

Examining the Use of Discord Applications in Improving Science Learning Outcomes of Grade 7 Students

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Abstract: During a pandemic like this, they were growing new regulations for conducting online learning, causing further problems in decreasing student learning outcomes in changing learning systems. This study aims to determine the factors that influence student learning interest in online learning with the Discord application, how the use of the Discord application is used in science learning and the effect of the Discord application on student learning outcomes in science learning. This research is a quantitative quasi-experimental study with a pretest-posttest control group design. The number of samples was 64 students from classes 7A and 7B, SMP Negeri 1 Depok, Depok District, Cirebon Regency. Data were obtained through pretest, posttest, questionnaire, interview, and documentation study. The results showed that the attractiveness of the Discord application as an online learning medium could influence students' interest in learning. The connectivity between teachers and students was more effective and efficient in online learning using the Discord application. The opportunity for students to play an active role during the learning process is incredible. The encouragement of motivation through the attitude of the teacher in learning. The influence of online learning media in the form of the Discord application on student learning outcomes in science subjects.

Keywords: *Online Learning Media, Learning outcomes, Discord App, WhatsApp, Distance Learning*

A. Introduction

Coronavirus disease 19 or commonly known as covid-19, is a disease caused by the coronavirus. This disease has spread throughout the world, including in Indonesia. The World Health Organization WHO has officially declared COVID-19 a global pandemic (Raoofi et al., 2020). According to WHO, a pandemic is a global scale disease spread throughout the world. An outbreak as a pandemic means that the WHO warns all governments in the world to increase preparedness in preventing and dealing with the outbreak. In Indonesia alone, two cases of COVID-19 were first reported on March 2, 2020 (Saba & Elsheikh, 2020). From time to time, the spread is increasingly widespread and uncontrolled, so there is a Large-Scale Social Restriction or PSBB policy to deal with this in breaking the chain of spreading the coronavirus (Andriani, 2020; Juanda et al., 2020) The PSBB has several policies that must be obeyed by the

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community, one of which is to carry out all activities at home and communicate online without having to leave the house, including school from home or commonly referred to as school from home, usually abbreviated as such.

With this policy, educational institutions are asked not to conduct face-to-face learning as usual. Activities are replaced by distance learning or commonly abbreviated as PPJ (Efendi & Sartika, 2021; Puspitasari & Susdarwati, 2021; Shapovalov, 2021). This distance learning certainly requires learning media that can connect teachers and students (Snyder & Beavis, 2004). Teaching and learning activities can be carried out in accordance with government recommendations. It's just that with this policy, in practice, students experience a decrease in their learning outcomes caused by certain factors that can influence them (James et al., 2022; Quintiliani et al., 2022; Zuckerman et al., 2021). In online learning, students can become less active in conveying their aspirations and thoughts, which can result in boring learning (Prilli Prisiska & Syahril Furqany, 2021; Sari et al., 2021). A student who experiences boredom in learning will make progress in learning outcomes. Therefore, it is necessary to encourage students to move students to be enthusiastic about learning so that they can have better learning achievements. This is in accordance with the facts that are currently happening, some students who have provided feedback regarding the distance learning activities feel boring or have a sense of saturation with the online learning system, so they do not have a passion for learning.

One of the junior high schools in Cirebon Regency has implemented distance learning in accordance with government recommendations. In distance learning at the school, they only use a few applications that are already commonly used, such as WhatsApp Group and Google Class Room. The system that is run only provides material and assignments; then, students are asked to collect them according to the allotted time. This can ultimately trigger a decrease in learning outcomes because the interaction between teachers and students is only limited to that, causing a sense of boredom and a sense of interest in distance learning is reduced.

Therefore, to restore student learning outcomes or even improve them again, online learning media has a more critical role in life, both because of the times and the covid-19 pandemic. Online learning media is in the form of applications that can be downloaded via smartphones or PCs. Online learning media, of course, has various forms that can adapt to the needs of the distance learning process, and each application has advantages and disadvantages for each use.

One of the online learning media that can be used to support distance learning is an application called Discord. It's just that the Discord application is very rarely used in online-based teaching and learning activities. Because in general, these applications are commonly used to make it easier for gamers to communicate. If you look back at the functions and uses of the Discord application, it is very easy to use for distance learning activities.

