



GAMIFICATION AS A LEARNING MESSAGE DESIGN IN INCREASING STUDENT ENGAGEMENT IN A DIGITAL LEARNING ENVIRONMENT

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Article Info	Abstract
Article history: Received 17-02-2026 Revised 24-02-2026 Accepted 13-02-2026 Published 28-03-2026 How to cite: Salsabilah, N. D. I., Setyosari, P., & Kurniawan, C. (2026). Gamification as a Learning Message Design in Increasing Student Engagement in a Digital Learning Environment. <i>Journal of Facilitating Learning and Improving Performance</i>, 1(1), 148–159. © The Author(s)  This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License	Gamification is one of the approaches in digital learning that is able to increase student involvement through the use of game elements in the learning process. This study aims to analyze the role of gamification as a learning message design in increasing student engagement in the digital learning environment. The research method used is a literature study by reviewing various journals and scientific articles related to gamification, learning message design, student engagement, and digital learning. Articles were obtained through Google Scholar and ScienceDirect using the keywords "gamification", "instructional message design", "student engagement", and "digital learning". The data was analyzed descriptively through the process of reading, understanding, and synthesizing the results of previous research. The results of the study show that gamification elements such as badges, leaderboards, progress bars, rewards, and challenges are able to increase student attention, motivation, and involvement in digital learning. In addition, the design of interactions through instant feedback and interactive activities helps create a more communicative and enjoyable learning experience. Effective gamification design needs to pay attention to visual, interaction, personalization, and balance of challenge levels so that digital learning becomes more meaningful. Thus, gamification can be used as an effective learning message design strategy in improving the quality of digital learning. Keywords: <i>Gamification; Learning Message Design; Student Engagement; Digital Learning.</i>

INTRODUCTION

The development of digital technology has brought great changes in the world of education, especially in digital-based learning. Learning in the digital era has developed into several models, namely online learning that is relearned offline, learning that takes place entirely online, and blended learning that combines online and offline learning. In addition, students can also access various digital learning resources independently through the internet without relying entirely on the delivery of material by teachers or lecturers (Azis, 2019). With this, digital learning makes it easier for students to access learning materials flexibly. But on the other hand, in this digital learning there are also opposition, such as low learning motivation, lack of focus, and low student involvement during the learning process.

One of the approaches that is often used in digital learning in today's era is gamification where there is the application of game elements such as points, badges, and challenges. With this in mind, gamification makes the learning process more engaging and enjoyable, which ultimately increases student enthusiasm. Various studies show that the use of gamification in digital learning has a positive influence on student motivation and engagement (Srimuliyani, 2023). Gamification can increase student engagement through cognitive, affective, and behavioral engagement aspects in the digital learning process. In addition, gamification is also able to create a more interactive learning experience and support the achievement of student learning outcomes (Rivera & Garden, 2021). Other research also applied that the application of gamification with the ARCS motivation model can increase student motivation and engagement in online learning. The use of gamification elements such as badges, points, leaderboards, and rewards can increase students' attention and provide a more engaging learning experience for digital natives in a digital learning environment (Thurston, 2018).

In digital learning, gamification elements not only function as a feature of the game, but also as a learning message design that provides motivational messages to students. The use of badges, points, leaderboards, rewards, and visual feedback is a form of learning communication that can attract students' attention, provide direct feedback, and increase student involvement during the learning process. Thus, gamification can be seen as a message design strategy that is able to create a more interactive and effective learning experience in a digital learning environment.

However, if the problem of low student involvement and motivation in digital learning is not immediately addressed, then the learning process can become less effective. Students tend to experience boredom, lose focus, be less active in learning, and experience a decrease in motivation to learn. In the long term, these conditions can have an impact on low student participation and decreased learning outcomes. Therefore, it is necessary to design learning messages that are able to create a more interesting, interactive, and motivating learning experience for students in a digital learning environment. One form of learning message design that can be used is gamification through the use of elements such as badges, points, leaderboards, rewards, and visual feedback that are able to attract attention and increase student involvement during the learning process.

