



Football Augmented Reality Media Application for Student Learning Interests

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Abstract

Learning by drip with the media is a way of learning that can increase the interest in learning. This learning can be enhanced by applying augmented reality media. The application of augmented reality emphasizes the implementation of learning with a more diverse and interactive virtual concept. The learning dribbling model applied is a direct and indirect learning model with augmented reality. This study aims to (1) the influence of the application of augmented reality in soccer ball dribbling equipment on students' learning interests and (2) the increase in students' interest in learning to use augmented reality football dribbling devices. This research method is a pre-empirical design with a quantitative descriptive approach. The study design used was a pre-test-post-test group design. Data collection was using observation, interview and questionnaire techniques. The results show that there is an effect of augmented reality media on soccer dribbling material on learning interest of grade VIII-5 students at Junior high school of 1 Nganjuk, expressed as a significance value of $0.000 < 0.05$ and student interest in learning in grades VIII-5 at Junior high school of 1 Nganjuk 1 Nganjuk using augmented reality media on soccer dribbling equipment increased to 6.4% when being treated.

Keywords : *Augmented Reality, Dribbling, Hobbies, Learning, Students*

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INTRODUCTION

The outbreak of the Covid-19 pandemic has affected all aspects, including the world of education. The government has reacted to future learning and then, in response to this, the government has introduced a new politics, called the new normal (Reuge et al., 2021) that has an impact on teaching and learning from university to kindergarten. Based on this policy, classroom learning is being redirected to a form of distance education that leverages technology and the internet (Handoyono & Pambudi, 2021). The government then proposed platform options, e.g. zoom, Google meet, SKYPE, Google Hangout, Google Classroom, Microsoft Teams and their respective university websites (Indriani, 2021). So much so that the concept of virtual learning began to exist and be known in the educational world. Learning media in the form of images, 3-D animation is the best medium to meet the educational challenges posed by the Covid pandemic, especially for students or students of learning age. The use of

technology can increase the effectiveness of online learning because it can be done flexibly. Because digital education is designed to support learning (facilitate learning) and monitor students' cognitive development (Shen et al., 2022).

Android-based learning apps have also led to augmented reality (AR) technology, in which virtual objects are combined with real objects to become a three-dimensional environment, so that the objects are virtual. become real (Usmaedi et al., 2020). Augmented Reality, which offers presentations in two or three dimensions, is growing rapidly so that it is widely used in the educational world as it gives meaning to interpretation and fun learning . Even augmented reality can serve as a means of treatment for people with phobias, it is hoped that the use of augmented reality can stimulate students' interest in learning (Gutawa, 2022).

When learning football, students must master the basic techniques of soccer practice, namely ball handling techniques and, of course, body movements during matches. One thing that needs to be improved is the dribbling technique . If the correct dribbling technique is applied, the player will easily pass the opponent. Dribbling is also highly influential in the development of motor sensors for students as it is very useful for self-control when controlling the ball (Fajri & Muhammad, 2021). In an effort to improve soccer dribbling equipment, teachers should take various measures to increase students' interest in learning PJOK. If the student's interest in learning declines, it can be concluded that the learning is not going well and the quality of learning is low (Ekaristi et al., 2021).

Augmented reality can be used to increase student interest in learning. The use of interactive media has the ability to stimulate and engage students, affecting students' interest in understanding and knowing the material presented. Not only that, but augmented reality can also be an option to make learning accessible and effective (Pharausia et al., 2021). This technology is still little used by teachers or educators, so, of course, it is something new and has its own merits in presenting material that inspires students to take up the resources. materials, especially dribbling material at PJOK.

In line with existing problems, with the concept of conditioning and combining soccer dribbling equipment with augmented reality, an innovative and effective learning method can be developed to increase learning interest. student set. This renewal is certainly a form of effort to deal with the new situation, namely the new normal after the emergency period of Covid-19 and the implementation of social distancing and social distancing policies. government work from home (WFH).

Based on the results of interviews conducted by researchers on December 24, 2022 at Nganjuk 1 public college with PJOK teachers, the obtained information shows that PJOK

learning is carried out by applying merdeka and K13 curriculum . The learning material used is video and PPT, then continued by practicing them. Through the observations of PJOK teachers, students' interest in participating in learning is relatively interesting and enthusiastic, so that learning is not boring . Sometimes, PJOK teachers organize games in class to arouse interest. student interested in receiving materials. In addition, in the process of carrying out learning and teaching activities, PJOK teachers still need more interesting and up-to-date learning materials on technology and information literacy because the interview results are conducted. currently shows that the PJOK teacher of Nganjuk 1 public college does not know augmented reality. Technology can be used as a means of learning PJOK.