Through the explanation above, it is interesting to conduct a research entitled "The Effect of Online Learning Media in the Form of Discord Applications on Student Learning Outcomes in Science Subjects."

B. Methods

The method used in this research is experimental quantitative (Kerlinger, 1973; Stockton & Kerlinger, 1974). Experimental quantitative is scientific research in which the researcher manipulates and controls one or more independent variables and experiences the dependent variables to find variations that occur along with the manipulation of the independent variables.

The design used in this study is quasi-experimental (Haq et al., 2015; Haqq, 2016, 2017). The form used in the design is a nonequivalent control group design. In this design, two classes serve as control classes, namely class 7A, and experimental class, namely class 7B, with the number of students from each category, namely 32 students. The teacher gave conventional treatment to the control class and special treatment to the experimental class. Then the next step is to compare the results of the analysis of student interest in learning between the control class that uses the Whatsapp application and the experimental class that will use the Discord application.

The stages in the research include; a) the preparation stage begins with collecting data sources regarding online learning, discord applications, and learning outcomes in science subjects. The next step is to prepare a pretest, posttest, questionnaire, and learning outcomes test. b). the implementation stage applies the method that has been designed for use during distance learning by using the discord application—furthermore, giving pretest, posttest, and questionnaires to students regarding interest in education, conducting observation and documentation studies, collecting data on learning outcomes, and conducting interviews with the subjects of this study. c). completion stage, ordering results from the implementation stage to obtain research results and make conclusions in this study.

The instrument used in this research is a pretest given to know students' knowledge; it can also be interpreted as an activity to test the level of students' learning. Post-test is helpful as a benchmark for students' understanding of the material that has been delivered. This interview helps obtain more in-depth information on respondents if something is lacking in research but cannot be fulfilled by other research instruments.

The instrument test uses validity and reliability tests. A validity test is a measure that shows the level of validity or validity of an instrument. In this study, the validity test was carried out using SPSS 17 with the corrected item grid technique for total correlation and making the decision, namely if the value of r count was greater than r table product moment or r count $>$ r table then the item lattice was declared valid (Hartanto et al., 2021). The results can be seen in Figure 1.

