



## Unlocking the Potential: Exploring Factors and Challenges in Gamifying English Literacy

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### Abstract

Gamification in the education system emerges for the first time in the late 2000s, and since its emergence, gamification has gained recognition as an innovative approach in education, creating dynamic and engaging learning environments. However, with its current emergence, studies relating to gamification in education are still limited. As such, the current study is conducted to answer two research questions. First, what factors to be considered when applying gamification into the teaching process, and second, what are the challenges when applying gamification into the teaching process. This research used interview to collect the data from two English teachers who have been implementing gamification in their teaching for several time, and thus the present study falls into qualitative research. The findings emphasize the importance of considering game mechanics, engagement and motivation levels, alignment with learning outcomes, learner needs and preferences, and contextual factors to effectively implement gamification. Additionally, the study highlights challenges such as designing effective game mechanics, potential distraction from learning goals, balancing gamification with traditional teaching methods, and ensuring sufficient resources and support for implementation. These findings underscore the necessity for teachers to comprehend gamification and evaluate its compatibility with students' learning needs in order to achieve better educational outcomes.

Keywords: challenges; factors; gamification; teaching

### Introduction

In recent years, the integration of technology in English language teaching has become increasingly popular due to its potential to enhance the quality of education. Technology has provided teachers with innovative tools to create engaging and interactive learning experiences for students, which can improve their motivation and comprehension of the language (Hamdan, McKnight, McKnight, &

Arfstrom, 2013; Kukulska-Hulme, & Shield, 2008; Liaw, 2008; Thorne, 2013; Warschauer & Matuchniak, 2010). For instance, digital resources such as multimedia presentations, educational software, online courses, and mobile apps can be used to supplement traditional classroom instruction and cater to different learning styles. Moreover, technology enables learners to access authentic materials, collaborate with peers in different parts of the world, and receive immediate feedback on their performance, which can foster their language skills and cultural awareness (Levy & Stockwell, 2006; Thorne, 2003; Warschauer & Healey, 1998). Therefore, it is important for English language teachers to stay up-to-date with the latest technological advancements and pedagogical practices to effectively integrate technology into their teaching and provide their students with the best possible learning experiences.

One of the proponent innovative teaching methods utilizing technology to support a more dynamic and engaging learning environment that supports the needs of all learners is the use of gamification (Nicholson, 2015). Gamification is the application of game elements, such as point systems, rewards, and competition, to non-game contexts, such as education (Alsawaier, 2018; Deterding et al., 2011; Educause, 2011; Goethe, 2019; Kapp, 2012; Sillaots, 2012). In the context of education, gamification can be used to promote engagement, motivation, and learning outcomes by making learning more interactive and fun (Collins & Halverson, 2010; Gee, 2004; Gee, 2007; Haas, 2012; Haas et al., 2021; Walsh, 2010). By incorporating game elements into the learning experience, teachers can also help to create a sense of competition and collaboration among students, which can further enhance engagement and motivation (Burguillo, 2010; Ding, Guan, & Yu, 2017; Julian & Perry, 1967; Malone & Lepper, 1987; Moore, Toth & Marzano, 2017; Nemerow, 1996). In addition, gamification can help to personalize learning by allowing students to progress at their own pace and providing feedback that is tailored to their individual needs (Nicholson, 2015). Additionally, the implementation of gamification in a pedagogical environment provides a remedy for many students who are alienated by conventional instructional approaches (Cronk, 2012; Deterding, 2012; Goethe, 2019; Stott & Neustaedter, 2013).

Studies have shown that using gamification in teaching English as a foreign language has a positive impact on students' motivation, engagement, and comprehension (Alomari, Al-Samarraie, & Yousef, 2019; Ratnasari, Hikmawati, & Ghifari, 2019; Chen, Li, & Chen, 2020). Different research approaches, such as

systematic review and meta-analysis, have been used to investigate the impact of gamification in EFL teaching (Prados Sánchez, Cózar-Gutiérrez, del Olmo-Muñoz, & González-Calero, 2021) and found that gamification had a positive impact on student motivation, engagement, and learning outcomes. Garland (2015), and Sailer and Homner (2020) conducted a meta-analysis and found that gamification had a positive effect on language learning outcomes, motivation, and engagement.

