

CONSERVATION BASED INTERACTIVE MULTIMEDIA DEVELOPMENT IN CLASS IV IPS CONTENTS

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Abstract

This research is aimed at developing adobe flash interactive multimedia based on conservation on the social studies subject in fourth graders of Purwoyoso 03 Elementary School. Based on pre-research data through interviews, observations, and documents, in Purwoyoso 03 Elementary School there are problems found in social studies learning related to limited learning media, students only utilize media in the form of images and daily objects like a map image without having any other supporting media. This type of research was Research and Development (R&D) by Borg & Gall which is adapted by Sugiyono in 8 steps, namely: (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. The results showed that the development of adobe flash interactive multimedia based on conservation was very feasible; 82.81% feasibility of presentation by media experts, the eligibility of content by material experts at 96.87%, and the feasibility of language by linguists at 82.81%. The average difference test result using the t test showed the sig. (2-tailed) value is 0.000 <0.050 which means there were significant differences between the pretest and posttest learning outcomes. The average increase (N-gain) of the pretest and posttest result was 0.385 with moderate criteri The average difference test result using the t test showed the sig. (2-tailed) value is 0.000 <0.050 which means there were significant differences between the pretest and posttest learning outcomes. The average increase (N-gain) of the pretest and posttest result was 0.385 with moderate criteri The average difference test result using the t test showed the sig. (2-tailed) value is 0.000 <0.050 which means there were significant differences between the pretest and posttest learning outcomes. The average increase (N-gain) of the pretest and posttest result was 0.385 with moderate criteri.

1. PRELIMINARY

According to Sapriya (2017: 7), social studies at the school level have the aim to prepare students to become citizens who master knowledge, skills, attitudes and values used to solve personal and social problems. as well as the ability to make decisions, participate in community activities to become good citizens. The goals and roles of social studies in the 2013 curriculum have been formulated and adapted to the development of education in general in Indonesia. However, in its application there are still problems in social studies learning in elementary schools. This is in line with the research conducted by Priyanto (2016: 120-135) in the Journal of the Primary School Mimbar, the application of Social Studies learning has not been actualized optimally. This is due to the lack of enthusiasm of students in participating in the learning process and the low knowledge of students about the social studies material presented, because the teacher only explains based on books and the teacher has not implemented interactive learning media so that the learning process has not attracted students' attention and enthusiasm.

Based on the results of pre-research conducted by researchers through interviews, observations, and document data in the form of student learning outcomes, several problems were found in social studies learning in class IV. Resources to study at

SDN Purwoyoso 03 is limited, teachers only use student books and teacher books provided by the school, the scope of material in teacher books and student books is not broad, but there are no other supporting learning sources. In addition, the teacher has not used learning media that is attractive and in accordance with the needs of students, the media used is in the form of pictures and objects in the surrounding environment, such as maps and plants around the school. Another obstacle is that students have difficulty understanding social studies material about the wide-ranging characteristics of space, students are required to understand the characteristics of the environment around them and their effects in everyday life. The use of less attractive media causes the learning process to be less than optimal.

This problem is supported by data on learning outcomes for class IV semester 2 of the 2018/2019 academic year at SDN Purwoyoso 03 on social studies subjects that have not reached the minimum completeness criteria (KKM). The KKM that has

been determined is 75 while the average student learning outcomes are only 48.4. The number of grade IV students at SDN Purwoyoso 03 is as much 35 students, 29 (83%) of whom have not met the KKM and 6 (17%) students have met the KKM.

Based on these problems, the researcher wants to solve the problem by developing conservation-based interactive multimedia adobe flash in social studies class IV material on the characteristics of space and the use of natural resources to help the learning process to be more optimal.

Interactive multimedia is widely used in education, according to Vagg (2020: 2) interactive multimedia is proven to be effective for learning, animation effectively stimulates interest and enhances the learning experience of students. According to Armansyah (2019: 225), multimedia is one of the learning media that combines several media components presented using computers and this media is a solution in making it easier for students to understand the material compared to monotonous books / e-books. Bintaro (2017: 195) Adobe Flash is a program that can package multiple media in multi-media learning and is easy to learn. Adobe Flash helps the realization of a good learning process because it makes it easier for students to receive learning material (Ampera, 2017: 315). The use of Adobe Flash is quite popular because it has complete tools that make it profitable in making interesting animation works (Zainil, 2018: 1). Adobe Flash is known to be popular and has been recognized for its sophistication because it is expected with using this media can improve students' understanding in the learning process (Kusumaningrum, 2018).

