Development of Interactive Media on The Jigsaw Method to Understand The Text of Grade IV Students of SDN Percontohan Pematangsiantar

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Abstract. This research is a development research that aims to produce an interactive media that uses the jigsaw method to improve the discourse understanding ability of grade IV students of SD Pilot in Pematang Siantar. The development model is adapted from the Thiagarajan model known as step 4D, namely define, design, develop and disseminate. Through Step 4D, one interactive medium is generated and then validated by an expert. Validation tests are carried out by material experts, linguists and media experts. After going through an repeated validation process, the validation of the three experts stated that the media was valid with an average score of 4.2 media experts, from material experts 4.3 and from linguists obtained an average score of 4. With these results, the interactive media produced is declared feasible to use. Then an effectiveness test is carried out by conducting trials in the classroom. The object of research at the trial stage was a grade VI student of Pematang Siantar Pilot Elementary School. The trial was carried out twice. In order to find out the effectiveness of the media developed, pretests and posttests are carried out. Student learning outcomes are declared good and improved. Learning media is very effective, as evidenced by the scores obtained by students, namely pretest 6.17 posttest 8.03. and a score gain of 0.8 which is categorized as high. With such results, the resulting learning media is feasible and effective.

Keywords: Interactive Media, Jigsaw Method, Understanding Discours

1 Introduction

Education is an effort to change human identity with awareness and responsibility from children to adults. The aim is to increase knowledge, skills and have a positive character of values in the order of life so that they are able to adapt to the environment [1]. Learning activities at school teachers are required to be able to motivate students by using the right media and methods, so that students are helped in understanding the learning content. Likewise, a teacher as an educator is required to be able to formulate attractive learning activities, as well as provide a fun learning experience in the classroom applying

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various learning methods, as an effort to achieve effective and efficient learning activities [2].

An important factor in the ability to read knowledge is being able to understand discourse. Discourse is the largest part of a sentence or series of continuous languages more than sentences [3]. The discourse in question is non-fiction discourse. Indonesian language learning in 4th grade students of Pematangsiantar Pilot Elementary School in the Indonesian language curriculum understands non-fiction discourse [4].

While the results of a brief interview with one of the vice principals and subject teachers, stated that actually the school has provided learning support facilities, such as computers/laptops, projectors as a means of smoothing student learning activities, but the problem is that they are less skilled for media developers. learning, namely interactive media, the teacher only uses books or printed materials that already exist, learning only hears from the teacher.

The fulfillment of these three media aspects is expected to be able to optimize both the activity process and the final achievement of optimal learning objectives[5]. it inspires researchers to make a research to produce innovative media that can be applied in learning activities assisted by *Adobe Flash software* in order to obtain an interactive media assisted by the *Jigsaw method, which* is expected to make it easier for students to improve their ability to understand discourse. The stages or steps of development are in accordance with the development procedures systematically. So that the researcher wants to examine the research entitled: "Development of Interactive Media in the *Jigsaw Method* for the Ability to Understand Discourse Materials for Class IV Students at Pematangsiantar Pilot Elementary School". The formulation of this development research problem is:

How is the feasibility of developing interactive media on the *Jigsaw method* in the ability to understand the discourse of fourth grade students at Pematangsiantar Pilot Elementary School?

How is the effectiveness of interactive media on the *Jigsaw method* in the ability to understand the discourse of 4th graders at Pematangsiantar Pilot Elementary School.

Learning Media

Media in general is a tool that is used by someone as an effort to convey messages to several purposes, the media is also a means of delivering teaching materials. [6] Media from the Latin word "Medium" which means "intermediary or introduction". In full, the media is a device for sending information from one individual to another in the hope that the information sent can be received and the content of the message is understood by the recipient.

Interactive Media

[7] explains that interactive media is a structure for the description of teaching material by showing it in the form of sound and video recordings with computer devices. Meanwhile, according to explains that interactive media is a structured form of

presentation controlled by computer devices that are not only seen and heard by respondents, but there is a quick response from voice and video exposure.

