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EFL TEACHERS' USE AND ATTITUDES TOWARDS GAMIFICATION IN TEACHING ENGLISH AT UPPER SECONDARY SCHOOLS IN QUANG TRI PROVINCE, VIETNAM[i]

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Abstract:
It can be seen that emerging technology has had a positive impact on learning in several aspects. Gamification has recently been implemented noticeably in learning and teaching. By enhancing students' engagement with the teaching materials and raising their level of competency, gamification has demonstrated its effectiveness in students' integration of the educational process. Since learning and teaching a new language is a complicated and strenuous process, learners usually need to be motivated. Hence, the introduction of gamification in the classroom would bring some benefits to learning English. This study aimed to explore 60 teachers' use and attitudes towards gamification in English language teaching at upper secondary schools in Quang Tri. To learn about the use and attitudes among teachers, both questionnaires and semi-structured interviews were employed. The questionnaire was delivered to 60 teachers, and 15 of them were also invited to participate in the follow-up interviews. The research findings indicate that teachers value the benefits of gamification in the classroom. However, there are still challenges that must be considered and overcome when using gamification tools. Based on the findings, pedagogical implications were made with the aim to enhance teaching and learning English in the foreign language context.

Keywords: gamification, teachers' use and attitudes, benefits, challenges

Tóm tắt:
Có thể thấy rằng công nghệ mới nổi đã có tác động tích cực đến việc học ở một số khía cạnh. Đáng chú ý, trò chơi hóa gần đây đã được triển khai trong học tập và giảng dạy. Bằng cách thúc đẩy sự tham gia của học sinh với các tài liệu giảng dạy cũng như nâng cao trình độ năng lực của người học, trò chơi hóa đã chứng minh hiệu quả của nó trong việc tham gia của người học vào quá trình giáo dục. Vì học và dạy một ngôn ngữ mới là

[i] VIỆC SỬ DỤNG VÀ THÁI ĐỘ CỦA GIÁO VIÊN ĐỐI VỚI TRÒ CHƠI HOÁ TRONG DẠY TIẾNG ANH TẠI CÁC TRƯỜNG TRUNG HỌC PHỔ THÔNG TỈNH QUẢNG TRỊ, VIỆT NAM

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một quá trình phức tạp và vất vả, người học thường cần được thúc đẩy. Do đó, việc đưa trò chơi hoá vào trong lớp học sẽ mang lại một số lợi ích cho việc học tiếng Anh. Nghiên cứu này nhằm tìm hiểu việc sử dụng và thái độ của 60 giáo viên đối với trò chơi hoá trong dạy học tiếng Anh tại các trường trung học phổ thông ở tỉnh Quảng Trị. Để tìm hiểu về việc sử dụng và thái độ giữa các giáo viên, bảng câu hỏi và phỏng vấn bán cấu trúc đều được sử dụng trong nghiên cứu này. Bảng câu hỏi được gửi tới 60 giáo viên và 15 giáo viên trong số họ cũng được mời tham gia các cuộc phỏng vấn tiếp theo. Kết quả nghiên cứu chỉ ra rằng giáo viên đánh giá cao lợi ích của trò chơi hoá trong lớp học. Tuy nhiên, vẫn còn những thách thức phải được xem xét và vượt qua khi sử dụng các công cụ trò chơi hoá. Dựa trên những phát hiện này, các ứng dụng sư phạm đã được đưa ra với mục đích tăng cường dạy và học tiếng Anh trong bối cảnh ngoại ngữ.

Từ khóa: trò chơi hóa, cách sử dụng và thái độ của giáo viên, lợi ích, thách thức

1. Introduction

The outcomes of English teaching are not only stricken by teachers' English language competence but also, to a substantial extent, by the didactic approach which they adopt, students' motivation to learn, and therefore the learning method they use. In fact, learning is really made simpler by integrating computer technologies; this process is known as e-learning. Electronic devices like computers, laptops, smsmartphonesetc. enable learning in isolated locations. The most creative form of learning happens with electronic gadgets, as they can incorporate animations and gives a feeling of experiencing the subject of learning. Gamification is one method that uses a variety of computer-based applications, such as games, videos, and interactive lessons, to teach both fundamental and more complex aspects and concepts. The use of games or game elements in education is not new and can be traced back to the sixties when Piaget (1962) mentioned that games could not only help children to master their environments but also create the worlds of their imagination. Additionally, games encourage students to play an active role in the learning process thus supporting active learning, experiential learning, and problem-based learning (Oblinger, 2004). Previous research has detected that the use of games or game elements in the classroom can also enhance the classroom atmosphere (Yang, 2012).

Other reasons supporting gamification include the facilitation of scaffolded instruction based on each individual student's needs (Hanus & Fox, 2015); the immediate and frequent feedback that games provide (Kapp, 2012); the capacity to give students the freedom to fail without fear when learning (Lee & Hamer, 2011); and a trial-and-error learning process which makes mistakes recoverable (Hanus & Fox, 2015). Despite all the positive outcomes that might be expected from gamification, teachers play a crucial role in incorporating new practices and methods in their courses and the literature review clearly suggest that a number of factors can prevent teachers from introducing pedagogical innovations –and especially technology-related innovations– in the classroom (Mumtaz, 2000). Attitude towards a target behavior (e.g. using gamification)

is one of such key factors because attitude is an important predictor of an individual's intention toward performing the target behavior (Fishbein & Ajzen, 1975). Very little is known about teachers' attitudes and use of gamification. To fill this research gap this study's main goal is to analyze: i) teachers' use of gamification, and ii) teachers' attitudes towards gamification.

This study will explore teachers' attitudes toward gamification and the use of gamification in teaching English. Hopefully, this study will provide insight into teachers' attitudes regarding the usefulness and effectiveness of gamification, and see how teachers use gamification in teaching English.

1.1 Research questions

1) How do upper-secondary teachers use gamification in English language teaching?
2) What are the upper-secondary teachers' attitudes toward the benefits and challenges of using gamification in their English classes?

2. Literature review

2.1 Gamification

2.1.1 Gamification in education

The term 'gamification' was coined by Rahat Paharia in 2008. A general definition of this concept would be as follows: gamification is the inclusion of game design elements into non-playful contexts. Its main objective is to influence people's behavior, involving and motivating them to achieve different challenges. Since 2008, there have been several authors who have made an effort to make a concrete definition of this concept and to establish some common characteristics. Kapp (2012) is one of those authors who defines gamification as an attitude, a learning strategy, and a movement. Simultaneously, from Ray Wang's viewpoint, gamification describes a series of design principles, processes, and systems used to influence, engage and motivate individuals, groups, and communities to drive behaviors and effect desired outcomes (Wang, 2011). According to Deterding et al. (2011) and Werbach & Hunter (2012), gamification can be defined as "*the use of game design elements in non-game contexts".* Specifically, gamification will apply individual elements of video games such as awards, badges, leaderboards, immediate feedback, and so on to pedagogy. These appear to be key characteristics of gamification that distinguish it from other types of games. Gamification is a technology that tries to influence user behavior by activating individual motives through game design elements (Petkov et al. 2011, p.2).