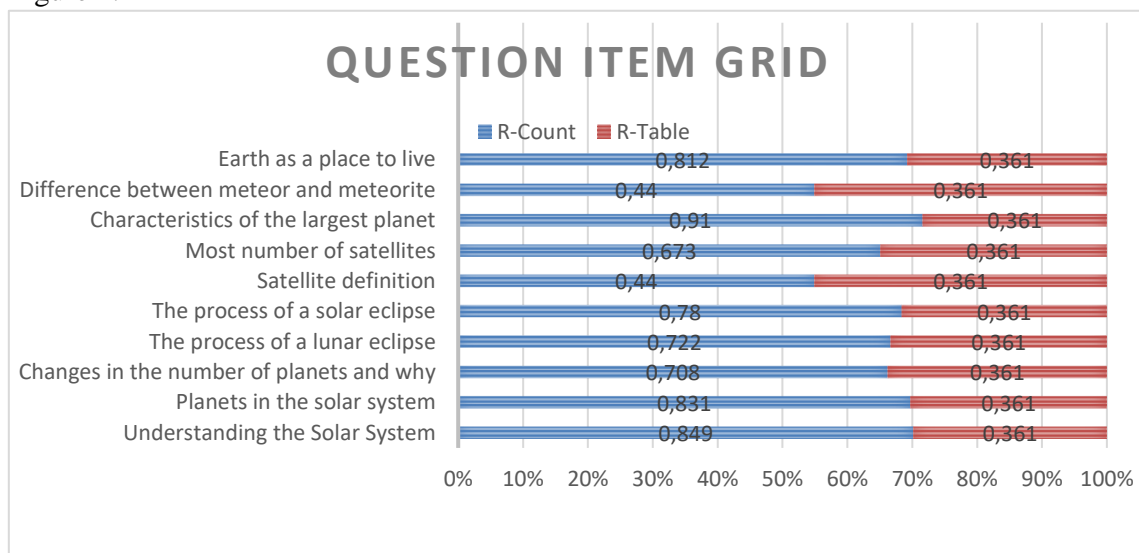


Figure 1. Research instrument validity test results

C. Findings and Discussion

Based on the data analysis of the use of online learning media on students' interest in learning in science subjects, it can be measured from the results of the pretest and posttest scores in which classes 7A and 7B experienced a significant increase. However, class 7B, an experimental class using online learning media in the form of the Discord application, has a higher post-test score than class 7A which is a control class using online learning media in the form of the WhatsApp Group application. Although at the time of the pretest, class 7A got seven students who could achieve learning completeness scores above 65, while class 7B only got two students who could achieve learning completeness scores above 65. However, during the post-test, class 7B more superior by getting 29 students who could achieve learning completeness scores above 65, while class 7B only got 23 students who could complete learning completeness scores above 65.

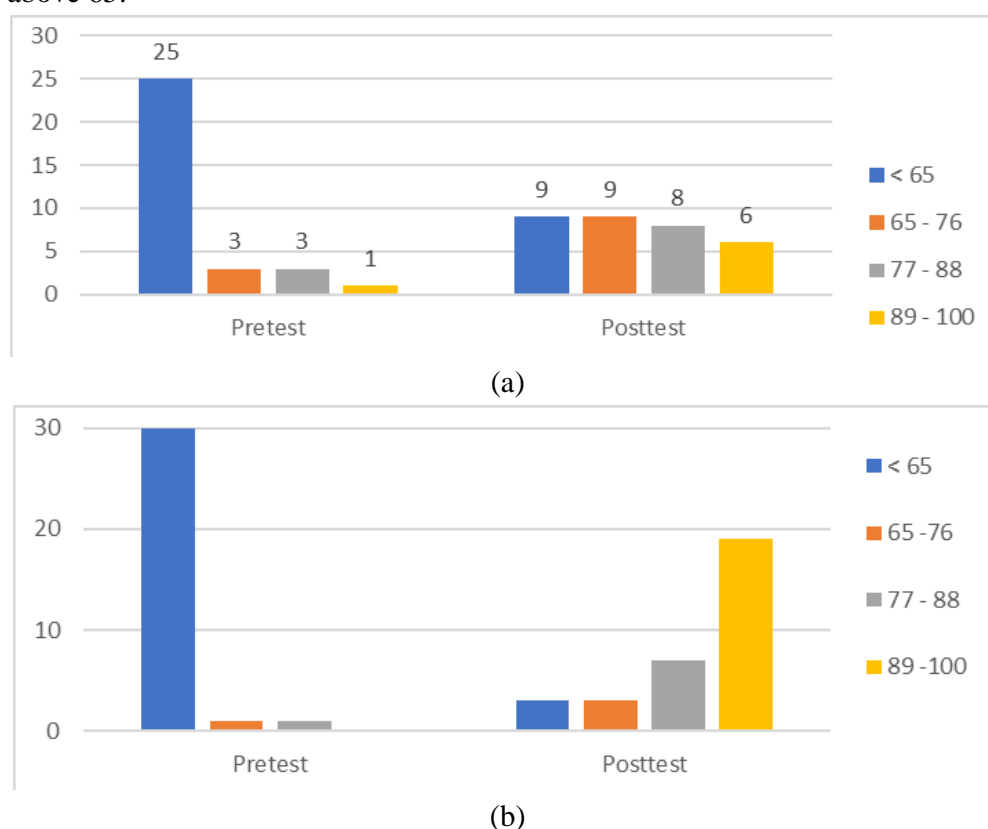


Figure 2. Results of pretest and posttest in class 7A (a) and class 7B

Figure 2 shows a significant difference that during the pretest in class 7B, which was an experimental class before being given treatment using the Discord application on science subjects with solar system material, the results were not good with the number of students who could achieve mastery learning scores. Only 2 students, compared to the posttest after being given treatment using the Discord application which, had better results with the number of students who could achieve more complete learning scores, namely 29 students.

To see a comparison of the achievement of learning mastery scores using online learning media between class 7A using the WhatsApp Group application and class 7B using the Discord application, presented in Figure 3.

