



## INCREASING LEARNING INTEREST THROUGH ANDROID-BASED WORD SQUARE LEARNING MEDIA

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ARTICLE INFO	ABSTRACT
Article history Submission May 17 <sup>th</sup> , 2022 Revision July 1 <sup>st</sup> , 2022 Accepted October 17 <sup>th</sup> , 2022	<i>The use of media through the Android application is still limited, even though it is needed to foster interest in learning after the COVID-19 pandemic. The research focused on increasing learning interest through the application of the Android-based Word Square learning media. This experimental research used a pretest-posttest control group design. The population in this study were all students of class IX MTs Guppi Samata, which consisted of 2 classes. The saturated sampling method was used in the sampling procedure with six samples taken from the experimental class IX-A and six samples taken from the control class IX-B. The research instrument was a questionnaire consisting of 30 items. The data analysis technique used the Wilcoxon signed ranks test. Students' learning interests differed depending on whether or not they used the Android-based Word Square learning media (<math>p = 0.046</math>, <math>p &lt; 0.05</math>). The results showed the differences in students' interest in learning with and without using the media of Word Square learning media based on android human reproductive system material for class IX MTs Guppi Samata (<math>p = 0.046</math>, <math>p &lt; 0.05</math>). The average interest in learning among students through the media was 114.83. The value was higher than those without using the media (106.50). This proves that Word Square learning resources based on Android can increase students' learning interests. The findings of this study can be used to inform teachers' decisions about how to use engaging learning technologies and a variety of media to enhance the quality of their instruction.</i>
<b>Keywords:</b> <i>Interest to learn Instructional media Word square</i>	

### INTRODUCTION

Education has developed along with the development of human knowledge and skills. The existence of education provides a place for individuals to acquire knowledge and a key factor in achieving national development goals. As a result, education is needed to help people master knowledge and technology. It is an open science that is easy to enter

by anyone from any background, regardless of educational qualifications, because talking about education is both a right and an obligation for everyone (Drajat, 2020). The importance of education cannot be overstated, particularly at all stages of human civilization. Through education, the nature, nature, and existence of living things become interesting to explore from various perspectives (Triwiyanto, 2014). One of the disciplines that deals with living things and their lives is biology.

Through a series of studies, Handayani *et al.* (2020) argued that biology is in line with the conditions of society and plays a significant role in solving various problems in people's lives through a series of studies identifying diseases and viruses. According to Keskin & Kose (in Sari & Dhuca, 2018), biology is the science that studies living things. The scope of biological material contains many concepts, so conceptual understanding is needed to stimulate the knowledge of students' interest in learning biology. Therefore, an educator must foster an interest in learning for students.

Hamalik (2009) stated that interest is a psychological factor that will affect the learning process. The interest can be in the material form or in the teacher who will teach it. Interest is one of the intrinsic factors that influence the achievement of learning objectives (Siagian, 2015). Students will lose interest in learning if the learning material does not follow their interests (Berutu & Tambunan, 2018), resulting in a reluctance to learn. In order to motivate students, every teacher must establish a learning environment that will grab their attention and inspire a desire to learn (Sriyanti, 2009). Therefore, assessing student's learning interests is required to improve the quality of learning (Irwandi & Fajeriadi, 2020).

During the educational process, the teacher must create an atmosphere that builds relationships between students and educators so the learning process feels comfortable. Learning is a process of interaction or information exchange between educators and students. Educators serve as information providers and students serve as recipients. The learning process provides good and accurate information, whether in the form of questions or statements, in order for educators and students to have a positive interaction (Sadiman *et al.*, 2014). Safei (2016) added that educators should also encourage students to be more real and factual to generate greater interest and curiosity about the subject. So that students keep an interest in learning about the material and can store it in their long-term memory.

Based on the observations and interviews conducted at MTs Guppi Samata on May 24, 2021, one of the class IX biology teachers stated that the media used in teaching and learning activities before the pandemic was conventional media (books, blackboards). Since the pandemic, students have organized into groups on the WhatsApp application. Students can send and access assignments in those groups on the application. Some students do not participate actively in learning because the teaching methods are monotonous. Some students do not participate actively in learning because the teaching methods are monotonous.

Some students become less interested in participating in learning because they are overwhelmed. This condition certainly makes the student's learning outcomes lower. To meet these expectations, educators need to introduce innovations in learning activities, such as new media. One way to achieve this is by applying interactive media such as Android-based Word Square media.

Word Square Media is media in the form of square words and is almost the same as crossword puzzles. The difference is that the answer is already there, but it has been disguised as a distraction by additional boxes containing random or disguised letters. This media can increase students' interest in learning because it works like a crossword puzzle where the subject in the box is a subject taken from the material that has been taught (Kurniasih *et al.*, 2017). According to Lestari (2016), the Word Square learning media can also improve student's understanding, train discipline, practice critical thinking skills, and stimulate students to think more effectively. It can also motivate the students to understand the theory in-depth, train them to be more focused the correct answers, and look for answers in worksheets using this method.