Furthermore, another purpose of gamification is to increase participants' motivation, engagement, and enthusiasm for their work. When it comes to education, it is said that "*gamification develops learners' metacognitive abilities, promotes empathy, and builds teamwork skills*" (Tan Ai Lin et al., 2018).

In conclusion, the aim of this thesis is to investigate the use and attitudes of teachers towards the benefits and challenges of gamification, the researcher choose the definition of Kapp (2012) to carry out the research, which is "*gamification is the process of using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning and solve problems*" (Kapp, 2012, p.10). From this definition, the researcher would like to have a deeper insight into the benefits of gamification in terms of engagement, motivation, feedback, and learning outcomes, which will be discussed more specifically later.

2.1.2 Gamification in learning English as a foreign language

Gamification in second language learning has been a subject of interest in numerous researches and discussions about its application, particularly in light of the growing use of technology in education. The aim of incorporating gamification into education is to present a more attractive, engaging, and effective learning experience for the students. In the context of second language learning, students would possibly find it demotivating and challenging to learn a second language due to a lack of exposure to the living language and to varieties of learning experiences. In fact, in order to engage the interest of L2 learners, gamification offers a fun, interactive, and non-threatening learning environment. Over the years, technology has been immersed into L2 education with a view to enhancing the quality of the teaching and learning experience. Flores (2015) states that "*In order to change or set off a specific behavior, the learners need to be motivated and gamification opens the door for the L2 learner to enhance their language learning experience and at the same time acquire the skill to solve any task or challenge the class, the unit, or what the topic presents*." This is consistent with several methodologies and techniques in L2 teaching whereby learners can learn most effectively when they are engaged, motivated, and gain a sense of empowerment in their learning.

2.1.3 Gamification elements

The elements of games are the responsible components that help in designing a certain game for a specific purpose. Some of these elements, sometimes described as components, are seen in most games nowadays, including: badges, leaderboards, points and levels, and progress tracking. All these elements serve different functions and can be adapted to basically any education-related environment. A brief definition of each element is provided below:

a. Badges

Grant (2013) indicated that badges are related to the significance and the interest features of the game in different educational settings. Badges have an impact on learning represented in raising students' motivation (p.1). Badges of games measure learners' success and achievement levels (Richter et al., 2015).

b. Leaderboards

According to Reeves & Read (2009), leaderboards are used to identify the elements and steps of the game, they enable the gamers to see their grades or their scores, and they raise the student's sense of belonging towards the other members of the educational setting. Leaderboards also brought a sense of fairness for players during the competition (Reeves and Read, 2009). Leaderboards enable users to view their achievements compared to others in the same community. They also create a sense of belonging to a similar-minded group and competition among them (O'Donovan, 2012).

c. Points and levels

Gaining points is related to motivation coming from rewards which encourages students' level to master the learning skills. Reaching points need the students to pre-decide their game purposes to increase success opportunities (Nicholson, 2015; Robertson, 2010). Points are widely used in gamified environments. Zichermann & Cunningham (2011) consider points as an essential part of any gamified design. Carr-Chillman (2015) emphasized the importance of having points as a game element to foster engagement in ordinary tasks.

d. Progress tracking

Scepanovic (2015) defined progress tracking as a crucial part of any type of game, it provides learners with feedback because they need to know their levels and develop their weaknesses. Hence, this game element let users know how much progress they have made. Raymer (2011) clarified that the measurement of educational progress is necessary for each subject or activity.

2.1.4 Gamification tools

The incorporation of gamification tools has been increasingly popular in English education. In this study, the researcher just discussed some of them. These gamification tools are: Kahoot!, Quizizz, and Quizlet.

a. Kahoot!

Kahoot! is the first Student Response System (SRS) designed to provide a game experience by implementing game principles from the theory of motivation and gameplay (Wang, A. I., and R. Tahir, 2020). Kahoot! transforms classroom learning into game performance by way of the lecturer giving questions from the laptop, displayed on the class screen, and students answering with their mobile phone devices (Boden, G. M., and L. Hart, 2018). Kahoot! uses audio, image, and video assistance on the SRS to help the student learning process. According to the elements that exist in the gamification system, Kahoot! implements the use of names, giving feedback, points, ranking through the podium, encouraging competition, and using time limits for student achievement.

Almost all students feel motivated when using Kahoot! and have increased their performance (Boden, G. M., and L. Hart, 2018). Compared to similar platforms that focus

on SRS, such as Quizizz and Google Form, Kahoot! has a more significant influence on participant concentration, perceived learning, enjoyment, engagement, and satisfaction than other platforms (Chaiyo, Y., and R. Nokham, 2017).

b. Quizizz

Quizizz is an application used with different language aspects, such as grammar (Rahayu & Purnawarman, 2018) and vocabulary (Permana and Permatawati, 2020). Quizizz is used as a formative assessment tool that allows students to review knowledge and learning progress. It enables teachers to assess students' language learning skills and curricular skills (Bury, 2017). Moreover, it fosters students' engagement, motivation, and satisfaction (Chaiyo & Nokham, 2017). According to Rahayu & Purnawarman (2018), Quizizz includes two features of feedback, including the game summary (score and rank) and the performance status (the number of correct and incorrect answers, the number of unattempted questions, average time per question, and the longest streak). Such features provide insightful feedback for students which enables improvement in learning.

c. Quizlet

Quizlet is a popular application that promotes students' autonomy in learning a language since it enables them to review actual words on their own using various activities like flashcards, matching, writing definitions, and practising pronunciation (Köse, Çimen, and Mede 2016, p.367). Nevertheless, some of its features are only available on the website and not in the mobile application (Dizon, 2016, p.44). Numerous studies have examined the effectiveness of this app for vocabulary learning. For instance, in Dizon's study (2016), he showed how effectively this app helped nine students acquire English as a Second Language in the Faculty of Foreign Studies in Japan. He compared the academic results before and after using the app for ten weeks, and Quizlet supported their vocabulary enhancement. Similarly, Sanosi (2018) used the same procedure in the College of Sciences and Humanities in Saudi Arabia with 42 EFL learners. He also worked with this application to enhance and acquire vocabulary by observing students' performance before and after their tests in two groups: a control one of 21 learners and an experimental one of 21 learners. The final result after utilizing Quizlet was also positive, as the experimental group who worked with the app inside and outside the classroom improved their academic results considerably.