Although gamification has gained popularity as a teaching tool, it is important to approach its implementation with caution. Gamification is not a one-size-fits-all solution, and teachers need to consider factors such as age, learning style, and cultural background when designing gamified learning experiences (Harmer, 2008; Knutas, Ikonen, Maggiorini, Ripamonti, & Porras, 2016). This consideration ensures that the experience is appropriate and effective for all students. Furthermore, gamified learning experiences should have clear learning objectives and outcomes to ensure that students are not just playing games but are actively learning (Dicheva et al., 2015; Hanus & Fox, 2015; Kapp, 2012). However, some game designers and researchers argue that existing forms of gamification are shallow, superficial, and not aligned with learning outcomes (Bogost, 2011a; Kapp, 2012; Toda, Valle, & Isotani, 2017). In fact, Bogost (2011a; 2011b) goes as far as to say that gamification is marketing nonsense created by marketers in an attempt to tame videogames and apply them in the corporate world. According to Bogost (2011a), gamification is just another form of marketing nonsense in a world already filled with it. Thus, while gamification can be an effective tool for learning, its implementation should be carefully considered and designed to align with learning objectives and outcomes.

Given this situation, when utilizing gamification as a teaching tool, teachers must be mindful of various factors that need to be taken into account, as well as potential challenges that may arise. Hakak et al (2019) suggest that one of the main challenges of gamification in education is whether the games meet the minimum criteria for motivation, task-design, small tasks, game identity, and reward system. Fitz-Walter, Tjondronegoro, and Wyeth (2012) also acknowledge that while giving students points can promote healthy competition and incentivize them to work harder, it can also diminish their intrinsic motivation and cause feelings of discrimination if the point system is not well balanced. Thus, studies have highlighted

the importance of designing gamified learning experiences with clear learning objectives and outcomes, while also taking into consideration individual differences among students such as age, learning style, and cultural background (Dicheva et al., 2015; Hanus & Fox, 2015; Kapp, 2012).

In the light of the existing problems mentioned, therefore, the current study is conducted to answer specifically two research questions, namely: 1) What things to be considered when applying gamification into the teaching process?, 2) What are the challenges when applying gamification into the teaching process?. Thus, the results of this study are expected to gain a better understanding of how gamification can be applied in teaching and the challenges it presents. It also tries to offer practical advice to teachers and policymakers interested in using gamification in education. The findings will contribute to existing research on gamification in education and provide insights for future studies. As such, the ultimate goal is to improve teaching and learning experiences for English language students by promoting innovative and effective methods.

### **Research Methodology**

In order to fulfill the research objectives of this study, a qualitative research method is deemed appropriate. This method aims to obtain a comprehensive and detailed understanding of social or human phenomena through the construction of a holistic and complex picture, conveyed through the use of language and the reporting of detailed perspectives from informants in a natural setting (Creswell, 2008; Silverman, 2005).

To address the research questions, a case study research design is utilized, as it allows researchers to investigate complex social phenomena within a specific case and context (Yin, 2011). Additionally, case study research can facilitate the identification of key themes and results that may contribute to the prediction of future trends, reveal previously unexamined issues that can be applied to practical contexts, and provide a means for gaining a clearer understanding of significant research problems (Mills, Durepos, & Wiebe, 2010).

### **Respondents**

Purposeful sampling was employed to select two English teachers. Both respondents are majoring in English Language Education (ELT) and have been in the education field for years. Additionally, in their teaching activities, they have been implementing gamification for quite some time.

### **Data Collection**

To accomplish the objectives of the present study, in-depth interviews were conducted with English language teachers who possess experience in integrating gamification into their teaching practices. This method of data collection was deemed appropriate for obtaining rich and detailed insights into the subject matter under investigation, as it allows the researchers to elicit in-depth responses from participants, explore their experiences, perceptions, and attitudes towards gamification, and probe into underlying reasons and motivations (Kvale, 2007).

To address the research questions outlined in this study, we adapted the interview questions from the work of Copland, Garton, and Burns (2014), who utilized an open-ended questionnaire. For the present study, the researchers posed two main questions to the interviewees: firstly, what factors do they consider before or during the application of gamification in their teaching? Secondly, what challenges do they face when integrating gamification into their teaching methods? In addition, to delve deeper into these topics, the researchers also included some sub-questions, such as why they believe these factors need to be considered and whether they have any suggestions for other teachers dealing with similar challenges. These additional sub-questions were administered to gather more comprehensive and detailed insights into the respective matters under discussion.