According to Hardati (2016: 61) conservation is an effort to conserve the environment by maintaining the existence of each existing component so that it still benefits for the future. One form of conservation is through reforestation, waste and waste management, including paperless. Meanwhile, the conservation character values according to (Martien, 2015: 73) are religious values, honesty, fairness, love for the country, smart, tolerant, democratic, polite, responsible, caring, and tough. According to Suprayogi (2017: 133) character education that is in accordance with the personality of the Indonesian nation is a personality that is in accordance with the values of Pancasila.

The research that supports this research is the research entitled "Development of Adobe Flash in Thematic-Integrative Learning Based on the Scientific Approach of the Beauty of Historical Heritage Subtema" by Prasetyo and Prasajo in 2016. The results of this study indicate that interactive multimedia software developed is feasible and effective to improve achievement. learners.

Other research that supports this research is research conducted by Widodo, Harmanto, and

Prasetyaningtyas in 2017 with the title "Learning Model Innovation through the Development of a Reflection Thinking Strategy, Reinforcement & Habituation (R2H) Based on Conservation Values in the Elementary School Civics Development Course". Based on the feasibility test of the validator, it shows that the model design can be tested in the treatment class with the one group pretest posttest design pattern showing the results of the pretest and posttest an increase in learning outcomes in the high category, while through a questionnaire the effectiveness of the model innovation shows that there is an increase in the effectiveness of learning before and after using learning model innovation.

The formulation of the problems in this research are: (1) how is the design of the development of interactive multimedia learning media based on conservation based on conservation in social studies learning for Class IV SDN Purwoyoso 03 Semarang ?; (2) what is the feasibility of Adobe Flash based interactive multimedia learning media conservation in social studies learning for Class IV SDN Purwoyoso 03 Semarang ?; (3) what is the effectiveness of conservation-based interactive multimedia learning media adobe flash in social studies class IV SDN Purwoyoso 03 Semarang?

Based on the formulation of the problem, the objectives of this study are: (1) to develop interactive multimedia Adobe Flash based on conservation in social studies class IV SDN Purwoyoso 03 Semarang; (2) testing the feasibility of adobe flash interactive multimedia based on conservation in social studies class IV SDN Purwoyoso 03 Semarang; (3) testing the effectiveness of Adobe Flash interactive multimedia based on conservation in Social Studies Class IV SDN Purwoyoso 03 Semarang.

2. RESEARCH METHODS

The type of research used in this research is research and development (Research and Development). The development model used in the development of conservation-based interactive multimedia adobe flash is the Borg & Gall model adapted by Sugiyono with 8 steps, namely: (1) potential and problems; (2) data collection; (3) product design; (4) design validation; (5) design revision; (6) product testing; (7) product revision; (8) trial use.

Research variables include Adobe Flash interactive multimedia based on conservation and social studies learning outcomes of spatial characteristics and utilization of natural resources which emphasize the cognitive realm.

The population in this study included all fourth grade students of SDN Purwoyoso 03 academic year 2019/2020. Sampling in product trial research was

carried out through purposive sampling technique, sampling technique with certain considerations (Sugiyono 2015: 124). The consideration in taking this sample was that the researcher took a sample of 6 students heterogeneously based on class rank, namely 2 upper-ranking students, 2 middle-ranking students, and 2 lower-ranking students.

The data collection techniques used were test and non-test techniques. The test techniques in the form of pretest and posttest were used to determine the effectiveness of adobe flash interactive multimedia based on the conservation of IPS content material on the characteristics of space and utilization of natural resources. The non-test techniques in this study used instruments in the form of teacher and student needs questionnaires, expert assessment questionnaires, teacher and student response questionnaires, and documentation.

The data analysis technique uses product data analysis to determine the feasibility of adobe flash interactive multimedia based on the conservation of the IPS content material on the characteristics of space and utilization of natural resources. Initial data analysis with the normality test to test the pretest and posttest learning outcomes, the t-test was used to determine the average difference in social studies learning outcomes before and after using conservation-based Adobe Flash interactive multimedia, and the N-Gain test was used to determine the average increase. average learning outcomes.