Based on these problems, this article aims to analyze the role of gamification as a learning message design in increasing student engagement in the digital learning

environment. In addition, this article also aims to identify how gamification elements can affect students' attention, motivation, and participation in the learning process. The research questions in this article are: (1) how is the role of gamification as a learning message design in a digital learning environment, and (2) how does gamification elements affect student engagement and motivation in digital learning.

METHODS

This research uses a literature study method by obtaining from various journals and scientific articles that discuss gamification. design of learning messages, student engagement, and digital learning. Articles were obtained through Google Scholar and ScienceDirect using the keywords "gamification", "instructional message design", "student engagement", and "digital learning". The article used is a journal relevant to the research topic and will be published in 2018–2026. The data that has been obtained is then read, understood, and analyzed descriptively to find out the relationship between gamification as a learning message design and student involvement in digital learning.

RESULTS

Gamification Visual Design in Digital Learning

Visual design is one of the main components in the application of gamification in digital learning environments. Visual design in gamification functions as a medium for conveying learning messages that are able to attract students' attention, increase learning motivation, and create a more interactive and enjoyable learning experience. In digital learning, visual displays not only serve as an aesthetic element, but also help students understand information and learning flows more easily. Therefore, the use of engaging visual design is an important part of creating effective learning communication.

Visual elements such as points, badges, and leaderboards are able to create external motivation for students in the learning process. The use of these elements makes students feel like they have goals, challenges, and rewards while participating in digital learning activities. Through the reward system, students become more motivated to complete assignments and follow learning to completion. This suggests that the visual elements in gamification can be used as a strategy to maintain students' attention and engagement during the learning process (Stott & Neustaedter, 2013). These visual elements not only serve as rewards, but also become indicators of student learning progress in digital learning. An example of the application of gamification visual elements can be seen in Figure 1.



Figure 1. Gamification Visual Elements in the form of Badges, Points, and Leaderboards in Digital Learning

In addition to the use of badges, points, and leaderboards as shown in Figure 1, gamification visual design is also related to the user experience in digital learning. Attractive visual displays, the use of colors, icons, animations, and interactive interfaces are able to increase students' comfort in using digital learning media. When students feel comfortable using learning media, they tend to be more focused and more active in participating in learning activities. Thus, visual design serves not only as a decoration, but also as a visual communication strategy that supports the effectiveness of digital learning (Alexiou & Schippers, 2018). The interactive interface helps students to be more comfortable and focused during the digital learning process. An example of gamification interface design in digital learning is shown in Figure 2.



Figure 2. Examples of Gamification Interfaces in Digital Learning

Through the interface display as shown in Figure 2, students not only get a more interesting learning experience, but also easier to understand their learning progress directly. Badges, progress bars, and leaderboards are the most commonly used gamification visual elements in digital learning. Badges are used as a symbol of student achievement, progress bars help show learning progress, while leaderboards are used to increase participation through positive competitions. The visualization of learning progress makes it easier for students to understand their positions and achievements during the learning process (Majuri et al., 2018).

Gamification visual design is considered to be able to create a more interesting learning atmosphere than conventional learning. The use of interactive visual displays

makes students more active in participating in learning and reduces boredom during online learning. A display that resembles a digital game also helps create a more enjoyable learning experience so that students not only passively receive the material, but also engage in learning activities (Caponetto et al., 2014). In addition, the use of level, reward, and challenge systems can increase student engagement because students feel more challenged to complete assignments and achieve learning target (Rivera & Garden, 2021).

In order for gamification visual design to function optimally, the display used needs to pay attention to simplicity, ease of navigation, and interactivity. A display that is too complex can actually reduce students' focus on the learning material. Therefore, gamification visual design today is more towards the use of simple but still interactive visuals so that students feel comfortable and more focused during the digital learning process (Christopoulos & Mystakidis, 2023). In addition to the visual aspect, gamification also needs to be able to maintain students' attention during the learning process. The use of gamification design based on the ARCS model helps increase students' attention and motivation through the use of colors, symbols, challenges, and a communicative reward system. With an attractive visual design, students become more interested in actively participating in digital learning.

