

Implementation of “Si Pemenang” (Sistem Pembelajaran Renang) Application to Improve Chest Style Swimming Learning Outcomes

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Abstract

This research aims to address the challenge of comprehending swimming material, which students at SMP Negeri 7 Pati find to be difficult. This difficulty arises from the complexity of the process. The process cannot be understood solely through books or worksheets. Additionally, there is a lack of optimized learning strategies and in-depth material on the techniques. The study utilized a quantitative approach with a quasi-experimental design involving 34 students from class VIII H, divided into two groups for pretest-posttest control. The research instrument contained evaluations on affective, cognitive, and psychomotor aspects of breaststroke swimming. Data analysis was conducted using the paired sample T test. The research results, analyzed with IBM SPSS 23, indicated that the experimental group had a statistically significant difference. (2-tailed) = 0.000, indicating $p < 0.05$, showing a significant 47% increase in learning outcomes in breaststroke swimming material. As a result, H_0 is rejected and H_a is accepted. The control group exhibited a significant level in comparison. (2-tailed) = 0.789, with $p > 0.05$, indicating a lack of significant increase in learning outcomes. Thus, H_0 is accepted and H_a is rejected. In conclusion, the Si Juara application has positively impacted breaststroke swimming learning outcomes at SMP N 7 Pati, resulting in a notable improvement. Future researchers should focus on enhancing learning models to optimize learning results.

Keywords: *Si Pemenang, swimming, breaststroke, learning outcome, physical education*

Introduction

Education according to Ki Hajar Dewantara, an Indonesian educational figure, is a process that directs the potential of children to achieve the greatest possible safety and happiness as individuals and members of society [1,2]. The 1945 Constitution states that Law No. 20/2003 on the National Education System aims to develop abilities, foster a dignified national character, and advance national intelligence and civilization. The purpose of education is to foster the potential of students to become individuals who are faithful, noble, healthy, skilled, creative, independent, and able to become democratic and responsible citizens [3,4]. To achieve these goals requires continuous support and active participation from the entire community including in the field of Physical Education, Sports and Health.

The main purpose of sports and physical education is to cultivate virtuous, resilient and honorable character [5,6]. Only individuals with moral virtues can become valuable members of society. The achievement of the goals of PJOK in a school is influenced by teaching and learning process factors. Teachers must have the ability to apply appropriate teaching techniques and choose the most appropriate approach to the subject matter at hand.

The learning process in sport is similar to learning in other subjects, in that both have similarities in structure and good planning. Learning activities involve the exchange of messages between teachers and students for the messages to be understood and perceived. Learning is

a natural process that shapes the character of individuals around them. Learning will be successful with the support of adequate facilities and infrastructure, effective methods, and active student participation. Conversely, learning will be hampered if it is not supported by sufficient facilities, the use of monotonous methods, and lack of student involvement.

Learning media has a significant influence on students' interest, motivation, and learning outcomes in various educational contexts [7,8]. Research shows that the integration of media into the curriculum creates a more interesting and interactive learning environment, as in MI Tanjung Pura, which recorded a 69.9% influence on learning outcomes due to a combination of media and interest. In the creative economics course, learning media increases student motivation, which has a positive impact on learning outcomes [9]. The use of various media has also been proven to improve the quality of learning, such as in vocational education and SMA Negeri 10 Wajo, which demonstrates the effectiveness of audiovisual media [10]. However, the impact varies, as in social studies, which recorded an influence of 22.7%, because other factors such as teacher training, resource availability, and student demographics also play a role in the effectiveness of learning media.

Based on the results of observations at SMP N 7 Pati, many students in grade X still have insufficient learning outcomes in swimming. This can be seen in the average learning outcomes, which are 60% below average. Most students start out with a lack of understanding of swimming movements or, in other words, a low cognitive level.

Si Pemenang application is an Android-based swimming learning medium that contains swimming materials ranging from the history of swimming to basic swimming techniques. This application is expected to improve students' understanding of swimming movements.