Based on the results of previous research indicating that augmented reality media has existed for the sake of students' learning preferences for the past 10 years, but for those who say that in learning PJOK, there is no indication of media interest in learning PJOK, therefore, the researcher wanted to search with the title" Augmented reality implementation of soccer dribbling media on students' learning interest at Junior high school of 1 Nganjuk, because In this study, using Augmented Reality media to find out students' preferences in learning soccer dribbling by predefined media, namely using real-life media Augmented.

METHODS

This study uses a quantitative approach to this type of empirical research. The method used in this study was pre-experimental design, that is, in this method no control group participated in the study. Whereas the study design used was a pre-test-post-test design, this study did not use a control group.

This study aimed to determine the effect of augmented reality media use on students' learning interests. The design used by the researchers in this study is pre-test-post-test. The former is done before treatment or treatment, while the latter is done after being treated. Here is the study quote:

Table 1. Design of pre-experimental research

T ₁	X	T ₂
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(Sources: (Maksum, 2018))

Information :

T₁ : Pretest

X : Treatment (given augmented reality media)

T₂ : Posttest

In terms of place and time, this search was conducted at Junior high school of 1 Nganjuk on Jl. Scout No . 02, Mangundikaran, Mangundikaran, Kec. Nganjuk, Kab. Nganjuk, East Java 64419. Data collection was carried out from 15-16 March 2023. With a population of 288 students in class VIII of Junior high school of 1 Nganjuk and the sample used was probability sampling technique. using cluster random sampling. The samples taken were students from grades VIII-5 of Junior high school of 1 Nganjuk, totaling 31 students.

RESULTS AND DISCUSSION

Results

1. Describe student learning interest data

The results obtained from the study are described in Table 1.2 below.

Table 2. Description of student learning interest data

Data	N	Lowest Value	The Highest Score	Total value	SD	Mean
<i>Pre-test</i>	31	58	72	2019	3,956	65,13
<i>Post-test</i>	31	59	82	2149	5,437	69,32

From Table 1.2, we know that both data are taken from 31 students. The lowest value in the pre-test data is 58 and the highest value is 72 with a total value of 2019 and mean of 65.13 and standard deviation of 3,956, while the lowest value is highest in post-test data is 59, while the highest value is 82 with a total value of 2149 and mean value of 69.32 and standard deviation of 5.437. The average comparison can be seen in Figure 1.1 below:

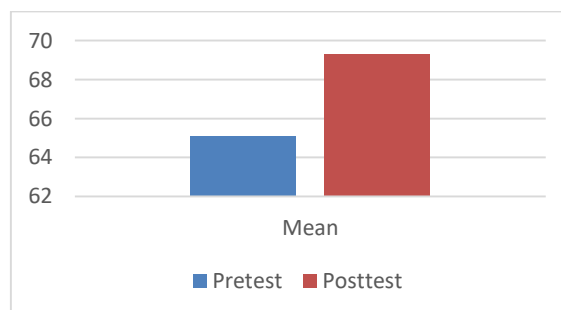


Figure 1. Vehicle comparison table

2. Data from the student's learning interest homogeneity test

In research, the homogeneity test is used to determine the variance between two or more groups. The results of the homogeneity test will be presented in Table 1.3 below.

Table 3. Analysis results to check the uniformity of data about students' preferences.

Data	Significance value	Explantion
Student learning interest	0,143	Homogen

If the homogeneity test has a significance value < 0.05 , the data is homogenous. Based on table 4.2, it can be seen that the pre-test and post-test data on students' learning interests has a significant value of $0.143 > 0.05$ That is, the data is homogenous or has the same variance.

3. Data that tests students' interest in learning

In the study, the normality test is used to determine whether the distribution of the research data is normally distributed. The results of the normality check are shown in Table 1.4 below.

Table 4. Analytical results to test the standardization of students' learning interest data

Data	Significance value	Explantion
<i>Pretest</i>	0,339	Normal
<i>Posttest</i>	0,544	Normal

The basis of the normality test is that if the significance value < 0.05 , the data is considered normal. Based on Table 4.3, it can be seen that the data on students' learning interests before and after the test has a significance value of > 0.05 . That is, the data is standard or has the same distribution.

