

Implementation of Mobile Seamless Learning in Improving Learning Activity and Learning Achievement Students of SMP Negeri 1 Gemolong Sragen During the Period Pandemic

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Abstract The purpose of this study is to determine the results of the implementation of mobile seamless learning in increasing the learning activity and learning achievement of students at SMP Negeri 1 Gemolong Sragen during the pandemic. This study uses a quasi-experimental method, using quantitative data analysis. The location of the study was carried out at SMP Negeri 1 Gemolong Sragen. The population in the study were all students of SMP Negeri 1 Gemolong Sragen. The sampling technique used *Random Sampling* where each class contained 32 students. The technique applied in this study is to use multiple choice and oral tests. In conducting the test, the validity test uses the product moment and the rehabilitation test uses the KR 20 formula. The data is then analyzed using normality and homogeneity tests. The results of the study indicate that there is an influence of mobile seamless learning on the learning activity and learning achievement of students of SMP Negeri 1 Gemolong Sragen During the Pandemic.

Keywords: Mobile Seamless Learning, Learning Activeness, Learning Achievement.

1. Introduction

The determination of Covid-19 as a global pandemic by WHO has made governments in various countries take a firm stance to break the chain of transmission of Covid19. Likewise, the government in Indonesia has implemented the implementation of PSBB (Large-Scale Social Restrictions), one of which is restrictions on learning activities in schools (DINA, 2020). This certainly has a huge impact on the learning process, lessons that are usually directly implemented directly have switched to online learning. students also easily feel bored and tired of carrying out learning (Firman & Rahayu, 2020). In addition, online learning carried out at SMPN 1 Gemolong Sragen is considered less effective.

The reason is because there is no face-to-face interaction so that the transfer of information that should be done optimally with the help of media and intense interaction is replaced only by virtual meetings. This is also exacerbated by the lack of preparation or prediction that such a learning situation will occur. So that most teachers and students are still confused about how they should deal with complete web-based learning, which is clearly very different from the learning interactions that have been implemented directly in schools (Cahyati & Kusumah, 2020).

The very significant difference in the student learning process from usual will affect the sharpening of students' way of thinking about their learning. Students are required to be able to understand the material without direct interaction from the teacher, and the teacher is unable to provide the material as a whole to students (Syafa'ati et al., 2021). This will then affect student learning achievement. This influence can be seen from several aspects of learning achievement as follows: (1) cognitive aspects related to the thinking process in subjects obtained from the results of evaluation tests, in the form of daily test scores, mid-semester tests, and final semester tests, (2) affective aspects related to student personality, (3) psychomotor aspects related to actions obtained by how students practice subject matter in everyday life.

good days at home, school, and in the community (Syafii et al., 2018).

In an effort to improve these aspects of learning achievement, it must also be balanced by increasing the learning activity in students. This change in the form of learning affects students' learning activity and will lead to differences in ability to obtain learning materials (Nursyam, 2019). Students who do have high learning activity because they may not be so affected by distance learning and can still absorb learning materials as usual, while students with low learning activity will be increasingly left behind and neglected because teachers will focus more on students above average (Astuti, 2016).

The two problems mentioned above can be overcome if teachers are able to implement learning that interests students and presents material as real as possible. In this case, digital technology has a very important role in carrying out online learning. One form of learning that is very likely to be applied during a pandemic is Mobile Seamless Learning (Yafie et al., 2020). The term Seamless Learning can be interpreted as a learning activity through mobile and ubiquitous technology, such as using a smartphone which has an important role in Seamless Learning. Mobile Seamless Learning is a continuous and continuous learning model without any limitations of space and time (Ulfa, 2014).

Based on the background that has been described, this study is present with the aim of obtaining an overview of the results of the implementation of Mobile Seamless Learning in Increasing Learning Activity and Learning Achievement of Students of SMP Negeri 1 Gemolong Sragen During the Pandemic.

