Video Analysis of Project Learning Models in Early Childhood Education Programs by Prospective Teacher Early Childhood

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Abstract. This descriptive survey research aims to determine the quality of design and implementation of play based project design learning models as a strategy for character development, knowledge literacy and honing children's skills as an illustration of the quality of teacher education for early childhood educationstudents ability to design learning as prospective teacher early childhood. Data collection used document analysis followed by guided discussion ofteacher education for early childhood educationwho took early childhood Approach and Learning Strategies as many as 90 people. Data were analyzed using descriptive statistics by calculating the mean and standard deviation and qualitative analysis conducted by linking the data obtained. The results showed that:(1)all students can produce videos of varying quality;(2)there are several forms of learning activities in the project learning model in early childhood education programs (3)there are some learning materials especially science material in videos produced by students.

Keywords: project learning videos, learning components and learning materials

1. Introduction

Medan State University (Unimed) as one of the Educational Personnel Educational Institutionsin Indonesiaalways take part in improving the character of human resources to succeed the national program to improve the quality of education.The policy was also followed by Early Teacher Education Study Program Unimed committed to take part by developing lectures that are in harmony with the development of science and technology.

Improving the quality of lectures on courses approaches and learning strategies Early childhood it is already done. All this time, learning has been done using the project approach and make learning more fun, meaningful, communicative, and able to motivate students to learn so that learning outcomes increase with an average value of 3.1[1]. Learning outcomes are not maximal when it is associated with a four scale rating system that is applicable at Unimed. On the other hand, the rapid development of science and technology demands that Human Resources have high thinking skills (HOTS) and familiar (digital) tools for children and teachers.

Project approaches that have been used so far tend not to be associated with Indonesian children's competency standards.The project learning model helps students gain some experience and hone higher-order thinking skills [2]. The project learning model that refers to playing makes learning appropriate to the needs of children and makes it easy for children to acquire a certain amount of knowledge and with digital tools will make it easier for children to see the original object in accordance with the demands of children's learning based on Piaget's theory [1] and will easily attract the attention of children because they see a moving picture accompanied by sound.

Play and digital-based project learning model as a strategy for early childhood character development is indispensable in addition to improving learning that has an impact on increasing the competence of students designing and implementing learning for Early Childhood) also produces competency-based and digital project learning models for Early Childhood while encouraging students to get used to learning with a student-centered scientific approach. Learning projects have the characteristics of 1) the application of learning skills, 2) based on intrinsic motivation, 3) pay attention to the interest to increase children's involvement in learning, 4)

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provide opportunities for children to choose the learning activities provided, 5) recognizing children's abilities (children are experts) and teachers helping develop children's skills, 6) sharing responsibilities in learning to achieve achievement and flexible [3]. The teacher's task in learning this project is to facilitate the process of learning, listening, researching and learning together with children [3].

There are several models of project learning when viewed from the syntax. Among other things, project learning is carried out in stages such as the following, namely preparing and implementing a project which when detailed becomes like : 1) developing children's interests, 2) developing interest, 3) preparing activities, 4) field visits, and 5) discussion of activities that have been carried out, and 6) making conclusions [2]. The learning steps of this project are carried out through learning activities in the form of play will help children have superior characters [4]. The other model shows learning is carried out in three stages, namely the initial stage of the project, the stage of conducting an investigation, and the stage of guiding children to make conclusions and identify their achievements [5]. Play-based and digital project learning models were developed referring to pedagogic theories that gave birth to e-learning learning which had a profound effect on character building and abilities [6].

Technological developments have penetrated the world of education as a learning media innovation so that learning becomes more interesting. Being able to combine visuals (moving images) with audio (sound) which is then called video. Video is a medium that is suitable for classes, small groups, and even personal. Then the video can also be used for almost all topics, types of learners, and every realm cognitive, affective, psychomotor, and interpersonal [7]. Integrating Katz and Chard [2], Diane et al. [4] and Saravanan [6], learning is described in the form of activities that need to be undertaken by students who take courses in approaches and learning strategies as stated in Table 1.