3. RESULTS AND DISCUSSION

The results of research and development of interactive multimedia adobe flash based on IPS content conservation material on spatial characteristics and utilization of natural resources include; (1) the result of adobe flash interactive multimedia development based on material conservation of spatial characteristics and utilization of natural resources in IPS content; (2) the feasibility of adobe flash interactive multimedia based on material conservation of spatial characteristics and utilization of natural resources in IPS content by expert validators; and (3) the effectiveness of adobe flash interactive multimedia based on material conservation of spatial characteristics and utilization of natural resources in IPS content.

The Result of Conservation-Based Adobe Flash Interactive Multimedia Development on IPS Content

Conservation-based interactive Adobe Flash multimedia is a learning media that is presented interactively on a computer or laptop device containing material on the characteristics of space and the use of natural resources. Interactive

multimedia is created using the Adobe Flash application which can load interesting pictures, animations and videos. Interactive multimedia integrated with conservation character values presented in the form of a short video. Learning media can be operated on a laptop / computer that has the Adobe Flash application installed.

Interactive Multimedia Feasibility Validation Adobe Flash Conservation Based

Table 1 Recapitulation of Media Feasibility Assessment Validation Results

Validator / Expert	total Score	Average	Percentage	Criteria
Media	53	13.25	82.81%	Very worthy
Theory	62	15.5	96.87%	Very worthy
Language	53	13.25	82.81%	Very -
				<u>Well worth it</u>

Based on table 1, the validation of the assessment of the feasibility of the presentation component by media experts gets a score of 53 with a percentage of 82.81%, the validation of the assessment by material experts gets a score of 62 with a percentage of 96.87%, and the validation of the assessment by linguists gets a score of 53 with a percentage of 82.81 %, all three are very feasible. These results indicate that the conservation-based interactive multimedia adobe flash has met the completeness of presentation feasibility, content feasibility, and language feasibility so that it is suitable for use in learning human interaction material with the environment and its effects on social studies content.

The Effectiveness of Adobe Flash Interactive Multimedia Conservation Based

The effectiveness of conservation-based Adobe Flash interactive multimedia can be seen through student learning outcomes, namely the pretest and posttest scores. Researchers conducted a paired sample t-test to determine the average difference in learning outcomes before and after using conservation-based Adobe Flash interactive multimedia. The following is a table of the results of the calculation of the paired sample t-test performed using the SPSS application.

Table 2. T-test test

Paired Samples Test

Based on table 2, the results of the average difference test between the pretest and posttest assisted by the SPSS application show that the sig. (2-tailed) of 0,000.

Criteria for testing paired sample t-test is if the value is sig. (2-tailed) <0.05, then there is a significant difference between learning outcomes in the pretest and posttest data. Conversely, if the sig. (2-tailed) > 0.05, there is no significant difference between learning outcomes at the pretest and posttest. The t-test result shows that sig. (2-tailed) 0.000 <0.05, so it can be concluded that there is a significant difference between the pretest and posttest data results.

Average Increase Result (N-Gain)

The n-gain test was carried out in this study to determine the average increase in the pretest and posttest scores. The results of the increase in the mean pretest and posttest data can be seen in the following table.

Table 3 Average Test Results (N-gain)

<u>Category</u>	<u>Score</u>
<i>Pretest</i>	51.62
<i>Posttest</i>	70.29
Difference in average	18.68
<u>N-gain class</u>	<u>0.385</u>
<u>Criteria</u>	<u>Moderate</u>

Based on table 3, the results of the average increase (N-gain) test show that the learning outcomes of grade IV SDN Purwoyoso 03 Semarang have increased by an average of 0.385 with an average difference of 18.68 and are included in the moderate criteria.

4. CONCLUSION

Conservation-based adobe flash interactive multimedia has been developed using the Research and Development (R&D) development method adapted by Sugiyono. Based on the content feasibility assessment by media experts, material experts and linguists on the presentation feasibility component with a percentage of 100%, the content feasibility component with a percentage of 82.81%, and the language feasibility component with a percentage of 82.81%, the three assessments by these experts obtained very feasible criteria.

The use of conservation-based interactive multimedia adobe flash is effectively used in social

studies learning material on spatial characteristics and

Pair	Pretest- posttest	Paired Differences				t	df	Sig. (2- tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
1	18,67	8,26	1,41	-21,55	-15,79	13,18	33	,000	

utilization of natural resources. This is shown in the t-test results of 0.000 with a significant difference and there is an increase *N-gain* amounting to 0.385 with moderate criteria.

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