2.1.5 The use of gamification in teaching English to students

The gamification tools can be used to catch learners' attention or interests. Teachers and students can access the tools through computers, laptops, tablets, or smartphones. Burns (2012) indicated that it is important to introduce "*activities that are integrated and sequenced and that allow students to raise their awareness of the knowledge, skills, and strategies needed for various types of interaction and discourse*" (2012). Besides, according to Landers (2014), gamification of learning was defined as "*the use of game elements, including action language, assessment, conflict/challenge, control, environment game fiction, human interaction, immersion,*

and rules/goals, to facilitate learning and related outcomes" (p.757). Games elements are employed effectively in classroom activities. These elements can help to create a stimulating environment and motivation for students. As gamification tools are used, game elements are responsible for supporting learning motivation and managing learners' practice to improve their learning. On the whole, gamification tools can be used flexibly as an activity in the classroom to give students an opportunity to perform self-study activities at home to extend their learning time. Moreover, it is essential to inform learners of the way to use the tools and attract them with game elements systems before asking them to use these tools.

2.1.6 The advantages and disadvantages of using gamification tools in teaching English

There are some notable advantages of gamification which have positive impacts on students and help to bring out the best in them. As Alsawaier (2017) asserts, students' engagement levels grew rapidly after the introduction of game elements in many studies. Researchers who conducted empirical research on gamification elements agree that instant feedback and collaboration have a positive impact on students' engagement, motivation, and overall performance. When gamification features are implemented, positive results, such as higher likeability ratings, increased significantly. Argumentation, Critical Thinking, engagement, motivation, and satisfaction are also key positive outcomes seen in students inside a gamified classroom (as cited in Noorozi & Talee, 2016).

Like every good thing, Gamification as a technique has some imperfections. Firstly, playing games is always considered a medium of distraction for students. Mayer & Johnson (2010) highlights the most common problem of this method is that the entertainment features of games might distract the player from the academic content and are involved in gaming mostly. The introduction of competition inside classrooms may lead to students hating each other, causing severe problems related to bullying. Besides, some learners may be careless when it comes to competition due to their lack of self-confidence, which makes them lack the motive to participate.

Another common issue is that games are addictive and take a lot of time. There are some health concerns as well. Time management is another big issue in this method as it takes preparation to completely gamify a classroom. As Wilson, Calogne, and Henderson (2015) mentions that gamification could be beneficial for increasing participation and motivation, but sometimes students face complexity to understand the gamified task and perform accordingly. Time is needed to construct a gamified classroom which sometimes can be an issue. Creating game interface design, particular game methods with game design patterns could be an extra problem in some cases. Moreover, one disadvantaged thing that needs to be mentioned is the time spent on developing a game for a lesson (Ohno and Tokiwa, 2013). It must take time to create a gaming framework and it requires teachers more labour time. Furthermore, problems with the Internet connection might cause problems in enthusiastic participation. Unstable Wifi can

interrupt the learning process, then it can take learners' time to get back the flow of the lesson. These are unavoidable factors of using technical online materials. However, it will not always happen. If teachers prepare carefully and even for contingency plans, the class can go with a smooth flow.

3. Material and methods

According to Condelli and Wrigley (2004), the quantitative approach, in addition to the qualitative one, can help researchers deepen their understanding of findings and infer from those results. Therefore, this study uses both quantitative and qualitative methods to obtain a more reliable understanding of its results.

3.1 Research participants

The participants in this study were chosen from Quang Tri province. 60 teachers from upper-secondary schools participated in the survey, and 15 teachers participated in the semi-structured interviews.

They participated in workshops about the implementation of technology into education as well as teachers' communities in social media where they often shared about innovative and technical didactic sources such as tools, documents, games, etc. As a result, they had a certain understanding of gamification tools. Table 3.1 below described the characteristics of participants in the questionnaire.

Table 3.1: Demographic characteristics of respondents to the questionnaire (N= 60)

		Frequency	Percent
Age	From 25 to 29	11	18.3
	From 30 to 39	33	55.0
	Over 40	16	26.7
Degree of education	Bachelor degree	47	78.3
	M.A degree	13	21.7
Years of teaching English	From 1-5 years	8	13.3
	From 6-10 years	5	8.3
	From 11-15 years	19	31.7
	From 16-20 years	16	26.7
	Over 20 years	12	20.0

3.2 Data analysis

The collected data in this study were analyzed with the help of both quantitative and qualitative approaches. The findings were discussed and analyzed in a deductive way.

3.2.1 Questionnaire

The information collected from the questionnaire for teachers had been converted into numerical statistics. The numerical data were carefully coded, put into tables, totaled up, and counted in percentages. After that, the results were presented in charts and tables in

the findings and discussion section. All of these steps were conducted with the help of SPSS 20.0.

3.2.2 Interview

For the qualitative data analysis, the researcher listened to the recordings of the interview carefully and then transcribed them while leaving out unnecessary phrases or words such as repeated words, filler expressions, and thoughtful pauses. This step aims to make the transcription far more understandable and readable while the intended meaning of the participant was not changed. The collected data from such interviews contributed to providing qualitative insights into the results presented in figures and more valid information about the teachers' attitudes and use of gamification in English language teaching.

While the data obtained from the questionnaire were displayed in the form of figures and tables, the data obtained from the interviews were used as quotations.

3.3 Data collection procedure

First of all, an email with a request for participation was sent to all upper-secondary schools within Quang Tri province. The email consisted of information regarding the study and its purpose, linked to the online surveys, and information regarding their participation. If teachers wanted to participate in the interview, they replied to the email, where further contact took place for discussing the date and time for the interview. After one week passed, the initial email was sent again to remind schools and gave them a second chance to participate in the study.

