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Using Digital Media to Improve Student Learning Outcomes by Muria Kudus University KKN Students

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Abstract: The use of Android Application Media is one of the Real Work Lecture Work Programs of uria Kudus University in jekulo Village. Android Application learning media is one of the learning tool applications in the form of audio visual using a smartphone. The purpose of this research and service is to determine the effect of using digital media on improving the learning outcomes of fifth grade students of SD N 6 jekulo. Research and service was conducted at SD Negeri 6 Jekulo, by grade V students totaling 12 children. The research method used is Quantitative Experiment. The use of media also goes through a validation process with a media validation value of 89 with a maximum score of 100 which means that the media can be used without revision and is very feasible in learning. Data was collected using pre-test and post-test. Pre-test results obtained an average student score of 46.6 while Post-Test results obtained an average score of each student getting an increase in score. The average value is 71.6 which means there has been an increase in learning outcomes by 5%. The results showed that Digital Based Android Application Learning Media had an impact on learning and was effectively used in improving the learning outcomes of IPAS SD 6 Jekulo.

Keywords: Digital Media, Android Application, IPAS Learning Outcomes, SDN 6 Jekulo, KKN Jekulo Village

1.   Introduction

Community Service Program (KKN) is a form of student service to the community with a cross-disciplinary and sectoral approach within a certain period of time. KKN in Jekulo Village, Jekulo District, Kudus Regency was carried out for one month with a team of 15 students from Muria Kudus University with details of 10 female students and 5 students. KKN is a manifestation of the Tri Dharma of higher education, namely 1) Education & teaching; 2) Research and Development; 3) Community service. In this service, UMK KKN students held work programs related to Education & Teaching and Research. Education is an activity designed to create a learning atmosphere through teaching or guidance to students which aims to develop student potential that is beneficial for life in the future (Istighfarini et al., 2022). The impact of the covid pandemic that has occurred in the last two years has had a major impact in various fields, one of which is in the field of education in various fields, one of which is in the field of education. Where many elementary school students experience delays and problems in learning, especially students at SD N 6 Jekulo, Jekulo District, Kudus Regency. From these problems, Muria Kudus University KKN Students in Jekulo Village made a Service Work Program by providing learning to SD N 6 Jekulo Students using Android Application Media.

Currently, Indonesia has recovered and entered a new era or new life called New Normal. During this new normal period, many policies were launched by the Indonesian government, such as the Ministry of Education and Culture (KEMENDIKBUD) which issued policies on organizing the new school year, organizing the education system, and utilizing campus facilities (Fatimah et al., 2021). In addition to New Normal Indonesia is also entering the Digital Era where all services use digital technology. and Education in the current digital era is very rapid, technological advances are not only beneficial for adults, but elementary school-age children can also benefit from the results of current technological developments. Technology is widely used in the world of education, as a means of communication between teachers and students (Ananda et al., 2022). This can happen because the learning process and system are recommended through digital world technology (Sukarno, 2020). Current technological developments have positive and negative impacts, it is good that people can take advantage of the positive impacts more. The world of education follows the

development of fast-growing technology and uses Information and communication technology because the facilities are more sophisticated and accelerate the learning process. According to Rahayu (2021) the use of technology can change learning from teacher-centered to student-centered.

The success of learning is influenced by student conditions and the way the teacher delivers the subject matter (Rosvita & Anugraheni, 2021). In the process of learning mathematics in elementary schools, teachers must be able to choose teaching materials or media that are in accordance with the characteristics of students in the classroom in order to foster students' activeness and enthusiasm in carrying out learning. In addition, in learning mathematics students easily feel bored due to uninteresting learning. This makes students not focus on learning and the material presented by the teacher is not well understood by students, which results in student learning outcomes. Responding to these problems, teachers should apply learning media as a supporting tool in the teaching and learning process. Learning media is a tool or intermediary for delivering effective learning information to achieve learning goals (Adventyana et al., 2023). Android application learning media is one of the learning tool applications in the form of audio visual using a smartphone.

Based on the results of observations, at SD N 6 Jekulo there are problems in learning that greatly interfere with the effectiveness of teaching and learning activities, such as students feeling bored in learning, student competence has not met the KKM score, students have difficulty understanding the material that has been delivered. This happens because the model or media used by the teacher is less interesting so that students find it difficult to understand the material presented (Intan et al., 2021). So that the authors, who are the Thematic KKN Student Team of Muria Kudus University in Jekulo Village, carry out a work program by implementing learning using digital media with the help of Android Application Media that can attract students and provide enthusiasm for learning to students, with this program it is hoped that students can receive material and understand the material well, can increase competence and learning outcomes so that learning can be effective.

