

Application of Adobe Flash CS6 Based Mathematic Learning Media Subject Piece on Class V SDN 1 Majasari Sliyeg District Indramayu

Ratna Dewi Lestyorini¹, Tommy Noviyanto²

ratna.dewilestyorini@gmail.com

STKIP Pangeran Dharma Kusuma Indramayu

Abstract. Elementary School students are generally between 7 and 12 years old, especially class V who can perform fraction counting operations. To increase the level of understanding students can use learning media such as Adobe Flash CS6. The method used was classroom action research, the research subject was grade V SDN 1 Majasari with a sample of 23 students. The results of the study note that the mathematics learning media based on Adobe Flash CS6 can improve students' understanding of grade V SDN 1 Majasari. Based on the results of research that has been done, it is concluded that adobe flash-based learning in fraction material grade V public elementary schools in SDN 1 Majasari Indramayu Regency increases student activity and learning outcomes, with an average pretest result of 63.31% and an average of average post-test results as large as 82.79%.

Keywords: Adobe Flash CS6, Elementary School, Piece

1. Introduction

The demand for education with advances in technology and knowledge influences the process of education and teaching this results in requiring teachers or teaching staff to be able to use the media. The use of media is one important factor that enables the speed of transformation of science to students more broadly. Media is very useful to help in facilitating the teaching process because the media can present something that cannot be presented in the classroom, such as planes, planet and others. So that teachers are required to be able to draw on innovative teaching materials (such as audio, visual or interactive teaching materials) in accordance with the development of information technology.

Mathematics education is a universal science that underlies the development of modern technology. Has an important role in various disciplines and advances human thinking (Ibrahim and Suparni: 2008: 35). One of the problems that arise for students is lack of mastery of mathematics, because students are less interested in mathematics. Mathematics is considered as the most difficult subject for children or adults, because there are too many formulas to remember and weaknesses in calculation. This is also seen in the fractional count operations material.

Technology that is increasingly developing and getting closer to children will certainly be able to provide interest for them. Technology plays an important role in conveying information in the form of text, images and sounds to users throughout the world. For example of technological development in the form of media is multimedia.

Multimedia is one form of learning media text has advantages. With multimedia, teachers can display more objects in the form of image with sound, one application that can be used to create multimedia learning is Adobe Flash CS6. Adobe flash is application that require the availability of means of interaction with their use. The purpose of this study was to determine the application of Adobe Flash CS6 – based mathematics learning media on fractional material, to determine the feasibility as a source of learning and students responses to this learning media.

2. Method

Research and development methods or in English Research and Development (R&D) is a research method used to produce certain products, and test the effectiveness of these products (Sugiyono, 2013: 407). Research in developing learning media in the form of Compact Discs (CD). Interactive Research instruments used were observation sheets, validation sheets, interview guide sheets, questionnaires and tests. Observation sheets are used to measure behavior that can be observed in real situations. Validation sheets are used to measure content validation and construct validity of the developed teaching material. The test is used to determine the feasibility of the use of teaching materials as a source of learning for fifth grade students of state primary schools.

3. Research Result and Discussion

Research Result

The results of this study are the development of adobe flash-based mathematics learning media on the material fractions of grade V SDN 1 Majasari, Indramayu Regency. This research was conducted at SD Negeri 1 Majasari Indramayu Regency with a total number of 23. Based on the research steps regarding the development of adobe flash-based mathematics learning media on fraction material that has been carried out, the following results are obtained:

Research and Data Collection

Research and data collection in This research was obtained from observations and interviews with several elementary school teachers in Sliyeg District. Based on interviews, it was found that grade V students on fraction material did not understand and were difficult. The teacher in the class explains with conventional learning methods and most teachers are not familiar with the Adobe Flash method.

Planning

The next stage after data collection is product design planning that is adapted to Basic Competence and Learning Objectives.

