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EFL Students' Perception of Gamification-Integrated English Language Education

Suheyla Demirkol Orak*

Dr., Fırat University, School of foreign Languages, Elazığ, Türkiye

Abstract

Over the decades, English language education has been reshaped in the same line with the technological advancements, and the target audience's interest areas. In the 21st century, students' motivation and extramural learning have had a significant impact on language education since they both encourage subconscious learning. At that moment, game-based learning activities take the lion's share since the enjoyment factor in learning situations is the center of attention for the students. However, there is a gap in the literature addressing the investigation of EFL students' perception of placing the games as a teaching tool. In the current quantitative research study, EFL students' perception of gamification-integrated English language education was investigated by adopting a comparative approach in terms of several variables: age, gender, department, and grade. 394 students took part in the actual study after piloting, and a descriptive comparative research design was adopted. Apart from preliminary statistical checks (multicollinearity, linearity, residual statistics, distribution of normality, outlier analysis), Independent samples t-test and one-way ANOVA were conducted. Findings have shown that students hold a lukewarm to positive perception of gamification-integrated English language education regarding perceived engagement, motivation, classroom atmosphere, and comprehension. However, while students' age, department, and grade differ significantly in comparison to their perception, their gender has not yielded any differences. Findings imply that gamification-integrated English language education can be adopted as an approach, and can be benefitted in class, or as extramural, and extracurricular activity types to increase students' engagement and reduce anxiety levels.

Keywords: Comprehension, extramural activity, gamification, game-based education, motivation.

Introduction

Many approaches to teaching English as a Second Language (ESL) and as a Foreign Language (EFL) have evolved throughout the years (ESL). Since the 1970s, communicative language teaching (CLT) and task-based language teaching (TBLT) have dominated EFL/ESL pedagogy, and the term "communicative" has been an essential part of that methodology (Howatt & Smith, 2013). Conversation and interaction are emphasized by CLT as being essential to language learning (Savignon, 1991). However, because there are little opportunities for students to utilize English outside of the classroom, experts have criticized CLT for falling short of its goals in many EFL environments (Humphries & Burns, 2015; Lee & Wallace, 2018). This method is further improved by TBLT, a subset of CLT, which emphasizes the use of real language in important tasks like scheduling trips, attending doctor's appointments, and job interviews (Skehan, 2003).

Other pedagogical approaches, such as flipped learning, have become popular in EFL/ESL instruction in addition to CLT and TBLT. The goal of flipped learning is to reorganize the dynamics of the typical classroom such that students can participate in class assignments and the lecture material at home (Hockly & Dudeney, 2018). Technology has further diversified learning contexts; social media platforms, gaming environments, and group projects are becoming essential elements of language learning for the twenty-first century (Kessler, 2018).

The rise of technology-based gaming as a major factor in education is in line with the widespread use of mobile devices. Gamification, or the application of game elements to education, has emerged as a cutting-edge trend as more and more mobile games are being used in classrooms (Laine, 2018). Game-based learning improves the efficacy and enjoyment of learning by bringing fun and engagement components into the classroom. Learning becomes more engaging and immersive when students can simultaneously experience the actual and virtual worlds (Tobar-Muñoz et al., 2017).

Corresponding Author e-mail: sudemirkol@gmail.com

https://orcid.org/0000-0002-0605-6537

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It has been demonstrated that using this strategy will increase student involvement and participation in a lighthearted and encouraging learning atmosphere.

Students frequently feel more engaged, get instant feedback, overcome obstacles, and feel more accomplished in gamified learning environments (Bicen & Kocakoyun, 2018). Adaptive challenges, sensory stimulation, and goals or rules are the most common game aspects (Su et al., 2021). Specifically, adaptive challenges enable skillfully crafted games to modify task complexity to correspond with learners' aptitudes, guaranteeing that assignments are neither excessively simple nor complex. The increasing use of gamification in language teaching highlights its ability to raise student motivation and engagement, even though its most typical learning outcomes are vocabulary acquisition and increased affective states. Gamification has emerged as a promising pedagogical tool, particularly in the context of motivating and engaging students in English language learning. However, the successful integration of gamification in EFL settings is not without its challenges. Strict curricula, limited access to technological resources, and varying levels of awareness and attitudes toward gamification among teachers and students all present obstacles. Furthermore, despite the growing interest in this approach, research on gamification in EFL courses remains limited.

Problem Statement and Purpose of the Study

The prevalent "one-size-fits-all" approach in education often hampers the creation of engaging and personalized learning experiences. Game-based learning (GBL) has been shown to support a range of critical skills, including problem-solving, synthesis, negotiation, goal-setting, time management, and self-monitoring (Armitage, 2013; Mathews-Aydinli, 2007). Due to these benefits, GBL has rapidly spread to a number of academic fields, including the teaching of second languages (L2) (Ansarian & Mohammadi, 2018). Writing (Othman & Shah, 2013), speaking (Ansarian et al., 2016), hearing comprehension (Lin et al., 2019), reading comprehension (Lin, 2018), and vocabulary are just a few of the areas where numerous research have shown the benefits of GBL (Fard & Vakili, 2018; Lin, 2015). Although these studies show the benefits of GBL in L2 situations, further research is needed to determine students' attitudes toward the use of modern technologies and gamification in language learning.

Furthermore, Sjöberg and Brooks (2020) found that age and gender have a major impact on how engaged students are with digital technology in the classroom. Research indicates that female students tend to favor more aspects of game design than their male counterparts (Spieler & Slany, 2018). After interacting with gamified information, Tsai (2017) discovered that female students did better than male students in terms of learning outcomes and knowledge acquisition. Female students demonstrated higher levels of involvement, according to Khan et al. (2017). As a result, the purpose of this study is to ascertain how EFL students perceive gamification-integrated language instruction and to determine whether or not academic department, grade, gender, and age significantly differ from students' perspectives. According to Panda et al. (2020), Phuong (2020), and Turan et al. (2020), the study fills in research gaps and aims to respond to the following inquiries:

1. What is EFL students' perception of gamification-integrated English language education?
2. Do EFL students' perception of gamification-integrated English language education differ based on year of study, department, age, and gender?

Literature Review

Games are a proven way to increase student engagement and help them meet learning objectives in educational environments. Game design principles are being applied in non-gaming environments, a practice known as gamification, which has garnered significant attention recently (Deterding et al., 2011). Educational games are characterized by elements of play, curiosity, challenge, and control, which enhance student engagement and provide a more meaningful learning experience (Barab et al., 2005). The benefits of gamification in the classroom include increased student engagement, the promotion of positive behaviors, and the facilitation of information and skill acquisition (Sobocinski, 2018).