3.4.Research validity and reliability

a. Reliability

Nunnally and Bernstein (1994) suggested that .70 is an acceptable reliability coefficient level. In the same vein, Sekaran (2000) stated that if Cronbach's alpha reaches above .70, the instrument has internal consistency reliability. Besides, Hair et al (2006) also had the same view as Murphy and David Shooter (1989) regarding the criteria to measure the reliability via Cronbach's alpha coefficient. Murphy and David Shooter (1988, p.89) stated the evaluation principle as follows:

Table 3.4.1 The criteria to measure the reliability coefficient via Cronbach's alpha coefficient

Cronbach's alpha	**Internal consistency**
Below .6 (<.6)	Unacceptable level
.7	Acceptable / low level
.8 - .9	Moderate to high level
.9	High level

In this study, the questionnaire was divided into two main clusters. Cluster 1 comprised 19 items of theme I and Cluster 2 comprised 10 items of theme II. Cronbach's alpha analyzed the items in each cluster to have the exact results for the questionnaire. As can be seen obviously in the following table:

Table 3.4.2: Cronbach's alpha coefficient of three main clusters to evaluate the reliability of questionnaires

Variable (clusters)	Number of items	Reliability Cronbach's alpha	Comment (internal consistency)
Cluster 1	19	.847	Moderate
Cluster 2	10	.881	Moderate

b. Validity

In this study, the information of participants listed obviously about age, degree of education, and years of teaching English in Table 3.1 in Chapter 3. The subjects in this study are only English language teachers at upper secondary schools. The instrumentation of the study is questionnaires designed following the Likert scale in 5 levels.

4. Results and discussion

4.1 Teachers' use of gamification in their English classes

4.1.1 Percentage of teachers using gamification in their English classes

The pie chart illustrates the percentage of teachers using gamification in their English classes. It can be seen from the chart that 100% of the teachers taking part in the survey used gamification in their lessons.

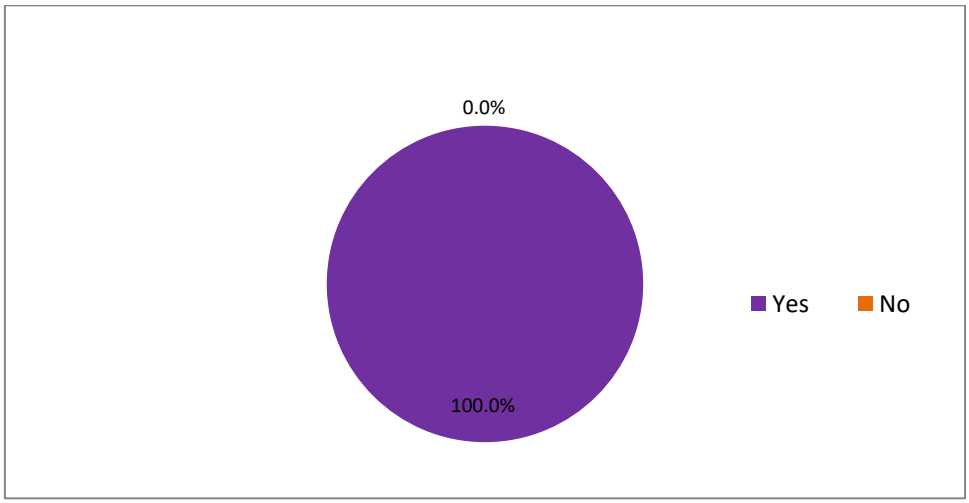

Figure 4.1: Percentage of teachers using gamification in their English classes

4.1.2 Percentage of gamification teachers used in all the lessons in the school year 2021 – 2022

The pie chart illustrates that a large number of the respondents incorporated gamification tools into the lessons about 20-30%. Meanwhile, a minority of the teachers, only about 3.3%, used gamification with the percentage of 60-70% and over 80%. In addition to that, those who used about 10-20% of gamification in English classes take up 20%.

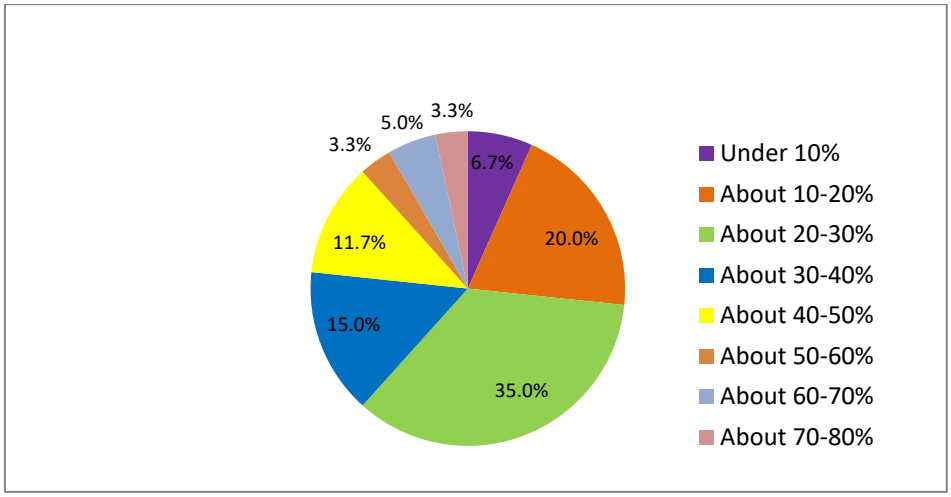

Figure 4.2: Percentage of gamification teachers used in all the lessons in the school year 2021 - 2022

4.1.3 Class mode teachers use gamification in their English classes

The pie chart demonstrates the class mode that teachers use gamification. It can be clearly seen that of the total participants in the survey questionnaire, over three-quarters of the teachers used gamification in both online and offline classes. Additionally, 16.7% of the teachers only applied gamification in an online class and 6.6% of them used it in only offline classes.

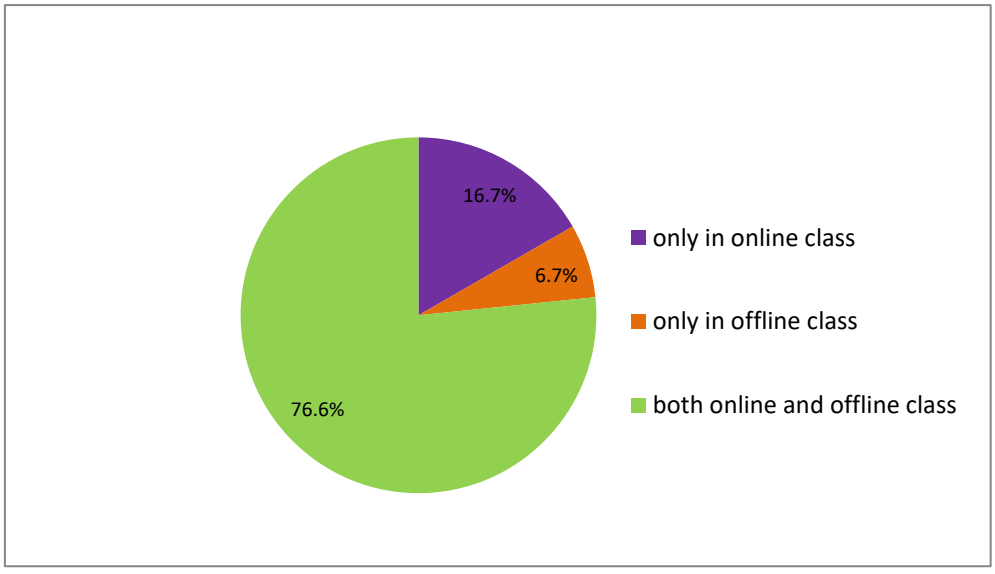

Figure 4.3: Class mode teachers use gamification in their English classes

4.1.4 Gamification tools teachers often use in their English classes

The pie chart illustrates that more than half of the respondents used Quizizz in their English classes. The use of Quizlet comes second with 23.6%, which is higher than the use of Kahoot!, with 16.9%.