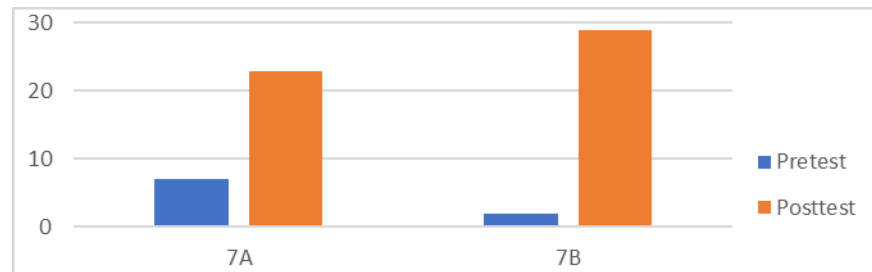


Figure 3. Comparative Data on Learning Outcomes for Class 7A and Class 7B

There is a significant comparison in achieving student learning mastery scores between class 7A using the WhatsApp Group application and class 7B using the Discord application, as shown in Figure 3. Class 7B has more students who can achieve learning mastery scores on the post-test results that have been implemented compared to class 7A. Even though at the time of the pretest, class 7B got lower results than class 7A. With this comparison, it can be concluded that there are differences in increasing student interest in learning. The pretest results from class 7A who use the WhatsApp Group application get an average score of 57.25, while the post-test results get an average of 75.03. And the pretest results from class 7B using the Discord application got an average score of 34.44, while the post-test results got an average of 88.34. The average increase in post-test results carried out in class 7B is influenced by the values obtained by the students, with a total of 29 students who managed to achieve learning completeness scores above the value of 65. So it can be concluded that class 7B has an increase which is very good for the students' learning interest.

The description of the n-gain value for class 7A using the WhatsApp Group application and Class 7B using the Discord application can be seen in Table 1.

Tabel 1. Description of N-Gain Class 7A and 7B

Class	N	N-Gain Category			N-Gain Average	Category
		High	Midle	Low		
7A	32	$g > 0,7$	$0,3 \leq g$	$g < 0,3$	0,4	Midle
7B	32	$g > 0,7$	$0,3 \leq g$	$g < 0,3$	0,8	High

Table 1 shows a significant difference between class 7A and 7B, where class 7B has a higher score of 0.8 than class 7A, which is 0.4. It is concluded in accordance with the rules of the n-gain value category.

The results of the normality test of the learning outcomes variable data can be seen as a whole in Table 2.

Table 2. Conclusion of Class 7A and 7B . Normality Test Results

No	Data	Sig.	Decision
1	Pretest Class 7A	0,441	Normal
2	Posttest Class 7A	0,114	Normal
3	Pretest Class 7B	0,734	Normal
4	Posttest Class 7B	0,960	Normal

Based on Table 2 it can be concluded that all data in this study, both pretest or posttest class 7A which is the control class and pretest or posttest class 7B which is the experimental class with normal distribution with all values above 0.05, in accordance with the rules of decision making.

This is also reinforced by the n-gain test that has been carried out, which has a significant difference. Class 7A scored 0.4 in the medium category, and class 7B got a score of 0.8 in the high sort. Then the pretest, posttest, and n-gain values for classes 7A and 7B have been tested for normality and homogeneity, which get a significance value greater than 0.05, meaning that these data are declared to contribute usually and come from the same or homogeneous variant. . Then, an independent t-test was carried out for pretest, posttest and n-gain data with results less than 0.05, which means that there is a significant average difference between class 7A and 7 B. Then the results of the hypothesis test show the value t count is more important than t table, which is $3.934 > 1.999$, meaning that H_a , namely the influence of online learning media in the form of Discord applications, which is significant in increasing students' interest in learning in science subjects has been accepted.

In distance learning or PJJ, students' interest in learning is needed; this is to build an atmosphere in the process of uncertain teaching and learning activities. Because without an interest in learning, online learning will not process effectively to meet the learning competency standards of students. Student interest in learning can be interpreted as a condition of students who can foster a sense of liking, interest, concern, and involvement in following the learning process (Luo et al., 2020; Muhajirah, 2020; Reviana et al., 2021), so that it can be seen that students' interest in learning is also significant in learning activities, especially during distance learning (Maltsev et al., 2020). If there is no interest in learning from the students, the learning process will not feel interesting, causing boredom and boredom.

