



The Effectiveness of Educational Game-Based Learning on Elementary School Student Learning Motivation

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Abstract: *Technological developments have significantly impacted the world of education, particularly in the use of more interactive and engaging learning media. However, elementary school students' learning motivation remains relatively low due to the monotonous and teacher-centered learning process. This article aims to examine the effectiveness of educational game-based learning on elementary school students' learning motivation. This research employed a literature review method by analyzing 25 scientific articles published between 2000 and 2025 related to educational games and student learning motivation. The articles were collected from Google Scholar, Scopus, and national journal databases. The results of the study indicate that educational game-based learning can increase student learning motivation by creating a fun, interactive, and engaging learning environment. The use of educational games also helps improve student activity, concentration, learning interest, and learning outcomes. Furthermore, educational games align with the characteristics of elementary school students, who are more interested in visual and interactive learning. Thus, educational game-based learning can be an effective solution to increase elementary school students' learning motivation and help teachers create a more creative and innovative learning process. This study contributes by providing a comprehensive synthesis of previous research findings regarding the effectiveness of educational game-based learning in improving elementary school student's learning motivation.*

Keywords: *Educational games, Learning motivation, Learning media, Elementary School*

Introduction

The development of science and technology in the current era has had a significant impact on the world of education. Technology in education can help create more engaging learning innovations and facilitate the teaching and learning process (Fameska et al., 2023). Learning media plays a crucial role in helping teachers deliver material and creating a pleasant learning atmosphere so that students do not easily become bored. However, in reality, elementary school students' learning motivation is still relatively low. This low learning motivation is caused by the use of conventional learning methods and the excessive use of lectures, resulting in students being more listeners than actively involved in learning (Mulyani, 2022). This condition makes students feel bored, less interested in participating in learning, and less enthusiastic while learning. Furthermore, the use of less engaging learning media also causes students to pay less attention and learning feels boring (Citra &

[Rosy, 2020](#)). Teachers still often use whiteboards and conventional question-and-answer methods, so students are less motivated to participate in learning. Limited learning media is also one of the causes of low student learning motivation. [Fameska et al. \(2023\)](#) stated that the limited use of media makes it difficult for students to understand the material and quickly become bored during the learning process. Elementary school students generally prefer learning that involves images, animation, color, games, and digital technology over traditional learning that relies solely on books and blackboards. Therefore, teachers need to utilize more interactive learning media to increase student engagement. One such learning medium is educational games.

Educational games combine educational and playful elements, making the learning process more engaging and enjoyable ([Widyastuti & Puspita, 2020](#)). The use of educational games is considered effective because they create an interactive learning environment, foster curiosity, and increase student engagement. Furthermore, educational games also help students learn while playing, preventing them from feeling overwhelmed during the learning process. Research by [Citra and Rosy \(2020\)](#) shows that the use of educational game-based learning media, such as Quizizz, effectively increases student motivation and learning outcomes by creating a more active, enjoyable, and engaging learning environment. [Widyastuti and Puspita \(2020\)](#) also explain that educational games can improve students' concentration and thinking skills through the concept of learning while playing.

Although previous studies have shown that educational games can improve students' motivation and learning outcomes, most studies focus on specific educational game platforms or particular learning subjects. There is still a lack of comprehensive synthesis that summarizes and integrates findings from various studies regarding the effectiveness of educational game-based learning in enhancing elementary school students' learning motivation. Therefore, a literature review is needed to provide a broader understanding of the role of educational games in elementary education and to identify their contribution to improving students' learning motivation.

Based on the description, this article aims to discuss the effectiveness of educational game-based learning on elementary school students' learning motivation and explain how educational games can be a solution in increasing students' learning motivation so that the learning process becomes more effective, interesting, and enjoyable.

Methodology

This research uses a literature study, searching for theoretical references relevant to the case or problem identified. A literature study, or library research, is a series of activities related to data collection, reading, recording, and processing of research materials ([Zed, 2014](#)). According to [Creswell, John W. \(2016\)](#), a literature review is a written summary of articles from journals, books, and other documents that describe theories and information, both past and present, by organizing the literature into relevant topics and documents. This study uses a literature study because it aims to gather research results related to the effectiveness of educational game-based learning on elementary school students' learning

motivation. Research data was obtained from various national journals, scientific articles, and previous research relevant to the research topic.