Gamification within the Framework of Education

The idea of "gamification," which is the application of game elements to non-gaming situations, has quickly acquired traction in a number of fields. Deterding et al. (2011) state that the term "gamification" originated in 2010 and describes the incorporation of game features—like leaderboards, badges, and points—into non-gaming contexts. Gamification in education seeks to inspire learners and create an environment that is similar to gaming (Phuong, 2020). Gamification in educational contexts is defined by Lee and Hammer (2011) as the application of game mechanics, dynamics, and frameworks to encourage desired behaviors in learners. Fostering positive behaviors, increasing engagement, and producing entertaining and competitive learning experiences are the main objectives of gamification (Kim & Lee, 2015).

The use of gamification techniques, such as time limits, leaderboards, badges, challenges, and point-scoring, promotes student engagement and teamwork (Pho & Dinscore, 2015). Gamification is recognized as a very successful learning environment because it incentivizes positive behavior and inspires students to meet their learning objectives (Bicen & Kocakoyun, 2018). Furthermore, studies indicate that gamification promotes the growth of transversal abilities like problem-solving and teamwork as well as domain-specific knowledge (Kapp, 2012; Turan et al., 2013). While there is conflicting evidence supporting the general effectiveness of gamification in enhancing learning, certain gamification features and platforms have been demonstrated to improve learning outcomes (Turean et al., 2013).

Thoughts on EFL Game-Based Learning Students investigate the effects and efficacy of incorporating game-based learning (GBL) strategies into the teaching of English as a foreign language (EFL). This subject looks at the ways that using games to learn a language affects student motivation, engagement, and academic results. Important considerations frequently consist of:

1. **Enhanced Motivation and Engagement**: Students' interest and participation in EFL classes have been demonstrated to be greatly increased by GBL. Language learning becomes less daunting and more alluring due to the dynamic and pleasurable learning environment that games' interactive nature fosters.
2. **Improved Language Skills**: Students can practice and reinforce language abilities in a setting that feels less like traditional study and more like play by participating in game-based activities. This approach can enhance communication abilities, grammar knowledge, and vocabulary learning.
3. **Encouragement of Active Learning**: Students are encouraged by GBL to actively participate in their own education. Through problem-solving, task completion, and goal-setting within the game, students engage more deeply and take responsibility for their own learning.
4. **Development of Critical Thinking and Problem-Solving Skills**Playing games frequently calls for strategic thinking, judgment, and problem-solving—all of which are advantageous for language learning. Students who possess these abilities may find it easier to understand complicated linguistic structures and make better use of the language in everyday contexts.
5. **Impact of Student Demographics**: Studies frequently show that different criteria, including age, gender, and academic standing, might have different effects from GBL. Teachers can better adapt their game-based teaching strategies to meet the demands of a diverse student body by being aware of these variations.
6. **Challenges and Limitations**: While GBL has numerous advantages, there are drawbacks as well, such as student experience with gaming ranging widely, access to technology, and the requirement for teacher preparation in curricular integration.

Overall, analyses of GBL in EFL contexts indicate that, when used carefully, it can significantly improve student learning by making it more dynamic, interesting, and successful. But overcoming any obstacles and making sure it fits the EFL curriculum's learning objectives are necessary for it to succeed.

Gamification in Language Instruction

Gamification is especially pertinent in language education because games have long been used in foreign language learning. According to Phuong (2020), gamification in language sessions has a higher potential for learning than in other topics, particularly in light of the growing integration of information and communication technology (ICT) in language training. Recent studies have validated the benefits of gamification in English Language Teaching (ELT) classrooms, despite the paucity of research on the subject. For instance, Mufidah (2020) discovered that gamified exercises enhanced grammar competency and decreased the anxiety of EFL learners. Furthermore, it has been demonstrated that gamification improves language acquisition in young EFL learners and lessens distractions (Mufidah, 2020).

Even with the encouraging outcomes, there are still difficulties in applying gamification in EFL contexts. Teachers frequently lack the methods, resources, and technical know-how needed to successfully use gamification (Deterding et al., 2011). Moreover, gamification's success or failure is greatly influenced by the attitudes that instructors and students have toward it. Therefore, more investigation is required to examine how educators and learners perceive the application of gamification in language acquisition.

Previous Related Studies and Challenging Factors

In "Towards the Gamification of Learning: Investigating Student Perceptions of Game Elements," a study conducted in 2014 by Cheong et al., participants thought gamification would increase their interest in learning. Similarly, gamification was assessed as an experimental learning theory technique in Banfield & Wilkerson's (2014) study, "Increasing Student

Intrinsic Motivation and Self-Efficacy via Gamification Pedagogy," which discovered the benefits of gamification for language acquisition. Gamification has been shown to increase student enthusiasm and engagement in several research, including those by Ibanez et al. (2014) and Bicen & Kocakoyun (2018). The beneficial effects of gamification on student perceptions are further supported by Buckley and Doyle's (2017) study, "Game On! Student Perceptions regarding Gamified Learning," especially for undergraduate students.

There has been a growing body of research supporting the use of gaming components in English as a Foreign Language (EFL) instruction as a way to improve student participation and engagement. A large percentage of EFL teachers and students—especially women—remain reluctant to include gamification into their classes, even in spite of the abundance of free, unofficial web resources that support this pedagogical method (Asiri, 2019). Three important reasons are mostly responsible for this reluctance: views toward gamification, perceived benefit, and perceived social impact. These elements may have a major impact on their propensity to use gamified educational applications.

Even though a large range of educational resources are easily available, such Youtopia, Duolingo, and ClassDojo, there is still a lack of extensive integration of these resources into EFL curriculum. Moreover, the intentional utilization of these resources by students in their extracurricular pursuits is not as common as one may anticipate. Such applications are frequently adopted only after a complex interaction of external and internal elements that influence people's behavioral intentions has taken place. Studies concerning the acceptance of technology have continuously emphasised the significance of user attitudes, perceived utility, and social influence as critical factors in determining the degree to which new technologies are adopted (Davis et al., 1989; Burton-Jones & Hubona, 2006; Hamari et al., 2014). However, there remains a pressing need for further research to explore the perceptions of both teachers and students regarding the active use of gamification in the language learning process. Such investigations would provide valuable insights into the factors that facilitate or hinder the adoption of gamified educational practices in EFL contexts.

Methodology

The researcher's dual roles in this study are that of data analyst and data collector. In her capacity as a data collector, the researcher used a survey to get the opinions of the pupils. In order to draw conclusions about gamification perceptions, the researcher conducted data analysis on the information acquired for the study.

Research Design

An outline that the researcher follows to answer the research questions in a way that is legitimate, impartial, accurate, and cost-effective is called a research design (Kumar, 2011). A study's setting, methodology for participant selection, tools for gathering data, and data analysis are all elements of its research design. The current research study is a quantitative descriptive study since it aims to explore: EFL students' perception of gamification-integrated English language education, EFL students' perceived feelings, EFL students' perceived classroom atmosphere, EFL students' perceived classroom engagement, EFL students' perceived classroom motivation, and EFL students' perceived classroom comprehension.