Adobe Flash

[9] declare *"flash"* is software that is applied to design with the integration of text, audio, video, images, bitmap and vector, text and data. In line with the above opinion, [10] states " *Adobe Flash* is *software* as a supporter in attractive learning activities".

Based on this definition, it can be concluded that *Adobe Flash* is an application that has a type of capability consisting of various types of capabilities such as creation, management, manipulation, and amination. Regarding the type of flash used, namely *Adobe Flash CS6* in *Adobe Flash CS6* , there are various features to create media. attractive.

Interactive Media on the Jigsaw Method in the Ability to Understand Discourse.

Interactive media are part of several tools that help a teacher in delivering messages conveyed to students as an effort to achieve more optimal learning goals . With the creation of interactive media, it is expected to develop students' desire to learn actively and creatively in continuous learning activities.

The Jigsaw cooperative method is a learning method that prioritizes the division of small groups (4-6 students). In its application, students are given responsibility independently in the tasks or materials given by the teacher as a teacher, and become experts in the assigned material according to their respective duties to be able to explain back to their friends who have different material. In this Jigsaw method, students are faster to build good interactions with one student and another. So that students are motivated to learn and be more creative so that learning outcomes are increasing.

The material on the ability to understand non-fiction discourse at the elementary school level discusses non-fiction discourse texts. Non-fiction discourse is a factual text that actually occurs scientifically. So it is expected that the skills to dig up new information from the texts they read, are able to retell the text in their own words, are able to answer questions based on the texts they have read, are able to make questions based on the texts they have learned.

With the interactive media with the help of the Jigsaw method on the ability to understand discourse, it is hoped that: (1) it helps or makes it easier for students to understand discourse; (2) make the lesson student-centered, (3) make the learning process on the ability to understand discourse more varied; (4) increasing the active role of students in the learning process; (5) increase motivation and student learning outcomes; (6) raise students' awareness of how important it is to improve the ability to understand discourse in Indonesian language learning.

Based on the explanation above, the author will later conduct research in class IV SDN Pematangsiantar Pilot School which will deliver material on the theme of the beauty of diversity in my country. Here the author will first describe the theme of 7 Special Indonesian language lessons. KD 3.7 KD 4.7.

2 Research Method

This research is a type of development research (*Development &Development) [11]*. In the research, namely interactive multimedia-based learning media with the Adobe Flash CS6 application. The final product will be evaluated based on the quality aspect of the product applied. Thus, the product of this research is a valid, practical and effective media. This research was conducted at Pematang Siantar Pilot Elementary School in the Even Semester of TP. 2021/2022. on "the theme of the beauty of diversity in my country, the sub-theme of the beauty of diversity in my country, the sub-theme of the beauty of the diversity of ethnicities and religions in my country". The subjects in this study were fourth-grade students at SDN Pilot Pematang Siantar. The object of this research is interactive media on the theme " the beauty of diversity in my country, the sub-theme of the beauty of ethnic and religious diversity in my country " on the theme of 7th grade IV in Indonesian language lessons. The development model in this study follows the path [12] The learning device development procedure in this study refers to the device development model according to Thiagaranjan and Semmel who say that the 4-D modal (*four-D models)* consists of 4 stages, namely: (1) the definition stage, (2) the definition stage. planning (*design)*, (3) the stage of development *(develop*) and (4) stage of *dissemination (disseminate*)[13].

3 Results and Discussion

Define

The initial and final analysis activities are specifically carried out by observation. Based on observations in the field, the implementation of learning in using learning media has not been suitable for the material presented by the teacher, especially on the ability to understand discourse on the theme of the beauty of diversity in my country, sub-theme of ethnic and religious diversity in my country. The presence of interactive learning media really helps students understand a good concept from abstract to concrete. Where students can demonstrate directly the regional languages that are owned by students. In learning, students become more active and have curiosity, so the teacher can use interactive media and choose the right media according to the learning objectives.

