The impact of gamification on students' motivation: A Systematic Literature Review

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Abstract

Given the complexity and difficulty of mastering English competencies and skills required in an English subject, a lack of interest and motivation to learn is a common issue that affects learning activities and learning outcomes of the students. By using the Systematic Literature Review (SLR), this study reviews the impact of gamification on students' motivation (engagement) in the teaching and learning process of English as a foreign language. The study collected 30 journal articles as the data corresponding to three quality assessments: published in the last 5 years or between 2018-2022, explains the influence of gamification on students' motivation or students' engagement, and discusses research on gamification in the setting of Indonesian school/college students. These articles also need to answer the research questions on the improvement of gamification score on students' motivation/engagement and the influence of gamification on students' motivation/engagement during the class. The systematic review demonstrates that the application of gamification in learning has a favorable effect on the improvement of motivation scores and their engagement during the teaching and learning process. Gamification in education is especially promising due to its ability to influence students' behavior in a favorable manner.

INTRODUCTION

In the current era of globalization, the rapid development of technology and communication technology renders distance as no longer an obstacle to get information from various parts of the world. Numerous technological advancements are readily available. With the progression of time and technology, humans have developed ways to communicate through a variety of tools or platforms. One of them is achieved through a means of refreshment, such as playing online games which itself has a big impact on the world of education. Internet-enabled laptops, tablets, and smartphones have allowed people to play games together by speaking with someone on the opposite side of the globe in real-time (Yildiz et al., 2021). According to Figueiredo and García-Peñalvo (2020), games possess considerable motivational power. These games utilize a series of tools to encourage individuals to engage in it just for the pleasure of playing and the chance to win. While gamification is gaining traction in many aspects of our society, its implementation in education is a relatively new phenomenon.

The gamification of online learning has become a popular topic recently (Jang et al., 2015). Kalogiannakis et al. (2021) explained that numerous scholars have been drawn to the adoption of

gamification in education to improve engagement and learning effectiveness. The development of ICT has affected the growth of the gaming industry, which encourages educators to be more innovative when creating the learning process (Jusuf, 2016). It means that this development is increasingly advancing in the education field (Arifudin et al., 2021).

Education gamification is the use of gaming concepts (such as game design techniques, thinking games, and game mechanics) for educational purposes. Nick Pelling first popularized the phrase gamification in 2002 at a TED (Technology, Entertainment, and Design) event. Gamification is a learning strategy that uses game features to drive students to be more excited about learning and to increase their engagement in the learning process.

In recent years, gamification—the use of game design features in non-game contexts—has been rapidly adopted in numerous fields (Dicheva et al., 2014). Its application in education is especially promising due to its ability to influence user behavior in favorable ways by boosting user motivation and engagement. Some game designers must have a deeper understanding of the science of psychology and other disciplines that investigate human motivation and behavior. Gamification is a learning strategy that employs game or video game components to encourage and engage students in the learning process. Furthermore, this medium can be used to capture things that attract students and motivate them to continue learning (Fitria, 2022). Therefore, gamification is an activity-based approach through game elements to motivate users.

In this case, gamification is also described as a game's thought process and its mechanism to attract users and make them solve problems. Gamified learning methods are often equated with game-based learning methods. Nevertheless, gamification and gaming are distinct instructional strategies. Gamification is the use of game features and game thinking in a non-game context to increase engagement and target behavior. Gamification is a learning strategy that uses elements from games or video games to motivate students in the learning process and maximize feelings of enjoyment and engagement with the learning process; additionally, this media can be used to capture things that interest students and encourage them to continue learning.

Gamified learning means teaching techniques using the mechanical elements of the game to provide solutions for building student engagement. In short, gamification can provide additional motivation to ensure that students can participate in learning activities while increasing student engagement, including behavioral, emotional, and cognitive involvement of students in learning. Gamification does not mean that the teachers (or lecturers) have to make special games or applications, although if it could be done it would be even better. However, if the teacher's ICT skills are not adequate, the teacher can use simple tools to implement gamification process in classroom learning. What must be remembered are several key points such as using the right concept, clear learning objectives, and being able to build student engagement in learning so that learning is more fun.