Based on the overall results of the study, it can be concluded that gamification visual design has an important role in digital learning because it is able to convey learning messages in a more interesting, interactive, and communicative way. Visual elements such as badges, progress bars, leaderboards, icons, and rewards not only enhance the aesthetics of the learning display, but also help increase student attention, motivation, and engagement during the learning process.

Interaction Design and Motivation in Gamification

Based on the results of the literature analysis, interaction design in gamification is one of the important factors that affect student motivation and involvement in digital learning. Interaction design is concerned with how students participate, receive feedback, complete challenges, earn awards, and interact with digital learning systems. Through good interaction design, gamification is able to create a more active, responsive, and enjoyable learning experience.

Motivation in gamification arises through the provision of challenges, rewards, and achievement systems that make students motivated to complete learning activities. The system helps create a sense of competition and achievement that can increase student participation in learning (Stott & Neustaedter, 2013). In the most widely used gamification interaction elements, namely challenges, feedback, points, rewards, and leaderboards. Instant feedback is one of the most influential elements because students can immediately know the results of the learning activities they do. This helps increase students' intrinsic and extrinsic motivation during learning. The interaction between challenges, feedback, and rewards in gamification helps create a continuous learning motivation in students (Majuri et al., 2018). The flow of interaction design in digital learning gamification can be seen in Figure 3.



Figure 3. Interaction and Motivation Flow in Digital Learning Gamification

Through interaction design as shown in Figure 3, students not only receive learning materials passively, but also actively engage in every digital learning activity. In the article *Gamification for Student Engagement*, it is explained that interaction design in gamification can increase student engagement through competitive and collaborative activities (Rivera & Garden, 2021). The use of a point system, challenges, and rewards is able to encourage students to be more active in learning and complete the tasks given. In addition, gamification also helps create social interaction between students through positive competition in digital learning.

In good interaction design, it must be able to provide a comfortable and interesting user experience. Responsive interactions, easy navigation, and a clear feedback system help students feel more connected to the digital learning process (Alexiou & Schippers, 2018). In addition, student motivation can be increased through gamification design based on the ARCS model, namely attention, relevance, confidence, and satisfaction. A system of challenges, rewards, and interactive activities is used to keep students' attention and increase their confidence during the learning process (Thurston, 2018).

Interaction design in gamification also needs to pay attention to the balance between challenges and students' abilities. Challenges that are too difficult can decrease motivation to learn, while challenges that are too easy can cause students to lose interest (Christopoulos & Mystakidis, 2023). Therefore, gamification design needs to be designed adaptively according to the characteristics of students. In addition, personalization in gamification interaction design is able to increase student motivation and engagement more effectively. Gamification systems that are tailored to the needs and characteristics of students provide a more relevant and meaningful learning experience (Hong et al., 2024).

Based on the overall results of the study, it can be concluded that interaction design and motivation in gamification have an important role in increasing student engagement in digital learning. The use of challenges, rewards, feedback, point systems, and interactive activities is able to create a more active, enjoyable learning experience, and motivate students to participate optimally in the learning process.

Gamification as a Learning Message Delivery Strategy

Gamification is not only used as an entertainment element in digital learning, but also acts as a learning message delivery strategy that is able to increase student

attention and engagement. In the context of learning message design, gamification helps convey information through visual, interactive, and communicative approaches so that learning materials become easier for students to understand. The use of elements such as badges, progress bars, rewards, and challenges makes learning messages not only informative, but also provides a more engaging and meaningful learning experience.

Gamification is able to increase student motivation through reward systems and challenges designed in learning. The existence of targets, levels, and rewards helps students focus more on the learning goals they want to achieve and encourages them to complete learning activities until completion (Stott & Neustaedter, 2013). In addition, the design of learning messages in gamification is also related to how the material is packaged to be more interactive and in accordance with the characteristics of students in the digital era. Attractive visuals, simple navigation, and responsive interaction help students feel more comfortable receiving learning information. Thus, learning messages are not only conveyed through text, but also through visual experiences and digital interactions that support the learning process (Alexiou & Schippers, 2018).

