. The concept of assessment (Trianto, 2011: 253), is a series of activities to obtain analyzing and interpreting data about the processes and learning outcomes of students which are done systematically and continuously in a sustainable manner, so that it becomes information which is meaningful in making decision.

In the curriculum 2013, the assessment is used refers to Permendikbud Number 66 of 2013 about education assessment standards. It has been mentioned that the assessment which is used is authentic assessment. According to Santrock (in Majid, 2017; 236), authentic
assessment has been developed on the grounds that traditional assessment which is used all this time ignore the real world context and did not adequately describe the ability of students holistically. Authentic assessment is defined as an effort to evaluate student’s knowledge and expertise in contexts the real world or real life. In this assessment students has been challenged to apply new information and skill to real situations to solve problems in order to achieve the goals set.

In authentic assessment, aspect of knowledge are not focus being tested only, but must be able to measure aspects of student’s abilities as a whole including cognitive, psychomotor and affective

when the teacher makes an authentic assessment, there are three things that must be considered, they are: 1) Authenticity of the instruments used, 2) Authentic of what is measured, and 3) Authentication of aspects of student condition. In carrying out a good authentic assessment, the teacher must clearly understand what goals are being achieved, for example relating to aspects of ability, focus of assessment and the level of knowledge to be assessed. It was stated by Hargreaves in Majid (2017; 249), that authentic assessment is a form of assessment that reflects the actual learning outcomes, and can use a variety of ways or forms

Game. For the children, game has a very important role, the game is synonymous with the world of children, because children's daily activities are playing. According to John D Latuheru (in Yuliatun; 2014: 30), game is a form of activity where participants involved in it must act in accordance with established rules in order to achieve a certain goal

Children's mind are like sponges that are able to absorb information so amazing, but this process will only happen when children do it by playing. This happen because playing can make children happy, so it can improve the child's skills and development. (Suyadi; 2014: 183)

According to Jean Piaget, games can be used as a medium to improve children's cognitive development. This happens because sometimes the cognitive development of children can limit the way, they play so cognitive structures need to be trained. The same thing was stated by Vygotsky, the game is a very good setting for cognitive development. They are more interested in the symbolic and imaginary aspects of a game. (Hosnan; 2016: 177)

The game is a distraction for event that routinely take place in the classroom. game is a positive response to the learning process that serves as a form of reward for the sense of saturation due to being continuously in the learning atmosphere of watching. Through the game can make the learning environment become happy happy relaxed but still have a conducive learning atmosphere.

3 Research Method

The research design has been used by researcher in developing. this research instrument is the type of Borg and Gall research and development (R&D) model. In the Borg and Gall model there are ten stages that researcher must go through to produce a product of valid development and reliability. So the researcher also carried out the ten stages in accordance with the ability of the author and adjusted to the needsin this research. To give explanation of the activities which has been carried out by researcher in accordance with the stages of developing the Borg and Gall model, it is described in the table below:

Table 1: Development activity table with Borg and Gall’s model
**Step Steps** | **Description of Activities**
--- | ---
1 Research and Information Collecting. | a. field research, researcher has been done curriculum analysis, analysis of learning conditions, student analysis, and needs analysis. 
b. Literature research has been done through a review of books and sources relevant to the research to be conducted.
2 Planning | a. researcher has decided themes, object, analyze basic competencies,
b. researcher has created an instrument assessment framework design 
c. researcher has determined the content, the parts of the assessment instrument to be developed.
3 Develop Preliminary of Product | The design that has been designed, compiled into an initial product draft
4 Preliminary Field Testing | The initial product draft has been validated by an expert
5 Main Product Revision | Revision based on the results of expert validation
6 Main Field Testing | Trial small groups with the subject 10 Student of third grade students at MI Ianatush Shibyan Bawu
7 Operational Product Revision | Revision based on Small group trial
8 Operational Field Testing | Field trial has been conducted in tested on third grade MI Ianatush Shibyan Jepara.
9 Final Product Revision | Revision based on field trials
10 Dissemination and Implementation | Distribution of products by attending seminars or published in the form of journal

Trial subject in research and development of interactive game-based assessment instruments include: assessment experts, material experts, teachers and 3rd grade students at MI Ianatush Shibyan Bawu Jepara. To test the level of product validity has developed, researcher has used external method by asking for response and advice from experts who have master's qualifications and manage the eyes of the college student according to their field of expertise. Further responses from users are teachers and students after using the product development. To test the validity of the data is done qualitatively by triangulation and discussion with friends or experts. validity test, reliability test, test item analysis, difficulty test analysis and distinguishing power analysis. While to test the effectiveness of the product development the researcher has used the t-test formula. In testing the product development data the researcher used computer-aided statistics, the SPSS Statistics.