2. Method

Implementation of the Jekulo Village KKN Program The use of digital media to improve learning outcomes in the digital era at SDN 6 Jekulo is a KKN-Thematic work program for Jekulo Village, Muria Kudus University in 2023 (Fig. 1.).

a. Type of Research

This research uses a Quantitative Method with an Experimental Approach. Experimental research is a research method that aims to determine the effect of treatment on certain conditions (Sutarto Hadi, 2015). This study used a One-group Pre-test and Post-test design without using a control class. In the journal (Abidin, 2021) One grub pre-test and post-test design is a technique to determine the effect of before and after treatment.

b. Time and Place

This work program was carried out on Saturday, September 12, 2023 in the 5th grade classroom of SD N 6 Jekuo, Jekulo District, Kudus Regency.

c. Subject

The subjects of the implementation of the work program The use of digital media as an improvement in learning outcomes in the digital era are fifth grade students of SD N 6 Jekulo, totaling 12 students with details of 7 female students and 5 male students.

d. Data Collection Technique

The data collection method in this study uses the results of direct interview observations with the teacher. The mathematical study in this research is revolutionary free or independent (X), where the strength of digital identity depends on the variable (Y). Data analysis is presented in the form of data before testing (Pre-test) and data after testing (Post-test). Data analysis technology uses simple descriptive statistical analysis techniques. This study uses data on the assessment of the results of the pre-test test passed to show the results of changes or improvements in the ability of the subject before and after the examination.

e. Media Validation

Digital-based learning media in the form of an android application with the name Belajar Ekonomi SD contains KI / KD or Learning Objectives, Material about Economic Activities, Learning videos of economic activities around us, and quizzes for evaluating student ability measurements. The android application media has gone through a validation assessment process before being applied in learning. The assessment subject is a media & material expert from one of the educators at SD N 6 Jekulo, namely the fifth grade teacher.

Figure 1. Android application media learning elementary economics

Learning Media can be said to be feasible to use in learning if the assessment results obtained are at least with good criteria. The results of the validation assessment have been obtained at 89 with a maximum score of 100 which means that the media can be used without revision and is very feasible in learning (Table 1).

Table 1. Product Assessment Criteria

Score	Criteria	Grade
76 – 100	Very Good	A
51 – 75	Good	B
26 - 50	Fair	C
1 - 25	Insufficient	D

3. Results

Based on the observations of the 2023 Muria Kudus University Real Work Lecture Student Team in Jekulo Village, there is a school that has a problem that is a little late compared to other schools, namely at SD N 6 Jekulo whose students experience delays in learning, and feel bored when learning takes place which certainly affects the learning outcomes of these students. So that the author makes media to reduce these problems, namely with Android-based Learning Media which will be used for IPAS learning in grade V students at SD N 6 Jekulo (Fig. 2.). Before the media is used, of course, the author validates the learning media. Learning Media can be said to be feasible to use in learning if the assessment results obtained are at least with good criteria. And the results of the validation assessment have obtained a score of 89 with a maximum score of 100 which means that the media can be used without revision and is very feasible to use in learning. Pre-Test results before the use of digital media the average value of 12 students is 46.6 which means it is still below the minimum completeness criteria value or KKM. After testing After testing with learning media from the author, the Post-Test scores that have been carried out on average each student gets an increase in value. The average value is 71.6 which means there has been an increase in learning outcomes. And from the comparison between the Pre-Test and Post-Test scores there was an increase of 53%.

Figure 2. Learning implementation of the use of android application media learning elementary economics

4. Discussion

Implementation of the use of Digital Media using Android Application Media which contains Basic Competencies or learning objectives, Materials related to IPAS lessons Economic activities, Videos containing economic activities around us, and Post-Test Quizzes to provide evaluation tests to students. Android Application Learning Media is packaged with an attractive design with colors and images that are suitable for elementary school students. The Learning Media has been assessed by a validator of Class V Teacher SD N 6 Jekulo and obtained 89 with a maximum score of 100 which means the media can be used without revision and is very feasible in learning (Table 2). With this media, it is expected to optimize the learning process in the classroom with interest and fun.Before the implementation of learning using digital media, the subjects were given a pre-test to determine the initial abilities possessed by students.
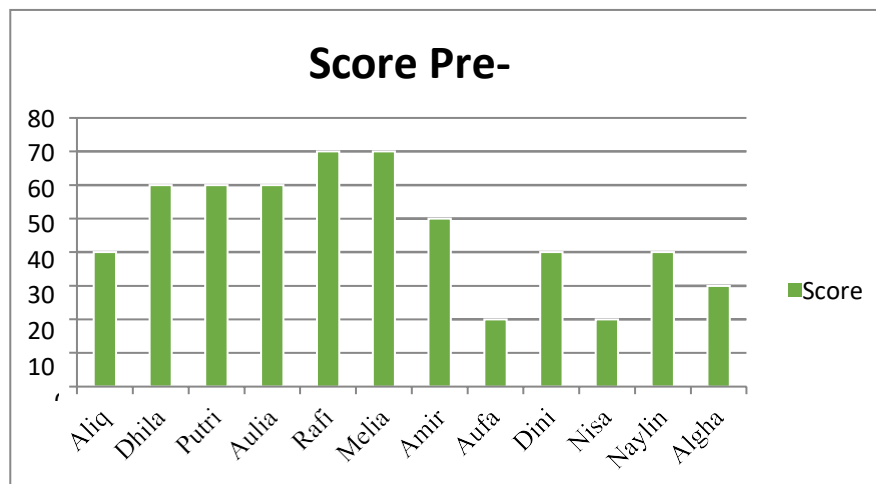

