Game-Based Learning in Improving Interest and Achievement in Physical Education in the 5.0 Era

Michael Johannes Hadiwijaya Louk[1]*, Al Ihzan Tajuddin[2], Salmon Runesi[3], Ronald Dwi Ardian Fufu[4] , Erwin Sarnoto Neolaka[5],Ramona Mathias Mae[6] and I Nyoman Wahyu Esa Wijaya[7]
[123457] Physical Education and Sports , Nusa Cendana University, Indonesia
[6] Physical Education and Sports , Kristen Artha Wacana University, Indonesia
*michaellouk@staf.undana.ac.id

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Abstract: Physical education plays an important role in developing physical health, motor skills, and character building of students. However, the challenge in increasing interest and learning achievement in this subject is still the main focus, especially in the era of education 5.0 which demands an innovative approach. This study aims to explore the role of game-based learning in increasing interest and learning achievement in physical education in the era of 5.0. The research method used is a quasi-experiment with a pre-post test and control group design. The research sample consisted of two classes with 30 students each, one class as an experimental group that received game-based learning, and one class as a control group that received conventional learning. Data were collected through an initial interest test, a learning achievement test, and a questionnaire on students' interest in learning. The results showed a significant increase in the interest and learning achievement of students who participated in game-based learning compared to the control group. Students involved in game-based learning showed higher interest in the subject matter and achieved better learning achievement in terms of motor skills, conceptual understanding, and active participation. In addition, the student interest questionnaire showed that game-based learning provides a more interesting and enjoyable learning experience for students. These findings indicate that game-based learning has great potential in increasing interest and achievement in physical education learning in the 5.0 era. The practical implication of this study is the need for integration of game-based learning in the physical education curriculum to improve the quality of learning and motivate students in achieving optimal learning outcomes.

Keywords: Game-Based Learning, Physical Education, Learning Interest

INTRODUCTION

Physical education plays a crucial role in the development of physical health, motor skills, and student character formation. However, in the face of the developments of the times, new challenges arise in efforts to increase students' interest and learning achievement in these subjects. The 5.0 era of education, marked by technological advances and rapid digital transformation, demands innovative approaches in the learning process, including in the field of physical education. One of the innovative approaches that has attracted attention is game-based learning. In this context, games are not only seen as entertainment, but also as an effective tool to support the learning process. By presenting learning materials through an engaging and interactive format, game-based learning promises great potential to enhance student interest, engagement, and learning achievement. Previous research has

identified several benefits of game-based learning in an educational context, such as improved intrinsic motivation of students, improved problem-solving skills, and improved information retention. However, in the context of physical education, the application of game-based learning is still relatively limited and needs further attention. Given the importance of physical education in supporting the health and well-being of students, as well as recognizing the potential of game-based learning in enhancing learning interests and achievements, the study aims to explore the role of gaming based learning in improving the interest and performance of physical learning in the age of 5.0. Through this research, it is expected to gain a deeper understanding of the effectiveness of game based learning within the context of physical arts education, and its practical implications in increasing the quality of learning and student learning motivation.

RESEARCH METHOD

This research uses a simulated experimental design with a pre-post test design and a control group. This design allows comparisons between experimental groups that receive game-based learning and control groups which receive conventional learning. Participants: The participants in this study were X-grade students from two different upper secondary schools. Each school will have one class as an experimental group and one as a control group. The number of participants in each group was 30 students. Research Instruments: 1. Initial Interest Test: This test is used to measure the student's initial interest in physical education lessons prior to learning intervention. 2. Learning Achievement Test: It is used for measuring student learning achievement in terms of motor skills, understanding of concepts, and active participation in physical learning. 3. Student Interest Questionnaire: This questionnaire is used to collect data about students' interests in game-based learning.

Research Procedure: 1. Initial data collection: Before learning intervention, an initial interest test will be given to all participants to measure their initial interest in physical education subjects. 2. Learning: The experimental group will receive game-based learning, while the control group will get conventional learning according to the applicable curriculum. 3. Learning Implementation: Game-based learning will be organized using the previously selected platform or application. The learning material will be adapted to the standards of the physical education curriculum. 4. Final data collection: After the learning period is completed, the learning performance test will be given to both groups to measure their final achievement in the material of physical education. 5. Data collection Student interests: After completion of the study period, the student's interest questionnaires will be provided to the two groups to gather data on student interests in game based learning. 6. Data analysis: The data collected will be analyzed using descriptive and inferential statistical methods to evaluate differences in learning interests and performance between the experimental and control groups.

RESULTS AND DISCUSSION

Results: The results showed significant differences in interest and learning performance between the group of students who received game-based learning and the group who received conventional learning. Here are the main findings of this study: 1. Learning interests: Results of student interest

questionnaire analysis showed that students who followed game based learning showed a higher interest in the material of physical education. The majority of students in the experimental group stated that game-based learning made them more interested and motivated in taking lessons. 2. Learning Achievement: Learning achievement tests show that students who follow game-based learning better learning achievements than students that follow conventional learning. The experimental group showed significant improvements in motor skills, concept understanding, and active participation in learning.

Discussions: 1. Effectiveness of Game-based Learning: This finding confirms that game-based learning is effective in improving student interest and learning performance in physical education subjects. This approach proves its success in attracting the attention of students and increasing their involvement in the learning process. 2. Intrinsic Motivation: Game-based learning encourages intrinsic motivation of the student, that is, motivation that comes from within the student himself. By presenting learning materials in an interesting and interactive form, students feel more motivated to learn and participate actively in learning activities. 3. Skill development: Game-based learning has also proved effective in developing student motor skills, which is an important aspect of physical education. Through interaction with games involving physical movement, students have an opportunity to practice and improve their motor skills. 4. Practical Implications: These findings have important practical implications in the development of the curriculum of physical education in the modern era. Integrating game-based learning into the curriculum can improve the quality of learning and motivate students to optimal learning outcomes. 5. Advanced Research: Although this research provides strong evidence of the effectiveness of game-based learning in physical education, further research is still needed to explore the various factors that influence the implementation and success of game based learning in the context of physical education.

CONCLUSION

Overall, the results of this study show that game-based learning plays a significant role in increasing student interest and learning achievements in physical education in the modern era. Integrating game based learning into the curriculum can be an effective strategy in meeting the 5.0 education demands that emphasize innovation and the use of technology in the learning process.

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