Product Design

This learning media is created using an application called Adobe Flash or often called Macromedia Flash. The first step is to install the Macromedia flash application to create an interesting animation learning media. The media in this study consists of several menus, namely:

Home Menu

Home Menu on the Home menu (as in Figure 1) there is an Enter button to enter the main menu



Picture 1. Home Menu

Main Menu

In the main menu shown in pictures 2, there are three menus namely Purpose, material, and evaluation.

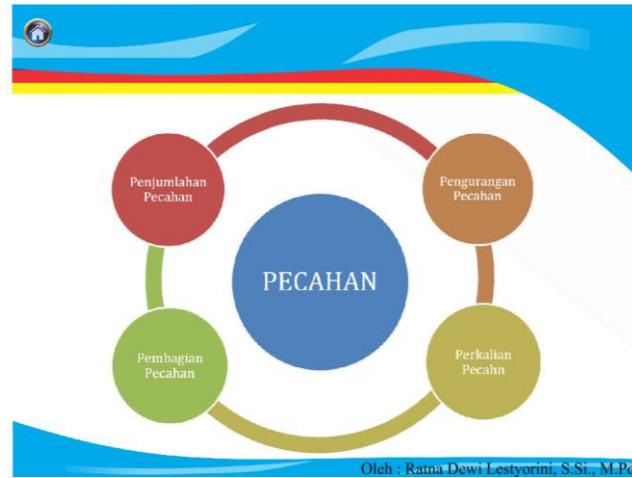


Picture 2. Main Menu

in the destination menu, is contains about the objectives of learning fractional material.

Material Menu

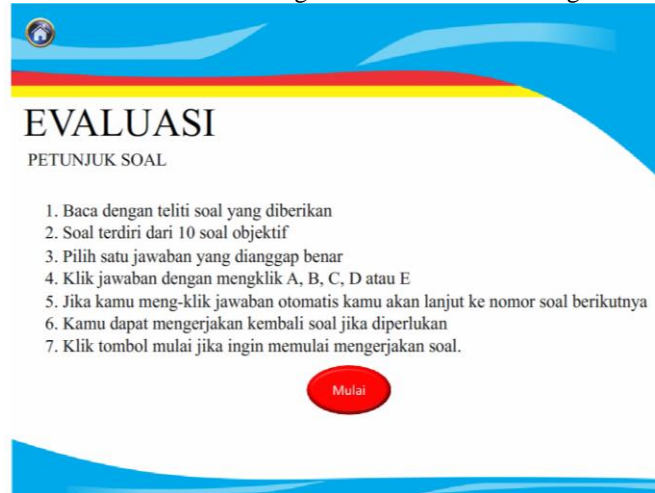
In the material menu section contains an explanation of the fraction material, namely fraction sales, fraction reduction, fraction multiplication, and fraction division (picture 3).