In terms of the design, the research study embarks on a comparative design since the descriptive relationship between EFL students' perception of gamification-integrated language education and their departments, EFL students' perception of gamification-integrated language education and their age, EFL students' perception of gamification-integrated language education and their gender, and EFL students' perception of gamification-integrated language education and their grade were investigated (Creswell, 2013, Field, 2014). The comparative design enables researchers to examine and assess the strength of the link between variables, which can be two or more, as well as make comments about whether the value of another predicts the value of one variable. (Creswell, 2013). Parametric comparison analyses were performed to find the line between two or more constructs in order to answer the research objectives. Comparative analyses, such as one-way ANOVA, show how closely the two relevant constructs are related, according to Dörnyei (2007).

Context of the Study

In the current study, preparation classes for engineering departments (from software to mechanical) at the School of Foreign Languages at a mid-size state university in Turkey were given to EFL students studying English language and literature (ELL) at the Faculty of Social Sciences, English Language and Teaching (ELT) at the Faculty of Education, and both. The School of Foreign Languages operates under a slightly different operating structure, despite the fact that the environment and operating policies of both the ELL and ELT departments are mostly similar to those of their international equivalents. There are about 225 students enrolled in the school, and English language classes are offered to the preparation class students who come from the departments of software engineering, machinery engineering, English language and literature, and English language and teaching. In order to support the students in their English-medium

departments in the upcoming years, the school aims to provide them with academic and daily English. Thirteen prep classrooms and twenty-six English language teaching instructors are present. With an average class size of 17, students receive approximately 26 hours of instruction in the English language, including Computer Assisted Language Learning (C.A.L.L) sessions, each week. Co-instructors split up the total instruction hours; they are referred to as "major

Data collection tools

Selection of the survey for the research was carried out by considering the research questions, the purpose of the research study, and the research gaps stated in the literature. On that end, the survey which was developed by Putra and Priyatmojo (2021) was selected to be conducted. The survey is a 20-item survey with a 5-point Likert-type ranging from "Strongly disagree" to "Strongly agree". The survey was employed in English without any pre-requisite to backtranslation since the target participants were already proficient users of English as EFL students.

Dörnyei (2007) further emphasizes that the data collecting tool's phrasing was examined by focusing on basic, natural language that avoided negative structures (i.e., using no or not) and unclear sentences or words. The questionaire has undergone a piloting phase to ensure that its validity and reliability align with its context, even though it is currently deemed valid and reliable in terms of sphericity check and other aspects. A pre-piloting stage was conducted for the survey, and this process was run with one professor and one associate professor. They were informed about the purpose of the study beforehand and consulted about their idea about the items in the survey. They asserted that the survey was appropriate to be conducted.

Regarding validity, a validity check can be conducted by referencing a valid survey through correlation analysis. If correlation sig. value is higher than .05 (p 05), validity is ensured of the concerned survey (Baker, 1997; Field, 2024). The test of validity infers the degree to which the predictions depend on survey scores that are meaningful, useful, and appropriate (Baker, 1997; Brualdi, 1999; Dulewicz Slaski, 2003). That is why questionnaire validity is the main characteristic of a survey when it is administered to a target population (Table 1).

The piloting was conducted via 123 EFL students, and the Cronbach's Alpha value was checked for the reliability test, and the results of the SPSS version 26.00 approved the survey's reliability with the cut-off .89 Cronbach's alpha ($\alpha > 0.7$).

After reliability was ensured, a validity check of the questionnaire was conducted via another valid questionnaire developed by McKenna (2015)

Table 2 signifies that the sample questionnaire (Questionnaire of Gamification-integrated English Language Education) is valid at the cut-off point .43 (p >.05). Depending upon the piloting stage results and the advisors' comments, the survey was found reliable and valid to be employed in the immediate context of the research study.

Table 1. Reliability check

N of Items	20
N of Participants	123
Cronbach's Alpha	.89

Participants & Sampling

The current research study was conducted with the EFL students who enrolled in the departments of ELL and ELT departments apart from engineering and journalism students who enrolled in the the prep classes of the School of Foreign Languages. Those students were selected on purpose since the ultimate aim is to discover the place of gamification in language education and concerned students were enrolling in an intense English language education program during the

Table 2. Validity Check

		Sample Questionnaire	*Valid Questionnaire*
Gamification-integrated language education Questionnaire	Pearson Correlation	1	.43
	Sig. (2-tailed)		.02
	N	123	123
Valid Questionnaire	Pearson Correlation	.43	1
	Sig. (2-tailed)	.02	
	N	123	123

*.Correlation is significant at the 0.05 level (2-tailed)

Table 3. Demographic information of the participants

	N	%
Gender		
Female	249	61. 9
Male	145	33 . 3
Age		
18 - 21 years old	321	81.5
22 - 25 years old	39	8.9
26 - 29 years old	19	3.3
30 - 33 years old	15	23
33 - or above years old	0	
Department		
Engineering	31	8.6
Journalism	58	13.4
ELL	176	44.4
ELT	129	32.7
Grade		
Prep year	131	33. 5
First grade	79	20.1
Second grade	108	27.4
Third grade	57	14.5
Fourth grade	17	4.1

research period. Therefore ELL, ELT, and prep class students of engineering and journalism students were the potential participants of the concerned study. In the same vein as the target participant selection, purposive sampling was employed. The inclusion criteria were to be part of an intense language education program at the University. For the piloting stage, 123 students took part in the research, for the actual study 399 students took part in the research, however after outliers analysis 6 participants' responses were found as the outlier so they were omitted. In terms of the demographic information of the participant EFL students, they were asked about their gender, age, department, and grade (see Table 3).

The preceding table makes clear that there were more female participants (N = 249) than male participants (N = 145). The study investigations by Taşçı (2019), Şekerci (2011), and Ülkümen (2013) that used studies on the self-efficacy views of EFL instructors also acknowledge this issue. In Turkey, women choose ELT as a career in greater numbers than men, mostly due to cultural factors related to employment choices (Şekerci, 2011). In Turkey, women are disproportionately drawn to teaching positions, whereas men choose different careers such as commerce or engineering (Taşçı, 2019).

Data Collection Process

After obtaining the necessary departmental and ethical committee approval, the survey was distributed through contact with the ELT lecturers and instructors in the departments of English language and literature, English language and teaching, journalism, faculty of engineering, and the School of Foreign Languages at a medium-sized state university in Türkiye. To ensure that no data is lost and to increase the likelihood of having a large number of participants, the survey was administered using a paper-and-pen format instead of online platforms. A high level of active engagement can be attained when the surveys are used at the start or finish of the classes. However, students often wait until the last minute to participate in the online versions. In June 2024, at the end of the summer holiday, the participants had access to the survey. As stated in the survey's welcome message, answering the questions indicated that respondents understood they were permitting to be involved in the study. The instructor did not have access to the survey data, and the students were told that the researcher would be the only one with such information. To ensure they answered the questions honestly and freely, participants were given enough time to finish the survey. Additionally, participants received notice that all personal information would be de-identified, that the data were secret, and that they would not receive any additional credit.