The research activities were conducted systematically to collect, process, and summarize data using specific methods to find answers to the problems faced. The data obtained was then analyzed using descriptive analysis. The descriptive analysis method is carried out by describing the facts which are then followed by analysis, not merely describing, but also providing understanding and explanation regarding the effectiveness of using educational games in increasing the learning motivation of elementary school students.

Result and Discussion

Factors Causing Low Learning Motivation

Learning motivation is a crucial factor influencing student success in the learning process. According to learning motivation theory, motivation functions as an internal and external driver that influences student learning behavior. Students with high learning motivation tend to be more active, focused, enthusiastic, and have better learning outcomes than those with low motivation ([Sappaile, 2024](#); [Deci & Ryan, 2000](#); [Schunk, 2012](#)).

Elementary school students' low learning motivation is influenced by several factors, one of which is the use of conventional, teacher-centered learning methods. In conventional learning, the teacher predominantly explains the material, while students are merely passive listeners. This condition leads to low student engagement in learning, resulting in a lack of interest in actively participating in the learning process. According to [Satvaldievna \(2023\)](#), student learning motivation is influenced by the learning process' ability to engage students socially and cognitively.

Furthermore, the use of less varied and less interactive learning media also contributes to low student learning motivation. Teachers still frequently use lectures, textbooks, and whiteboards without utilizing engaging digital media. As a result, the learning environment becomes monotonous, and students quickly become bored. This aligns with research by [Rulyansah et al. \(2022\)](#), which states that integrating games into elementary school learning can increase learning motivation and positively impact student learning outcomes.

Current digital technology developments require teachers to create more creative and innovative learning that aligns with the characteristics of elementary school students. Elementary school-aged students tend to prefer learning that involves images, colors, animations, games, and interactive activities over one-way learning. Therefore, innovative learning media are needed to increase students' attention and motivation to learn, one of which is through the use of digital-based educational games.

Characteristics of Educational Games

Educational games are learning media that combine elements of education and play to make the learning process more engaging and enjoyable ([Prensky, 2001](#); [Gee, 2003](#)). The use of educational games is considered appropriate for the characteristics of active

elementary school students who enjoy playful activities in the learning process ([Nguyen & Tuong, 2024](#)).

Educational games have several key characteristics, such as visual elements, animations, challenges, game levels, scores, rewards, and direct interaction between students and the learning media ([Kapp, 2012](#); [Deterding et al., 2011](#)). These elements can create an enjoyable learning experience, thus increasing student motivation to participate. According to [Luo et al. \(2023\)](#), gamification-based learning can increase student engagement due to the challenges and fun learning activities.

Another characteristic of educational games is the provision of immediate feedback. When students successfully answer questions or complete challenges, they receive a score or reward, which can boost their self-confidence and motivation to learn. Conversely, when students make mistakes, educational games can provide immediate evaluation, making it easier for them to understand and correct errors.

The use of educational games also supports the implementation of digital technology-based learning, which is rapidly developing in education. Various platforms such as Quizizz, Wordwall, and Kahoot! can be utilized by teachers to create more creative, innovative, and interactive learning in elementary schools.

The Impact of Educational Games on Learning Motivation

The use of educational games in learning has been proven to increase elementary school students' learning motivation. Educational game-based learning makes the learning process more engaging, enjoyable, and less monotonous, thus increasing student enthusiasm for learning activities. Research by [Febrianti and Baidullah \(2025\)](#) showed that the use of Wordwall significantly increased elementary school students' motivation to learn mathematics.

Educational games can stimulate students' curiosity because learning is presented in a challenging game format ([Hamari et al., 2014](#); [Dichev & Dicheva, 2017](#)). The presence of challenges, game levels, a scoring system, and rewards increases students' motivation to complete each learning activity. Students also feel like they are learning while playing, reducing the burden during the learning process ([Malone & Lepper, 1987](#); [Gee, 2003](#)).

Furthermore, educational games help improve students' attention and concentration on learning materials. Visualizations in the form of images, colors, animations, and sounds help students focus on understanding the material being presented. Interactive learning allows students to be directly involved, significantly increasing learning motivation. [Syafrialdi et al. \(2025\)](#) explained that the use of the Educandy platform had a positive impact on increasing elementary school students' learning motivation, with a moderate increase.

Other research shows that gamification-based learning can increase students' intrinsic and extrinsic motivation. Intrinsic motivation arises because students feel happy and interested in participating in learning, while extrinsic motivation arises through the provision of rewards, scores, or certain achievements in educational games ([Sappaile, 2024](#)).