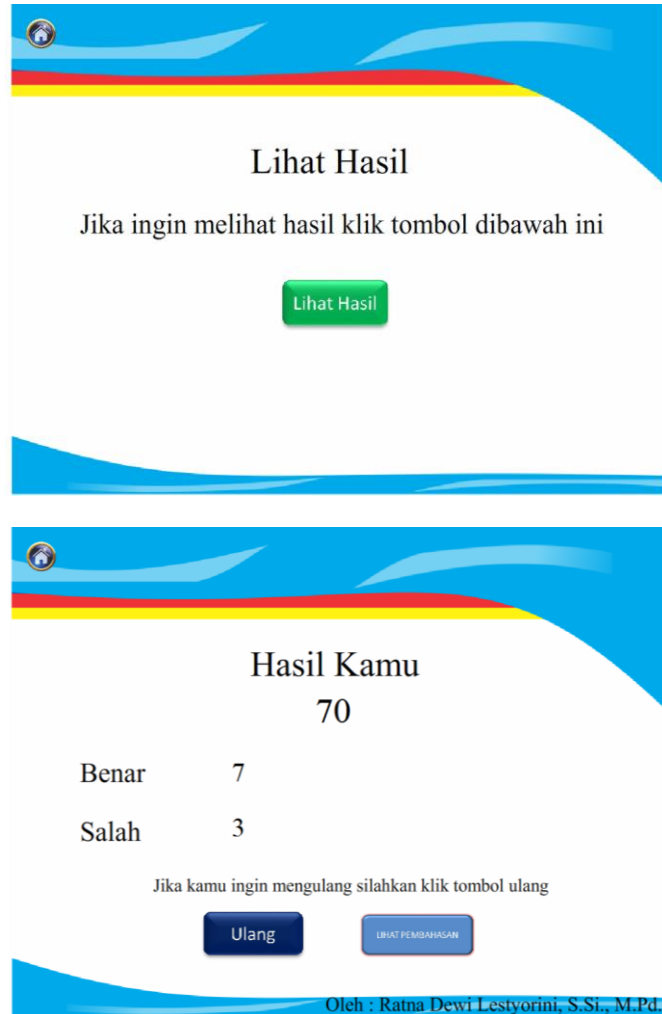
Picture 3. Material Menu

Evaluation Menu

This evaluation menu is useful for measuring students' level of understanding about fractional material (picture 4). in the evaluation menu there is also a value obtained and discussion of each exercise question so that students know the right location and the wrong location.



Picture 4. Evaluation Menu



Picture 5. The Results of The Practice Questions

Exit Menu

To end the learning with this media, a cross button is provided on the top right so that it will come out like in picture 5. Then select Yes to end it.





Picture 6. Exit Menu

Produk Validation

Design validation was tested by Dr. Eva Nur Arovah, M.Hum and in the first validation the results were obtained with the "feasible" criteria. while the second validation obtained "very decent" results. for the validation of the media experts were tested by Agus Sholeh, S.Kom with the results of the first validation which is "feasible" and the results of the second validation "very feasible".

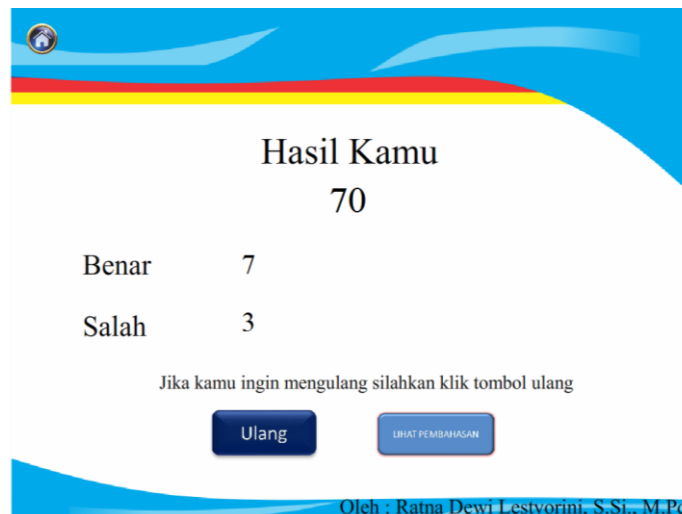
Produk Revision

After the product validation has been carried out by experts, then the product revision is carried out in accordance with the input from the experts. The input is as follows:

- a. On the material menu there are four menus, namely addition, subtraction, multiplication, and division. on each menu there is a button , which initially when clicking the  button will return to the main menu. Then corrected by researchers to return to the material menu.
- b. On the evaluation menu there is a menu looking at the results or values obtained, which initially did not have a discussion button, then corrected and added a discussion button.



Picture 7. Before Repair



Oleh : Ratna Dewi Lestyorini, S.Si., M.Pd.