2. Research Method

2.1). Learning Achievement

Learning achievement is defined as psychological or mental actions, knowledge and skills possessed by students and adopted in the form of report card grades (Cahyadi, 2019). According to Ws Winkel, learning achievement is the result of students' efforts in learning and studying something. In the Big Indonesian Dictionary is: the dominance of information or abilities created by subjects, usually indicated by test scores or scores given by educators.

(Hamalik, 2013) argues that learning achievement is an adjustment in perspective and behavior after receiving training or after learning something. Benjamin S. Blossom, learning achievement is the result of changes in behavior that combine three intellectual spaces consisting of: knowledge, understanding, application, analysis, synthesis, and evaluation (Mustakim, 2020). The above understanding can be assumed that the understanding of learning achievement is the result of work or learning efforts that show the magnitude of the ability achieved as quality.

While learning achievement is a follow-up effect of learning efforts as a quality as a proportion of individual mastery effort ability, learning achievement is shown by the number of report card grades or summative grades.

Risqon recommends variables that influence learning achievement (Lomu & Widodo, 2018), in particular: a. the role of teachers in directing

and teaching students is greatly influenced by skills and

teacher professionalism.

b. Natural components are greatly influenced by available competitors. c.

Students' self-will factors are greatly influenced by the motivation, attention, and inspiration provided by

guardian.

According to Bloom, learning outcomes or learning achievements include 3 abilities, namely: cognitive, affective, and psychomotor of students. Indicators that can be used to assess learning achievements can be seen in the table (Khoiroh, 2018) following:

Table 1. Dimensions and Indicators of Learning Achievement

Dimensions	Indicator
Realm	Can explain
Cognitive	
	Can define verbally by yourself
	Can provide examples
	Can use properly

	Can describe
	Can classify/sort
	Can connect
	Can conclude
	Can generalize (make general principles)
	Can assess based on criteria and standards by examining and criticizing
	Can produce
Realm Affective	Deny
	Institutionalize or abolish
	Manifested in personal and daily behavior)
Realm Psychomotor	Coordinating the movements of the eyes, hands, feet and other body parts
	Saying
	Making facial expressions and physical movements

2.2). Learning Activity

Student learning activity is a component to achieve learning interaction. Activity is an action that is physical and mental, especially doing and thinking as an inseparable structure.

The students' activeness in learning exercises only develops their own insights (Wibowo, 2016). They effectively build an understanding of the issues or everything they face in the learning cycle. In the Big Indonesian Dictionary, active learning is hard work (working, trying). Activeness is characterized as something or a condition where students can be active. Rousseau argues that every individual who learns must be active themselves, without action the learning cycle will not occur (Putri & Widodo, 2017).

Seeing how far students can be active and interact while learning is one of the assessments in learning. (Sudjana, 2011) states that student activity can be assessed through: (1) participating in making learning efforts; (2) participating in critical thinking; (3) asking if they have difficulty doing something to the teacher or other students; (4) trying to find various data used to find new ideas; (5) having group conversations according to the teacher's instructions; (6) assessing their capacity and the results obtained; (7)

Train yourself in dealing with comparative issues or issues; (8) apply what has been learned to various problems faced during learning.

2.3). Mobile Seamless Learning

Seamless learning is described as a continuous learning experience across multiple contexts (Wong & Looi, 2011). Boundary-free learning enables continuous learning experiences across multiple environments, such as school or home (Alokaily, 2019), while seamless learning is distributed across multiple environments (Toh et al., 2013). Boundaryless learning is a borderless network, where learning takes place anywhere and anytime (Safiah et al., 2020). Boundaryless learning refers to the seamless integration of learning environments across multiple dimensions, including formal and informal learning contexts, individual and social learning, and physical and virtual worlds (Hidayat & Khotimah, 2019) through multiple learning processes and spaces (inside or outside the classroom).

