

Research Article

The Effect of Digital Application Rewards on Elementary School Students' Motivation and Learning Engagement Through Digital Behaviorism

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Abstract: The development of digital technology has led to the emergence of learning applications that offer rewards as a strategy to reinforce students' learning behaviors in elementary schools. This study aims to systematically examine the influence of rewards in digital learning applications on students' motivation and engagement through the principles of digital behaviorism. The method used is a Systematic Literature Review (SLR), involving identification, selection, extraction, and synthesis of articles from international and national scientific databases. The findings indicate that digital rewards, such as points, badges, leaderboards, and instant feedback, can enhance both intrinsic and extrinsic motivation, strengthen emotional, cognitive, and behavioral engagement, and promote learning consistency and independence. Furthermore, the study highlights that the integration of reward-based systems in digital platforms can increase students' perseverance, focus, and enjoyment in completing learning tasks. Properly designed digital rewards can also cultivate a sense of achievement and healthy competition among learners, fostering long-term motivation and self-regulated learning. These findings provide practical implications for teachers in designing interactive and engaging learning experiences and serve as a reference for application developers and researchers to develop effective digital reinforcement strategies.

Keywords: Digital rewards; learning motivation; student engagement; digital behaviorism; elementary education.

1. Introduction

The development of digital technology has brought significant changes to the world of education, including at the elementary school level. The use of digital learning applications is increasingly popular because they provide interactive, engaging, and enjoyable learning methods for students. These applications not only provide learning materials but also various features that support the learning process, such as interactive quizzes, simulations, and learning videos (Novela et al., 2024). One prominent feature is the reward system, which awards points, badges, or leaderboards as rewards to students. The implementation of these rewards aims to motivate students to actively participate and increase learning consistency. This phenomenon demonstrates the importance of utilizing technology to support the quality of elementary education. Therefore, studying the influence of digital rewards is relevant and important to examine systematically.

Learning motivation is a key factor influencing student learning success. Motivated students tend to be more active in participating in learning, completing assignments, and exploring material independently (Fernando et al., 2024). Furthermore, learning engagement reflects students' actual participation in learning activities, both cognitively, emotionally, and behaviorally. Digital rewards are thought to improve these two aspects because they provide positive reinforcement that triggers consistent learning responses. Elementary school children, who are still in the concrete cognitive development stage, are typically more responsive to visual and instant rewards. Therefore, understanding motivation and learning engagement is crucial in designing technology-based learning strategies.

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Behaviorism is a psychological theory of learning that emphasizes the relationship between stimulus and response. This theory states that behavior can be strengthened through positive reinforcement or the reduction of negative consequences (negative reinforcement). In the digital context, this principle is applied through reward features in learning applications, such as points, badges, leaderboards, or instant feedback. This concept, called digital behaviorism, utilizes technology to reinforce desired learning behaviors quickly, interactively, and measurably. Digital behaviorism allows teachers to provide consistent reinforcement while simultaneously monitoring student learning progress through digital data (Arzy et al., 2025). Thus, digital rewards serve as an instrument aligned with child learning psychology theories.

The digital era demands students to be more active and independent in their learning. Digital rewards are one strategy that can make learning more engaging and enjoyable, while also encouraging healthy competition among students. Many learning apps, such as Quizizz, Kahoot!, and Seesaw, have implemented reward systems to increase student motivation and engagement. These rewards are not only entertaining but also serve as reinforcement for learning behaviors, in accordance with behaviorist principles. With the appropriate use of rewards, students can learn more consistently, focus, and be motivated to achieve academic goals (Andriana et al., 2023). Therefore, studying the influence of digital rewards is becoming increasingly relevant and necessary in the context of elementary education.

Although numerous studies have examined digital learning apps, most have focused solely on the motivational or engagement aspects, without linking them to digital behaviorist theory. Furthermore, research examining reward systems specifically at the elementary school level is still limited. This necessitates a systematic review of the literature to provide a comprehensive picture of the effects of digital rewards on elementary school students' motivation and engagement. Using the SLR approach, this research can integrate findings from various studies, resulting in stronger conclusions that can serve as the basis for practical recommendations.

This study aims to systematically examine the influence of rewards in digital learning applications on the motivation and engagement of elementary school students through a digital behaviorism approach. The results are expected to provide teachers with insights into designing more effective and enjoyable learning strategies. Furthermore, this study can serve as a reference for other researchers interested in integrating behaviorism theory with learning technology. Digital learning application developers can also utilize these findings to optimize reward features to align with the principles of reinforcement in digital behaviorism. Thus, this research makes both practical and theoretical contributions to elementary education in the digital era.