Therefore, to foster student interest in learning, specific changes need to be made, one of which is the use of online learning media. Many online learning media can be used during distance learning, such as the Discord application. The Discord application is an application that is usually used by game lovers or gamers in the community, but the Discord application can also be used in online learning. With the reinforcement from the results of the data that has been tested and also the acceptance of H_a , then in online learning, there are certain factors that can affect students' interest in learning. These factors are the attractiveness of the subjects delivered so that a sense of interest in learning from students can grow, there is an effective relationship between the teacher and his students so that students feel guided and assisted by the teacher to achieve learning objectives, there are opportunities for students to be able to play an active role during the learning process, and there is an encouragement of motivation through the attitude of the teacher as an effort to arouse student interest.

The factors that influence interest in learning, namely lessons will attract students if there is a relationship between studies and real life (Isaak et al., 2022; Mesra et al., 2021), the assistance provided by teachers to their students in achieving specific goals (Sunnyono et al., 2020), opportunities are given by the teacher to students to play an active role in the teaching and learning process and the attitude that the teacher shows to increase student interest (Salvadora et al., 2017). The explanation of the factors above, which of course, are influenced by the online learning media that has been used, namely the Discord application. So, it can be stated that the use of online learning media in the form of the Discord application provides effective learning and attracts students to be more enthusiastic about participating in learning.

By using the Discord application, which has unlimited space for the community level. It can function as a variety of more accessible learning media, an interesting feature because the display is made for game lovers can make students not feel bored, and the show that uses English can make students feel bored simultaneously. Students learn general English. The data stored in the Discord application will not be lost until the students delete it themselves, making it easier for students to find learning data that has been given by the teacher and not making the smartphone an error due to lack of storage space. This is not only strengthened by the factors that have been mentioned but is also strengthened by the facts about the Discord application itself, which were observed directly by the researcher. And also, like student statements during interviews, namely, the application is attractive, has lots of space or channels that can be used, and does not make smartphone errors because it runs out of storage space. The Discord application can be used as an optimal learning tool (Arifianto & Izzudin, 2021) and has advantages compared to other commonly used media, namely WhatsApp (Hoseini et al., 2020; Ridho et al., 2021). Through this explanation, it can be interpreted that the Discord application is superior. However, it still has shortcomings, so it can be chosen to be used as an online learning tool.

The explanation above, of course, can answer the third problem formulation, namely how the influence of the use of online learning media in the form of the Discord application on students' learning interests. The answer is that there is a significant influence on the use of online learning media in the form of the Discord application on students' learning interests. This is reinforced by the post-test results of Class 7B, which is the experimental class getting better results than class 7A, which is the control class, and also strengthened by hypothesis testing in which the statement H_a is accepted, and H_o is rejected as explained by Panggabean (2021), that the online learning media of the Discord application can improve student learning outcomes in the learning process of Integrated Science subjects. From what has been described, it can be said that an increase in learning outcomes is evidence of an increase in student interest in learning as well, so the Discord application has a significant influence on the learning process and can be used as an innovation that has great potential as an online learning medium, both at home and abroad, pandemic and in the digital age.

So that the objectives of this study have been achieved following the expectations of the researchers, the results of various tests and facts that show that the data are following the rules of experimental quantitative research methods ended with the statement H_a being accepted, namely the influence of online learning media in the form of the Discord application which significantly increased students' interest in learning in science subjects. H_o 's statement was rejected, namely that there was no significant influence of online learning media in the form of the Discord application on increasing students' interest in learning science subjects.

D. Conclusion

In this study, there are several conclusions. Some factors can affect student learning outcomes. The existence of external factors that are influenced by environmental factors that support online learning activities and are also influenced by instrumental factors whose ingredients use the Discord application. Internal factors are influenced by physiological factors where students are in good health and psychological factors with an interest or interest in learning by using the Discord application in online learning. The use of online learning media in the form of the Discord application provides effective learning and attracts students more enthusiastic about participating in learning. There is a significant influence on the use of online learning media in the form of the Discord application on student learning outcomes.

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