Although the term "gamification" may sounds difficult, in practice teachers can apply it easily. The first thing needed is the willingness to learn and use technology—not that this is limited to teachers from the younger generation, but across generations as well. Teachers can access many videos about gamification on video-sharing sites like YouTube. There, various practitioners attempt to explain the concept. After that, the teacher can start designing the gamification learning method. They can choose several elements to be adopted. For example the elements of badges and points. Teachers can give assignments online with each assignment having a certain point. In addition, teachers can also provide a "First Collector" badge and others for each assignment. These things can make students enthusiastic in participating in the learning and teaching process. On the other hand, educational organizations can also invest in creating an e-learning application that has this gamification system. This will allow students to see their scores and badges on their respective profile pages.

The importance of gamification in education lies especially in the teaching and learning process which includes making learning informative and fun, especially thanks to its interactivity (Fitria, 2022). Game and competition elements added deep viewpoints that when well-orchestrated can make learning possible pleasant. It can also create more desire to learn. It should be understood that gamification does not mean making a game or making a special application to apply the concept

of gamification would of course be better, but if the resources we have do not allow us to create an application specifically for gamification then gamification can use simple tools to apply the gamification process in classroom learning. The most important thing is the right concept and clear goals and being able to build engagement for students in learning and how to make learning more fun unnoticed by the students (Fitria et al., 2022). According to Manzano-León et al. (2021), educational gamification consists of the use of game elements and game design techniques in the educational context. An educational gamification is an evolving approach to increasing student motivation and engagement by incorporating game design elements in educational environments (Dichev & Dicheva, 2017). With the growing popularity of gamification and the success of its various applications in educational contexts, teaching today aims to demonstrate the positive effects of gamification in the learning process.

In recent years, gamification has received increased attention and interest in research education. There are several previous studies related to the use of gamification in the teaching and learning process will be discussed in this paper. One of them is written by Fitria (2022) which states that gamification or game-based learning is supposed to have good effects on students. The research from Antonaci et al. (2019) states the empirical effects of gamification in several areas including performance, motivation, engagement, attitude towards gamification, collaboration, and social awareness. The research from Indriasari et al. (2020) that gamification has been used to engage students in peer review activities. The research from Manzano-León et al. (2021) states that educational gamification has a potential impact on academic performance. The research from (Jarnac de Freitas & Mira da Silva, 2023) on the impact of gamification in MOOCs on the outcomes, participation, and retention of gamified MOOCs. This systematic literature review explores performance, motivation, engagement, attitude toward gamification, collaboration, social awareness, and participation. In this research, the researcher presents a thorough literature analysis with the intent of bridging this knowledge gap by elucidating the impacts of gamification on students' motivation. This study implies the expand research on the needs and challenges of teachers and students during teaching and learning process with gamified techniques. Therefore, the research questions of this research are 1) Does the journal explain the improvement of gamification on students' motivation or students' engagement?, 2) Does the journal explain the influence of gamification on students' motivation or students' engagement?

RESEARCH METHOD

The current study is a literature review using the Systematic Literature Review (SLR) or systematic literature review method. Purssell and McCrae (2020) state that a systematic review is a rigorous method of collating and synthesizing evidence from multiple studies, producing a whole greater than the sum of parts. There are three stages carried out using the SLR method, namely planning, implementation, and writing of results (reporting).

1. Planning Planning is the first step carried out in the SLR method, namely by determining. Research Questions (RQ) or questions created based on the needs and selected research topics (Wahono, 2015).

   The following is a deep research question for this literature study:
   RQ1   Does the journal explain the improvement of gamification on students' motivation or students' engagement?
   RQ2   Does the journal explain the influence of gamification on students' motivation or students' engagement?