Combining two learning models and combining them, optimizing the benefits of each environment. This helps improve learning tasks that students can access through structured and interactive learning (Wong & Looi, 2011). There are ten dimensions of Mobile Seamless Learning (MSL), namely: (1) covering informal and formal teaching, (2) social and individual teaching, (3) across places / locations, (4) across time, (5) access to knowledge / resources everywhere, (6) covering the digital and physical worlds, (7) combined use of several types of devices, (8) switching between multiple tasks, (9) knowledge synthesis, (10) covering multiple models of pedagogical activities (Kurniawan, 2020).

3. Research Methods

This research is a quasi-experimental research (. et al., 2018), utilizing quantitative data analysis. The location of the study was conducted at SMP Negeri 1 Gemolong Sragen located at Jl. Raya Diponegoro No. 60, Dusun 1, Gemolong, Kec. Gemolong, Sragen Regency, Central Java. This study was directed at the even semester of the 2020/2021 academic year from March to April. The population in this test was all students of SMP Negeri 1 Gemolong Sragen. The technique in this study used the Random Sampling strategy with regular techniques for 32 students. In conducting this study, 2 groups were used. the main group is the trial group where versatile consistent learning is applied to mobile seamless learning and the next meeting is the benchmark group that masters the use of regular learning techniques (Yohanes & Lusbiantoro, 2019).

The steps in this study include: pretest, treatment, posttest, and assessment of results. In collecting information, scientists use various multiple-choice test procedures and speed tests to answer oral questions. The validity test of the test items will be measured using the product moment correlation formula ("Implementation of the Guided Inquiry Learning Model in the Form of Augmented Reality in Students to Increase Interest and Understanding of Science Concepts," 2019). the reliability test uses the KR 20 formula. the analysis technique uses the normality test and homogeneity test.

4. Results and Discussion

Research result

The study began by directing the learning of how both classes, especially the experimental class and the control class, were given a pretest in the form of an essay to determine the level of student learning outcomes in mathematics. Towards the end of the study, both classes were given a posttest with the same questions as the pretest questions. The following is information on the results of the study in the 2 experimental groups:

Table 1. List of Test Result Values

N Minimum Maximum Mean			
Experiment	32	57.00	Control 32
			100.00 76.8438
	17.00	55.8125	93.00

The table above shows that there was an increase in values between the experimental group and the control group. The control group had a minimum score of 17 and a maximum of 93, while the experimental group had a minimum score of 57 and a maximum of 100. The average difference between the two experimental groups was 21. Before the test was carried out The experiment conducted a normality test through a pretest. The results of the initial data normality test are as follows:

Table 2. Normality Test Results

Kolmogorov-Smirnova Shapiro-Wilk			
	Statistics	df	Sig.
Experiment	.103	.098	32 .200* 32
Control	.200*		.966 32 .402
			.962 32 .314

In the experimental class after the normality test was carried out, the results were > 0.05 , then the results can be said to be normally distributed, if the Significance < 0.05 , then the data is not normally distributed. Because the results of the total data analysis have a significance of more than 0.05 ($0.20 > 0.05$), then the data is normally distributed.

After going through the normality test analysis, a homogeneity test can be carried out which aims to prove that both sample classes are obtained from a homogeneous population. A distribution can be said to be homogeneous if the significance level value is > 0.05 , if the significance level is < 0.05 then the distribution cannot be called homogeneous. If a study has met the homogeneity test and has homogeneous data, the study can be continued in further research. Based on the homogeneity test, the initial data analysis of the homogeneity test obtained the following results:

Table 3. Homogeneity Test Results

		Levene Statistics	df1	df2	Sig.
Learning Outcomes	Based on Mean	13,120		62	.190
	Based on Median	11,841	1	62	.104
	Based on Median and with adjusted df	11,841	1	45.961	.124
	Based on trimmed mean	13,086	1	62	.199

If the validity test and normality test have been carried out, the next step is the hypothesis test, especially the t-test which is carried out to decide whether the applied learning has an impact or not on the object being studied. In the t-test, data is taken from the questionnaire score and the post-test score. The results of the hypothesis test can be seen in the following table:

Table 4. Output of t-test results

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Levene's Test for Equality of Variance			t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Learning Results ar	Equal	13.12	.00	-	62	.000	-	4.31930	-	-	-
	variance	0	1	4.86			21.0312		29,665	12.3	
	ice			9			5		41	970	
	assume									9	
	d										
	Equal			-	46.66	.000	-	4.31930	-	-	-
	variance			4.86	2		21.0312		29,722	12.3	
	ice not			9			5		22	402	
	assume									8	
	d										

Based on the table above, it can be seen that the value of $\bar{y}$ is used = 4.869. in determining the significance level value (attached) in for the determining the difference. Before determining the value, the value must be determined degrees of freedom in all samples with the formula = $y2$. With N being the number of samples, namely 32, so that $= 32y2 = 30$.

Based on the value = 30 with a significance level of 5%, a value of 2,042 was obtained. From this value, $5\% = 2,042 < \bar{y} = 4,869$ was obtained with Sig.(2-tailed) = 0.000 < 0.05, thus there is a difference in the activeness and achievement obtained by students if taught with mobile seamless learning with students who are taught using conventional models. So it can be concluded that there is an influence of mobile seamless learning on the activeness of learning and learning achievement of students at SMP Negeri 1 Gemolong Sragen During the Pandemic.

Discussion

Based on the description obtained from the research results and also the hypothesis test has been carried out, it shows that there is a difference in learning between the experimental class that was given the mobile seamless learning method during the pandemic and the control class that was not given the mobile seamless learning method. Mobile learning itself is one of the supporting elements in the education and training process. Mobile learning can be accessed using IT-based such as PDAs, smart phones, and also portable computers or laptops. In the application of mobile learning, there is convenience in utilizing the functions and ease of the media or tools used.

Seamless learning encourages students to recognize when they need to learn, even in different situations, and they can move from one situation to the next quickly and without any problems.

Therefore, the space for Seamless learning consists of different situations where students are active, productive, innovative and can collaborate in various learning conditions whenever and wherever students are. (Wong & Looi, 2011).

According to (Looi & Lim, 2009), the portability and flexibility of mobile phones may support the advancement of learning methods from teacher-focused to student-focused. For this situation, teachers are no longer the only source of learning, but teachers act as facilitators and partners in learning. (Disler et al., 2019)

recommends several benefits of using technology in implementing Seamless Learning, namely it can build student inspiration; increase student participation in learning exercises and encourage student cognitive learning; open students' understanding of various types of information.

Based on these advantages, the active period and student learning achievement can be increased. During the period

pandemic teachers and students temporarily cannot meet. This restriction causes difficulties in building communication, both teachers delivering material or students asking questions. Through the mobile seamless learning approach, the learning process can take place more optimally. Teachers can deliver material more freely and students not only listen but also actively participate in learning activities even though it is online.

According to (Ahmad et al., 2019) learning activity is a process that plays an important role in every measure of education and learning. With student activity in the learning cycle, as students they will have high interest, interest and desire in the learning process. As shown by Riswanil and Widayati (2012: 7) student learning activity emphasizes more on student activities in the learning cycle which includes emotional abilities and emphasizes student creativity (Nurllinda Sari et al., 2016), improves their abilities, and achieves creative students who can find ideas. Learning interactions require student activity, learning will seem tiring and boring. An exciting cycle will occur when students can be directly involved in learning. The value of student activity as a major component in supporting the achievement of learning interactions will also affect student achievement.

5). Conclusion

Learning with the idea of continuity gives rise to the term in the realm of teaching, namely Seamless Learning. The idea of Seamless learning emphasizes progress in learning interactions that occur in different contexts, including: formal and informal, individual and social, across time and location, reality and cyberspace, digital and non-digital, etc. This continuity then sparks activeness in students. Students who are active in learning activities will also experience an increase in the achievements they achieve.

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