Word Square Media is available for all kinds of subjects. Educators play a role in the implementation process and can provoke students to think creatively and critically effectively. Word Square contains some letters that are not needed, but those letters are a distraction. The media can also be used as a game for learning while playing. Learning while playing can also benefit students with positive changes in attitudes, behavior, and learning experiences (Herwandanu, 2018).

Some of the studies related to the increasing interest in learning through Android-based Word Square learning media are; Purnawati Amirudin's study. Her study, found that the Word Square learning model can improve student motivation and learning

outcomes (Purnawati, 2016). Research conducted by Agus Apriyanto (2015) reported an influence of the Word Square learning model on the learning outcomes of Islamic Cultural History, the subject matter of knowing the migration of the Prophet Muhammad SAW to Medina in class V MI. Futuhiyyah Mranggen Demak. A study on Word Square media done by Nunung Dwi Kustiarni (2015). She said that the Word Square learning model, assisted by audio-visual media, can increase the interest and understanding of the concepts of class VIII G SMPN 1 Penawangan academic year 2014/2015. According to Dea Resti Apria (2018), the Word Square learning model with picture media affects the learning outcomes of science class IV MIN 10 Bandar Lampung. Even though there have been numerous studies on Word Square learning, there hasn't been much media coverage, particularly in the pandemic situation. This research was to compare the learning interests of students taught with and without the Android-based Word Square learning media.

## **MATERIALS AND METHODS**

### ***Research subject***

The subjects used in this study were from class IX-A and class IX-B. The sampling technique uses saturated sampling. The Word Square learning media treatment was given to students in class IX.A as the experimental class, but not to students in class IX.B, the control class. Although each class had 14 students and the control class had 13, the number of students present at the time was six in each due to physical distancing during face-to-face learning. This research was conducted at MTs Guppi Samata, Gowa Regency, South Sulawesi Province in the academic year of 2020/2021.

### ***Tools and materials***

The instruments used in this study were questionnaires and observation sheets of students' learning interests. The observation sheet is an instrument used to collect data through observations. According to Sugiyono (2017), the observation sheet functions to observe and measure the level of success or achievement of learning goals during teaching and learning activities.

The learning interest questionnaire consisted of 30 items with a Likert scale measurement. The scale consists of five rating scales (very appropriate, appropriate, less

appropriate, not appropriate, very inappropriate) (Sugiyono, 2016). In this study, the indicators of learning interest were referred to in Slameto's reference (in Ricardo & Meilani, 2017). Researchers use indicators of interest in learning as the reference for instrument items, following Slameto's opinion (Ricardo & Meilani, 2017). The indicators, namely feelings of pleasure, interest, and involvement with the categorization of the learning interest assessment range, namely not interested, less interested, moderately interested, interested, and very interested. In this study, learning interests were defined as pleasure in learning as well as willingness and engagement in learning.

### ***Research procedure***

This research procedure consists of several stages. The first stage is the preparation stage, this stage includes research observations, population and sample determination, preparing learning tools, making research instruments and conducting instrument to validators then administering research permits. The second stage is the implementation stage where at this stage the researcher conducts research subject that has been determined. The final stage is analyzing research results, discussing research results and making conclusions.

### ***Data Analysis and Interpretation***

The data analysis in this study consisted of inferential analysis and descriptive analysis. Inferential statistical analysis was used in processing sample data, the results of which were applied to all populations. The inferential analysis technique uses the Wilcoxon signed-rank test with the help of SPSS version 23 application. The descriptive analysis describes the increase in students' interest in learning for the two groups, namely the experimental class and the control class (Sugiyono, 2018).

For the frequency distribution of Descriptive Analysis table follow these steps:

1) Define range

$$R = X_t - X_r$$

2) Determine the number of class interval

$$K = 1 + 3,3 \log n$$

3) Calculating the length of the class interval

$$p = \frac{R}{K}$$

4) Percentage

$$P = \frac{f}{N} \times 100\%$$

5) Calculating the mean

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i}$$

6) Calculate the standard deviation

$$S_D = \sqrt{\frac{\sum f_i (X_i - \bar{X})^2}{n-1}}$$

## RESULTS AND DISCUSSION

The results of the analysis using the Wilcoxon test obtained a significance value of 0.046 ( $p < 0.05$ ). Based on the Wilcoxon Signed Rank Test, the difference between interest in learning for the experimental and control groups (negative rank) was one (Table 1). It indicates that  $H_a$  was rejected while  $H_0$  was accepted. The value of one indicates that one student experienced a decrease from the pretest value to the posttest value. Positive ranks or differences between learning interests for the experimental class and the control class showed five, which indicates that five students experienced an increase in learning interests from the pretest value to the posttest value. The mean rank is 4.00, while the number of positive ranks or the sum of ranks is 20.00.