2. Implementation (Conducting). At this stage, it contains the implementation that is made according to the following rules:
   a. Determine the source of the literature search such as Scopus, Google Scholar, Semantic Scholar, ScienceDirect, IEEE, and ResearchGate.
   b. Determining the keywords according to the topic of Gamification in teaching and learning such as 'gamification' and Gamification on education', gamification in teaching and learning process.

c. Choosing the appropriate literature by determining criteria (journal explains the improvement of gamification on students') so that it can be decided whether the data found fit for use or not.

d. Evaluating the criteria that have been determined later based on quality assessment questions (Quality Assessment) to find out whether the journal has met the criteria and can answer Research Questions (RQ).

QA1 Is the journal published in the last 5 years or between 2018-2022?

QA2 Does the journal explain the influence of gamification scores on students' motivation or students' engagement?

QA3 Does the journal discuss research on gamification carried out for Indonesian school/college students?

e. Giving a value of each journal is then of for each question on the Research Question (RQ) such as Yes (Y): Can answer questions on Research Question, and No (X): Does not answer the question on Research Question.

3. Reporting. Reporting is the final stage in the SLR method where secondary data that has been analyzed is later reported in written form that discusses the answers to the Research Question (RQ).

FINDINGS AND DISCUSSION
Findings
Table 1 presents the Quality Assessment (QA) table for each question on the Research Question (RQ):

Table 1. Quality Assessment

No	Author and Year Publication	Question Answer		
		QA1	QA2	QA3
1.	(Barata et al., 2013)	X	Y	Y
2.	(Buckley & Doyle, 2014)	X	Y	X
3.	(Martínez-Núñez et al., 2015)	X	Y	X
4.	(Gressick & Langston, 2017)	Y	Y	X
5.	(Takdir, 2017)	X	X	Y
6.	(Hasan et al., 2017)	X	X	Y
7.	(Rahardja et al., 2018)	Y	Y	Y
8.	(Bicen & Kocakoyun, 2018)	Y	Y	X
9.	(Chapman & Rich, 2018)	Y	Y	X
10.	(Mumpuni & Sagoro, 2018)	Y	Y	Y
11.	(Syakuran, 2019)	Y	Y	Y
12.	(Wardana & Sagoro, 2019)	Y	Y	Y
13.	(Istighfar, 2019)	Y	Y	Y
14.	(Anisa et al., 2020)	Y	Y	Y
15.	(Wijayanti et al., 2020)	Y	Y	Y
16.	(Winatha & Ariningsih, 2020)	Y	Y	Y
17.	(Lawalata et al., 2020)	Y	Y	Y
18.	(Daryanes & Ririen, 2020)	Y	Y	Y
19.	(Poondej & Lerdpornkulrat, 2019)	Y	Y	X
20.	(Sari et al., 2020)	Y	Y	Y
21.	(Solviana, 2020)	Y	Y	Y
22.	(Nabila, 2021)	Y	Y	Y
23.	(Susanti, 2021)	Y	Y	Y
24.	(Etika et al., 2021)	Y	Y	Y
25.	(Purwono et al., 2021)	Y	Y	Y
26.	(Paradise et al., 2021)	Y	Y	Y
27.	(Isnawati, 2021)	Y	Y	Y

No.				
28.	(Wibowo, 2021	Y	Y	Y
29.	(Muryanto, 2021)	Y	Y	Y
30.	(Baiden et al., 2022)	Y	Y	X
31.	(Yurissa et al., 2022)	Y	Y	Y
32.	(Fadilla & Nurfadhilah, 2022)	Y	Y	Y
33.	(Tyaningsih et al., 2022)	Y	Y	Y
34.	(Sholahudin & Yenti, 2022)	Y	Y	Y
35.	(Febryana & Zubaidah, 2022)	Y	Y	Y
36.	(Muzayanati et al., 2022)	Y	Y	Y
37.	(Panjaitan, 2022)	Y	Y	Y
38.	(Dirgantoro et al., 2022)	Y	Y	Y
39.	(Amin, 2022)	Y	Y	Y
40.	(Rahayu et al., 2022)	Y	Y	Y