Methodology

This research is a quasi-experimental research with quantitative descriptive methodology. Experimental research seeks to determine the causal relationship between variables. One of the key aspects of this research is the handling of the subject or object under study. This study used a pretest-posttest randomized control group design. In this design, there are treatment and control groups. Subjects are randomly assigned to one of the groups to assess the effectiveness of the treatment. Before the treatment is given, both groups complete a pretest to evaluate students' basic knowledge of the concepts to be taught. After receiving different treatments, each group underwent a posttest that was the same as the initial pretest to assess their level of understanding. The sample of this study was class VIII H of SMP Negeri 7 Pati. A total of 34 students were selected through simple random sampling, with 17 students included in the control group and 17 students included in the experimental group.

Result

a. Description of experimental group data results

Description of pretest and posttest data on learning outcomes of experimental groups with treatment using "Si Pemenang" application in class VIII H

Table 1. Descriptive assessment results of experimental group

No.	Data	Pretest	Posttest
1	Mean	73.34	85.42
2	Median	71	83.67
3	Variance	61.4	54.41
4	Std. Deviation	7.8	7.37
5	Minimum	59.67	70.33
6	Maximum	87	97.33
7	Range	27.33	27

Based on the calculations shown in the table above, for the pretest data (initial test) before the sample was given treatment through the Si Pemenang application learning, the average was 73.3 with a standard deviation of 7.830. The lowest value recorded was 59.6. The highest value reached 87. After the treatment, the posttest data showed an average of 85.4 with a standard deviation of 7.376. The lowest value was 70.3 and the highest value was 97.3. This data can be shown in figure 1.

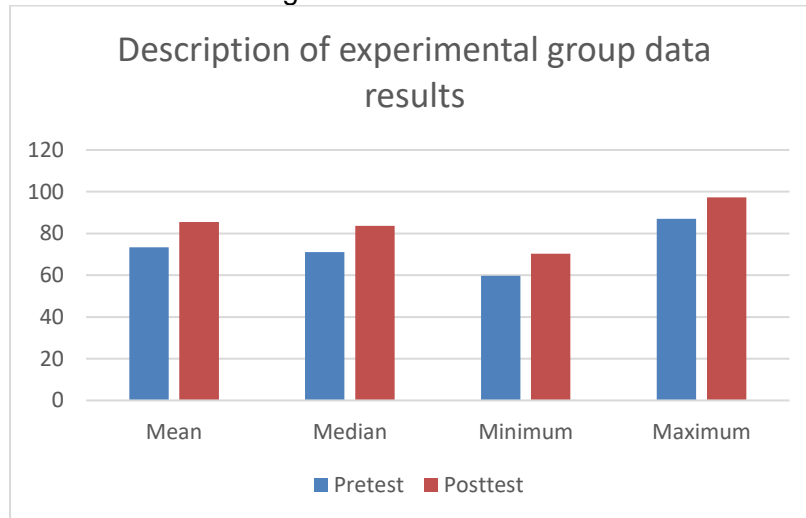


Figure 1. Descriptive assessment results

b. Description of control group data results

Description of pretest and posttest data on learning outcomes of the control group with treatment using the “Si Pemenang” application in class VIII H

Table 2. Description of control group data results

No.	Data	Pretest	Posttest
1	Mean	72.87	73.25
2	Median	75.67	75
3	Variance	69.70	33.730
4	Std. Deviation	8.34	5.8
5	Minimum	57.67	63
6	Maximum	84	81.33
7	Range	26.33	18.33

Based on the pretest data of the control class that used the learning method only with LKS, the average was 72.8 with a standard deviation of 8.348. The lowest score was 57.6 and the highest score was 84. After that, the sample went through a posttest with an average of 73.25 and a standard deviation of 5.807. The lowest score was 63 and the highest score was 81.33. This data can be shown in figure 2.