Picture 8. After Repair

Product Trial

After researchers improve the product according to the input and advice of experts, the product is ready to be tested on students. The trial was conducted to determine the response of students and the feasibility of the products tested. In this research process, small groups and large groups will be taken in public elementary schools in SD Negeri 1 Majasari Indramayu Regency.

a. Small Group Trials

Trials on small groups were carried out at three public elementary schools in Sliyeg Subdistrict, Indramayu District, experimenting with this product, which was started with an explanation of the learning objectives and then the appearance of the product with the help of projectors and laptops. After the learning process is complete, students are given an assessment sheet to find out the level of feasibility of the product being tested. The results of the assessment sheet showed that the adobe flash-based mathematics learning media on fraction material was very feasible and interesting to use. At this stage the duration of time is approximately 45 minutes for.

b. Large Group Trials

Large group trials were conducted at 11 SD Negeri 1 Majasari Indramayu Regency SD Negeri 1 Majasari Indramayu Regency. By doing the same thing as in the small group trial process. The results of the assessment sheet that is adobe flash-based mathematics learning media are very interesting, easy to understand, and make the atmosphere in the classroom become more lively with an average post-test result of 82.79%.

Product Revision

After the field trials, the results obtained that adobe flash-based mathematics learning media makes students more active in the learning process, a display that makes students interesting and easier to understand. Based on this development stage, the product used in this case is Adobe Flash is suitable for use in the teaching and learning process, especially in fractional material.

Learning Media Trial Results

The implementation of adobe flash-based learning media is well implemented, as are the students who are more active in the learning process. So that the atmosphere in the classroom is created more alive. The results of research on elementary school students in grade V at SDN 1 Majasari Indramayu Regency were conducted by holding pre-tests and post-tests to determine the learning outcomes of students using Adobe Flash. The results of the pretest and posttest values are presented in Table 1 below.

Table 1. Average Pretest and Posttest Scores

	Pretest	Posttest
Sum Student	23	23
Average	63,31%	82,79%

Based on the data in Table 1. that the average value obtained at the time of the pretest was 63.31% with the number of students 23. While the average value obtained at the time of the posttest was 82.79% with the number of students 23. This means there is an influence of adobe flash-based learning media especially fraction material on mathematics, students are more understanding and more active in working on exercises.

4. Conclusion

Based on the results of research that has been done, it is concluded that adobe flash-based learning in fraction material grade V public elementary schools in SDN 1 Majasari Indramayu Regency increases student activity and learning outcomes, with an average pretest result of 63.31% and an average of average post-test results as large as 82.79%.

References

- [1] Arif S. Sadiman, et al. 2009. *Media Education: Definition, Development, and Utilization*. Jakarta: Rajawali Press.
- [2] Arikunto, Suharsimi. 2007. *Fundamentals of Educational Evaluation*. Jakarta: Bumi Aksara.
- [3] Azhar, Arsyad. 2011. *Learning Media*. Jakarta: Raja Grafindo Persada.
- [4] Borg, W. R., Gall M. D & Gall. J. P. 1983. *Education research: an introduction. (7thEd)*. New York: Pearson Education. Inc.
- [5] Heruman. 2010. *Mathematical Learning Model*. Bandung: Remaja Rosdakarya.
- [6] Ibrahim, Suparni. 2008. *Learning Mathematical Theory and Its Applications*. Yogyakarta: Suka-Press.
- [7] Kemendikbud. 2013. *Indonesian Minister of National Education and Culture Regulation No 67 of 2013 concerning process standards*.
- [8] Oemar, Hamalik. 2002. *Psychology of Learning and Teaching*. Bandung: Sinar Baru.
- [9] Rohani H. M, Ahmad. 1997. *Instructional Media*. Jakarta: Rineka Cipta.
- [10] Sudjana, Nana dan Ahmad Rivai. 1990. *Teaching Media: Use and Manufacture*. Bandung: Sinar Baru.
- [11] Suherman, E. dkk. 2003. *Contemporary Mathematical Learning Strategies*. Bandung: JICA-UPI Bandung.
- [12] Sukirman. 2012. *Development of Learning Media*. Yogyakarta: Pustaka Insan Madani.
- [13] Susanto, A. 2013. *Learning Theory and Learning in Primary Schools*. Jakarta: Prenada Media Grup.
- [14] Sugiyono. 2013. *Educational Research Methods: Quantitative, Qualitative, and R&D Approaches*. Bandung: Alfabeta
- [15] Team Research and Development Division. 2007. *Complete guide to Adobe Flash CS3 Professional*. Yogyakarta: Andi Offset.