Table 1. Use the steps oftheprojectapproach in learning

Stages	**Step**	**The activities**
Provisioning	Develop interest	Discuss experiences related to the project to be worked on and analyze videos showing the implementation of the project learning model.
	Prepare the project	Discuss the project to be carried out, make preparations related to the project and put it in video format.
	Field trip	Conduct observations and interviews according to the assigned task design.
	Discuss activities that have been carried out	Identify what has been done and what has been obtained.
Conclusions and results obtained.	Deduce the results	Analyze existing data and make conclusions.
	Bring up the project	Presentation of project learning models for Early Childhood presented in the form of videos.

By taking a project approach step in learning that has been stated in Table 1 students are trained to be able to 1) cooperate, 2) respect each other's friends, 3) responsibility, and discipline. The analysis showed that on average 98% of students actively participated in the learning stages.In addition, this learning model can help students improve knowledge, develop positive attitudes towards Early Childhood Education and practice the skills of designing and implementing learning.How the skills shown are still in progress, that is finishing the project [9]. By considering the project learning model, the character competence of Early Childhood and the child's preference for technological tools (video), the project model in this study can be illustrated in the diagram in Figure 1 below:

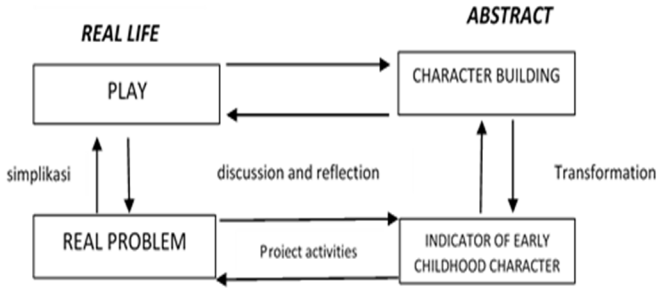

Figure 1. Diagram of Model Development Framework

Students can achieve competence 1) analyze learning theories and principles of Early Childhoodlearning, 2) organize development activities that educate and are able to take reflective action to improve the quality of learning, 3) apply the praxis of early childhood education in Early Childhood learning and record in video format. 4) Formulation of learning material approaches and Early Childhood learning strategies that can help students improve knowledge, develop positive attitudes and practice skills. (5) analyzing the effectiveness of learning videos to improve students' skills and creativity. (6) Conducting learning practices with the project model in Early Childhood Education and accompanied by recording making learning videos [8;10].

2. Research Method

This descriptive survey research examines the implementation of play-based and digital project learning models to measure the use of activities in each syntax of play-based and digital project-based learning models and improvement of student learning outcomes and character.The study was conducted using an empirical approach (empirical approach) which emphasizes the collection and analysis of data with a sample of students taking the Early Childhood Learning Strategy Approach course with a total of 105 people, 3 lecturers and ongoing learning. Data were collected by a comprehensive method, which is a combination of observation methods using checklists, document analysis and intervention methods through field experiments and analyzed with descriptive statistics of percentages and graphs as well as qualitative analysis conducted by linking the data obtained.

3. Results and Discussion

The results of the analysis show that: (a) the initial stage of the activity is carried out to develop interest and prepare the project, (b) the stage of the investigation is carried out a field visit and discuss the activities that have been carried out, and (c) the conclusion and presentation of the results obtained is carried out in a discussion group each group consists of 3 to 5 students. In the initial stages students are given the opportunity to express their opinions individually. The complete results of the analysis are presented in Table 2.

Table 2. Activities Based on Project Learning Model Video in Early Childhood Education by Student Prospective Early Childhood Teacher Education

Stages	Step	Activity	Presentation
Early	Develop interest	Question and answer with the lecturer	82
		Discussions with lecturers using video shows.	85
	Preparing the project	Search for material from various sources (books, videos and research articles).	90
		Discuss project design drafts.	90
		Strengthening the draft project preparation divide	95
Investigation	Roomy visit	Discussion about project learning in Early Childhood Education institutions with teachers.	92
		Observation of Early Childhood Education environment for making videos	90
	Discuss the activities that have been carried out	Discuss project activities that have been designed by students and teachers.	93
		Agree on a learning project design with Early Childhood Education teachers for distribution.	92
		Make a video model of project learning for Early Childhood.	93
Conclusions and results obtained	Summing up the results	Analyze data obtained from Early Childhood Education institutions	90
		Doing video editing that has been made.	93
	Propose a project	The resulting video presentation.	92

Increased student competence by 80% active students. The results of the analysis show that there is an increase in student competence in designing learning compared to previous lectures. This increase was mainly seen from the design of learning activities using project models for Early Childhood and videos produced by students. The analysis results are presented as in Table 3.