Data Analysis

The number of participants determines the data analysis test. Since the minimum participant number was targeted to be 200 (N = 200), parametric analyses were employed. Preliminary analyses (distribution of normality, linearity, multicollinearity, and homoscedasticity) were employed as well for the mean comparisons pre-requisite. (Pallant, 2011).

The responses to each item were collapsed into the subcategory to which it was categorized. For the data analysis SPSS version 26 was utilized, and the mean and standard deviation for each subcategory were calculated for the total number of participants, for each gender group (male and female), age group (18-22, 23-25, 26-29, 30-33, 33 and upper), grade (prep school, 1st grade, 2nd grade, 3rd grade, 4th grade), and department group (engineering departments, journalism, ELL and ELT) was calculated.

An independent samples t-test was run to compare males and females, and ANOVA was run to compare age group, department group, and grade group variables. After conducting a quantitative analysis of the data, mean scores of 4 and higher (Mean scores ≥ 4.0) were deemed positive high scores for the first section of the questionnaire. Similarly, mean scores of 3 and higher (Mean scores ≥ 3.0) were deemed

positive high scores for the second set of questions, as the questionnaire's creator (McKenna, 2015) recommended these scores as appropriate values to be accepted as positive indicators for the 5-point Likert-type questionnaires.

Ethical Considerations

All the ethical considerations were cared for, participants' consent was consulted, and they were informed that their responses would not be shared with third parties privately, and their responses would not influence their academic scores. Additionally, participants were ensured that their names were not going to be uttered at any phases of the research, only pseudonyms would be utilized if required.

Findings

The total number of participants directed the researcher to employ parametric analysis (N > 200) following the check of pre-requisites of the hierarchical multiple regression tests (distribution of normality, outlier analysis, and residual statistics).

With the aim of checking the prerequisites of comparing means, residual statistics were consulted. The statistics explained that there were outliers in the data set (see Table 4).

In the Residual Statist ics table, two lines were investigated: Std. Residual line and Cook's Distance. In the Std. Residual line Min. and Max. referenced values should be between -3.29 and +3.29 (Fost, 2019). However, the table shows that the values are not in between the referenced intervals, which implies that there are outliers in the data set.

Cook's Distance line supported Std. Residual line, and shows that there is an outlier in the data set since the Cook's Distance Max. value is higher than + 1 (Cook's Distance Max. > + 1). To explore which lines are outliers in the data set, the Casewise Diagnostics table was checked (Table 5).

The casewise diagnostics table shows the number of lines that should be omitted from the data set to ensure the distribution of normality. Outliers were found in the five lines; 106, 115, 144, 346,395, and they were omitted. Out of 399 participants' responses, 394 of them were included in the SPSS calculations. Following this, the Kolmogorov-Smirnov

Table 4: Residuals Statistics

	Minimum	*Maximum*	*Mean*	*Std. Deviation*	*N*
Predicted Value	59,60	61.40	60.79	.29	399
Std. Predicted Value	-3.91	2.02	-.00	.98	399
Standard Error of Predicted Value	.46	2.88	.70	.25	399
Adjusted Predicted Value	58.66	61.73	60.78	.33	399
Residual	-20.96	31.08	-.07	5.95	399
Std. Residual	-3.53	5.24	-.01	1.00	399
Stud. Residual	-3.56	5.29	-.01	1.01	399
Deleted Residual	-21.37	31.79	-.07	6.05	399
Stud. Deleted Residual	-3.63	5.54	-.01	1.02	399
Mahal. Distance	.90	73.68	4.01	5.42	394
Cook's Distance	.00	.12	.00	.01	399
Centered Leverage Value	.00	.23	.01	.01	399

Table 5: Table for Casewise Diagnostics

Case Number	*Std. Residual*	*Gamification*	*Predicted Value*	*Residual*
106	4.72	89.00	60.96	28.03
115	-3.02	43.00	60.96	-17.96
144	-3.53	40.00	60.96	-20.96
346	-3.04	43.00	61.04	-18.04
395	5.24	92.00	60.91	31.08

Table 6: Kolmogorov-Simirnov Test of Distribution of Normality

	Statistic	df	Sig.
Gamification	.08	394	.00

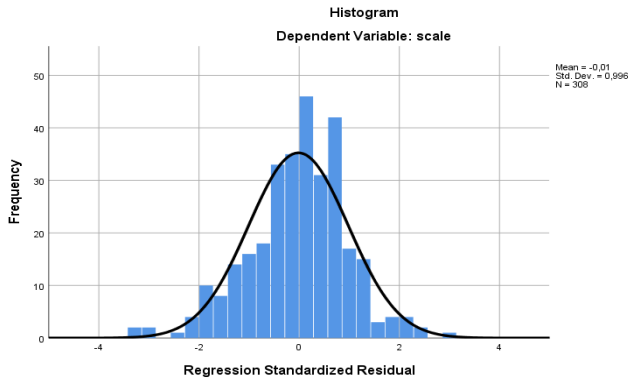

Fig. 1: Histogram for the distribution of normality

test was performed. Since the normality of data distribution was ensured (D (394) = 0. 08, p > 0.00), parametric tests were applied in the quantitative part of the research (Table 6).

In support of the Kolmogorov-Simirnov test, the histogram proves the distribution of normality after excluding the outliers from the dataset. In the histogram, the data is mainly under the U shape curve, which implies distribution of normality is enhanced to an acceptable extent (Figure 1).

After confirmation of the distribution of normality via the Kolmogorov-Smirnov test and histogram, the descriptive statistics were run to discover the EFL students' gamification-integrated English Language education perceptions.

R.Q.1. What is EFL students' perception of gamification-integrated English language education?

For the first research question, descriptive statistics were run concerning perception investigation regarding:

- EFL students' perception of gamification integrated English language education,
- EFL students' perceived feeling
- EFL students' perceived classroom atmosphere,
- EFL students' perceived classroom engagement,
- EFL students' perceived classroom motivation, and
- EFL students' perceived classroom comprehension.

On the first hand, a general overview check was conducted in a listwise way.

