Effect of Using Augmented Reality Media on Students' Learning Interest in Thematic Subjects

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Abstract

This study aims to determine the effect of using Augmented Reality as a learning medium on students' interest in science subjects in Class IV SD in Bengkulu City. This study uses a quantitative approach to the type of experimental research. The research method used is the quasi-experimental method. The population in this study were all fourth-grade students at SD 07 Bengkulu City. The samples in this study were students of class IVA as the experimental class and IV B as the control class. The instrument used in this study was a questionnaire using a Likert scale which was given through a pretest and posttest. The data from this study were analyzed using the prerequisite test with the normality test and homogeneity test. From the research results it is known that the results of the t-test that have been carried out with the SPSS program, it is obtained at a significance value (2-tailed), namely 0.00, which means it is smaller than 0.05. So seen from the basis of t-test decision making, that is, if the significant value (2-tailed) is less than 0.05, then Ha is accepted, which means that there is a significant difference in the learning interest of the experimental class students and the control class. It concluded that using Augmented Reality as a learning medium affects students' learning interest in science subject class IV SD Bengkulu City.

Keywords: *augmented reality media, student learning interest, science*

INTRODUCTION

At this time everyone must be literate about science. Ideally, in science learning, students are trained in complex intellectual activities and not just remembering information. To make the person literate in science, he must be given insight and skills that can be used so that he can achieve a learning goal effectively. Science learning should be directed towards achieving goals in a broad sense, namely personality development students or those who are literate in science and technology or literate in science and technology. According to UNESCO "Education is organized and sustained communication designed to bring about learning" (UNESCO, 2013). Education is something that has an important role in life because education is an attempt by every human being to gather as much and as good provision as possible to live life in the future. As stated in RI Law Number 20 of 2003 concerning the National Education System (Sisdiknas) in Chapter 1 article 1 paragraph 1 it reads: "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students or students actively develop their potential. himself to have religious

spiritual strength, self-control, intelligence, noble character, and have the abilities needed by himself, society, nation and state (RI, 2003).

Brubacher said (Modern Philosophies of Education), education is a reciprocal process of each human person in adjusting himself to nature, friends, and the universe (Ahmadi, 2016). Quality education is expected to create Human Resources (HR) who have the ability to reason, think critically, logically, systematically and creatively so that they are capable and proactive in responding to the challenges of an increasingly sophisticated era (Asvio et al., 2019; Rahmadoni, 2018). Especially now that the need for learning 4.0 as a form of supporting the industrial revolution 4.0 is urgently needed. Education 4.0 is a response to the needs of the 4.0 revolution where humans and technology are aligned to enable new possibilities. According to Fisk, there are nine trends or tendencies related to education 4.0, namely: 1) Learning can be done anywhere and anytime (learning can be taken anywhere anytime anywhere); 2) Learning is carried out individually (learning will be personalized to individual students); 3) Learners have the opportunity to determine the material to be studied (students have a choice in determining how they want to learn); 4) Project-based learning (students will be exposed to more project-based learning); 5) Direct learning through field experiences such as internships, project guidance and collaborative projects (students will be exposed to more hands-on learning through field experiences such as internships, mentoring projects and collaborative projects); 6) Learning in the form of practical applications; 7) Learning should be evaluated not tested (students will be assessed differently and the conditional platforms to assess students may become irrelevant or insufficient); 8) Modular learning (students' opinions will be considered in designing and updating the curriculum); 9) Student ownership of learning students will become more independent in their own learning, thus forcing teachers to assume a new role as facilitators who will guide the students through their learning process (Anealka Aziz Hussin, 2018).

The learning process in schools is always undergoing renewal, especially in the utilization of the results of technology used in delivering learning material (Indrapuri et al., 2022; Kamil, 2022). This is in line with the development of science and technology which is increasingly advanced day by day. The teacher's role in learning is to provide, show, guide, and motivate students to be able to interact with various available learning resources. The form of student interaction can be done through methods and multimedia. With all the potential that students have, students will automatically interact actively in the learning process (Wati, 2006). One important factor that influences learning activities is interest in learning, if interested in a lesson, the student will focus his attention on that learning. That means indirectly interest in learning can affect student learning outcomes. Conversely, if there are students who are not interested in learning, they will find learning difficult and unpleasant, one of which is in science subjects.

Students consider science learning difficult, when children consider a lesson difficult, they will easily get bored learning, so that it becomes a challenge for teachers, especially elementary school teachers, to be motivated to create learning that is more interesting and fun. Creating fun learning can be done with learning that is adapted to the characteristics of elementary school children.