Additionally, the interviews were carried out in a natural setting, primarily within the participants' classrooms, to allow for a better understanding of how gamification is implemented in the actual teaching environment. Semi-structured interview protocols were employed, which included a set of open-ended questions and follow-up probes to ensure that participants had the freedom to express their perspectives in their own words and provide additional context where necessary (Patton, 2002).

To ensure the reliability and validity of the data collected, various measures were taken, such as conducting pilot interviews, using multiple data sources, and

employing member checking. The interviews were audio-recorded and transcribed verbatim for later analysis.

### **Data Analysis**

Thematic analysis is employed as the analytical approach to examine the data collected from the in-depth interviews with English language teachers. Thematic analysis is a method of data analysis that involves identifying patterns, themes, and categories within the data that are relevant to the research questions (Braun & Clarke, 2006). The method involves the iterative process of coding, categorizing, and interpreting the data to reveal meaningful patterns and insights.

The analysis process commences with familiarization with the data, which involves reading and re-reading the transcripts to gain an overall understanding of the content. Next, the data are systematically coded, and relevant themes are identified. The themes are then categorized and interpreted to provide insights into the research questions. To enhance the rigor of the analysis, multiple coders are involved in the analysis process, and inter-coder reliability is established through regular meetings and discussions (Guest, MacQueen, & Namey, 2012).

The themes that emerge from the analysis are supported by quotes from the interview transcripts, providing a rich and detailed description of the findings. This method of analysis enables the researchers to derive a deeper understanding of the experiences, perceptions, and attitudes of the English language teachers towards gamification in their teaching practices.

## **Findings and Discussion,**

### **Findings**

Based on the research questions of the study, the findings are presented in two subcategories. Firstly, the key factors that need to be considered when applying gamification to the teaching process. Secondly, the challenges that may arise when applying gamification to the teaching process.

### ***Factors to be Considered When Applying Gamification***

The results of the interview analysis show that there are several factors to be considered when applying gamification such as the type of game mechanics used,

the level of engagement and motivation, the alignment of gamification with learning outcomes, and the importance of considering the needs and preferences of learners and the contextual factors that influence the effectiveness of gamification in the classroom.

The interviewees noted that when applying gamification, there are factors which need to be considered even before the application of it in the classroom.

Well, gamification can be said as a new teaching technique, even in Indonesia, it can be said that only few teachers know and understand this technique. Thus, before even incorporating gamification into the teaching and learning process, one needs to understand what gamification is by reading some related books or research articles. (S1, transcription)

Understanding what gamification is before implementing it is crucial as it can be confusing between gamification, serious games, or game-based learning. (S2, transcription)

In addition to the needs of understanding what gamification is, the interviewees also noted that,

Making sure that the game elements employed can support the teaching and learning process and they are easy to implement rather than complicate teachers during the designing process. (S1, transcription)

Teachers need to be aware on how to digitalize and incorporate the appropriate game mechanics in the designing process and how those mechanics can engage students' motivation and participations. (S2, transcription)

And we also need to consider that selecting which game mechanics to be employed will also have some effects on the students' motivation and engagement, for example, the use of badges or even ranks for younger students might be more motivating and engaging the students. And for the older students, we might not need such badges, but we can use the time limit to turn their adrenaline on. (S1, transcription)

Furthermore, both interviewees reckon that the alignment of gamification with learning outcomes is the key consideration by stating that,

The most important thing to be considered when applying gamification is how gamification can help the teaching and learning process to achieve the expected outcomes. (S1, transcription)

It is important to ask ourselves before applying gamification into our teaching "can it be used to teach the materials, and can it help my students to understand better?" (S2, transcription)

And lastly, the interviewees adhere on the importance of considering the levels, needs and preferences of learners by stating that,

We also need to consider the students' English proficiency before we put the supposed quizzes and also the preferences in learning like how they prefer to do physical or non-physical activities, visual, audio, or audiovisual-based. These are crucial as we teachers need to consider how we can support each of our students to the best. (S1, transcription)

The students' sides are also important to note, such as how the games can engage them in a way that they do not feel alienated as the result of not wanting to participate. Thus, I think it is important to consider students' preferences in response to will they engage in the learning when it uses gamification or not. (S2, transcription)

### **Challenges When Applying Gamification**

The results of the interview analysis show that there are some challenges when applying gamification in the teaching process in which the teachers need to pay attention to: the difficulty in designing effective game mechanics, the potential for gamification to distract from learning goals, and also the challenge of balancing the use of gamification with traditional teaching methods, as well as the need for adequate resources and support to implement gamification effectively.