### 4 Research And Development Result
As a basis for research and development, researcher has done field research through direct observation and questionnaire distribution and conduct literature studies in an effort to find out the difficulties, measurements and product needs to be developed. In general, some problems so far in the assessment of learning outcomes is stressful for some students, learning in the classroom is still interesting and fun for students, the lack of teacher creativity in creating an interesting, innovative and fun evaluation instrument, the assessment instruments available are still not varied, most of them still use question sheets and multiple choice questions so it takes a long time to find out student learning outcomes and seems boring to students. And still the lack of facilities and infrastructure in primary schools that hinder the process of learning and assessment.
The design of the development product before being tested, researcher has been validated by the assessment experts and material experts. In general, the result of the validation responses by the assessment experts illustrated that the interactive game-based assessment instrument had a practical level of 81% and readability of 84%. The total overall validation results of the assessment experts obtained a score of 82 with an average of 4.1 or 82%

At the same time the researcher also has asked the material expert validator to provide feedback and input on product development. The result of the material expert responses illustrate that the assessment instrument has a 79% conformity level, 80% completeness and 90% clarity. The results of the calculation of the total score of the responses of the material is 140 with an average of 4 or by 80% of the maximum total score.

The next stage, after the validation of the product expert has been revised based on the recommendations of the experts then the revised product has been tested on a small group. Product development has been tested on third grade MI Ianatus Shibyan Jepara. Then the researcher asked the teacher's response as a user to obtain information on the completeness, practicality and clarity of the product. The total total score was 86 with an average of 4.3 or 86% of the total overall score.

The next trial is a field trial. It has been done after revision based on suggestion in the small group. product trials has been carried out again, product development has been used by students and teacher three times the assessment activities in third grade MI Ianatus Shibyan Bawang, Jepara. Researcher has distributed questionnaires to teachers at the school. And the results of the questionnaire responses by the teacher obtained a data that the product developed has a completeness level of 85%, has a practical level of 87% and a clarity of 90%. The total number of overall scores was 87.3%.

The researcher has done validity test through the response of the assessment expert and material expert in an effort to find out the level of conformity of the product developed with the theory and rules of assessment and the suitability of the ability of elementary school children. Researcher also has asked for responses from teachers as user of development product to obtain information related to the level of completeness, clarity and practicality of the product being developed.

Furthermore, to test the validity of data items about the product development researcher has done a validity test, reliability test, difficulty analysis and distinguishing power using computer-aided statistics, namely Anatesv4. The results obtained for the validity test with the biserial point correlation formula are that out of 30 questions 14 have a value of $\gamma_pbi \geq 0.449$, 5 have a value of $\gamma_pbi \geq 0.349$ and 11 have a value of $p_pbi < 0.349$. And the reliability test data obtained $r = 0.92$. Whereas for object analysis and the level of difficulty of 30 items obtained the results of 10 questions $p value > 0.75$, there are 5 questions with a value of $p \leq 0.25$, and 14 questions with a value of 0.25 $< P \leq 0.75$, while for a value of $D > 0.40$ there were 16 questions out of 30 questions tested, and for a value of $0.30 < D \leq 0.40$ there were 4 items, and a value of $P soal 0.20$ there were 10 questions.

The final analysis has been done by researcher in an effort to test the effectiveness of the product being developed. The data has been gotten then analyzed using computer-aided statistics, namely SPSS Statistics 21 with the $t$-Test formula. The result has been obtained for the effectiveness test is the $t$ value of 5.32 is greater than $t$ table 1.721 with a significant level of 5%.

5 Dissemination of Research Result
Expert Validity Analysis: Researcher has validated product development involving experts including assessment experts and material experts to determine predictions of content validity from development products. As revealed by Salkind (2013: 66), if the criterion is talking place in the future, we talk about predictive validity. The results obtained from expert validity on a scale of 1 to 5, obtained a total of an overall score of 82 with an average of 4.1 or 82% of the total for expert validity, while the results of the material expert validity obtained an overall score of 140 with an average - average 4 or 80%. Referring to the validity level table of Widoyoko (2018; 123), the interactive game-based thematic assessment instrument is declared feasible to use, because with an average score of 4 and 4.1, the development product is in the good category to be used because it has a value of $3, 4 <X\leq4.2$.