Based on the results of observations that the researchers made on January 14 2020 at SDN 07 Bengkulu City in grade IV, the researchers found around 90% of the children were less active or less interested in the learning they were participating in. After conducting interviews with several students, they said that science learning was still difficult to accept because teachers rarely used media, so learning became monotonous, and because learning was monotonous, the classroom atmosphere during learning was not conducive. Therefore, the lack of student interest in learning, the student learning outcomes also do not meet the minimum completeness criteria. One of the characteristics of elementary school children is that they enjoy using objects in the form of images of concrete objects so that in learning the teacher uses semi-concrete media. One of the media that

can be used in learning is using Augmented Reality media. Augmented Reality media makes learning interesting and raises children's motivation in learning. In line with the results of research conducted by Mustika Augmented Reality as a learning medium can be categorized as interactive, interesting and useful (Atmajaya, 2017). Augmented reality media is almost the same as animated film media, where animated films are also one of the learning media that can be used by teachers to attract students' interest in learning and provide new nuances for students. The difference between these two media lies in the media or device used, where Augmented Reality only requires an Android-based mobile phone, while animated films require relatively large memory and devices such as laptops, computers or LCDs. One of the advantages of Augmented Reality media is that it is easy to operate, and combines the real world with the digital world without changing the shape of an object. And after conducting interviews with the teacher, the teacher stated that he had never used the Augmented Reality media that the researcher wanted to use in this study. And due to circumstances and conditions during the corona pandemic as it is today, learning is carried out online (in the network) or online learning. So according to researchers in situations like now, using Augmented Reality media is a new innovation for teachers as learning media because learning currently uses Android. the purpose of this study was to determine the differences in the effect of using Augmented Reality media with media images on students' learning interest in the thematic subjects of class IV students with the theme of caring for living things at SDN 07 Bengkulu city.

METHODS

This study uses a quantitative approach to the type of experimental research. The method used in this study is the Quasi Experimental Design method, which is a method that does not allow the researcher to fully control the research sample. The experimental pattern used in this research is the pretest and posttest group research design. This method intends to test the hypothesis about the existence of a causal relationship from the treatment that has been carried out, and intends to test whether there are changes caused by the treatment. In this study, it intends to examine whether there is an influence from the use of Augmented Reality media on students' learning interests in the experimental class. The design used in this study is the Nonequivalent Control Group Design. The design consisted of an experimental group and a control group (Sugiyono, 2018).

Table: research design

O_1	X	O_2
O_3		O_4

X = Media Augmented Reality; O_1 = Group A pretest score; O_2 = Group A posttest score ; O_3 = Group B pretest score; O_4 = Group B posttest score

The experimental group was given an initial pretest (O_1) and then the treatment was applied (X) within a certain period of time and then a second measurement is carried out using the Posttest as the final test (O_2) to determine the effect of using Augmented Reality Media on Student Learning Interest in Science lessons. The control group was given a Pretest as an initial test without any treatment being applied. Then a second measurement was carried out using the Posttest. This research was conducted at SDN 07 Bengkulu city for students in grades IV A and B from 13 July 2020 to 24 August 2020. The population in this study were all students of SDN 07 Bengkulu city, totaling 335 students. In this study the sampling technique used was simple random sampling or simple random sampling. In this study, the sample was fourth grade students at SDN 07 Bengkulu City, which consisted of two study groups, namely study group A which was the experimental class and class B group which consisted of the control class, which consisted of 42 students. The data

collection technique in this study used a questionnaire to determine students' interest in learning in the cognitive domain obtained from pretest and posttest data in the form of interest in learning science scores on the concept of fauna diversity. Instrument Testing using validity and reability test then prerequisite test using normality test and homogeneity test. Hypothesis test using t-test.
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FINDING AND DISCUSSIONS

Elementary students' initial learning interest was measured by pretesting elementary students' learning interest before giving treatment to the experimental class and control class in science learning. The pretest results show that there is a slight difference in the average value of students' learning interest. The average value of the experimental class (62.59) is greater than the average value of interest in learning in the control class (59.95). To find out whether this difference is significant or not, it is necessary to test the difference. Before the difference test, do the prerequisite test first, namely the normality and homogeneity tests. The normality test here is the researcher using the SPSS program. First enter the data from the experimental and control class pretest results, then select analyze then descriptive statistics then explore, then transfer the data to the dependent list and factor list boxes then click plots then check the normality plots box then click continue then ok, and the output results will be gone out. Based on the results of the normality test in the pretest, it was found that the significance value in the pretest research data was 0.200 in the experimental class and control class, this means greater than 0.05. The conclusion is that the data in this study are normally distributed. Homogeneity test was carried out with the SPSS program. Just like the normality test, the first thing to do is enter data, then click analyze, select descriptive statistics, click explore. Then move the data to the dependent list and factor list and select plots then click on power estimation, click continue and ok, then the output of homogeneity data will appear. Based on the results of the homogeneity test, it was found that the significance value based on the mean was 0.112, which means it was greater than 0.05, and this meant that the data in this study were homogeneous. Based on the results of the homogeneity test, it was found that the significance value based on the mean was 0.112, which means it was greater than 0.05, and this meant that the data in this study were homogeneous. The posttest of students' learning interest was carried out after the treatment was carried out in the experimental class and the control class. The average in the experimental class is (85.55) and in the control class (67.80), which means that the average in the experimental class is greater than the control class.