Both interviewees note similar difficulty in designing their gamification, specifically designing effective game mechanics by stating that,

The most difficult step when applying gamification is the designing process and one of the designing steps is designing which game mechanics to be used. Questions like "which game mechanics suit the materials?" and "can these game mechanics help the students to stay motivated and engaged?" should be asked frequently. (S1, transcription)



Well, designing the game is a challenge in itself because we need to think about what mechanics are suitable for the students and also the learning. (S2, transcription)

Additionally, both interviewees stress the potential for gamification to distract from learning goals,

While gamification helps the students to be more engaged and motivated in the teaching and learning process, it also has the potential to distract the students if it is too "game-like". (S1, transcription)

How the students interact with the learning rather than the game also needs to be considered because the point of gamification is to engage the students in learning through the game mechanics not the other way around. (S2, transcription)

Another challenge is balancing the utilization of gamification in the teaching and learning process with traditional teaching methods,

It needs to be noted that gamification cannot stand alone, rather, it supplements an existing teaching approach. However, in my experience, too many gamified activities will make the students focus on the game rather than the materials. Thus, finding the proportion between how much time for gamified activities and the traditional teaching is crucial. (S1, transcription)

Teachers need to be aware that gamification's potential lies in its ability to engage the students without overshadowing the learning itself. Thus, do not put too much gamification into the learning process but only when it is felt necessary. (S2, transcription)

And lastly, the challenge of applying gamification is the need for adequate resources and support to implement gamification effectively.

Gamification, or at least digital-type gamification requires a gadget which can support the websites or apps, yet we cannot expect each student to have such gadget. On the other hand, manual-type gamification requires plenty of time to prepare which teachers rarely have. (S1, transcription)

The gadgets needed to support digital gamification are key issues to support learning. Thus, the dependency over gadgets is what makes gamification cannot be applied in all situations. Moreover, manually

prepared gamification takes too much time and energy which makes it an unpopular option. (S2, transcription)

## **Discussion**

Gamification has gained attention as a strategy for enhancing student engagement and motivation in the learning process. However, to effectively implement gamification in teaching, as the findings suggest, several factors need to be considered. These factors include the game mechanics used, the level of engagement and motivation, alignment with learning outcomes, and learner needs and preferences, as well as contextual factors affecting gamification effectiveness.

Despite the potential benefits of gamification in teaching, it also poses some challenges that teachers need to address. One such challenge is designing effective game mechanics. Another is the potential for gamification to distract from learning goals. Teachers must also balance gamification with traditional teaching methods and ensure adequate resources and support for effective implementation.

### ***What these factors meant to the utilization of gamification***

The finding that suggests the alignment of gamification with learning outcomes is crucial is supported by several studies (Dicheva et al., 2015; Hanus & Fox, 2015; Kapp, 2012). This alignment is vital for effective learning as it ensures meaningful learning and the design of experiences that align with educational goals, while also preventing the learning from deviating from what is intended to be taught. Aligning gamification with learning outcomes fosters meaningful learning by connecting the gamified elements directly to the desired educational objectives. By carefully integrating gamification, learners are more likely to engage deeply with the content when they perceive the relevance and applicability of the gamified elements to their learning journey. Moreover, aligning gamification with learning outcomes enables the design of experiences that are tailored to meet specific educational needs. Teachers can provide learners with meaningful challenges and opportunities for skill development according to the expected outcomes.