Based on the table above, the researcher finds 40 previous research related to gamification. The researcher looks for the keywords "gamification" and "gamification on students' motivation" in several sources as stated in the method. The researcher finds 33 articles related to the keyword "gamification on students' motivation". After assessing the quality of the journal, 10 journals do not qualify to be analyzed in this research. 3 journals cannot be used because the data (journals) do not answer QA1. In this article, the researcher uses references from articles (previous research) published in the last 5 years so that research is always updated within that time frame. There is 1 journal that cannot be used because the data (journals) do not answer QA3, and 2 journals cannot be used because the data (journals) do not answer QA1 and QA2. In this article, the researcher focuses on gamification on students' motivation or students' engagement in the teaching and learning process. 4 journals cannot be used because the data (journals) do not answer QA3. In this research, the researcher focuses on research on gamification carried out for Indonesian school/college students. Besides, 30 journals can be used as secondary data because meet the requirements which are then analyzed and summarized in the table. These 30 journals can be used because the data (journals) answer QA1 (journal published in the last 5 years or between 2018-2022), QA2 (journal explains the influence of gamification on students' motivation or students' engagement), and QA3 (journal discuss research on gamification carried out for Indonesian school/college students).

Table 2. Analysis of Secondary Data Sources

No	Researcher	Impact of Gamification Toward Students' Motivation/Engagement
1.	(Rahardja et al., 2018)	Gamification in the iDu class (iLearning Education) increases students' learning motivation optimally so as not to get bored in the learning process and more enthusiastic to do the assignments. The presence of Gamification is assessed can help students to get points additional in SC (Special Contribution) so students have the motivation to do more active in doing the task and can maximize learning and make the process of learning to teach more fun with learning in the form of games.
2.	(Mumpuni & Sagoro, 2018)	An increase in the average score of Learning Motivation in Adjusting Journal Bookkeeping which is 76.20% in the first cycle, increasing to 82.55% in the second cycle, and has met the success criteria This research is equal to 80%.
3.	(Syakuran, 2019)	Mathematics learning applications with the concept of gamification can increase interest by 35%, increase motivation by 33%, and student understanding increases by 42%. Based on interviews and questionnaires conducted, this application can be used as an alternative medium for learning mathematics for students.
4.	(Wardana & Sagoro, 2019)	Motivation to Learn from pre-study to cycle I increased by 2.49 %, then increased back to the second cycle of 6.61%. Enhancement the highest occurs in the happier indicator work independently which is 11.09 %. This happens because students feel more confident in doing questions given by the teacher.
5.	(Istighfar, 2019)	Gamification techniques had a significant impact on improving the learning motivation of kids with emotional and behavioral disorders. Gamification could be used as an alternative to boost students' motivation for learning when they have emotional or behavioral issues.