According to Table 7, EFL students mainly hold a lukewarm to a negative perception of gamification-integrated language education (N = 394, M = 60.78, Std. = 50.17). Students' perception of gamification fluctuated between M = 2.50 and M = 3.50 intervals. It is possible to comment that while students have a neither totally positive nor negative perception of gamification-integrated language

Table 7: Descriptive statistics of EFL students' perception of Gamification integrated language education

	Min.	*Max.*	*Mean*	*Std.*
1 Gamification makes me happy.	1.00	5.00	4.07	.89
2 Gamification is childish.	1.00	5.00	2.08	.99
3 Gamification is not necessary.	1.00	5.00	2.01	1.01
4 Gamification is a waste of time.	1.00	5.00	1.76	.88
5 I am bored with gamification.	1.00	5.00	1.86	.89
6 I prefer a longer portion of gamification in my class.	1.0	5.00	3.51	1.03
7 I think gamification needs to exist in every meeting.	1.00	5.00	3.22	1.06
8 Gamification makes the classroom atmosphere more lively.	1.00	5.00	4.17	.94
9. Gamification makes the classroom atmosphere chaotic.	1.00	5.00	2.16	1.03
10. Gamification makes joy in the classroom.	1.00	5.00	4.12	.82
11. Gamification makes me interested in joining classroom activity.	1.00	5.00	4.07	.92
12. I don't care about the game being played by the class.	1.00	5.00	2.11	.96
13 Gamification motivates me to compete to be the best.	1,00	5.00	3.67	1.02
14 Gamification makes me interested in the material being taught.	1,00	5.00	3.87	.86
15 When I lose or get a low score, I lose motivation.	1,00	5.00	2.84	1.26
16 Gamification makes me want to learn more about material outside the classroom.	1.00	5.00	3.63	.97

	Min.	*Max.*	*Mean*	*Std.*
17 Gamification makes me distracted from the core of the lesson.	1.00	5.00	2.12	.94
18 In the use of gamification, I can still understand the core material being taught.	1.00	5.00	3.79	.90
19. Gamification has more impact than conventional teaching.	1.00	5.00	3.59	1.00
20. Gamification blurs the learning objective.	1.00	5.00	2.22	1.03
Cumulative (N) 394			**60.78**	**50.17**

Table 8. Students perceived feeling

	Min.	*Max.*	*Mean*	*Std.*
1 Gamification makes me happy.	1.00	5.00	4.07	.89
2 Gamification is childish.	1.00	5.00	2.08	.99
3 Gamification is not necessary.	1.00	5.00	2.01	1.01
4 Gamification is a waste of time.	1.00	5.00	1.76	.88
5 I am bored with gamification.	1.00	5.00	1.86	.89
6 I prefer a longer portion of gamification in my class.	1.00	5.00	3.51	1.03
7 I think gamification needs to exist in every meeting.	1.00	5.00	3.22	1.06
Cumulative (N =395)			2.64	

Table 9: EFL students' perceived classroom atmosphere

İtem	*Min.*	*Max.*	*Mean*	*Std.*
8 Gamification makes the classroom atmosphere more lively.	1,00	5,00	4,17	,94005
9. Gamification makes the classroom atmosphere chaotic.	1,00	5,00	2,16	1,03147
10. Gamification makes joy in the classroom.	1,00	5,00	4,12	,82183
Cumulative (N =395)			3.58	

education in general, in some items their Mean values were densified around 4.00 (M = 4.00) over 5-point Likert-type questionnaire, which is accepted as a positive indicator. Regarding itemwise inspection, students hold positive perceptions of item 1 "Gamification makes me happy", item 10 "Gamification makes joy in the classroom", and item 11 "Gamification makes me interested in joining classroom activity." After a general overview, EFL students' perceived feeling of the classroom was inspected. The items from 1 to 7 are about students' perceived feelings (Table 8).

The items in this sub-category investigated perceived feeling at the first step, the items hold statements about the feeling of gamification, and students' reflection was tried to be drawn via 5 5-point Likert-type questionnaire ranging from strongly agree to strongly disagree. Since the mean values of the seven statements varied around the cut-off point M = 2.50, Table 6 indicates that students primarily either highly disagreed or strongly disagreed. The lowest mean value (M = 1.86) was found for item 5, "I am bored with gamification," while the greatest mean value (M = 4.07) was found for item 1, "Gamification makes me happy.". Depending on the Table 9, it is possible to conclude that students' perceived feeling of gamification is high. Students are positive about the existence of gamification in the ELT process (Table 9).

Table 10 presents the findings of EFL students' perceived classroom atmosphere. There are 3 statements in this sub-category, and investigate the effect of gamification-integrated language education on the classroom atmosphere and students' perceived feelings. The cumulative mean value proves that students hold positive perception of gamification-integrated classroom atmosphere in the English education process (N = 394, M = 3.58). The lowest mean value is yielded from statement 9 "Gamification makes the classroom atmosphere chaotic" with the cut-off mean value 2.16 (M = 2.16), and the highest mean value is yielded from statement 8 "Gamification makes the classroom atmosphere more lively." (M = 4.17) (Table 10).

Students' perceived classroom engagement is searched via item 11 and item 12. While students disagreed with item 12 "I don't care about the game being played by the class" (M

= 2.11), they were severely enthusiastic about the existence of games in the classroom "Gamification makes me interested in joining classroom activities." Table 10 shows that students are pretty interrelated with the gamification-integrated classes (Table 11).

wwParticipant students' motivation level is an utmost significant indicator of their engagement and enthusiasm for learning. The items from 13 to 16 investigated the students' motivation to learn via games. Table 12 points out that students perceived motivation is adequately high to integrate games effectively, and engage with them actively and functionally (Table 12).

It is significant to understand to what extent gamification-integrated language education interferes with the student's comprehension. At that end, participant students' perceived classroom comprehension level was investigated via the items between 17 and 20 in the questionnaire. According to Table 13, students do not think that gamification-integrated language education distracts them, and decreases their comprehension level (M = 2.93). Adversely, students sign via item 18 " In the use of gamification, I can still understand the core material being taught ." that they comprehend the complex course content in a better way (M = 3.79).

R.Q. 2. Do EFL students' perceptions of gamification-integrated English language education differ based on year of study, department, age, and gender?

In the second research question, the purpose was to discover the statistical differences (if any) concerning gender, age group, and department regarding learners' perception of gamification-integrated English language education. In the first step, the differences between gender groups were investigated via independent sample t-test.

According to Table 14, there is not an immense descriptive difference between gender groups (Male mean value = 57.80, Female mean value = 60.62). However, further analysis is required to make a concise evaluation, therefore an independent samples t-test was run to reach a detailed statistical analysis.

TThe findings of the Levene test have shown that variances are distributed equally p= .79 (p> 0.05), and there is not a significant difference between gender groups regarding the 2-tailed results (p = .76, p>0.05). The summary of the independent samples t-test for the gender group is that female and male participants hold a similar perception of gamification-integrated language education.

In the second step, the ANOVA test was run to discover the differences between the age groups and departments of

Table 10. EFL students' perceived classroom engagement

Item	*Min.*	*Max.*	*Mean*	*Std.*
11. Gamification makes me interested in joining classroom activities.	1.00	5.00	4.07	.92
12 I don't care about the game being played by the class.	1.00	5.00	2.11	.96
Cumulative (N =394)			3.09	

Table 11. EFL students' perceived classroom motivation.