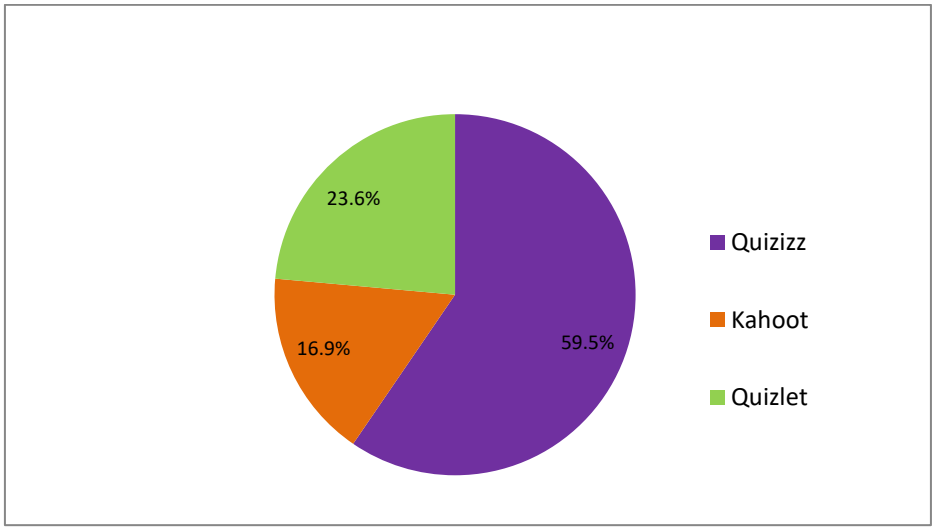

Figure 4.4: Gamification tools teachers often use in their English lessons

4.1.5 Gamification elements teachers often use in their English classes

Based on the data collected, the researcher comprehended that the English teachers in the survey mostly used "leaderboards" in gamification, with a percentage of 51.6%. The second one was the "points and levels" with 24.7%. The two remaining elements accounted for fewer percentages.

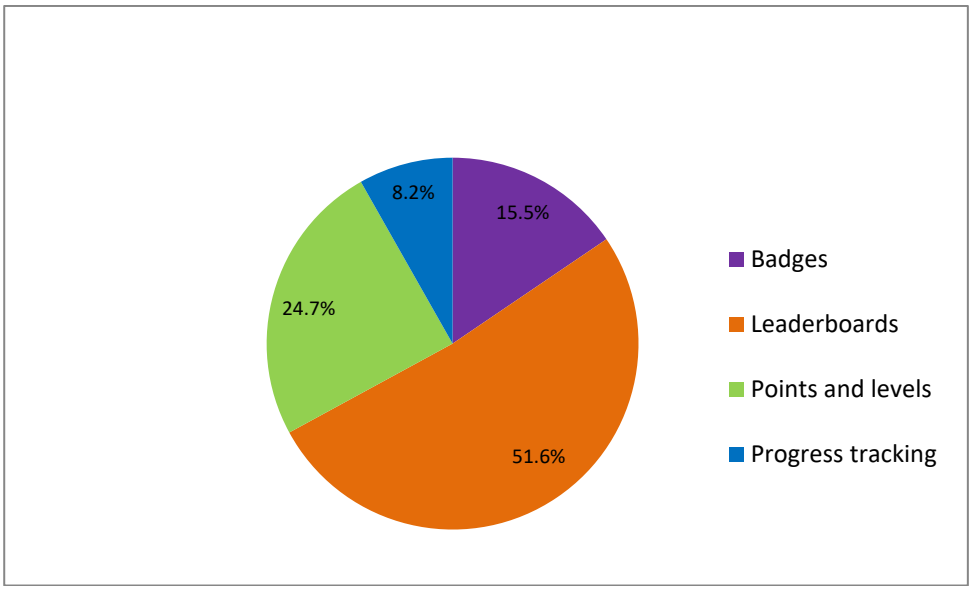

Figure 4.5: Gamification elements teachers often use in their English lessons

4.1.6 Lessons teachers often use gamification in

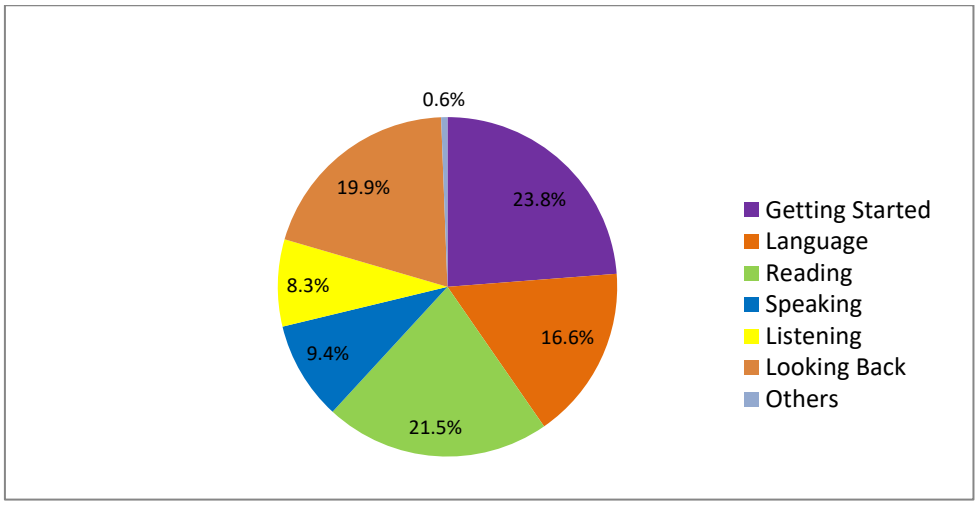

Figure 4.6: Lessons teachers often use gamification in

Figure 4.6 showed that Reading lessons took up the highest percentage. The second highest was Language lessons. On the other hand, the lowest was for Listening lessons and other lessons.