Design

The basis for preparing the test is task analysis and concept analysis described in the specification of learning objectives. As for in this study, researchers determined and selected the software used to create learning media, including Adobe Flash CS6. The selection of this learning media development format aims to design or design the content of the learning materials that will be delivered by the teacher, the media model developed by the researcher. the initial design is done by designing the opening page, the main menu page, designing the media in the learning materials section, designing the developer profile section, designing videos, and designing evaluations.

Develop

Based on expert validation, a score of 48 was obtained with an average value obtained from learning media experts of 2.52 which was declared quite valid (fair enough) for learning media. The results of the media expert's revision can be seen in Table 1.

Table 1. The results of the media expert's revision

Coment	**Revision result**	
	Before	**After**
Topics are explained thoroughly (holistically) into one part of each Culture	 	 
Give Interruptions To interact, for example What do you think about the video?	-	

The expert revision of learning materials carried out by the validator consisted of three aspects of assessment, namely the quality of the content, implementation, visual appearance, which was obtained by a total score of 23 with an average value of 2.3 which was categorized as quite valid (decent) media and obtained several notes that needed to be considered. corrected about the shortcomings of learning materials using Adobe Flash CS6. Based on the results of the validation of linguists, the total score of 34 with an average value of 2.8 was still in the quite valid (decent) category.

Pretest

The results of the first pretest analysis before conducting the first trial using the media developed by the media obtained the results of the student pretest with a total of 28 students there were 11 students who completed with a percentage of 39.2% and and 17 students or 60.7% declared incomplete with this classical completeness percentage (CCP) as big.

Postest

Based on the post-test results, it was found that 24 students of Pematangsiantar Pilot SDN obtained a complete score with a percentage of 85.71% and 4 students with a percentage of 14.28% did not complete. While the classical completeness percentage (CCP) in the posttest of student learning outcomes using interactive media learning media is 85.71%. Based on the results of the second trial of 28 students, the percentage of classical completeness of 92.85% was declared complete.

N-Gain

In the first trial, the average score of students in the pretest was 6.17 and the post-test was 7.5 so that the n-gain was 0.6 with the "medium" category. this shows that interactive media is effective for use in the second trial. From the results of the effectiveness data obtained from the pretest, posttest and N-Gain scores, the average pretest score is 6.17 and post-test is 8.03 with an n-Gain score of 0.8 categorized as high. So it can be stated from the results of test II that the learning media developed is very feasible to be used in the learning process.

Disseminate

The Dessiminate stage is carried out by conducting research using media that are already valid and effective for further use by teachers and students in learning.

Discussion

Interactive Media Eligibility

Based on the results of expert validation of the interactive media on the developed interactive media, it can be seen that the media validation average of 4.2 is declared valid. The average assessment of material experts is 4.3 in the valid category, the average language expert is 4.0 with a valid category. The overall average of expert judgment is 4.1% with the category of indicator suitability criteria used is valid.

Effectiveness of Interactive Media

Based on the acquisition of pretest and posttest student learning outcomes before and after using the developed learning media can be obtained with an average pretest score of 39.2% and after using the learning media developed in the first trial it is obtained with an average score on the posttest with classical completeness by 85.71%. Furthermore, the effectiveness of the interactive media on the Jigsaw method that was developed was proven from the N-Gain test score at 0.6 with a medium gain criterion. To improve the results of the posttest as well as classical completeness and the effectiveness of the media developed in the posttest II trial after reusing the developed learning media. Then the results of the post-test in the second trial with an average value of 92.85% with the category of students completed. Then obtained classical completeness of 92.85% and N-Gain of 0.8 with a very high category. By increasing the results of testing I and testers II, this proves that interactive media in the Jigsaw method can be declared effectively used

so that it can improve student learning outcomes on the ability to understand discourse in grades IV-A of Pematangsiantar Pilot Elementary School.

4 Conclusion

The interactive media in the Jigsaw method assisted by Adobe Flash CS6 in the ability to understand the discourse "the theme of the beauty of diversity in my country, sub-theme of ethnic and religious diversity in my country" is considered quite good. This is supported by the acquisition of validation results with an average value of 4.2%, material experts obtained an average value of 4.3% and linguists obtained an average value of 4.0%.