Targeting assessment on product development, researcher has referred to core competencies and basic competencies in the 2013 curriculum that cover all cognitive (KI-3), psychomotor (KI-4) and affective (KI-1 and KI-2) domains. As expressed by Pierangelo and Guiliani, 2012; 55), A good representation of content will always include several items for each domain, level, and skill being measured.

Furthermore, researcher has also asked for responses from teacher who has acted as product user, the results of the validation by teacher who are more focused on knowing the quality of product usage guidelines and assessment guidelines of product development. The overall total score obtained was 86 with an average of 4.3 or 86% of the total overall score. Then the assessment instruments are declared very easy to use and read. As Akbar's opinion (2013: 2), that a product developed has a level of completeness and convenience between 75.01% - 100% in the very good category, even with an average of 75.01% - 100% development products can be directly used without making revisions.

Item Analysis Problem. item test trial is very important, as has been revealed by Amirono and Daryanto (2016: 177), analysis of the results of the test is carried out as an effort to obtain instruments that are categorized as good. From the results of the analysis of computer-aided items namely Anates, the results obtained for the validity test of 30 questions there were 14 had a value of $\gamma_{pbi}\geq0.449$, 5 had a value of $\gamma_{pbi}\geq0.349$ and 11 had a value of $p_{pbi}<0.349$. It can be concluded that 14 items with very significant criteria, 5 questions with significant criteria and 11 questions with less significant criteria.

Based on the reliability test results has been obtained $r$ value of 0.92. So the test question instrument has been declared reliable. As the opinion of Amirono and Daryanto (2016: 196), that a reliable instrument is an instrument that has a minimum reliability coefficient of 0.70, preferably an instrument reliability coefficient of 0.80 or more.

The results of the test items by referring to the difficulty level table of Amirono and Daryanto (2016: 180), result has been obtained from 30 items obtained the results of 10 questions $p$ value $>0.75$ means that the category is easy, there are 5 questions with $p$ value 0.25 in the category difficult, and 14 questions with a value of $0.25<P<0.75$ in the medium category. Then the instrument was stated to be quite good, as expressed Amirono and Daryanto (2016: 180), that a good test instrument has items with proportional difficulty levels. This means that the instrument is not dominated by items that are relatively easy.

Eferring to the Amirono and Daryanto different power index tables (2016; 181), the results obtained differed power values $>0.40$, there were 16 questions that had very good categories from 30 questions tested, and for values of $0.30 \leq D \leq 0.40$ there 4 items in the category are sufficient, and the value of $P \leq 0.20$ there are 10 questions in the poor category.

Level of Effectiveness Analysis. The product has been tested to determine its effectiveness using computer-aided statistics, namely through the SPSS statistical application 19 using the paired sample $t$ test formula, and the results of $t$ count are 5.32, greater than $t$.
table 1.721 with a significant level of 5%. This proves that there is a significant relationship between products developed with student learning outcomes.

6 Conclusion
Development of thematic assessment based on interactive game in elementary school has been developed using the Borg and Gall stages which have 10 stages that are specifications in order to produce good products and in accordance with what is expected. The product developed has been declared valid in both categories by the appraisal expert and material expert so that the product could be used and mild revisions has been made. The product usage and assessment guidelines are also stated to be very easy to be used and read so that they can be used without making revisions.

To obtain a good instrument, the product is also tested item analysis through validity test, reliability test and item analysis to see the consistency and quality of instrument results. From the test results the product is declared valid, reliable and good so it can be used. The product of the development results was also declared effective to create a learning assessment that has been focused but fun and able to improve the learning outcomes of students.

The product has been developed only limited to the theme 1 sub-themes 1, 2 and 3 in third grade and only contains 3 course contents namely civics, Mathematics and Indonesian. The product is also limited to the scope and scope of the material contained in the teacher and student books. Future assessment is expected to be able to develop all themes in third grade elementary school and have a depth and breadth of the material beyond the scope of the material in the 2013 teacher and student curriculum book.

References

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