4.1.7 Teachers' purposes for using gamification

Table 4.1: Teachers' purposes for using gamification

Reasons	Responses		Percent of Cases
	N	Percent	
A. to teach the new lesson	46	27.2%	76.7%
I use gamification…			
B. to check the old lesson	33	19.5%	55.0%
C. to review the previous lessons	41	24.3%	68.3%
D. to practice exercises	49	29.0%	81.7%
Total	169	100.0%	281.7%

The table showed that the reason mostly chosen by teachers was to practice exercises. The second one was to teach the new lesson, then review the previous lessons. And the lowest one was to check the old lesson.

4.2 Teachers' attitudes towards the benefits and challenges of using gamification tools in English classes at high schools

4.2.1 Teachers' attitudes towards the benefits of using gamification tools in English classes at high schools

4.2.1.1 Teachers' attitudes towards the benefits of gamification tools in motivation

A descriptive statistics test was run to check the mean scores of the benefits of gamification tools and its minor groups (Motivation, Engagement, Feedback, and Learning outcomes). The results of the test were shown in Table 4.2 below.

Table 4.2: Mean scores of the benefits and its minor groups

	M	SD
The benefits of gamification tools	3.91	.492
The benefits of gamification tools in motivation	3.84	.601
The benefits of gamification tools in engagement	3.93	.575
The benefits of gamification tools in feedback	3.98	.455
The benefits of gamification tools in learning outcomes	3.88	.603
Descriptive statistics test		

In order to investigate teachers' attitudes toward the benefits of gamification tools in motivation, descriptive statistics and frequency tests were run. The mean scores of all items in motivation were presented in Table 4.3 below.

Table 4.3: Mean scores of all items in motivation

	N	Minimum	Maximum	Mean	Std. Deviation
1. I believe my students can become more self-directed in learning when they are exposed to gamification tools.	60	1.00	5.00	3.51	.791
2. I believe gamification tools create a more comfortable virtual environment for learners to study.	60	1.00	5.00	4.08	.645
3. I believe earning points for task completion motivates students to do more than what they are required to do in the lessons.	60	1.00	5.00	3.76	.870
4. I believe gamification tools give students a sense of autonomy that increases their feeling of being in control over their learning.	60	1.00	5.00	3.85	.659
5. I believe gamification tools give students a sense of autonomy that helps them to directly see the outcome of their actions in the lesson.	60	1.00	5.00	3.85	.860
6. I believe passing successfully the predesigned challenges and seeing that directly through the use of game elements increases in students a feeling of competence.	60	1.00	5.00	3.83	.806
7. I believe the instant feedback made available through game elements motivates students to do better in the lessons.	60	1.00	5.00	3.98	.676
Valid N (listwise)	60				

As can be seen from Table 4.3, the mean scores of 7 items ranged between 3.51 and 4.08. The agreement of teachers on the benefits of gamification tools in raising students' motivation was from high to strongly high. In other words, the results of the current study have revealed that most of the surveyed teachers have a positive attitude toward the incorporation of gamification in students' motivation. Specifically, item 2 with the belief that gamification tools could create a more comfortable virtual environment for learners to study received the highest agreement from the teachers (M=4.08). Besides, the

participants suggested the instant feedback made available through game elements could motivate students to do better in the lessons obtaining a lower mean value, of 3.98. At the same time, the belief that gamification tools could give students a sense of autonomy that increases their feeling of being in control over their learning and helps them to directly see the outcome of their actions in the lesson obtained the same value, at 3.85. With the lower value, Item 3 obtained 3.76 with the belief that earning points for task completion could motivate students to do more than what they are required to do in the lessons. Furthermore, gamification tools are not only useful in increasing students' attention, but also beneficial in increasing students feeling of competence through passing successfully the predesigned challenges and seeing that directly through the use of game elements with a value of 3.83. The lowest value was for the attitudes of students becoming more self-directed in learning when they are exposed to gamification tools (M=3.51).

4.2.1.2 Teachers' attitudes towards the benefits of gamification tools in engagement

Table 4.4: Mean scores of all items in engagement

	N	Minimum	Maximum	Mean	Std. Deviation
8. I believe gamification tools can draw my students' attention in the lessons.	60	1.00	5.00	4.15	.732
9. When students use gamification tools, I believe they are more active and engaged in the lessons.	60	1.00	5.00	3.90	.896
10. I believe gamification tools can help to create peer correction activities.	60	2.00	5.00	3.75	.750
Valid N (listwise)	60				

It can be seen from Table 4.4 that the mean scores of the 3 items were in the range of 3.75 to 4.15. It could be drawn the conclusion that teachers had an agreement from a high to a very high level on the benefits of gamification tools in engagement. Of the 3 items, 8 of them (M= 4.15) were the most agreed upon. The item showed that gamification tools could draw the students' attention in the lessons. Following that, item 9 showed that teachers believed that their students were more active and engaged in lessons with gamification tools (M=3.9). The lowest value was for item 10 with M=3.75.

4.2.1.3 Teachers' attitudes towards the benefits of gamification tools in feedback

It can be seen obviously from Table 4.5 that the mean scores of the items ranged between 3.7 and 4.26. The results indicated that teachers had a positive and high agreement on the benefits of gamification tools in feedback. Most teachers thought that gamification tools could help the feedback become more interesting (M=4.26). Besides, teachers believed they could use some gamification tools to collect and keep track of learners' academic results. (M=4.08). This finding is a little bit higher than the finding of Nguyen (2021) (M=3.81).

Table 4.5: Mean scores of all items in the feedback

	N	Minimum	Maximum	Mean	Std. Deviation
11. I believe gamification tools help me to collect and keep track of learners' academic results.	60	2.00	5.00	4.08	.696
12. I believe reward systems on gamification tools make feedback more interesting.	60	2.00	5.00	4.26	.578
13. I believe gamification tools can help me to check learners' background knowledge.	60	2.00	5.00	3.96	.581
14. I believe points and badges systems on gamification tools can support my evaluating process.	60	2.00	5.00	4.01	.567
15. I believe leaderboards on the gamification tools help me know the level of my students.	60	1.00	5.00	3.70	.808
16. I believe feedback on gamification apps makes my learners less scared and shy.	60	1.00	5.00	3.86	.791
Valid N (listwise)	60				

4.2.1.4 Teachers' attitudes towards the benefits of gamification tools in learning outcomes

Table 4.6: Mean scores of all items in learning outcomes

	N	Minimum	Maximum	Mean	Std. Deviation
17. I believe tasks on gamification tools help students remember the lessons (grammar, vocabulary, etc.) better.	60	1.00	5.00	3.95	.622
18. I believe using gamification tools to present new words and grammatical structures helps my students understand them easily.	60	1.00	5.00	3.73	.799
19. I believe using gamification tools in lessons can improve students' grades and performance in the subject.	60	1.00	5.00	3.98	.650
Valid N (listwise)	60				

As seen from Table 4.6, the mean scores of 3 items were from 3.73 to 3.98 which proved a high agreement in teachers' opinions of the benefits of gamification tools in students' learning outcomes. Item 19 received the highest agreement (M=3.98), followed by item 17 (M=3.95). Teachers believed that tasks on gamification tools help students remember the lessons (grammar, vocabulary, etc.) better. The lowest value was for item 18 with the belief that using gamification tools to present new words and grammatical structures helps students understand them easily.