6.	(Anisa et al., 2020)	Gamification enhanced the intrinsic and extrinsic motivation of students to learn English. Gamification increased student motivation through the sense of autonomy (the capacity to make autonomous decisions), competence (the ability to handle challenges), and relatedness (the ability to interact with others). Students' extrinsic motivation is generated by a framework of incentives and affirmation of the learning purpose.
7.	(Wijayanti et al., 2020)	An increase in students' motivation in English so students' scores increase. The pretest results for class X are 70, while for class XI are 73. In the posttest results, the average learning outcomes for class X students are 77, while for class XI students are 80.
8.	(Winatha & Ariningsih, 2020)	The application of gamification in learning provides positive benefits to students such as they are more enthusiastic, feel happy, don't feel bored, and can participate actively in doing material exercises. The students are more enthusiastic, feel happy, do not feel bored, and can participate actively in doing material exercises.
9.	(Lawalata et al., 2020)	Students already have a high motivation for the subject of Mathematics. After learning, it is seen that the increase that occurs is not too high, which is only 1%. Although it did not increase too high, the student's learning motivation after learning activities could be said to increase. This can also be seen from the results of the questionnaire.
10.	(Daryanes & Ririen, 2020)	Kahoot application is very effective in terms of indicators of student motivation and attention. The average effectiveness of the Kahoot application as an evaluation tool for motivation indicators is 82.6%. Student involvement in the Kahoot application as an evaluation tool will motivate students to carry out the learning process actively and process content education as well as increase the experience, motivation, attention, and satisfaction of students in learning.
11.	(Sari et al., 2020)	The average score on the post-test was significantly higher than the score on the pre-test ($42.29 > 23.35$). Gamification had a positive effect on students' motivation. The results of the interviews suggested that students are strongly motivated to learn through the use of gamification.
12.	(Solviana, 2020)	Aspects of increasing learning motivation obtained results that show that 66 students (62.9%) are more motivated to learn by using applications that have online gamification features.
13.	(Nabila, 2021)	The effect of using SI KOMDI gamification mobile learning on the growth of students' learning motivation is 13.97%. So, Gamification-Based Mobile Learning in Simulation and Digital Communication subjects to foster learning motivation for class X students in SMK is declared feasible to be used in learning.
14.	(Susanti, 2021)	Pay attention to the process and learning outcomes by using the gamification of the sliding puzzle in class VIIA and VIIIB SMP Negeri 1 Mojotengah, to increase motivation and learning outcomes in e-learning learning teachers need to try gamification learning sliding puzzle on the material or subject another.
15.	(Etika et al., 2021)	The use of gamification in online learning for business economics courses can increase student learning motivation. This increase can be seen from the average indicator of student learning motivation from the pre-cycle of 42.70% in the less category, in the first cycle 56.86% in the sufficient category, and in the third cycle 70.4% in the good category.
16.	(Purwono et al., 2021)	Several indicators indicate an increase in student motivation in lectures: college attendance increased by 16.67%, interest in discussions with lecturers increased by 40%, accuracy in collecting assignments increased by 39.39%, ability to complete UTS and UAS projects increased by 28.57% and 34.21%.
17.	(Paradise et al., 2021)	The level of engagement and motivation can be measured in three stages: pre-test and post-test, T-test, and analytical data from student access to the LMS based on markers such as video completion, total video, total comments, total badges, and game level completion. This suggests that the integration of video-based learning and gamification into LMS has a beneficial effect on student motivation and engagement.
18.	(Isnawati, 2021)	An increase in student learning activities, such as actively asking questions, and more enthusiasm about participating in learning activities, and interest in learning has increased significantly in each cycle.