4. Paired sample data from the T-test Student's Learning

Interests A paired sample t-test can be called a difference test between paired samples. The test is used to determine the difference in values after or after treatment.

Table 5. Results of data analysis of sample pair t-test on students' learning interests

Data	Significance value	Explantion
<i>Pretest</i>	0,000	Significance
<i>Posttest</i>		

The basis of the paired sample t-test is that if the significance value is < 0.05 , then H_0 is accepted and H_a is rejected, so the data is said to be insignificant. Based on table 4.4, it can be seen that the results of the paired sample t-test of student interest in learning have a significant value of $0.000 < 0.05$ means that H_0 is rejected and H_a is accepted to the data are said to be significant. Based on the results of the analysis, it is shown that the application of the augmented reality football dribbling device has an impact on the learning interest of students in grades VIII-5 at Junior high school of 1 Nganjuk.

5. Data on percentage increase in student interest in learning

The percentage increase was used to calculate the increase in student interest in learning after applying augmented reality to the soccer dribbling device. Based on the analysis results obtained by the researchers, the increase in learning interest after implementing augmented reality was 6.04%. These results are obtained from the following calculations.

$$\text{Percent improvement} = \frac{\text{Final value} - \text{Initial value}}{\text{Initial value}} \times 100\%$$

$$\text{Percentage increase} = \frac{69,32 - 65,13}{65,13} \times 100\%$$

$$\text{Percentage increase} = 6,04\%$$

Discussions

Based on the research findings described above, the application of augmented reality media to dribbling equipment in football can increase the learning interest of students in grades VIII-5 at Junior high school of 1 Nganjuk. The application of augmented reality media to students can be of particular interest to students. Through augmented reality media, students' interest in learning increases because augmented reality media has the same characteristics and uses as learning media, namely providing information that is standardized by teachers and interpreting information about the effects of stimuli produced by augmented reality media. In today's progressive era, learning communication must also be a solution alternative-ways to achieve the planned learning goals. Using augmented reality media, educators can make media learning fun and easily achieve student learning goals.

Using augmented reality media as a medium in the learning process can facilitate student understanding with the help of concepts and theories prepared by the teacher, so that

the media can stimulate learning. generate thinking in a context-appropriate way. With the advancement of today's times, learning materials must also be an alternative to achieve the planned learning goal. Augmented reality media allows teachers to create an enjoyable learning environment that can be used to help students achieve their learning goals.

Based on the results of the analysis obtained, these results are consistent with (Susanto, 2016) which states that augmented reality media stimulate students to interact with the material presented so that students develop curiosity, confidence and objectivity. Fun media makes learning tracking fun to increase student interest in learning. Consistent with research (Jannah, 2020) showing that augmented reality media can significantly increase students' interest in learning, as evidenced by a significance value of $0.00 < 0.05$. Then, research done by (Marsono et al., 2021) showed that students who used augmented reality had more interest than learning without augmented reality, with significant values displayed as $0.00 < 0.05$.

According to research (Didik et al., 2019), it can be seen that students' interest in augmented reality media has increased significantly compared to before using augmented reality media, measured by the percentage of happiness that increased in the emotional, focus, and caring sections. Augmented reality has a positive impact on PJOK learning as students engage in teacher-provided dribbling material during the learning process. This means that augmented reality media can encourage students to apply scientific behavior, such as developing curiosity, confidence, and objectivity towards facts.

In the opinion (Muhayat et al., 2017), media-based learning using augmented reality systems is easier to understand than traditional teaching tools where students seem to create objects to learn in real time, so the learning process is more enjoyable while learning ., even learning media with augmented reality system can help students easily understand the material. According to research (Hsu et al., 2017) stating that augmented reality media is designed to increase student motivation to learn, some students are interested in learning the material provided.

Based on the results of research done by researchers and several other studies, it is explained that augmented reality media can provide benefits, including:

1. learning activities can increase students' interest in learning.
2. Can increase curiosity about the material presented by the teacher in the learning process.
3. The material provided can be easier to understand when learning is easier.
4. Learning outcomes can be improved.

CONCLUSION

Based on the results of the analysis and discussion described in the previous chapter, it can be concluded that Augmented reality football dribbling media affects learning interest of students in grades VIII-5 at Nganjuk 1 Junior High School, as evidenced by a significance value of $0.000 < 0.05$. There was an increase in learning interest of Grade VIII-5 students at Junior high school of 1 Nganjuk using augmented reality media on soccer dribbling equipment by 6.4 % receiving the treatment.

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