4.2.2 Teachers' attitudes towards challenges of using gamification tools in English classes at high schools

In spite of the fact that teachers highly agreed about the benefits of gamification tools in use, there were some challenges that should be considered. As a result of it, cluster 2 was then analyzed to explore how teachers thought about these obstacles.

4.2.2.1 Teachers' attitudes towards challenges of using gamification tools caused by external factors

Descriptive statistics tests were next carried out to find the mean scores of the challenges of gamification tools, external factors, and teacher-related factors. The results were shown in Table 4.8.

Table 4.7: Mean scores of the challenges of gamification tools, external factors and teacher-related factors

	M	SD
The challenges of gamification tools	2.83	.559
External factors	3.03	.570
Teacher-related factors	2.64	.770
Descriptive statistics test		

Overall, it can be seen from the table that teachers' attitudes toward the challenges of using gamification tools in English were not really high (M=2.83).

Table 4.8: Mean scores of 5 items of external factors

	N	Minimum	Maximum	Mean	Std. Deviation
20. I believe there is a lack of computers/ mobile phones so not all students can use the tools at the same time.	60	1.00	5.00	2.65	.898
21. I believe I have to take time to choose appropriate materials, and edit and modify them in order to fit the contents of the textbooks.	60	1.00	5.00	3.83	.847
22. I believe a small projector screen causes difficulty for students in following the lessons.	60	1.00	4.00	2.60	.905
23. I believe the Internet is not stable so it is hard to conduct the lesson fluently with the tools.	60	1.00	5.00	3.68	1.049
24. I believe the class is noisy when students use gamification tools.	60	1.00	5.00	2.40	.905
Valid N (listwise)	60				

Table 4.8 presented clearly the mean scores of 5 items were in a range from 3.59 to 4.30. It can be recognized that teachers' agreement on external factors in using gamification tools in their English classes was at a high level. In specific, they mostly agreed that it took their time to edit and compose content for these gamification tools because the available content on these tools was not the one in their syllabus (Item 21; M=3.83).

Following that, the teachers believed that an unstable Internet was also considered the second biggest obstacle during their teaching process (Item 23, M=3.68). More than half of teachers agreed with the statement about the lack of computers or other technical devices for students to use (Item 20, M=2.65).

4.2.2.2 Teachers' attitudes towards challenges of using gamification tools caused by teacher-related factors

Similarly, descriptive statistics and frequency tests were run to examine the mean scores of individual items. Table 4.9 below was to state the results of the test.

Table 4.9: Mean scores of 5 items of teacher-related group

	N	Minimum	Maximum	Mean	Std. Deviation
25. I believe some gamification tools are hard and confusing for me to use.	60	1.00	5.00	2.98	.965
26. I believe my manipulation of computers is not skilled enough to use smoothly in class.	60	1.00	5.00	2.66	1.129
27. I believe I might be nervous and unconfident when using gamification tools in front of the class.	60	1.00	5.00	2.56	.870
28. I believe I cannot manage the class resulting in student's disinterest and distraction.	60	1.00	5.00	2.36	.758
29. I believe I may fail to manage time in class.	60	1.00	5.00	2.55	.891
Valid N (listwise)	60				

It is apparent from the table that teachers' perception of teacher-related factors was neutral (M=2.64). This explained that teachers did not totally agree with the teacher-related aspect that raised the challenges of using gamification tools. Some of the participants thought gamification tools were confusing and complex to use (M = 2.98). This finding was aligned with the study of Sánchez Mena & Martí Parreño (2017). The authors mentioned some challenges teachers may meet were: (1) time to prepare gamified activities, (2) lack of knowledge on gamification, and (3) inappropriate classroom setting. Gamification tools are not completely new or novel. They are deployed a great deal in many social fields including medicine, technology, and even education. However, in order to use and operate fluently, teachers should spend time preparing before the classroom.

5. Recommendations

This study was carried out in some upper secondary schools in Quang Tri province. Thus, it is recommended to conduct the study at other upper secondary schools in Vietnam. Further studies can fulfill these limitations with investigations into the perspectives of parents, students, and schools, broadening research to rural and remote areas.

6. Conclusion

On the teachers' use and attitudes towards using gamification in teaching English at upper secondary schools, we can conclude that all of the teachers taking part in the survey used gamification in their lessons. The findings from the questionnaire and semi-structured interview revealed that most teachers perceived the great benefits of gamification tools in English classes for students. The results pointed out gamification tools had more benefits in motivation and engagement rather than feedback and learning outcomes. Besides, There are still many challenges in using gamification tools, it involves both external and teacher-related factors with external factors exceeding teacher-related factors. For external factors, it took their time to edit, modify and design content on gamified apps. The second biggest problem was the unreliable Internet which demotivated learners. Concerning teacher-related factors, over half of the participants thought they got confused with the use of gamification.

Conflict of interest statement
The authors declare no conflicts of interest.

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References

Alsawaier, R. S. (2017). *The effect of gamification on students' engagement and motivation in three WSU courses*. (Doctoral thesis). Washington State University.

Boden, G. M., and L. Hart (2018). Kahoot – Game-Based Student Response System. *Int Conf Digit Arts, Media Technol* 11 (1).

Burns, A. & Richards, D. (2012). *The Cambridge Guide to Pedagogy and Practice in Second Language Learning Teaching*. Cambridge: Cambridge University Press.

Bury, B. (2017). Testing goes mobile – web 2 0 formative assessment tools. *Conference proceedings. ICT for Language Learning* (10th Ed.), 87-91.

Carr-Chillman, A. A. (2015). Games in Elementary and Middle School Settings. (2015). *J. M. Spector, The SAGE Encyclopedia of Educational Technology*, 309-310.