19.	(Wibowo, 2021)	An increase in student learning outcomes and motivation. This is evident from the percentage increase in each cycle. The results of the average percentage of motivation obtained in the first cycle of observation were 48.38% in the low category.
20.	(Muryanto, 2021)	Learning by utilizing quizizz online gamification technology can increase students' learning motivation. This is shown from the data in cycle I, the average learning motivation of students in cycle I am 57.86 with a large percentage of 70 % increase in cycle II to 67.6 with a percentage of 85%.
21.	(Yurissa et al., 2022)	Normal class students' learning motivation increased from 77.84% in the first cycle to 90.324% in the second cycle, meeting the study's success level of 80%. Consequently, the use of gamification in education could boost the learning motivation of fourth-grade students at MIN 3 Jombang.
22.	(Fadilla & Nurfadhilah, 2022)	Students' learning motivation can be increased by incorporating interactions between students and teachers into the execution of the gamified learning technique. Thus, the gamification-based learning method becomes an intriguing innovation to implement.
23.	(Tyaningsih et al., 2022)	Before and after the gamification approach was adopted, student learning outcomes were 64.13 and 83.56; (2) learning outcomes increased by 30.3%; and (3) learning the gamification method can enhance student learning motivation by 85.33 percent in the "very good" category. Consequently, gamification is an alternative learning technique designed to increase student motivation.
24.	(Sholahudin & Yenti, 2022)	Gamification can optimize students' learning motivation because this uses game mechanics, aesthetics, and thinking that can make students excited in participating in learning so that students who have low learning motivation will become more optimal.
25.	(Febryana & Zubaidah, 2022)	After using gamification-based assessment media, the level of student motivation shows a good category. So, the implementation of gamification-based assessment in cross-interest biology learning has a significant influence on the learning motivation of students.
26.	(Muzayanati et al., 2022)	In increasing student motivation, it can be seen from how happy and interested students are in the Kahoot game. With the students' interest in the game, the learning motivation of students grows as evidenced by the results of sig. 0.048, it can be concluded that there is an influence or an increase in motivation.
27.	(Panjaitan, 2022)	The results of the creation of gamification teaching materials can help develop the cognitive aspects of students, the learning process becomes more interactive and efficient making students more enthusiastic and motivated in learning, learning becomes more fun and students become more active in participating in learning.
28.	(Dirgantoro et al., 2022)	Moodle's gamification is highly efficient at stimulating students' interest in online learning. This result is based on survey data for 2018 2019 and 2020 students who answered "yes" to the question "Did gamification (e.g., leveling up, activity completion, and activity restriction) in Moodle drive you to complete your major?" is 78.40%; 83.30%; and 90.91%. These findings give evidence that gamification boosts student motivation.
29.	(Amin, 2022)	The gamification of Duolingo has enhanced the motivation of students, despite the level of motivation growing for each subject. This positive interaction influences the user's view of the app as being easier to use, as the app's game-like element accelerates learning and makes activities more engaging.
30.	Rahayu et al., 2022)	The availability of gamified assessments that encourage students to study consistently may increase their cognitive engagement. Additionally, we discovered that the incorporation of gamification components involving cooperation increased students' social and emotional involvement.

Based on the table presented above, the researcher has identified 30 journals that meet the required criteria for use as secondary data, which were then analyzed and summarized. These 30 journals were selected because they satisfy QA1 (i.e., the journal was published within the last five years or between 2018-2022), QA2 (i.e., the journal provides an explanation of the impact of gamification on students' motivation or engagement), and QA3 (i.e., the journal discusses

gamification research conducted on Indonesian school or college students). The selected journals employ different research methods, such as Research and Development (R&D), qualitative, and quantitative, and employ various data collection techniques related to each method.

Discussion
RQ1: Does the journal article explain the improvement of gamification on students' motivation or students' engagement?

Research findings that state the influence of gamification on students' motivation or students engagement can be observed in the table below:

Table 3. Gamification in Improving Students' Motivation

No	Research	Students' Motivation Score		Improvement Score
		Cycle 1	Cycle 2	
1.	(Mumpuni & Sagoro, 2018)	76.20 %	82.55 %	6.35 %
2.	(Wardana & Sagoro, 2019)	69,88 %	79.10 %	9.22 %
3.	(Sari et al., 2020)	23.35 %	42.29 %	18.94 %
4.	(Wijayanti et al., 2020)	73.5 %	76.5 %	3.0 %
5.	(Etika et al., 2021)	56.86 %	70.4 %	13.54 %
6.	(Isnawati, 2021)	68.20 %	77.3 %	9.1 %
7.	(Wibowo, 2021)	48.38 %	91.6 %	43.22 %
8.	(Muryanto, 2021)	75.0 %	84.33 %	9.33 %
9.	(Yurissa et al., 2022)	77.84 %	90.32 %	12.48 %
10.	(Tyaningsih et al., 2022)	64.13 %	83.56 %	19.43 %

