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Effectiveness of Modified Learning Media on Student Creativity

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Abstract

This study aimed to determine the influence of modified learning media on the student creativity. The research method employed an experimental method with a pretest -posttest control group design. The sample of this study consisted of PETE for Elementary School students selected through purposive sampling. The research instrument utilized a creativity questionnaire. Based on the data analysis, the significance value was 0.019, indicating a significant influence of modified learning media on the student creativity. This study concludes that there was a significant impact of modified learning media on the student creativity. Modifying learning media can be considered a viable alternative in education to enhance creativity and other cognitive components.

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INTRODUCTION

Students of Physical Education as prospective educators or teachers must have high creativity to overcome the limitations of facilities and infrastructure, as well as to choose the right teaching strategies or models so that the teaching and learning process can run smoothly. A teacher plays a role as a teacher and mentor so that students can achieve their learning objectives. Often, a teacher also has to play the role of a second parent to students in school (Keiler, 2018).

One method of developing students' thinking, reasoning, movement, and imagination abilities in solving problems is by giving them the freedom to develop their imaginative results into the real world with guidance based on knowledge. However, this doesn't immediately yield results but must go through several stages, such as reviewing supporting components in developing students' creativity (Setyaningrum, 2020).

Creative thinking is the ability to think and produce original and useful responses. Redifer et al. (2021) state that existing creative abilities and feedback received during creative thinking tasks can influence the perceived cognitive load and affect creative thinking performance. Creativity is crucial, and it's not enough to conduct creativity training or problem-solving sessions only once to allow creativity to develop in schools (Karwowski et al., 2022).

Enriching the mastery of basic knowledge is essential because it enables students to create new concepts and solve various problems. To develop creativity skills in students with low abilities, it is recommended to implement creativity training programs. According to Byrge & Tang (2015), the use of attention techniques is a useful and effective strategy to enhance creativity. This technique will improve performance in creativity. Creativity skills can also be influenced by gender, socio-economic status, and participation in extracurricular activities (Castillo-Vergara et al., 2018). Furthermore, Davies et al. (2013) determine the main characteristics in a school environment that enhance creativity include adequate physical environment, availability of diverse materials, use of outdoor environments, using game methods, and flexible time usage.

The appropriate use of media will also determine the success of the learning process in explaining lesson materials, implanting experiences, and helping students remember learning experiences for a more extended period. Educational media is an integral part of the education process in schools and plays a crucial and strategic role in helping achieve effective and efficient learning goals. Teachers are also expected to use media within the scope of their activities in teaching at school. The benefits of media in physical education learning are to facilitate the learning process in schools so that students can easily understand the practiced learning (Breivik, 2022).

In the learning process, the presence of media is significant because it can help clarify material that may still be vague and not well understood by students. Additionally, media can evoke good interest, motivation, and stimulation in learning activities. According to Hurwitz et al. (2022), learning that has characteristics that students can easily understand and involves the surrounding situation as interactive learning media is considered interactive and can provide achievable goals.

Media as an aid in the learning process is an undeniable reality because with media, teachers can help deliver messages from teaching materials to students. All parties involved in the learning process need to give adequate attention to this issue. The existence of media cannot be ignored in the learning process; this is because without media, the implementation of learning will not go well, including in the field of study learning. The importance of applying physical education learning within the school scope can be seen from its learning objectives, which include various specific causes and factors, such as knowledge of measuring tools, applied media, and others (Wang & Du, 2022).

Teachers play a significant role in cre-

ating a quality education process and outcome to achieve learning objectives. Teachers can modify suitable and effective media for learning by seeking references (media) or developing them themselves (Fudin & Hariyadi, 2020). Putra et al. (2019) state that creative teachers will be able to create something new or modify something existing but present it in a more interesting way so that students do not get bored.

Creative and innovative physical education teachers will be able to create something new and innovative, taking something that already exists and presenting it in a more engaging way so that students are motivated to participate in the learning process.

METHOD

This research method uses an experimental research design and the research design uses a Pretest Posttest Control Group Design.

Population and Sample

The population in this study is Physical Education students with purposive sampling techniques for sample selection with criteria needed by researchers to facilitate the research process. The criteria set by researchers for sample selection are PGSD students at level 2 or semester 4 who have never experienced a modified learning media program. After giving the criteria, 30 students were selected as samples, divided into 2 groups, namely the experimental and control groups.

Instrument

The instrument for measuring creativity adapts The Reisman Diagnostic Creativity Assessment questionnaire (Reisman et al., 2016). The data analysis technique uses an Independent Sample T test to determine whether there is a difference in the level of creativity between students who are given modified learning media treatment and those who are not given modified learning media treatment, assisted by SPSS Version 26.