To find out whether this difference is significant or not, a prerequisite test is carried out, namely the normality test and homogeneity test. The normality test here uses the SPSS program by first entering the posttest results data into the SPSS program, then selecting analyze, descriptive statistics, then explore moving the data to the dependent list and factor list, then clicking plots, checking the normality with test column and also checking power. estimation then continue and ok. Wait a few moments then the output of the normality test and homogeneity test will appear. Based on the results of the normality test, it was found that the significance value in the posttest research data was 0.200 in the experimental class and control class, this means greater than 0.05. The conclusion is that the data in this study are normally distributed.

Result of hypothesis test is that the prerequisite test in the experimental class and the control class, normal and homogeneous data were obtained, which would then be tested for differences with the t test. Here the researcher conducts the t test with the SPSS program in the same way as the normality and homogeneity tests, first enter the data from the pretest results, then click analyze, select compare means, then the independent sample t-test, then move the data to the test variable and grouping variable column, then click ok. and the output of the t-test will appear. Based on the results of the t-test that has been carried out, it is obtained at a significance value (2-tailed) of 0.191, which means greater than 0.05. So seen from the basis of t test decision making, namely if the

significant value (2-tailed) is greater than 0.05, then H0 is accepted, which means that there is no significant difference from the initial abilities of the experimental class and the control class or it can be said that their initial abilities are the same. After knowing the results of the prerequisite test on the posttest, then the difference test is then carried out, namely the t test. Here the researcher conducted the t-test with the SPSS program in the same way as the t-test in the pretest. Based on the results of the t-test that has been carried out, it is obtained at a significance value (2-tailed) of 0.00, which means it is smaller than 0.05. So seen from the basis of t test decision making, that is, if the significant value (2-tailed) is less than 0.05, then Ha is accepted, which means that there is a significant difference in the learning interest of the experimental class students and the control class

The results of the pretest analysis of elementary students' learning interest in the experimental class (62.59) and the control class (59.95) showed that there was no significant difference. So, it can be concluded that the initial interest of the two groups was the same before the research was carried out. After that, treatment was given to the experimental class using learning using Augmented Reality media while in the control class learning was carried out using animal image media. after being given the next treatment students were given a posttest sheet of elementary school students' learning interest. Interest posttest results. The results of the pretest analysis of elementary students' learning interest in the experimental class (62.59) and the control class (59.95) showed that there was no significant difference. So, it can be concluded that the initial interest of the two groups was the same before the research was carried out. After that, treatment was given to the experimental class using learning using Augmented Reality media while in the control class learning was carried out using animal image media. after being given the next treatment students were given a posttest sheet of elementary school students' learning interest. Interest posttest results Elementary school student learning in the experimental class (85.55) and in the control class (67.80) showed that there were significant differences between the experimental class and the control class.

The difference in the results of students' learning interest at the end of learning in this study is likely due to different treatment. It can be concluded that learning using Augmented Reality as a learning medium can affect students' learning interest. This influence is positive because the learning interest of students who use Augmented Reality is higher than the learning interest of students who only use animal images as media.

Susanto explained that Augmented Reality has a positive influence on science learning because when learning students become interested in observing animals that appear on the screen, it means that this application provokes students to behave scientifically such as the emergence of curiosity, self-confidence, objectivity to facts and honesty (Susanto, 2013). Indirectly this media also facilitates students to observe natural resources, especially animals. After observing the pictures that appear, students write down their results on the sheet provided.

At the end of the study, the results of interest in the experimental class were high, which means that Augmented Reality media has a positive influence. As according to Mustika, the positive influence of Augmented Reality on students' interest in learning is due to the fact that this media is interesting and interactive (Atmajaya, 2017). Augmented Reality is an interactive medium that involves the activeness of students to interact while participating in learning so that it helps students in seeking experience and knowledge.

Interest is an encouragement in a person or a factor that generates interest or attention effectively (Susanto, 2013). Augmented Reality can make students interested in a lesson, this means that it can foster student learning interest. In addition, at the time of learning students enthusiastically follow the learning process. Students who are enthusiastic in a lesson means they are interested in the lesson. This is in line with what Slameto (2010) explained in his book, students who are interested in learning will follow the learning process with a sense of liking, which means it can foster student interest in learning.

CONCLUSION

After the researchers conducted the research and analyzed the data obtained in the discussion of the thesis about "The effect of using augmented reality media on students' learning interest in the thematic subjects of class IV students with the theme of caring for living things at SDN 07 Bengkulu City" it can be concluded that based on the results of the t-test the test that has been carried out, it is obtained at a significance value (2-tailed) of 0.00, which means it is smaller than 0.05. So seen from the basis of t test decision making, that is, if the significant value (2-tailed) is less than 0.05, then Ha is accepted, which means that there is a significant difference in the learning interest of students in the experimental class and the control class.

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