In effectiveness, the use of interactive media in the jigsaw method is known based on the pretest and posttest scores. The percentage of classical completeness (PKK) in the posttest of student learning outcomes using learning media or interactive media was 85.71% , while in the second trial it was obtained from 28 students the percentage of classical completeness (PKK) was 92.85% declared complete. To see the increase in the value of student learning outcomes using N-Gain obtained in the first trial 0.6% (medium) while the second trial 0.8% (very high). So it can be stated that interactive media is very effective.

References

[1] Sari, SN (2021). Yosi Melda Sari , Safinatun Najah all the potential that has existed in children from the start so that children. *Journal of Children's Education Bunayya* , *8* (2), 1–13.

[2] Wibowo, A., Simaremare, A., & Yus, A. (2022). *Analysis of Basic Education Learning Problems* . *1* (1), 37–50.

[3] Nurdyansyah, & Fahyuni, E. F. (2016). Inovasi Model Pembelajaran Sesuai Kurikulum 13. In *Nizmania Learning Center* (pertama). Nizam Learning Center.

[4] Bahdar, R. (2016). Discourse Readability Level of Indonesian Language and Literature Lesson Textbook Class Vii With Cloze Test for Students of SMPN 3 Tarowang Kab. Jeneponto. *Konfiks: Journal of Indonesian Language and Literature* , *1* (2), 71.

[5] Danuri. (2018). Efektifitas Strategi Cloze Story Mapping Terhadap Kemampuan Membaca Pemahaman Pada Siswa Kelas V di SD 2 Padepokan Kasih Bantul. *TRIHAYU: Jurnal Pendidikan Ke-SD-An*, *5*(1), 520. https://doi.org/https://doi.org/10.30738/trihayu.v5i1.3177

[6] Nurfadhillah, S., Hadi, R. U., Septiarinic, A. A., Kurniawatid, A., Auliae, M., & Tangerang, U. M. (2021). *Pengembangan Media Pembelajaran Daring Audio-Visual Di Masa Pandemi Covid-19 Pada Siswa*. *3*, 323–332.

[7] Pramuaji, A. (2017). Pengembangan Media Pembelajaran Interaktif Pada Materi Pengenalan Corel Draw Sebagai Sarana Pembelajaran Desain Grafis Di Smk Muhammadiyah 2 Klaten Utara. *Elinvo (Electronics, Informatics, and Vocational Education)*, *2*(2), 183–189.

[8] Priyambodo, E. (2017). Pengaruh Media Pembelajaran Interaktif Berbasis Web Terhadap Motivasi Belajar Mahasiswa. *Jurnal Kependidikan: Penelitian Inovasi*

[9] Prasetyo, G. E., & Ginting, N. (2020). *Pengembangan Media Pembelajaran Menggunakan Metode Adobe Flash Dengan Menggunakan Model 4-D Tentang Kearifan Lokal Budaya Melayu Langkat Tahun Ajaran 2019 / 2020*. *2*(1), 93–102.

[10] Rezeki, S. (2018). Pemanfaatan Adobe Flash CS6 Berbasis Problem Based Learning Pada Materi Fungsi Komposisi dan Fungsi Invers. *Jurnal Pendidikan Tambusai*, *2*(4), 856–864.

[11] Wibowo, A., Setiawan, D., & Rambe, T. (2022). Development Of Interactive Learning

Media Based On Contextual Learning Current PKn Students Of Class V SDN 250 / VI Sinar Gading II. *Sensei International Journal of Education and Linguistic*, *2*(2), 289–303.
[12] Tiagaranja, S.Semmel, D.S.Semmel, M. 1974. *Instructional Development For Training Teachers Of Expectional Children, A Sourse Book*. Blomington: Indiana
[13] Trianto. (2013). *Mendesain Model Pembelajaran Inovatif-Progresif; Konsep,Landasan, Dan Implementasinya Pada Kurikulum Tingkat Satuan Pendidikan (KTSP).* (6th ed.).