Impact on Learning Outcomes and Active Learning

The use of educational games not only increases students' learning motivation but also has a positive impact on learning outcomes and student active learning in class. Learning materials presented in visual form and interactive games help students understand learning concepts more effectively than conventional learning methods ([Mayer, 2009](#); [Clark & Mayer, 2016](#)).

Students become more active in learning because educational games encourage direct involvement during the learning process. Students are more confident in asking questions, answering questions, and participating in discussions and other learning activities. This creates a more lively, communicative, and interactive classroom atmosphere.

In addition to increasing active learning, educational games can also develop students' thinking skills, such as problem-solving, critical thinking, decision-making, and collaboration with peers. The game-based activities in educational games encourage students to actively seek answers and complete learning challenges independently or in groups.

Research by [Nguyen and Tuong \(2024\)](#) shows that the use of learning games in mathematics lessons can improve motivation and academic performance in elementary school students. Furthermore, research by [Juniarmi \(2025\)](#) also found that digital educational games can increase learning interest, student engagement, and classroom dynamics.

Improved student learning outcomes are influenced by increased motivation and concentration during learning. When students feel engaged and comfortable in learning, they absorb material more optimally, thus improving student learning outcomes.

Strengths and Weaknesses of Educational Games

Educational games have various advantages in the learning process in elementary schools. One of the main advantages is their ability to create a fun and interactive learning environment, thus increasing student motivation. Educational games also help improve student attention, concentration, activeness, and learning outcomes.

Furthermore, the use of educational games is considered relevant to the development of digital technology and the characteristics of the current generation of students who are familiar with technology. Learning becomes more creative and innovative because teachers can utilize various digital media to support the teaching and learning process. ([clark & mayer, 2016](#)). [Rulyansah et al. \(2022\)](#) explain that the use of games in elementary school learning has experienced significant development and is one of the innovations in modern learning.

However, the use of educational games also has several disadvantages. One of these is the need for technological facilities such as smartphones, computers, or adequate internet connections. Not all schools have the supporting facilities and infrastructure, so the implementation of educational games has not been optimally implemented in all schools.

Another weakness is the varying ability of teachers to utilize learning technology. Teachers who lack a thorough understanding of the use of digital media will experience difficulties in developing and implementing educational games in their lessons.

Furthermore, excessive use of educational games can cause students to focus too much on the game rather than the learning material.

Research by [A'yun and Tirtoni \(2023\)](#) shows that uncontrolled use of online games can negatively impact students' learning motivation. Therefore, the use of educational games must remain under teacher supervision and be directed toward learning objectives.

Challenges to Implementation in Elementary Schools

The implementation of educational games in elementary schools still faces various challenges. One of the main challenges is limited technological facilities in schools, such as a lack of digital devices and adequate internet access. This condition prevents the use of educational games from being implemented evenly, especially in schools with limited infrastructure.

In addition to facilities, teacher competence in utilizing learning technology is also a significant challenge. Not all teachers have the skills to use digital media or develop educational games as learning media. Therefore, training and competency development for teachers are needed so that the use of educational games can be implemented effectively and in accordance with learning objectives.

Another challenge is monitoring student use of digital devices. The use of smartphones or computers in learning requires supervision from teachers and parents to ensure students do not use these devices for activities outside of learning. [Satvaldievna \(2023\)](#) stated that developing students' learning motivation is not solely the responsibility of teachers but also requires parental support and a positive learning environment.

Despite various challenges, the use of educational games still holds significant potential for improving the quality of learning in elementary schools. With adequate facilities, competent teachers, and appropriate media use, educational games can be an effective, creative learning innovation that aligns with current developments in educational technology.

Conclusion

Based on the result of this literature review, educational game-based learning is an effective approach to improving elementary school student's learning motivation by creating a more interactive, enjoyable, and engaging learning environment. The findings indicate that educational games not only increase student's motivation but also improve their participation, concentration, learning interest, thinking skills, and learning outcomes. These results imply that teachers should integrate educational games into classroom learning as an innovative instructional strategy that aligns with students' characteristic and supports the effective use of digital technology in education. However, successful implementation requires adequate technological facilities, teacher competence in utilizing digital learning media, and proper supervision of students' use of digital devices. Therefore, schools and educational stakeholders should support the integration of educational games through infrastructure development and teacher training programs. Furthermore, future research is recommended to conduct experimental studies involving larger samples and

different educational settings to provide stronger empirical evidence regarding the long-term effects of educational game-based learning on students' motivation and academic achievement.

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