2. Research Method

This study used a Systematic Literature Review (SLR) approach to examine the effect of rewards in digital learning applications on elementary school students' motivation and learning engagement through digital behaviorism. The SLR process involved several stages, beginning with literature identification using national databases such as Google Scholar and national journal portals, using the keywords "digital rewards," "learning motivation," "student engagement," and "digital behaviorism." Next, articles were selected, specifically research conducted at the elementary school level within the past five years that discussed rewards in digital applications. The next stage was data extraction, which included application type, reward format, motivation and engagement measurement methods, and findings. Finally, synthesis and analysis were conducted by comparing findings from various studies to identify patterns, trends, and empirical evidence regarding the effectiveness of digital rewards in increasing elementary school students' motivation and learning engagement.

3. Results and Discussion

The Effect of Digital Rewards on Learning Motivation

Digital rewards act as positive reinforcement that increases the motivation of elementary school students. Points, badges, and leaderboards provide instant feedback, allowing students to see the tangible results of their efforts. This reinforcement makes students more enthusiastic about completing learning activities and exploring the material independently. This reward system encourages students to repeat successful learning behaviors and form consistent learning habits (Gamalia & Noor, 2025). Digital rewards also make students more focused on

achieving personal learning goals. This, in turn, makes learning motivation more holistic and sustainable.

Digital rewards support the development of intrinsic and extrinsic motivation. When students successfully complete a task and earn a reward, they feel capable of facing the next learning challenge. This increases self-confidence and self-efficacy, which form the foundation of long-term motivation. Digital rewards also trigger a tangible sense of accomplishment, encouraging students to attempt more complex activities. With continuous positive reinforcement, students learn to be more independent and disciplined. The motivation developed encompasses cognitive, emotional, and behavioral aspects.

Digital rewards help students set personal learning goals and plan strategies to achieve them. Reward systems encourage consistent learning, especially when facing challenges or challenging material (Prilianto et al., 2024). Points and badges trigger positive learning responses in accordance with the principles of digital behaviorism. With clear reinforcement, students are more motivated to complete each learning activity. These rewards also stimulate student enthusiasm for quizzes, assignments, or additional materials. Systematic reinforcement of behavior creates stable and sustainable learning patterns.

Furthermore, digital rewards increase students' emotional engagement in the learning process. The learning experience becomes more enjoyable and makes students feel valued. This enthusiasm encourages them to repeat learning activities or attempt more challenging challenges (Ocha & Laksana, 2025). Motivation arises not only from the reward itself, but also from students' enjoyment of the learning process. The combination of external rewards and interactive learning experiences creates holistic motivation. Thus, digital rewards are an effective strategy for increasing elementary school students' learning motivation.

Digital Rewards and Learning Engagement

Digital rewards have a significant influence on students' cognitive engagement. Points, badges, or leaderboards encourage students to think critically and understand the material more deeply. These rewards encourage students to work diligently on solving problems and achieve the best possible scores. Cognitive engagement increases because students are encouraged to evaluate their answers and learning strategies (Faradina et al., 2025). Digital rewards also stimulate exploration of additional material. Thus, digital rewards are not only entertaining but also enhance the quality of the learning process.

Beyond cognitive engagement, digital rewards strengthen students' emotional engagement. Rewards make the learning experience enjoyable and generate enthusiasm for the materials and applications used (Salim et al., 2025). Students feel appreciated for their efforts, thus increasing their emotional connection to the learning activity. Strong emotional engagement fosters intrinsic motivation and a desire to learn independently. This positive learning experience increases students' enjoyment and satisfaction. Thus, digital rewards contribute to a holistic learning experience.

Digital rewards also support student behavioral engagement. Leaderboards and point systems encourage consistency in completing quizzes or assignments. This reinforcement pattern fosters learning discipline and positive habits. Students are encouraged to participate in all learning activities to keep up with their peers. Digital rewards help create a more organized learning structure. By combining cognitive, emotional, and behavioral aspects, student engagement is maximized (Handina et al., 2025).

All aspects of learning engagement indicate that digital rewards are effective in increasing participation and learning quality in elementary school students. The reward system makes students more focused, active, and motivated. Enjoyable learning experiences trigger positive responses to the material. Digital rewards also make it easier for teachers to monitor student engagement in real time. With consistent reinforcement, students learn more disciplined and independent. This strategy helps create high-quality and interactive learning.