Additionally, aligning gamification with learning outcomes serves as a safeguard against the risk of diversion or dilution of the intended educational content. Without alignment, gamification may introduce unrelated or unnecessary elements that distract learners or hinder their progress. Thus, this alignment helps maintain the integrity and coherence of the educational experience. Furthermore,

aligning gamification with learning outcomes facilitates effective assessment and evaluation. This is possible by integrating direct assessment mechanisms that provide meaningful insights into learners' progress by offering timely feedback which later enables teachers to make adjusted instructional decisions, personalize learning experiences, and support learners in reaching their full potential (Harmer, 2007; Knutas, Ikonen, Maggiorini, Ripamonti, & Porras, 2016).

In addition to aligning gamification with learning outcomes, considering the game mechanics used is crucial, as it has a significant impact on students' level of engagement and motivation. This finding is supported by several studies (Burguillo, 2010; Ding, Guan, & Yu, 2017; Julian & Perry, 1967; Malone & Lepper, 1987; Moore, Toth & Marzano, 2017; Nemerow, 1996) that highlight the importance of selecting appropriate game mechanics to create a sense of competition and collaboration among students, which can further enhance engagement and motivation. For example, incorporating competitive elements, such as leaderboards, rankings, or timed challenges, can foster a sense of competition among students which can spur motivation as students strive to outperform their peers and achieve higher scores or rankings. However, it is crucial to balance competition with a supportive and collaborative atmosphere to prevent negative effects, such as discouragement or demotivation in some learners.

Another example is by introducing collaborative game mechanics, such as team-based challenges, group projects, or cooperative gameplay, promotes teamwork and social interaction among students because it can enhance engagement by creating opportunities for peer learning, shared problem-solving, and collective achievement. It can also contribute to a positive classroom climate and the development of interpersonal skills. Additionally, incorporating strategic use of rewards and incentives can motivate students to actively participate in the learning process. Rewards can be tied to specific achievements or milestones, providing students with tangible recognition for their efforts. However, it is worth noting that the selection and implementation of game mechanics should align with the learning objectives and the specific characteristics of the student population. Different students may respond differently to various game mechanics, so it is essential to consider their preferences, interests, and cultural backgrounds (Cronk, 2012; Deterding, 2012; Goethe, 2019; Nicholson, 2015; Stott & Neustaedter, 2013).

***What these challenges meant to the utilization of gamification***

An additional significant finding highlights the importance of maintaining a balanced integration of gamification with traditional teaching methods. Existing literature (Collins & Halverson, 2010; Gee, 2004; Gee, 2007; Haas, 2012; Haas et al., 2021; Nicholson, 2015; Walsh, 2010) suggests that gamification has the potential to enhance engagement, motivation, and learning outcomes by fostering interactive and enjoyable learning experiences. Consequently, it is advisable to view gamification as a supplementary tool that complements the traditional teaching approach, rather than overshadowing it. By striking a harmonious balance between gamification and traditional methods, educators can maximize the benefits of both approaches and create a well-rounded instructional framework that optimizes student learning outcomes. This leads teachers to carefully consider the appropriate integration of gamification within their instructional practices. By assessing the specific learning objectives and student needs, educators can identify opportunities where gamification can be effectively employed to enhance engagement and motivation while maintaining a focus on the desired learning outcomes (Harmer, 2007; Knutas, Ikonen, Maggiorini, Ripamonti, & Porras, 2016).

Furthermore, another significant finding from the study highlights the potential for gamification to act as a distraction for students during the learning process. This finding aligns with the arguments put forth by Dicheva et al. (2015), Hanus and Fox (2015), and Kapp (2012), who emphasize that gamification holds the potential of distracting students in the learning process as it surrounds itself with game elements which sometimes can cause the students to focus on the game elements rather than the learning. As such, it is important to balance the segmentation of learning and gamification since by having well-balanced gamified learning, teachers can ensure that students are not merely engaged in playing games but are actively learning and achieving the desired educational outcomes.

The issue of gamification acting as a potential distractor for students has been raised by several scholars, including Bogost (2011a), Kapp (2012), and Toda, Valle, and Isotani (2017). These researchers have pointed out that existing forms of gamification tend to be shallow, superficial, and lack alignment with specific learning outcomes. In addition, Bogost (2011a; 2011b) further argues that this distracting effect may stem from the fact that gamification attempts to harness elements from video games and apply them in non-game contexts which might not always be suitable. Moreover, the lack of clear educational purpose and alignment

with learning objectives might contribute to its potential to distract rather than enhance the learning process. As such, it becomes essential for teachers to be cautious in the implementation of gamification, ensuring that it is thoughtfully integrated into the learning experience and directly contributes to meaningful educational goals.