As we can see from the results, the lowest improvement score, as seen by Wijayanti et al. (2020), is 3.0% from 76.20% to 82.55%, indicating that gamification has a little impact on students' motivation scores. On the other hand, the highest improvement score, as seen by Wibowo (2021), is 43.22% from 68.20% to 77.3%, indicating that gamification has a strong impact on students' motivation scores. Student motivation is one of the problems that teachers often face when teaching. The above table shows that using the gamification method is an alternative learning method that can improve student motivation. This offers hope for more interesting and enjoyable learning experiences. The results indicate that using gamification can increase student motivation by encouraging interaction between students and teachers during implementation.

RQ2: Does the journal article explain the influence of gamification on students' motivation or students' engagement?

According to the study's findings, students' classroom involvement and motivation have increased. Gamification is used as a tool to motivate students and increase their engagement (Elshiekh & Butgerit, 2017). These findings are similar to those from Rahardja et al. (2018), which suggest that gamification optimally increases students' learning motivation, preventing boredom during the learning process and making them more enthusiastic about doing assignments. Students can develop a mindset to create and gain insight and knowledge in all areas taught during lectures. The students are motivated to be more active in completing tasks and can maximize learning, making the learning process more enjoyable through games. Syakuran (2019) states that learning applications with the concept of gamification can increase interest, motivation, and student understanding.

Anisa et al. (2020) explained that gamification also enhanced the intrinsic and extrinsic motivation of students to learn English. Gamification increased student motivation through the sense of autonomy (the capacity to make autonomous decisions), competence (the ability to handle challenges), and relatedness (the ability to interact with others). Moreover, the qualities of Kahoot helped them love playing the game. A framework of incentives and reaffirmation of the learning aim generates the extrinsic motivation of students.

Winatha and Ariningsih (2020) gamification in learning provides positive benefits to students such as they are more enthusiastic, feel happy, don't feel bored, and can participate actively in doing material exercises. The results of the study show that gamification in learning provides positive benefits to students because they are more enthusiastic, feel happy, do not feel bored, and can participate actively in doing material exercises. Panjaitan (2022) explains that the creation of gamification teaching materials can help develop the cognitive aspects of students, the learning process becomes more interactive and efficient making students more enthusiastic and motivated in learning, learning becomes more fun and students become more active in participating in learning. Fadilla and Nurfadhilah (2022) also adds that gamification can boost student learning motivation by facilitating student-teacher interactions. Thus, the gamification-based learning method becomes an intriguing innovation to implement. Daryanes and Ririen (2020) explained that student involvement in the gamification application as an evaluation tool will motivate students to carry out the learning process actively and process content education as well as increase the experience, motivation, attention, and satisfaction of students in learning. Besides, the students are more motivated to learn by using applications that have online gamification features (Solviana, 2020)

Susanti (2021) stated that the use of gamification in the sliding puzzle process can increase motivation and learning outcomes in e-learning. Teachers need to try implementing gamification in their teaching materials. According to Paradise et al. (2021), applying video-based learning and gamification to LMS can increase student motivation and involvement in the course. Gamification is highly effective in stimulating students' interest in online learning (Dirgantoro et al., 2022). When students' motivation is developed through gamification, their abilities can also be improved. Additionally, Nabila (2021) studied the effect of gamification in mobile learning on the growth of students' learning motivation.

Other increases in student motivation can be observed from several indicators, including punctuality, interest in discussing with lecturers, accuracy in submitting assignments, and ability to complete mid-term and final projects (Purwono et al., 2021). According to Rahayu et al. (2022), gamifying assessments may meet students' need for competency and autonomy, thus enhancing their intrinsic motivation. The availability of gamified assessments that encourage students to study consistently can also increase their cognitive engagement. Moreover, incorporating gamification components that involve cooperation can enhance students' social and emotional involvement.