Table 3. Learning Activities in Learning Project Models

No.	Design Learning Activity scores	Design Video Learning Activities
1	12	Boiled eggs
2	12	Boiled corn
3	16	Pop Corn
4	14	Omelette
5	13	French fries
6	12	Silky Colored Pudding
7	14	candied mango

No.	Design Learning Activity scores	Design Video Learning Activities
8	11	fried catfish
9	12	fried rice
10	14	Avocado shake
11	15	shake the banana ice
12	14	shake tomatoes
13	15	Orange juice
14	12	chocolate milk
15	12	magic balloon
16	13	carrot juice
17	14	origami house
18	15	paper sandals
19	10	corn kernels
20	10	lion beast
21	13	radio
22	14	Avocado shake
23	10	fruit collage
24	13	balloon
25	12	telephone
26	15	fried rice
27	10	thorny palm
28	12	lemon

This model is effective in developing the character of Early Childhood and can help students improve knowledge, develop positive attitudes towards Early Childhood Education and practice skills in designing and implementing learning [8].

Student competency achievement.

The analysis showed that the highest score obtained by students on the video design of the learning model of the project was 94 and the lowest was 50. The average score was 72.19 with a large standard deviation of 9.63. The average score obtained is above the idial average score of 66.67. The results of the analysis using the normal curve principle found the existence of students in the distribution of the normal curve -1 to +1 deviation, which scores 62.56 to 81.82 as much as 82%. This figure is quite large. For more details, the results of the analysis are presented in Table 4.

Table 4. Student Scores in Making Video Designs Project Learning Model

Interval Class	Absolute	Relatively
49 - 55	3	3
56 - 62	5	6
63 - 69	29	32
70 - 76	19	21
77 - 83	27	30
84 - 90	4	5
91 - 97	3	3
Amount	90	100

The results of the analysis of the quality of the learning model video design of the project for Early Childhood are known to have four distribution categories, which are very good, good, sufficient and lacking.From Table 4 it is known that 38% of students produce instructional video designs in both good and very good categories. As many as 53% of students produce a video learning project design model for Early Childhood with sufficient categories. Based on the results of the overall video analysis using the rubric that has been compiled known the quality of the video produced by students. The quality varies. The complete results of the analysis are presented in Table 5.

Table 5. Category Design Learning Project Model

Category	Absolute	Percentage (%)
very good	3	3
well	31	35
enough	48	53
less	8	9
amount	90	100

Note:
Very good : all components exist and are compatible
well : all components are present
enough : insert 3-4 design components
Less : insert 1-2 design components

Character Development

The analysis showed the highest score was 94.4 and the lowest was 55.6. The analysis showed that the average score of the characters of responsibility and cooperation was 81.4 with a standard deviation of 9.65. The complete data is presented in Table 6

Table 6. Distribution of Student Character Scores

Interval Class	**Absolute**	**Relatively**
49 - 55	1	3
56 - 62	1	3
63 - 69	2	7
70 - 76	1	3
77 - 83	7	25
84 - 90	15	52
91 - 97	2	7
Amount	29	100

Table 7. Quality Character Development Category for Students

Category	Absolute	Percentage (%)
very good	2	7
well	15	52
enough	8	27
less	4	14
Amount	29	100

Note:
Very good = > 89
well = 80 - 89
enough = 70 - 79
Less= < 70

This model is effective in developing the character of Early Childhood and can help students improve knowledge, develop positive attitudes towards Early Childhood Education and practice skills in designing and implementing learning [8].The results of the analysis on all documents showed that all students made a design. To pour it into a video format assigned in groups. At first the students self-assess the design that will be distributed from all the group members' designs. After it is decided to be discussed with the lecturer and the design of Early Childhood learning activities will be videotaped. In this way obtained 28 videos with varying quality. From 28 video titles there are three video titles that do not meet the title criteria but the video content still meets the requirements.