In digital learning, gamification elements such as instant feedback, leaderboards, and progress bars help students understand their learning progress firsthand. Quick feedback is important because students can find out the results of the activities carried out without having to wait for the final evaluation. This helps create two-way communication between the learning system and students so that the learning process becomes more active and interactive (Majuri et al., 2018). In addition, gamification designs that are tailored to the characteristics of students are also able to increase the effectiveness of delivering learning messages because students feel more connected to the material being learned (Hong et al., 2024). The combination of challenges, feedback, rewards, and learning progress helps to create a more interactive and communicative learning message. The flow of the message delivery strategy through gamification in digital learning can be seen in Figure 4.



Figure 4. Learning Message Delivery Strategy through Digital Gamification

Through messaging strategies such as in Figure 4, students not only passively receive learning information, but also actively engage through interactions, challenges, and reward systems in digital learning. Messaging strategies through gamification also need to pay attention to students' attention and emotional involvement during the learning process. The use of gamification design based on the ARCS model helps increase

student attention, relevance, confidence, and satisfaction through the use of communicative colors, symbols, challenges, and awards (Thurston, 2018). Not only that, the game element is also able to increase students' sense of fun, curiosity, and competitive spirit so that learning becomes more meaningful and not monotonous.

Based on the overall results of the study, it can be concluded that gamification is an effective learning message delivery strategy in a digital learning environment. Through a combination of visual design, interaction, feedback, and reward systems, gamification is able to deliver learning materials in a more interesting, communicative, and interactive manner so that students not only passively receive information, but also actively engage in the learning process.

Characteristics of Effective Gamification Design

Effective gamification design in digital learning not only displays game elements as visual embellishments, but must also be able to support the delivery of learning messages in a clear and interactive manner. Well-designed gamification can help students understand learning objectives, maintain attention during the learning process, and increase motivation to complete learning activities. Therefore, the effectiveness of gamification is influenced by how visual elements, interactions, and learning systems are designed in a balanced way.

One of the key characteristics of effective gamification design is that it has clear learning objectives. Elements such as points, badges, leaderboards, and rewards need to be designed to support learning outcomes, not just provide entertainment to students. Effective gamification is able to connect game activities with learning objectives so that students stay focused on the material learned. Thus, gamification design is not only visually appealing, but also has a clear educational function in the digital learning process.

In addition to clear learning objectives, a simple, easy-to-understand visual display is also an important factor in gamification design. Displays that are too complex can make it difficult for students to understand information and reduce focus on the learning material. On the contrary, the use of color, icon, symbols, and simple navigation can help students understand the learning flow more easily. User comfort or user experience is an important part of gamification design because it affects student engagement while using digital learning media (Alexiou & Schippers, 2018). The characteristics of effective gamification design in digital learning can be seen in Figure 5.



Figure 5. Characteristics of Effective Gamification Design in Digital Learning

Through design characteristics as shown in Figure 5, gamification not only functions as an entertainment medium, but also as a learning strategy that is able to increase student motivation and engagement. One of the other important characteristics is the presence of feedback that is fast and responsive. In digital learning, feedback helps students know their learning progress firsthand without having to wait for a final evaluation. When students successfully complete an assignment or answer a question, the gamification system usually awards points, Badge, or notifications as a form of feedback. Feedback Instant is one of the most influential elements in increasing student engagement in digital learning (Balalle, 2024).

In addition to feedback, the level of challenge in gamification also needs to be designed in a balanced way. Challenges that are too easy can make students feel bored, while challenges that are too difficult can reduce motivation to learn. Therefore, an effective gamification design needs to adjust the level of difficulty to the student's abilities so that they still feel challenged but not burdened. The balance between challenges and students' abilities is an important factor in creating an optimal learning experience so that students are more active and motivated in completing learning activities (Christopoulos & Mystakidis, 2023). The development of digital learning has also encouraged the emergence of gamification designs that are more personalized and adaptive. Gamification is no longer designed in general for all students, but is starting to be adapted to the characteristics and needs of the user. Personalization in gamification is able to increase the effectiveness of learning because students feel that the learning system is more relevant to their needs. These adjustments can be in the form of difficulty levels, reward types, or different visual appearances for each user (Wibowo & Saliman, 2025).