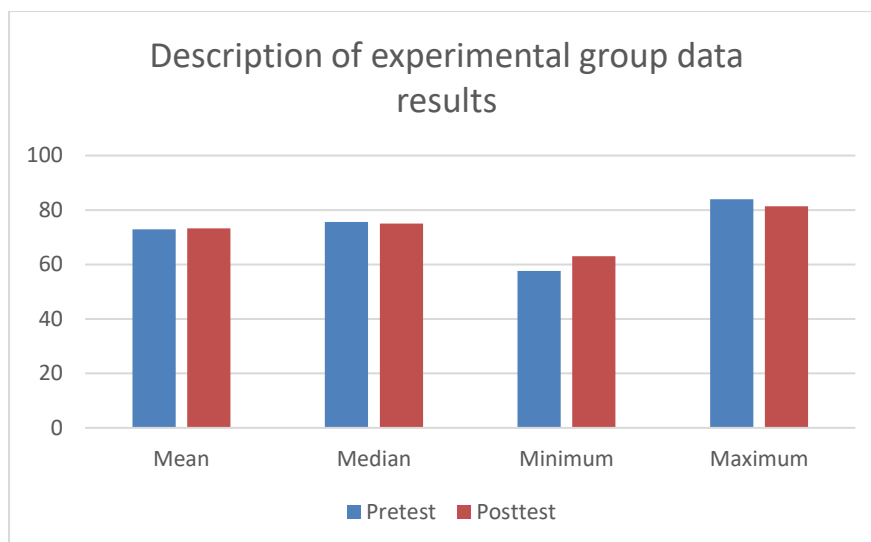


Figure 2. Description of experimental group data result
Paired Samples Test

	<i>Paired Differences</i>					<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>	<i>95% Confidence Interval of the Difference</i>				
				<i>Lower</i>	<i>Upper</i>			
Pair 1 <i>Pretest Eksperimen</i> <i>Posttest Eksperimen</i>	-12.07843	5.04773	1.22425	-14.67373	9.48313	9.866	16	.000

Figure 3. Paired sample test

Based on the analysis listed in the table above, the Significance (Sig) value obtained is 0.000, which is clearly smaller than 0.05. Thus, the null hypothesis (Ho1) is rejected, while the alternative hypothesis (Ha1) is accepted. This shows that the use of Si Pemenang application in teaching breaststroke swimming in class VIII H SMP N 7 Pati has a significant impact on students' learning process. It can be seen that after students used the app in breaststroke swimming, there was a significant improvement in their learning outcomes. This indicates that the app is effective in helping students understand and master breaststroke swimming techniques better.

The "Si Pemenang" application has been implemented at SMP Negeri 7 Pati with the aim of improving student learning outcomes in breaststroke swimming. The app serves as an innovative and modern learning media. The app can also serve as a motivational tool for various subjects at school, by utilizing an online learning platform. With this learning tool in place, the teaching and learning process becomes simpler and more effective for all parties involved. During the research period, students showed increased motivation when using the "Si Pemenang" app. The app greatly assisted students in understanding the material taught, especially with regards to breaststroke swimming techniques. In addition, the app contributed to the improvement of students' cognitive abilities and skills.

Based on the above data, the media has been proven to be able to significantly improve swimming learning outcomes. The results of this study are in accordance with the research of Fajar Abrianto Nugroho [11], that the provision of audio-visual materials and drill practice on the learning outcomes of breaststroke in grade XI students of SMA Negeri 18 Surabaya resulted in a 12.8% increase in cognitive learning outcomes and an 18.3% increase in

psychomotor learning outcomes. Similarly to Ibnu Fatkh Royana's research [12], the learning medium "My Javelin Throw" has been proven effective in improving students' athletic learning outcomes.

Learning media is a fundamental element in the educational process, acting as a bridge that connects educators and learners, and facilitating the understanding of concepts and subject matter [13]. Learning media are not just visual aids, but also a means of transforming abstract ideas into a more concrete and digestible form [14]. The use of media in learning can arouse students' interest and motivation to learn, stimulate learning activities, and have a positive psychological impact [15,16]. Thus, learning media are crucial in improving the effectiveness and efficiency of the teaching and learning process.

Conclusion

Based on the research and discussion of the implementation of the "Si Pemenang" application (swimming learning system) on breaststroke swimming at SMP Negeri 7 Pati, it can be concluded that the use of the "Si Pemenang" application in the experimental group has a positive impact on improving student learning outcomes. freestyle swimming. chest. This shows that the use of this educational application has a beneficial effect in improving results. Therefore, it is evident that the use of "Si Pemenang" application in breaststroke swimming lessons is very beneficial for student learning at SMP N 7 Pati.

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