Table 2. Pre-Test Score Results

If applied with the formula:

$$\chi = \frac{\in x}{n}, \text{ Then:}$$

$$\chi = \frac{560}{12}$$

$$\chi = 46{,}6$$

Pre-Test results before the use of digital media the average value of 12 students is 46.6 which means it is still below the minimum completeness criteria value or KKM. The KKM value at SD N 6 Jekulo is 70. Based on the feasibility

category, it is declared unfit, so that the digital learning media "Belajar Ekonomi SD" is designed to improve students' abilities to exceed the minimum completeness criteria. Then after conducting the Pre-Test, the Subject was given treatment with the implementation of the Use of Digital Media to Class V Students of SD N 6 Jekulo.
The following are the Post-Test results obtained:

If applied with the formula:

$$\chi = \frac{\in x}{n} \text{, Then:}$$

$$\chi = \frac{860}{12}$$

$$\chi = 71,6$$

The results of the Post-Test scores that have been carried out on average each student gets an increase in scores. The average value is 71.6 which means there has been an increase in learning outcomes.

Comparison of pretest and posttest scores given to students before using the media and after using NEW JARI media there is no decrease in scores because all students in the class pay serious attention when explained, they are interested in the existing media, students are very enthusiastic. The following comparison of Pre-Test and Post-Test can be seen in the Table 3.

Tabel 3. One-Sample Statistics

N		Mean	Median	Min	Max	Std. Deviation
Before Given Treatment	12	46.67	45	20	70	17.753
After Treatment	12	71.67	70	40	90	15.275

Table 3 shows that the Pre-Test statistical value before the use of media has a Mean value of 46.6; a median value of 45; and a standard deviation of 17,753. While the minimum value is 20 and the maximum value is 70. The Post-Test statistical value after using the media has a value of 71.6 mean value; median value of 70; Minimum value of 40; Maximum value of 90 and standard deviation of 15.275.

So from the percentage of pre-test and post-test scores by:

$$\frac{71,60 - 46,60}{46.60} x100\% = \frac{25.00}{46.60} x100\% = 53\%$$

So there is an increase in IPAS learning outcomes of SD N 6 jekulo students after learning with the help of digital android application learning media by 53%.

From the percentage results above, it can be seen that there is a difference with an increase in science learning outcomes in the subject after learning using digital-based Android Application Learning media.

Discussion

The results show that android application media has an effect and can improve the learning outcomes of IPAS class V students of SD N 6 Jekulo with an increase of 53%. There are several research results that show that the research study is relevant, namely research conducted by Uma et al., (2022) from Wira Wacana Sumba Christian University regarding the Effect of Using Android Application-Based Learning media on Class IX Students' Learning Outcomes on the concept of Plant Breeding shows that application-based learning media has an influence on the learning outcomes of class IX students. In addition, research conducted by Fatmawati et al., (2021) regarding the Development of Android Application-Based Learning Media to Improve Students' Social Studies Learning Outcomes found that research on android-based learning media provides an increase in student learning outcomes and is very effective, namely with an average final score of 85% student completion rate. In line with research conducted by (Putra et al., 2009) on the effect of using android application-based learning media on student learning outcomes, the results show a positive response for students with a questionnaire result of 80.05% so that android application media is very effective in learning and improving student learning outcomes.

5. Conclusion

Based on the results of research conducted by the author, it can be concluded that the Android Application Learning Media regarding IPAS learning is able to improve the learning outcomes of grade V students. With a media validation value of 89 with a maximum score of 100, which means that the media can be used without revision and is very feasible in learning. This can be seen from the Pre-Test statistical value before the use of the media has a Mean value of 46.6; median value 45; and standard deviation 17.753. While the minimum value is 20 and the maximum value is 70. While the Post-Test statistical value after using the media has a value of 71.6 mean value; median value 70; Minimum value 40; Maximum value of 90 and standard deviation 15.275. The results of the Post-Test scores that have been carried out on average each student gets an increase in value. The average value is 71.6 which means there has been an increase in learning outcomes. So it can be concluded that the use of digital media in the digital era by KKN students at SDN 6 Jekulo can improve student learning outcomes by 53%. So that the Implementation of Service and Research of KKN Students of Muria Kudus University is declared successful and can have an influence on the learning outcomes of SD N 6 Jekulo students.

Conflict of Interest

The authors declare no conflicts of interest.

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