Item	*Min.*	*Max.*	*Mean*	*Std.*
13 Gamification motivates me to compete to be the best.	1.00	5.00	3.67	1.02
14 Gamification makes me interested in the material being taught.	1.00	5.00	3.87	.86
15 When I lose or get a low score, I lose motivation.	1.00	5.00	2.84	1.26
16 Gamification makes me want to learn more about material outside the classroom.	1.00	5.00	3.63	.97
Cumulative (N =394)			3.50	

Table 12: EFL students' perceived classroom comprehension

Item	*Min.*	*Max.*	*Mean*	*Std.*
17 Gamification distracts me from the core of the lesson.	1.00	5.00	2.12	.94
18 In the use of gamification, I can still understand the core material being taught.	1.00	5.00	3.79	.90
19. Gamification has more impact than conventional teaching.	1.00	5.00	3.59	1.02
20. Gamification blurs the learning objective.	1.00	5.00	2.22	1.03
Cumulative (N =394)			2.93	

the participant students. Parametric analysis was selected since the distribution of normality and the required number of participants were ensured (Table 15).

For the one-way ANOVA test, the groups' distribution of normality was checked via test of homogeneity of variances and found statistically homogenous ($p > 0.05$). Depending on the ANOVA results in Table 16, it was found that there is a1 statistical difference between the participant students' departments and their perception of gamification-integrated language education (Table 16).

Following the homogeneity analysis, post-hoc analysis was conducted to discover the differences between the groups in detail. Since the participants' distribution regarding the total number of participants from each department was homogeny, the Gabriel test was employed to check the statistical difference between the groups as a post-hoc analysis for the distribution of the balanced variance (Field, 2024) (Table 17).

The detailed post-hoc analysis was conducted by relying on the cut-off point stated in the literature (Field, 2024). According to Table 18, participant students' perception of gamification-integrated English language education differs between the departments of

- ELL and prep-year students ($p = .34$, $p > .05$),
- ELT and prep-year students ($p = .34$, $p > .05$),
- Journalism and prep-year students ($p = .99$, $p > .05$),
- Engineering faculty and prep-year students ($p = 1.00$, $p > 0.05$),
- ELL and ELT ($p = 1.00$, $p > 0.05$),
- Engineering departments and ELL ($p = .79$, $p > .05$),
- Journalism and Engineering departments ($p = 1.00$, $p > .05$).

In the second step, participant students' perception of gamification-integrated English language education was investigated regarding their age. Age groups were: 18 - 21 years old, 22 - 25 years old, 26 - 29 years old, 30 - 33 years old, and 33 - or above years old ((Table 18).

Table 19 points out that participant numbers are not equal in each age group ($p = .00$, $p < .05$), however the literature underlines that the cut-off point is suggested to be $p > .05$ (Table 19).

Although homogeneity of variances was not ensured, ANOVA results showed that participant students' perception of gamification-integrated English language education significantly differs in accordance with their ages ($p = .77$, $p > .05$). At that end, post-hoc tests were not employed since they are not performed for age groups because at least one group has fewer than two cases.

Finally, participant students' perception of gamification-integrated English language education perception was investigated regarding their year of study. There were five groups: Prep year, First grade, Second grade, Third grade, and Fourth grade (Table 20).

Table 13: Group statistics of independent samples t-test of gender.

	gender	*N*	*Mean*	*Std. Deviation*	*Std. Error Mean*
Gamification-integrated language education	male	145	57.80	5.13	.47
	female	249	60.62	5.13	.36

Table 14: Independent samples t-test for gender groups.

Independent Samples Test

		Levene's Test for Equality of Variances		*t-test for Equality of Means*						
									95% Confidence Interval of the Difference	
		F	*Sig.*	*t*	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Std. Error Difference*	*Lower*	*Upper*
Gamification-integrated English language education	Equal variances assumed	.06	.79	.29	317	.76	.17	.60	-1.00	1.36
	Equal variances not assumed			.30	244.25	.76	.17	.59	-.99	1.35

Table 16. One-way ANOVA findings of a comparison of students' departments and perceptions

Gamification-integrated English language education					
	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Between Groups	192.89	4	48.22	1.80	.12
Within Groups	8501.85	319	26.65		
Total	8694.75	32			

Table 17: Multiple comparisons of department groups

Dependent Variable: *Gamification-integrated English language education*						
Gabriel						
					95% Confidence Interval	
(I) Department	*(J) Department*	*Mean Difference (I-J)*	*Std. Error*	**Sig.**	*Lower Bound*	*Upper Bound*
Prep year	ell	2.61	1.44	**.34**	-.99	6.22
	elt	2.69	1.46	**.34**	-1.02	6.40
	journalism	1.12	1.60	**.99**	-3.27	5.51
	Engineering	.80	1.91	**1.00**	-4.60	6.21
ELL	Prep year	-2.61	1.44	**.34**	-6.22	.99
	ELT	.07	.64	**1.00**	-1.75	1.90
	Journalism	-1,49	.93	**.62**	-4.00	1.01
	Engineering	-1,81	1.40	**.79**	-5.32	1.70
ELT	Prep year	-2,69	1,46	**.34**	-6.40	1.02
	ELL	-,07	.64	**1.00**	-1.90	1.75
	Journalism	-1,56	.95	**.61**	-4.18	1.04
	Engineering	-1,88	1.41	**.78**	-5.51	1.73
Journalism	Prep year	-1,12	1.60	**.99**	-5.51	3.27
	ELL	1,49	.93	**.62**	-1.01	4.00
	ELT	1,56	.95	**.61**	-1.04	4.18
	Engineering	-,317	1.56	**1.00**	-4.62	3.98
Engineering	Prep year	-,80	1.91	**1.00**	-6.21	4.60
	ELL	1,81	1.40	**.79**	-1.70	5.32
	ELT	1,88	1.41	**.78**	-1.73	5.51
	Journalism	.31	1.56	**1.00**	-3.98	4.62

Table 18. Test of Homogeneity of Variances –age groups

		Levene Statistic	*df1*	*df2*	*Sig.*
Age groups	Based on Mean	2.62	23	283	.00
	Based on Median	1.02	23	283	.44
	Based on Median and with adjusted df	1.02	23	181.58	.44
	Based on trimmed mean	2.00	23	283	.00

Table 20: One-way ANOVA findings of a comparison of students' age groups and perceptions

	Age Groups				
	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Between Groups	7.54	29	.26	.79	.77
Within Groups	93.11	283	.32		
Total	100.65	394			

Table 21: Test of Homogeneity of Variances – grade groups

		Levene Statistic	*df1*	*df2*	*Sig.*
Grade of Students	Based on Mean	1.25	23	300	.20
	Based on Median	.90	23	300	.58
	Based on Median and with adjusted df	.90	23	142.83	.58
	Based on trimmed mean	1.16	23	300	.27

Table 21. One-way ANOVA findings of a comparison of students' grade groups and perceptions

Grade (Year of study) of students					
	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Between Groups	35.00	29	1.20	.65	.91
Within Groups	553.98	300	1.84		
Total	588.99	329			

Although Kolmogorov-Smirnov test results prove the general distribution of normality of the participants, the Test of Homogeneity of variances for the sub-groups of grade signifies that there are not an equal number of participants from each grade in the present research study ($p = .20$, $p > .05$) (Table 21).