Chaiyo, Y., and R. Nokham (2017). The effect of Kahoot, Quizizz, and Google Forms on the student's perception in the classrooms response system. *2nd Jt Int Conf Digit Arts, Media Technol 2017 Digit Econ Sustain Growth, ICDAMT 2017*: 178–182.

Condelli, L., & Wrigley, H. S. (2004). Real-world research: Combining qualitative and quantitative research for adult ESL. *In Second International Conference for Adult Literacy and Numeracy*, Loughborough, England.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gratefulness: defining gamification. In Proceeding of the 15th international academic MindTrek conference: Envisioning future media environments (pp.9-15). ACM.

Dizon, Gilbert (2016). Quizlet in the EFL Classroom: Enhancing Vocabulary Acquisition of Japanese University Students. *Teaching English with Technology* 16 (May): 40-56. https://www.researchgate.net/publication/303327770

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison Wesley.

Flores, J. F. F. (2015). Using Gamification to Enhance Second Language Learning. Digital Education Review, 27, 32-54. Retrieved from https://www.scirp.org/(s(i43dyn45teexjx455qlt3d2q

Hair Jr., J. F., Black, W. C., Babin, B. J., Anderson, R. E., & L. Tatham, R. (2006). Multivariant Data Analysis. New Jersey: Pearson International Edition.

Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, 80, 152–161

Kapp, K. M. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. San Francisco, CA: Pfieffer.

Köse, Tugçe, Eda Çimen, and Enisa Mede (2016). Perceptions of EFL Learners about Using an Online Tool for Vocabulary Learning in EFL Classrooms: A Pilot Project in Turkey. *Procedia – Social and Behavioural Sciences* 232 (April): 362-372. https://doi.org/10.1016/j.sbspro.2016.10.051

Landers, R. N. (2014). Developing a theory of gamified learning: Linking serious games and gamification of learning. Simulation & Gaming, 45(6), 752–768. https://doi.org/10.1177/1046878114563660

Lee, J. J., & Hammer, J. (2011). Gamification in education: What, How, Why Bother? *Academic Exchange Quarterly*, 15(2), 146–151.

Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: a review of the literature. *Journal of Information Technology for Teacher Education*, 9(3), 319–342

Nicholson, S. (2015). A recipe for meaningful gamification. In Gamification in education and business (pp. 1-20). Springer, Cham.

Nunnally, J. C. and Bernstein, I. H. (1994). The Assessment of Reliability. Psychometric Theory, 3, 248-292.

O'Donovan, S., Gain, J., Marais, P., Donovan, S. O., & Marais, P. (2012). A case study in the gamification of a university-level games development course. In P. Machanick & M. Tsietsi (Eds.), *ACM International Conference Proceeding Series* (pp. 242–251). New York, NY: ACM.

Oblinger, D. G. (2004). The Next Generation of Educational Engagement. *Journal of Interactive Media in Education*, 8(1), 1–18.

Ohno, A., Yamasaki, T., & Tokiwa, K. I. (2013, August). A discussion on introducing half-anonymity and gamification to improve students' motivation and engagement in classroom lectures. In *2013 IEEE Region 10 Humanitarian Technology Conference* (pp. 215-220). IEEE.

Permana, P. & Permatawati, I. (2020). Using Quizizz as a Formative Assessment Tool in German Classrooms. Advances in Social Science, Education and Humanities Research, volume 424 *3rd International Conference on Language, Literature, Culture, and Education (ICOLLITE 2019)*. Atlantis Press SARL. https://doi.org/10.1016/j.compedu.2019.02.015

Petkov P., Köbler F., Foth M., Medland R. C., Krcmar H. (2011). Engaging energy saving through motivation-specific social comparison. In: Proc conference on human factors in computing systems, Vancouver, pp 1–6

Piaget, J. (1962). *Play, dreams, and Imitation in Childhood*. New York: W.W. Norton & Co.

Rahayu, I. S. D., & Purnawarman, P. (2018). The use of quizizz in improving students' grammar understanding through self-assessment. *Advances in Social Science, Education and Humanities Research, 254*, 102-106.

Raymer, R. (2011). Gamification: using game mechanics to enhance eLearning. ELearn, 2011(9), 3.

Reeves, B., & Read, J. L. (2009). *Total engagement: Using games and virtual worlds to change the way people work and businesses compete*. Boston, MA: Harvard Business School Press.

Richter, G., Raban, D. R., & Rafaeli, S. (2015). Studying gamification: The effect of rewards and incentives on motivation. In Gamification in education and business (pp. 21-46). Springer, Cham.

Robertson, M. (2010). Can't play, won't play. [Web log comment]. Retrieved from http://www.hideandseek.net/2010/10/06/cant-play-wont-play.

Sánchez-Mena, A. and Martí-Parreño, J. (2017). Teachers´ Acceptance of Educational Video Games: a Comprehensive Literature Review. *Journal of e-Learning and Knowledge Society*. 13, 2 (May 2017). DOI: https://doi.org/10.20368/1971-8829/139.

Sanosi, Abdulaziz B. (2018). The Effect of Quizlet on Vocabulary Acquisition. *Asian Journal of Education and E-learning* 6 (August): 71-77. https://doi.org/10.24203/ajeel.v6i4.5446

Šćepanović, S. (2015). Gamification in higher education learning – state of the art, challenges, and opportunities gamification vs game-based learning. *The Sixth International Conference on ELearning (ELearning-2015)*, 24- 25 September 2015, Belgrade, Serbia, (September), 24–25.

Sekaran, U. (2000) Research Methods for Business: A Skill Business Approach. John Wiley & Sons, New York.

Tan Ai Lin, D., Ganapathy, M., & Kaur, M. (2018). Kahoot! It: Gamification in Higher Education. Pertanika Journal of Social Sciences & Humanities, 26(1).

Yang, Y. C. (2012). Building virtual cities, inspiring intelligent citizens: Digital games for developing students' problem solving and learning motivation. *Computers & Education*, 59(2), 365–377

Wang, A. I., and R. Tahir (2020). The effect of using Kahoot! for learning – A literature review. *Computers & Education* 149.

Wang, R. (2011). Demystifying Enterprise Gamification for Business. *Constellation Research*.

Werbach, K. and Hunter, D. (2012). For the Win: How Game Thinking Can Revolutionize Your Business. Philadelphia, PA: Wharton Digital Press.

Wilson, D., Calongne, C., & Henderson, B. (2015). Gamification challenges and a case study in online learning. *Internet Learning Journal*, 4(2):84-102. https://doi.org/10.18278/il.4.2.7

Zichermann, G., & Cunningham, C. (2011). Gamification by design. Sebastopol, CA: O'Reilly Media.