**Table 1.** Wilcoxon signed rank test

		N	Mean rank	Sum of rank	Z	Asymp Sig. (2 tailed)
Post A-post B	Negative ranks	1	1.00	1.00	1992	.046
	positive ranks	5	4.00	20.00		

Based on the results of the statistic test (Table 1), the Asymp.Sig. (2 tailed) is worth 0.046. Since the value of 0.046 is smaller than 0.05, it can be concluded that meaning that there is a difference between interest in learning in the experimental class and the control class. In other words, there is an increase in learning interest through the application of Word Square Media based on Android to class IX students of MTs Guppi Samata.

Table 2 shows the learning interests of the experimental class and control class students. Based on the analysis, the average interest in learning with applying android-

based word square learning media is 114.83 higher than students without using android-based word square learning media, which is 106,50.

**Table 2.** Descriptive analysis

	N	Max	Min	Mean	SD	Variance
Experiment	6	125	102	114.83	9,283	86.17
Control	6	113	95	106.50	6,156	37,900

Many factors can contribute to differences in learning interests. One of them is conventional media and old teaching methods, which cause students to get bored. This is in line with the state of Izzati *et al.* (2018), that some students still feel shackled to conventional learning, which prevents them from exploring their potential. The reality is that the teacher only acts as a conveyer of the subjects, while the students only listen to or record the subject. As Anshor *et al.* (2015) also said, the conventional lecture method is less attractive and affects student learning outcomes. Students need the right resources to engage with the material effectively and interestingly to support successful learning outcomes.

The disadvantage of the traditional learning process is that instruction is still teacher-centered. It makes the students sit quietly and listen to the teacher's material. Learning like that is often done by teachers and rarely involves media. They only use blackboards in the learning process, where students are very passive, accept, and follow whatever the teacher's explanations are. It can be said that a learning process like that is only a one-way direction without a positive response from students. The teacher is the main source and provider of information (Yulianti *et al.*, 2014).

Based on descriptive analysis, the learning interests of students taught using android-based word square learning media have an average value of 114.83. Meanwhile, the average value for those without using android-based word square learning media is 106.50. The experimental class's high value of students' learning interests demonstrates that the media can help students become more interested in learning. This occurs as a result of the fact that students who use Android-based word square learning media can collaborate to discuss the questions in the media. The media also trains the students to think creatively and deeply.

The learning syntax used by the Android-based Word Square learning media are (1) educator sends the Word Square media application to the students and explains how to use the application; (2) educator provides information regarding the learning outcome to be achieved; (3) educators divide students into several groups for work and discussion sessions; (4) educators direct students to open the applications; (5) students answer the questions in the box by shading the correct answer vertically, horizontally, or diagonally; and (6) teacher gives points for each answer in the box (Herwandanu, 2018).

The learning process cannot be separated from the learning media because the media plays a significant role in helping the teaching and learning process. Media is a tool to convey messages from educators to students (Alatas, 2019). According to Kuswanto & Radiansah (2018), the position of learning media is crucial because it can help the student learning process. Media can help learners make sense of abstract learning materials. The use of the media can improve student achievement and motivation. To effectively use learning media, teachers must be aware of the needs of their students and the challenges they are facing with the material being taught.

Therefore, media needs to be developed based on relevance, basic competence, material, and student characteristics. Teachers can play the role of creators by using and producing engaging, effective, and appropriate media for their students. It should be emphasized, though, that the learning media should be used by the students in the classroom (Karo-Karo & Rohani, 2018). Media in learning serves to clarify the message conveyed by the teacher. Media makes it easier for students to learn, provides concrete experiences, attracts attention, activates students' senses, and turns the theory into reality (Primasari et al., 2015). Media also functions as a teaching aid (Rivai & Sujana, 2011).

Based on the results, student's interest in learning increased through the Android-based word square learning media. The hypothesis testing of the one-sample t-test showed the value of the t count was 44,169 while the value of the t table was 1,795. As the t count > t table, the hypothesis H<sub>0</sub> is rejected and H<sub>1</sub> is accepted. The average score of learning interests using the media is 114.83, compared to 106.50 without using the media. It implies an increase in the learning interests of students who were taught using Word Square learning media compared to those who were not.

Developing an interest in learning helps students see the relationship between the subject and themselves. If the students see the results of their learning experiences, they



will feel progress in themselves. Additionally, they are motivated and interested in learning. In line with this, Tafonao (2018) demonstrated how to achieve more effective and efficient educational goals. More than that, there is a high demand for teachers to develop skills in mastering technology and learning media. The role of the media in the learning and teaching process is very important for educators nowadays because it is a channel of message from teacher to students and helps students explain something to their teachers. Therefore, teachers are required to use the media effectively and efficiently to establish good relations with the students. In addition, the media can overcome boredom in the classroom and provide comprehensive information to students (Tafonao, 2018).

### **CONCLUSION**

This study concludes that the average results of students' interest in learning who have been taught using android-based word square learning media are higher than those who have not. The results of this study illustrate that students' interest in learning can be increased through word square learning media based on Android.

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