Integrating Digital Behaviorism in Applications

Applications such as Quizizz, Kahoot!, and Seesaw implement the principles of digital behaviorism through instant feedback and rewards. Students can immediately know whether an answer is correct or incorrect, allowing for rapid repetition of positive behavior (Herlianto, 2025). Rewards in the form of points, badges, or leaderboards trigger consistent reinforcement. This integration allows teachers to monitor student progress in real time. This system encourages adaptive learning tailored to students' abilities. Thus, digital behaviorism is practically realized through technology.

Gradual levels of material difficulty are part of the reinforcement strategy. Rewards are given each time students successfully complete a challenge within their abilities. This pattern motivates students to remain consistent in their learning and to persevere. Positive

reinforcement helps build stable study habits. Digital rewards also encourage students to take on more complex challenges, making the learning process more structured and enjoyable.

Digital applications allow for personalized rewards to meet individual needs. Students who need more encouragement can earn additional badges or receive special motivational notifications (Mahbubi & Hoimaidi, 2025). This approach tailors reinforcement to each student's characteristics. This system increases the effectiveness of reinforcing learning behaviors. Teachers and app developers can customize reward strategies based on digital data. This way, each student receives an optimal learning experience.

The integration of digital behaviorism facilitates a continuous cycle of reinforcement. Digital rewards reinforce positive behaviors and stimulate both intrinsic and extrinsic motivation. Students are encouraged to learn independently, focus, and actively participate. The use of digital apps allows for more interactive and adaptive learning. Teachers can tailor reinforcement strategies to class needs. Overall, this integration increases the effectiveness of technology-based learning (Sirait & Dewi, 2024).

Implications for Elementary School Learning Practice

Digital rewards are a practical strategy for increasing the motivation and engagement of elementary school students. Teachers can use points, badges, leaderboards, and instant feedback to create an interactive learning environment. This strategy makes students more enthusiastic and active in learning. The digital data generated by the app allows teachers to objectively monitor student progress (Sholeh & Efendi, 2023). Teachers can adjust reinforcement to suit individual student needs, making learning more personalized and adaptive.

Digital rewards support a combination of intrinsic and extrinsic motivation. Extrinsic motivation arises from tangible rewards, while intrinsic motivation develops when students enjoy the learning process. This combination encourages students to learn more consistently and independently. Digital rewards increase participation, engagement, and the quality of material understanding. Teachers can adjust reinforcement strategies to be more effective. This strategy helps achieve optimal learning outcomes in elementary school (Apriyanto et al., 2025).

The integration of digital rewards strengthens discipline and positive study habits. Leaderboards and point systems encourage students' consistency in completing learning activities. Digital rewards also improve student focus and persistence. With appropriate reinforcement, students learn routinely and in a structured manner. This encourages active participation and achievement of learning targets. Teachers can use this information to design more targeted learning strategies (I'tikaf, 2024).

Overall, digital rewards offer both theoretical and practical benefits. They apply behaviorist principles to learning. This strategy increases student motivation, engagement, and achievement. Teachers can optimize the use of rewards to create enjoyable learning experiences. App developers can customize reward features to be more adaptive and effective. Thus, digital rewards become a strategic tool in technology-based elementary education.

4. Conclusions

Rewards in digital learning applications have been shown to increase elementary school students' motivation and learning engagement through the principles of digital behaviorism. Digital rewards in the form of points, badges, leaderboards, and instant feedback provide positive reinforcement that encourages students to actively participate, be consistent in their learning, and develop independent learning. The integration of digital rewards into learning applications not only supports intrinsic and extrinsic motivation but also strengthens students' emotional, cognitive, and behavioral engagement. The results of this study confirm that digital behaviorism is an effective strategy for creating interactive, enjoyable, and results-oriented learning at the elementary level.

Readers should utilize digital learning applications with reward systems to increase student motivation and engagement. Digital rewards can take the form of points, badges, leaderboards, or instant feedback, tailored to students' abilities and characteristics. Furthermore, digital data from the applications can be used to monitor student learning progress and tailor reinforcement strategies individually.

Future researchers should explore the effectiveness of various types of digital rewards on motivation and learning engagement, including comparisons across platforms. Researchers can also examine the combination of digital rewards with other pedagogical strategies, such as gamification or collaborative learning, to determine their impact on student achievement and learning behavior. Longitudinal studies can be conducted to assess the long-term

effects of digital rewards on elementary school students' motivation, engagement, and learning independence.

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