The results of the analysis of the quality of the learning model video design of the project for Early Childhood are known to have four distribution categories, which are very good, good, sufficient and lacking. From Table 5 it is known that 38% of students produce instructional video designs in both good and very good categories. As many as 53% of students produced a video design learning project model for Early Childhood with sufficient categories.

Table 8. Design Learning Project Model For Early Childhood

Category	Absolute	Percentage (%)
very good	3	3
well	31	35
enough	48	53
less	8	9
amount	90	100

Note:
Very good = all components exist and are compatible
Well = all components are present
Enough = insert 3-4 design components
Less = insert 1-2 designcomponents

Forms of portfolio assessment instruments and appropriate assessment rubrics are used in learning with a play-based and digital project model as a strategy for early childhood character development in lecturing approach to learning strategies in Early Childhood Education. The analysis shows that the portfolio assessment and assessment rubric prepared are related to student learning outcomes. The intended learning outcomes consist of 1) video recording of Early Childhood learning activities and 2) character behavior. The results of the analysis of

learning objectives, products produced and learning activities, portfolio assessment instruments and videos produced in the form of appropriate assessment rubrics are used in learning with play-based and digital project models in learning approach approaches in Early Childhood Education.

4. Conclusion

Learning using a play-based and digital project model needs to be done with the following syntax, namely (a) the initial stage, which consists of developing interests and preparing projects, (b) investigations carried out with field visit activities and discussing activities that have been carried out, and (c) conclusions and results obtained which are carried out with the activities of concluding the results and presenting the resulting product.Third, obtained forms of learning activities that are designed in play-based and digital learning models as a strategy for early childhood character development (video learning project learning model with the title of learning activities "Making Juice") using a scientific approach. The video that the student is working on is still in process. Fourth, portfolio assessment instruments and videos were obtained in the form of appropriate rubric assessments used in learning with play-based and digital project models in lecturing approach to learning strategies in Early Childhood Education.

Suggestion

Based on the conclusions of the research results, research recommendations were formulated as follows:First, learning material approaches and learning strategies in Early Childhood Education needs to be used by lecturers to help Early Childhood Teacher Education Students or readers who are interested in self-development of Early Childhood through learning to have the competence to design and implement learning for Early Childhood.Second, the lecturers are expected to use play based and digital project learning models as a character development strategy. Third, it is necessary to socialize the forms of learning activities produced by students to Early Childhood Education teachers to be used as a learning activity strategy in the Fourth Early Childhood Education, further research needs to be carried out to determine the effectiveness of the project learning model by taking into account the ability of teachers of Child Education Early age, characteristics and other variables that influence learning.Fifth, this learning video is not the only way that can improve student skills so that further study is needed on other materials or media designed to achieve better practice effectiveness and efficiency.

5 . References

[1] Yus, Anita. (2011), *Model Pendiidikan Anak Usia Dini*. Jakarta: Kencana.

[2] Katz, Lilian G. dan Sylvia C. Chard. (2000), *Engaging Children's Minds: The Project approach second edition*. USA: Ablex Publishing Corporation.

[3] Rinaldi, C. (2006), *In Dialogue with Reggio Emilia: Listening, Researching and Learning*. London: Routlegde.

[4] Diane Trister Dodge, Laura J. Colker & Cate Heroman, (2002), *The Creative Curriculum For Preschool,* Teaching Strategies Inc,, Washington DC.

[5] Sylvia C. Chard, (2013), *The Project Approach to Teaching and Learning Project Approach, Standard, Teachers Roles as Facilitator.*

[6] Saravanan, V and Shanmughavel, P. (2007), E-Learning as a new tool in bioinformatics teaching, *Bioinformation,* 2(3), pp. 83-85.

[7] Smaldino, Sharon E. (2012), *Instructional Technology and Media for Learning*. Jakarta: Kencana.

[8] Olowe Peter Kayode and Kutelu Bukola Olaronke. (2014), Perceived Importance of ICT in Preparing Early Childhood, Education Teachers for The New Generation Children, *International Journal of Evaluation and Research in Education (IJERE)*, 3(2), pp.119~124.

[9] Grant, M. (2009), *Understanding projects in projectbased learning: A student's perspective. Paper presented at Annual Meeting of the American Educational Research Association*, San Diego, CA.

[10] Lickona, Thomas.(2001), *Educating for Character*. New York : Bantam Books.