Moreover, our findings also indicate that the implementation of appropriate game mechanics can be challenging. This difficulty arises due to the distinct pros and cons associated with each game element. Fitz-Walter, Tjondronegoro, and Wyeth (2012) have also acknowledged that while some game elements can promote healthy competition and incentivize them to work harder, they can also diminish their intrinsic motivation and cause feelings of discrimination if the game elements are not well balanced. In similar view, Hakak et al (2019) also note that one of the main challenges of gamification in education is whether the games meet the minimum criteria for motivation, task-design, small tasks, game identity, and reward system. As such, these notions suggest that game elements possess the potential to distract students, underscoring the fact that game mechanics are not a one-size-fits-all solution. Therefore, teachers must carefully select and utilize specific game elements through trial and error to determine what works best in their particular educational context because while gamification has shown promise as an effective learning tool, its successful implementation necessitates thoughtful consideration.

### ***What can be inferred from these factors and challenges***

Based on the provided notions above, thus, teachers can carefully create English literacy learning that is beneficial for students. One example is that by incorporating game mechanics that focus on word recognition, spelling, and vocabulary expansion, teachers can create interactive and enjoyable activities that motivate students to actively engage with language learning. These activities can be designed to encourage students to explore and acquire new words while having fun. Additionally, the immediate feedback and rewards provided by gamified activities can reinforce learning, encourage repetition, and deepen students' understanding of English vocabulary. By aligning these gamified elements with specific language learning objectives, teachers can effectively foster students' language skills and help them achieve their learning goals.

Another example might be by integrating game mechanics that encourage students to analyze texts, make inferences, and engage in deep reading, teachers

can create interactive experiences that promote active reading and comprehension. For instance, incorporating interactive story-based games or immersive simulations that require students to make decisions based on textual information can foster critical thinking and problem-solving skills. These gamified activities can motivate students to actively engage with texts, improve their comprehension abilities, and develop a deeper understanding of the English language and its nuances. By aligning gamification with the objectives of developing reading comprehension and critical thinking skills, teachers can create an engaging and effective learning environment for English literacy instruction.

As such, through the integration of game mechanics that focus on language acquisition, reading comprehension, and writing skills, teachers can create engaging and interactive experiences that motivate students and promote their active participation in the learning process. By carefully designing gamified activities that connect to the desired learning outcomes, educators can effectively support students in attaining their English literacy objectives and foster a love for language learning.

### **Conclusion and Suggestion**

The findings show that for teachers to implement gamification into their teaching and learning practices, there are numerous factors to be considered and challenges that may appear during the designing and implementation of gamification. These findings lead to the understanding that in implementing gamification, teachers need to understand what gamification is before even implementing it. The findings also suggest that teachers need to evaluate the compatibility of whether gamification can accommodate their students' learning for better results. Thus, the presented results serve as valuable insights and guidelines for teachers seeking to implement gamification in their teaching and learning practices. By acknowledging these factors and challenges, teachers can make informed decisions and adopt a thoughtful approach to the design and implementation of gamification.

This research, while providing valuable insights into the factors and challenges of implementing gamification in teaching and learning, acknowledges its limitations. One notable limitation is the absence of a detailed exploration of how the interviewees implemented gamification in their teaching practices. The research

does not delve into the specific strategies, techniques, and approaches employed by the interviewees when integrating gamification into their classrooms. Therefore, this limitation calls for further research and studies that focus on exploring the practices and methodologies adopted by teachers when incorporating gamification into their teaching. By conducting more detailed and extensive research, teachers and researchers can gain deeper insights into the potential of gamification as a pedagogical approach, its impact on student engagement and motivation, and its overall efficacy in enhancing teaching and learning experiences.

Moreover, future research could explore the variations in gamification implementation across different educational contexts, grade levels, and subject areas. This would allow for a more comprehensive understanding of the adaptability and effectiveness of gamification in diverse educational settings. Additionally, considering the long-term effects of gamification on student learning outcomes and the transferability of acquired skills to real-world contexts would further contribute to the literature on gamification in education.

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