Furthermore, Amin (2022) explains that gamification has enhanced students' motivation levels for each subject, as the positive interaction with the app's game-like elements accelerates learning and makes activities more engaging. This positive interaction influences the user's view of the app as being easier to use. Sholahudin & Yenti (2022) state that gamification learning can optimize students' motivation levels by using game mechanics, aesthetics, and thinking that can make students excited to participate in learning, resulting in students with low motivation becoming more engaged. In terms of increasing student motivation, it can be observed from how happy and interested students are when using the gamification app (Muzayanati et al., 2022).

In addition, Istighfar (2019) states that gamification has a significant impact on improving the learning motivation of children with emotional and behavioral disorders. Gamification can serve as an alternative method to boost students' motivation for learning when they have emotional or behavioral issues. Moreover, gamification not only increases students' motivation but also their learning outcomes, as demonstrated by Wibowo's (2021) research, which found an increase in both student motivation and learning outcomes.

Gamification toward students' motivation research in educational settings has produced mixed results on student learning outcomes. Motivation plays a crucial part in driving learning (Anisa et al., 2020). Gamification is the application of game thinking and game mechanics in non-game environments that encourage play to engage users in problem-solving or for educational objectives. Gamification is not the creation of games, but rather the use of play to make education more engaging and enjoyable for students without weakening its legitimacy. The problem with lesson delivery in contemporary education is related to a lack of engagement and motivation among students to actively participate in the learning process (Mee et al., 2021). Teachers are increasingly confronted with the challenge of integrating technology and instilling effective language learning practices.

According to Pastushenko et al. (2018), improving student motivation is a crucial component of the educational process. Using innovative educational mechanisms, such as gamification, is one possible method for achieving this goal. Gamification permits the addition of game-like aspects, such as points, levels, and meaningful narratives, to standard learning management systems and virtual learning environments. This is confirmed by the fact that gamification in an educational setting requires students' intentional participation to maintain its game-like nature (Cahyani, 2016).

Rahardja et al. (2019) add that since the gamification learning approach was developed in response to the era in which students choose to play games to study, it can be applied to education management at the higher education level. It is intended that this strategy will stimulate students to explore their talents during the learning process by increasing their interest in studying. Gamification is the incorporation of game elements, typically video game traits, into non-game environments to enhance motivation and engagement with learning (Alsawaier, 2018).

Teachers and students can benefit from the application of learning gamification in the following ways: motivating students, improving students' learning outcomes, making learning more enjoyable, encouraging students to complete their learning activities, assisting students in focusing on and comprehending the material being studied, providing opportunities for students to compete, explore, and excel in class, enhancing competitive traits, and making learning addictive. Consequently, gamification is one of the student-friendly technologies. It is a solution that benefits both students and teachers (Tiwa, 2020).

Presenting edutainment learning strategies (education-entertainment) is an alternative to creating this atmosphere in learning. Through the Gamification strategy, where this strategy presents the nuances of playing in learning activities, making learning activities that are much more fun can be realized in classrooms. As we all know, games can make students addicted because there are challenges to reaching the next level of play. Therefore, the lesson plan that will be made is to create gamification-based edutainment learning, so that students' motivation and learning participation can be greatly increased.

CONCLUSION

This systemic literature study reviews the use of gamification in the teaching and learning process. The relevant journals demonstrate that the application of gamification in learning has a favorable effect on an improvement of motivation scores and their motivation (engagement) during the teaching and learning process. Therefore, motivation is important for each student. In the learning process using t gamification as an alternative to making the learning process more interesting, fun, and effective. Besides, gamification may have shortcomings or gaps. One obvious thing is that it can cause friction between students because of the struggle for points. Teachers can take the good side and think of ways to minimize their weaknesses. As with any method, gamification remains to be studied further related to the use or implementation of gamification in the teaching and learning process both in schools and colleges. Gamification is not designed to replace pedagogy but by applying this method it can be used to improve the overall learning experience and provide more motivation for students to be able to learn independently.

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