Data Analysis Technique

The data generated from this research are analyzed using an experimental research technique to test whether there is an influence of modified learning media on students' creativity. For data analysis processing, a parametric statistical approach is employed, specifically the t-test method with a one-sample t-test statistical method, to calculate and determine the presence of an influence.

RESULTS

The Kolmogorov-Smirnov test was conducted. The purpose is to determine the level of normality of the obtained data and to decide the next steps. The results of the normality test are presented in Table 1.

Table 1. Paired Sample t-Test Results

	Statistic	Df	Sig
Pretest Experiment	0.116	15	0.200
Postest Eksperimen	0.154	15	0.200
Pretest Control	0.145	15	0.200
Postest Control	0.153	15	0.200

Based on Table 1, the data is considered normal if the significance value (sig) > 0.05. Therefore, with a significance value of 0.200, the hypothesis is accepted. From the results of the Kolmogorov-Smirnov normality test, it can be concluded that the obtained data is in a normal distribution.

The next step after conducting the normality test is to test the homogeneity of the data. This is important not only to determine the homogeneity of the data but also as a step to decide on the statistical formula to process the data. The statistical formula used to determine homogeneity is the formula for testing the equality of two variances. From this test, it can be determined whether the data from the two variables under investigation are homogeneous or not.

The results of the homogeneity test calculations are as follows in Table 2:

Table 2. Homogeneity test

F-Value	F-Table	Conclusion
0.117	0.05	Homogeneous

The test was conducted with a confidence level (α = 0.05). The hypothesis is accepted if the calculated F-value > F-table ((n1-1, n2-1), where the F-table value is obtained from the F distribution table with (α = 0.05) and degrees of freedom (df) = (n1-1, n2-1). Based on the table of the homogeneity of variance test results, the calculated F-value is 0.117, and the F-table value is 0.050, which means the hypothesis is accepted. This implies that the variances of the two variables are the same or homogeneous. Thus, it can be concluded that the data is both normal and homogeneous. Subsequently, the data can be processed using a parametric statistical approach.

The statistical approach used to process the data in order to draw conclusions from the research results is the Independent Sample T-test method. This method is employed to determine whether there is a difference in the influence of modified learning media compared to non-modified learning media on students' creativity, as presented in table 3.

Table 3. T-test Result

Levene's Test for Equality of Variances				
F	Sig.	T	f	Sig(2-Tailed)
1.543	.224	.496	8	0.019

From table 3, the hypothesis is accepted if the p-value is < 0.05. Based on the calculations above, a p-value of 0.019 is obtained, which means the hypothesis is accepted. This implies that there is a significant difference in the average between the experimental group and the control group, indicating a significant influence of modified learning media on students' creativity.

DISCUSSION

Based on the findings of the research conducted by the researcher, it was found that modifying learning media is effective in enhancing students' creativity. If teachers are aware of the characteristics of physical education material, the modification process can be effective. Teachers who modify their teaching have specific goals. Generally, the goals teachers aim to achieve through modifying learning, especially in sports game learning, are to make learning time more effective, to overcome the lack of learning equipment, and to facilitate students in understanding the movement learning process taught by the teacher (Agustan et al., 2020).

Learning modifications can also be linked to learning objectives, ranging from the lowest to the highest. First is the expansion objective, meaning learning objectives that emphasize the acquisition of knowledge and the ability to perform forms or manifestations of skills without considering their efficiency or effectiveness. Second is the refinement objective, meaning learning objectives that emphasize the acquisition of knowledge and the ability to move efficiently. Third is the application objective, meaning learning objectives that emphasize the acquisition of knowledge and the ability to determine the effectiveness of movements performed through certain criteria according to the students' abilities. With this modification pattern, it is expected to facilitate students in learning movement and learning through movement in physical education learning. If students can learn well, they can improve the components of movement skills, fitness, and cooperation to support their growth and development.

Therefore, this modification of learning media can facilitate students in increasing learning motivation for the improvement of learning outcomes in physical education and sports learning, in accordance with the research results. In this case, teachers can maximize the modification of existing tools to increase learning motivation to achieve maximum learning outcomes. Modification is one of the efforts that teachers can make to ensure that learning

reflects changes in children's abilities and helps encourage those changes (Jimenez & Sanz, 2013; Lee & Therriault, 2013). In connection with physical education, many believe that teachers' ability to organize activities and learning experiences, to create an optimal learning environment, and to interact with children play a crucial role in developing and encouraging the use of creative and critical thinking skills by children (Moustofa et al., 2013; Muzaini et al., 2021).

The group of students who engaged in modifying learning media activities demonstrated better creativity compared to students who did not engage in modifying learning media activities. Therefore, modifying learning media can be a good alternative choice in education to enhance student creativity.

CONCLUSION

From the data analysis it can be concluded that modifying learning media activities demonstrated better creativity compared to students who did not engage in modifying learning media activities.

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