Participant students' perception of gamification-integrated English language education was investigated in terms of their year of study, it was found that their perception differs statistically significantly regarding their year of study (grade).

In summary, in the present research study EFL students' perception of English language education was investigated in line with their age, department, year of study, and gender. In general, it was discovered that participant students hold lukewarm to positive perceptions of gamification-integrated English language education. Furthermore, while students' perception of gamification-integrated English language education was found same ($p= .76$) in line with their gender, it was found that their perception differs statistically significantly in line with their age ($p = .77$), department ($p = .12$), year of study ($p =. 91$).

Discussion and Conclusion

In the present research study, EFL students' perception of gamification-integrated English language education was investigated from various perspectives; perceived feeling, perceived classroom atmosphere, perceived classroom engagement, perceived classroom motivation, and perceived classroom comprehension, and through several variables; age, gender, department, and grade (year of study). The descriptive parametric analysis results have shown that the findings are in the same line with the literature (Barab et al., 2005; Phuong, 2020; Turan et al., 2013). Phuong (2020) discovered that game-based learning environments enhance students' motivation levels and encourage them to be the initiator of the learning activity by taking an active role in the process. Along the same line Phuong, the current research study found that participant EFL students were enthusiastic about experiencing the game factor in the English language learning process since they found it engaging ($M = 3.09$). Additionally, the findings related to perceived classroom motivation and engagement are similar to the findings of Phuong (2020), Banfield and Wilkerson (2014), and Cheong et al. (2014) studies. It was revealed that students were pleased

with the placement of game factors in the learning activities since their motivation and awareness levels were increased via the various games based on either Web 2.0 tools or manual sources (M = 3.50).

Apart from the feeling of perceived motivation and engagement, the current research study adds to the literature and harmonizes with the findings of the study conducted by Barab et al. (2005) concerning the perceptions of challenging factors, curiosity, and collaborative learning environment. Nevertheless, gamification-integrated English language education was also discovered as a significant parameter regarding students' engagement and motivation level (Kapp, 2012; Kim & Lee, 2015; Turan et al., 2013).

Furthermore, while Asiri (2019) stated that females are more hesitant to use games as a learning tool either in-class or extramural activity, in the present study the picture was different. According to independent samples t-test results, there are no differences between female and male participant EFL students' perception of gamification-integrated English language education ($p = .79$, $p > .05$). In contrast to several studies in the literature (Asir, 2019; Barab et al. 2005, Kessler, 2018), the variables such as age ($p = .77$, $p > .05$), department ($p = .12$, $p > .05$), and grade ($p = .91$, $p > .05$) were found significant factors while analyzing the perception of EFL students. (Cheong et al. 2014; Ibarez et al. 2014; Pho & Dinscore, 2015; Sobocinski, 2018).

Last but not least, the findings related to the feeling of perceived comprehension level overlap with the available literature (Biçen & Kocakoyun, 2018; Banfield & Wilkerson, 2014; Buckley & Doyle, 2017; Cheong et al., 2014). It was found in the research that although it was assumed that game-based teaching and learning activities would not be as educative as theory-based education (Asiri, 2019; Barab et al., 2005), a vice-versa result was discovered. Participant EFL students reported that gamification-integrated English language education eases the process of comprehension (M = 3.50), and this finding is supported by Mufidah (2020). Mufidah discovered that the gamification-integrated education process increases comprehension levels, and reduces the anxiety level of students.

In summary, the current research study investigated EFL students' perception of gamification-integrated English language education in terms of their perceived feelings, classroom atmosphere, motivation level, and engagement level. In addition to perception, participant EFL students' age, department, gender, and grade variables. Were also investigated regarding their line with their perception. While the majority of the quantitative findings overlap with the existing literature, one of them is contrasted.

Limitations and Suggestions

Limitations are the naturally challenging factors in scientific studies that the researcher has some or no control. Depending upon the findings of the research study the addressed gap in the literature has been met to a certain extent however there is still a need for further research studies originating from mixed-method research designs. Although the one-shot quantitative data collection tool (the questionnaire) enabled the researcher to reach a high number of participants, it has some limitations such as the nature of the findings. While quantitative findings helped researcher to discover the overall picture of the research purpose, however, it is suggested to back up the numerical data with qualitative data collection tools such as interviews or reflection journals. In addition to mixed method study, a correlational research design may also help to understand the relation between the dependent and independent variables.

Implications

Within the 21st century technological advancements, higher employment rates of web 2.0 tools, game-based learning, and gamification-integrated English language education have become the natural part of the education process. However, it is advised to increase the emphasis of its advantages and place it in both curricular and extramural activities. Extramural employment of gamification may enhance the possibility of subconscious learning together with the enjoyment factor. The findings of the present study have shown that gamification-integrated English language education enhance students' comprehension and increases their motivation level rather than distracts them. Furthermore, it is advised to underline the optimal usage of gamification as an extramural activity under the circumstances of the available preparedness.

References

Ansarian, L., & Mohammadi, F. S. (2018). Problem-based learning in action: Review of empirical studies. *Pertanika Journal of Social Sciences & Humanities, 26,* 13–32.

Ansarian, L., Adlipour, A. A., Saber, M. A., & Shafiei, E. (2016). The impact of problem-based learning on Iranian EFL learners' speaking proficiency. *Advances in Language and Literary Studies, 7*(3), 84–94.

Armitage, A. (2013). Conscientization, dialogue and collaborative problem based learning. *Journal of Problem Based Learning in Higher Education, 1(*1), 1–18.

Asiri, M. J. (2019). Do teachers' attitudes, perception of usefulness, and perceived social ınfluences predict their behavioral ın-tentions to use gamification in efl classrooms? Evidence from the middle east. *International Journal of Education and Practice*, *7*(3), 112-122.

Baker, S. (Ed.). (1997). *The politics of sustainable development: theory, policy and practice within the European Union*. Taylor & Francis.

Banfield, J., & Wilkerson, B. (2014). Increasing student intrinsic motivation and self-efficacy through gamification pedagogy. *Contemporary Issues in Education Research (CIER), 7*(4), 291-298.

Barab, S., M. Thomas, T. Dodge, R. Carteaux & H. Tuzun (2005). Making learning fun: Quest Atlantis, a game without guns. *Educational Technology Research and Development*, *53*(1), 86-107.

Bicen, H., & Kocakoyun, S. (2018). Perceptions of students for gamification approach: Kahoot as a case study. *Int. J. Emerg. Technol. Learn. 13*, 72–93.

Buckley, P., Doyle, E., & Doyle, S. (2017). Game on students' perceptions of gamified learning.