In addition to the visual and personalization aspects, effective gamification design also needs to be able to retain students' attention during the learning process. The use of visual elements, challenges, rewards, and interactive activities can increase student attention and satisfaction in digital learning so that the learning process becomes more interesting and not monotonous (Thurston, 2018). Not only does gamification increase attention, gamification is also able to build students' emotional and social involvement during the learning process. Leaderboard, reward, and challenge systems can create a positive competitive atmosphere while encouraging interaction between students so that student engagement increases during learning (Rivera & Garden, 2021).

Based on the overall results of the study, it can be concluded that effective gamification design has several main characteristics, namely clear learning objectives, simple and attractive visual appearance, quick feedback, balanced challenges, personalized learning, and interaction that can increase student motivation and engagement. These characteristics show that the success of gamification is not only determined by the use of game elements, but also by how the design of learning messages is developed to create a communicative, interactive, and meaningful digital learning experience for students.

DISCUSSION

The results of the study show that gamification has an important role as a learning message design in increasing student engagement in the digital learning environment. Gamification not only functions as an element of entertainment, but also as a learning communication strategy that is able to convey material in a more interactive, interesting, and easy-to-understand way for students. The use of visual elements such as badges, leaderboards, progress bars, rewards, and challenges has been proven to increase student attention, motivation, and participation during the learning process. The application of gamification to digital learning is able to increase student engagement because learning becomes more active, responsive, and engaging (Zainuddin, 2024).

In the aspect of visual design, the results of the study show that visual display in gamification acts as a communication medium that helps students understand the flow and learning objectives more clearly. The use of colors, symbols, icons, and interactive displays can create a more comfortable and enjoyable learning experience. In addition to serving as an aesthetic element, visual design also helps maintain students' focus during digital learning. This shows that visual design in gamification has a communicative function that supports the effectiveness of delivering learning messages. Gamification also has a positive influence on the motivational aspects and learning behavior of students through a combination of visual elements, challenges, and reward systems in digital learning (Sailer & Homner, 2020).

In addition to visual design, interaction design in gamification is also an important factor in increasing student engagement. Interaction through instant feedback, challenges, point systems, and interactive activities can create a more active and responsive learning experience. The feedback provided directly helps students know their learning outcomes without having to wait for the final evaluation. This makes the learning process more communicative because there is a two-way interaction between students and the digital learning system. Then in personalization and adaptation in gamification design, it is able to increase student motivation and learning experience because the learning system becomes more relevant to user needs (Hong et al., 2024).

In the context of learning message design, gamification has been proven to be able to deliver material more effectively through a combination of visuals, interaction, and fun learning experiences. The delivery of learning messages is no longer only done through text, but also through visual experiences and interactive activities that help students understand the material more deeply. In addition, the use of instant feedback, level systems, and challenges in gamification makes students more active during the learning process so that learning is not monotonous. This shows that gamification is able to create more communicative, interactive, and student-centered learning communication.

CONCLUSION

Gamification has an important role as a learning message design in increasing student engagement in the digital learning environment. The use of visual elements such as badges, leaderboards, progress bars, rewards, and challenges can help convey learning messages in a more interesting, interactive, and communicative way. In

addition, the interaction design in gamification through instant feedback, challenges, and reward systems has been proven to increase student motivation, attention, and participation during the learning process. The results of the study also show that effective gamification design needs to pay attention to clear learning objectives, simple visual display, responsive interaction, balance of challenge levels, and personalization according to student characteristics so that digital learning becomes more meaningful and student-centered.

This research still has limitations because it uses a literature study method so that the results of the study are based on the analysis of various previous studies without conducting direct testing in the field. In addition, the article under review still focuses on digital learning in general and has not specifically discussed the application of gamification at certain levels or subjects. Therefore, further research is recommended to conduct experimental research or the development of gamification-based learning media in order to find out the influence of the application of gamification in more depth on student motivation, engagement, and learning outcomes in a more specific learning context.

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