Educational Technology and Society, 20(3), 1–10.

Burton-Jones, A., & Hubona, G. S. (2006). The mediation of external variables in the technology acceptance model. *Information & management*, *43*(6), 706-717.

Creswell, J. W. (2013). Steps in conducting a scholarly mixed methods study.

Cheong, C., Filippou, J., & Cheong, F. (2014). Towards the gamification of learning: Investigating student perceptions of game elements. *Journal of Information Systems Education, 25*(3), 233–244.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). Technology acceptance model. *J Manag Sci*, *35*(8), 982-1003.

Deterding, S., D. Dixon, R. Khaled & L. Nacke, 2011. From game design elements to gamefulness: Defining "gamification". Paper Presented at the Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, Tampere, Finland.

Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford university press.

Fard, E. E., & Vakili, A. (2018). The effect of problem-based learning on Iranian EFL learners' vocabulary learning. *Journal of Asia TEFL, 15*(1), 208–216.

Field, A. (2024). *Discovering statistics using IBM SPSS statistics*. Sage Publications Limited.

Hamari, J., Koivisto, J., & Sarsa, H. (2014, January). Does gamification work?--a literature review of empirical studies on gamification. In *2014 47th Hawaii international conference on system sciences* (pp. 3025-3034). Ieee.

Hockly, N., & Dudeney, G. (2018). Current and future digital trends in ELT. *RELC J. 4*(9), 164–178.

Howatt, A. P., & Smith, R. C. (2013). *Linguistic Foundations*. Routledge.

Humphries, S., & Burns, A. (2015). 'In reality it's almost impossible': CLT- oriented curriculum change. *ELT J.* 69, 239–248.

Ibanez, M.-B., Di-Serio, A., & Delgado-Kloos, C. (2014). Gamification for engaging computer science students in learning activities: A case study. *IEEE Transactions on Learning Technologies, 7*(3), 291–301.

Kessler, G. (2018). Technology and the future of language teaching. *Foreign Lang. Ann. 5*(1), 205–218.

Khan, A., Ahmad, F. H., & Malik, M. M. (2017). Use of digital game-based learning and gamification in secondary school science: The effect on student engagement, learning and gender difference. *Education and Information Technologies, 22(*6), 2767–2804.

Kim, J.T. & W.-H. Lee, 2015. Dynamical model for gamification of learning (DMGL). *Multimedia Tools and Applications,74(*19), 8483-8493.

Kumar, R. (2011) Research Methodology: A Step-by-Step Guide for Beginners. 3rd Edition. Sage, New Delhi.

Laine, T. H. (2018). Mobile educational augmented reality games: A systematic literature review and two case studies. *Computers, 7*(19), 1–28.

Lee, J.J. & J. Hammer, 2011. Gamification in education: What, how, why bother? *Academic Exchange Quarterly, 15*(2), 146-151.

Lee, G., & Wallace, A. (2018). Flipped learning in the English as a foreign language classroom: Outcomes and perceptions. *TESOL Q. 52,* 62–84.

Lin, L. F. (2018). Integrating the problem-based learning approach into a web-based English reading course. *Journal of Educational Computing Research, 56*(1), 105–133.

Lin, T. M., Ansarian, L., Tik, O. L., & Nair, A. B. (2019). The effects of problem-based language learning on the listening comprehension skills of Malaysian undergraduate students. *Journal of Asia TEFL, 16*(3), 996–1004.

Mathews-Aydinli, J. (2007). Problem-based learning and adult English language learners. Washington, DC: Center for Adult English Language Acquisition (CAELA) http://www.cal.org/caela/esl_resources/briefs/problembased.html.

McKenna, J. M. (2015). *The Development of 21st Century Skills Among Incarcerated Youth: A Needs Assessment of Teachers* (Doctoral dissertation, University of Southern California).

Mufidah, N. (202). *The effect of gamification on English language anxiety and grammar achievement* (Doctoral dissertation, Widya Mandala Surabaya Catholic University).

Othman, N., & Shah, M. I. A. (2013). Problem-Based Learning in the English Language Classroom. *English Language Teaching*, *6*(3), 125-134.

Pallant, J. (2011). *Survival manual*: *A step by step guide to data analysis using SPSS*. Open University Press.

Pho, A. & A. Dinscore, (2015). *Game-based learning.* Association of College and Research Libraries and American Library Asociation, Tips and Trends.

Prensky, M. (2003). Digital game-based learning. *Computers in Entertainment (CIE), 1*(1), 1–4.

Phuong, H. (2020). Gamified learning: Are Vietnamese EFL learners ready yet?. *International Journal of Emerging Technologies in Learning (iJET)*, *15*(24), 242-251.

Putra, P. P., & Priyatmojo, A. S. (2021). Students' perception toward gamification applied in English language classroom. *Journal of English Language Teaching*, *10*(1), 21-29.

Savignon, S. J. (1991). Communicative language teaching: State of the art. *TESOL Q. 2*(5), 261–278.

Skehan, P. (2003). Task-based instruction. *Language teaching*, *36*(1), 1-14.

Sjöberg, J., & Brooks, E. (2020, July). Gender differences when school children develop digital game-based designs: A case study. In International Conference on human-Computer interaction (pp. 186–201). Springer.

Sobocinski, M., (2018). Necessary definitions for understanding gamification in education a short guide for teachers and educators. Working Paper.

Spieler, B. & Slany, W. (2018). Game development-based learning experience: Gender differences in game design. In M. Ciussi (Ed.), Proceedings of the European conference on games-based learning (pp. 616–625). Academic Conferences and Publishing International Limited.

Su, F., Zou, D., Xie, H., & Wang, F. L. (2021). A comparative review of mobile and non-mobile games for language learning. *SAGE Open* 11, 1–20.

Şekerci, S. A. (2011). *Self-efficacy levels of prep-school instructors and its predictors.* [Master's thesis, Middle East Technical University]. Yöktez.

Taşçı, Ç. (2019). A multivariable examination of the relationships between EFL instructors' self-efficacy beliefs and motivation in higher education.

Tsai, F. H. (2017). An investigation of gender differences in a game-based learning environment with different game modes. *Eurasia Journal of Mathematics, Science and Technology Education, 13*(7), 3209–3226. https://doi.org/10. 12973/eurasia.2017.00713a

Tobar-Muñoz, H., Baldiris, S., & Fabregat, R. (2017). Augmented reality game-based learning: Enriching students' experience during reading comprehension activities. *Journal of Educational Computing Research, 5(*7), 901–936.

Turan, Z., Avinc, Z., Kara, K., & Göktas, Y. (2016). Gamification and education: Achievements, cognitive loads, and views of students. *Int. J. Emerg. Technol. Learn.*, *11*(7), 64-69.

Ülkümen, H.A. (2013). *The predictors of English language preparatory school instructors' self-efficacy beliefs* [Master's thesis, Middle East Technical Universiy]. Yöktez.