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Submitted and Defended by:
LAMIMICHE Oussama

Investigating the Impact of Online Gamification on EFL Students' Engagement in Grammar Learning

The Case of Second Year Students at Mohamed khider University of Biskra

Board of examiners:

Dr. BENIDIR Samira

Chairperson

Dr. NOUARI Wafa

Supervisor

Dr. NASRI Chahira

Examiner

Dr. HEBIRAT Sara

Examiner

Academic Year: 2024-2025

Dedication

In the Name of Allah, Most Gracious, Most Merciful

I thank Allah almighty for the strength and patience He has given me to do this work.

This work is sincerely dedicated to:

My supportive parents for their prayers, constant encouragement and endless support.

My dear brothers and my beloved sisters who were always by my side and provided help
whenever I needed it.

My family members, friends and neighbours who supported me throughout the research
process, and everyone who helped me in any way to complete this work.

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Abstract

The current research aims to investigate the impact of online gamification on EFL grammar learning; it focuses on students' engagement and their perceptions regarding the gamified learning approach. The study targets second year students because they deal with phrases and clauses, which are fundamental components of grammar. The theoretical framework lies on flow theory of learning that relates to gamification. The research employs an explanatory research design and mixed methods approach. It employs two data collection tools to answer the research questions, a survey to gather quantitative data and interviews to obtain qualitative insights. The sample consists of 20 second year students at the University of Biskra. Participants engage in gamified grammar learning using the application Kahoot!. The results reveal enhancements in learners' engagement, strong preference for integrating technology in the learning process and positive feedback concerning the use of gamification in grammar learning after the exposure to gamified grammar learning. The study highlights the potential of online gamification in enhancing Algerian learners engagement, by suggesting its integration into classroom activities and homework assignments to improve the learning experience. The study concludes with recommendations to expand this research area through employing experimental designs with larger samples and longer time durations.

Keywords: Grammar learning, Kahoot, online gamification, students' engagement, students' perceptions

List of Abbreviations

EFL: English as a Foreign Language

SPSS: Statistical Package for the Social Sciences

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General Introduction

1.1 Introduction

Technology is making a revolution in the world of education, by providing new methods to the learning and teaching processes in order to enhance the quality of education. Technology-based environments and tools started to replace the traditional learning methods (Koç & Sütçü, 2023). Gamification appears as a modern method used in education, and one of the advancements that positively influences the educational process (Thurairasu, 2022). Gamification in education refers to the application of game elements and principles in non-game contexts with the goal of enhancing student engagement and learning outcomes (Deterding, Dixon, Khaled & Nacke, 2011). Furthermore, Online Gamification is a part of gamification that consists in integrating game elements using technology in non-game settings like education, and combining gamification with technology can increase the engagement and motivation of students (Urh, Vukovic, Jereb & Pintar, 2015). The use of technology in gamification makes it less complicated and manageable (Brigham, 2015). Online Gamification is increasingly making its way into education, as most of the educational institutions are combining between face-to-face classes and online instruction. This is mainly related to learners' preference of relaxing learning environments like in online learning (Thurairasu, 2022).

1.2 Background of the Study

The integration of online gamification in education has shown to make learning more engaging and enjoyable. It is an effective learning style in improving the learning outcomes (Nurlely, 2024). The purpose of games is to attract the students to learn in a more fun way, which can make them learn English more deeply and interact with their environment (Fakhruddin, Nurhidayat & Rofi'I, 2022). Thus, through the incorporation of games and game elements, gamification in education aims to enhance and improve the learning experience and environment.

However, grammar is a complex element in English language, whereby teaching and learning of grammar are difficult (Hashim, Rafiq & Yunus, 2019). Learners often perceive

grammar as hard and challenging which may result in their disengagement with the subject, especially when it is taught through traditional methods. Despite that, grammar is a vital component of English language that is necessary to use the language effectively. It is considered as a requirement when learning a new language and its importance cannot be neglected (Debata, 2013). For instance, in order to write clear and well-structured phrases and paragraphs, the application of proper grammar is fundamental (Jannah, Nor & Asfihana, 2023). Moreover, using grammar appropriately reduces the occurrence of misunderstandings, as it provides clear communication and guarantees a proper conveyance of ideas. Consequently, the ability to employ grammatical structures appropriately is a crucial quality in English language that learners need to master (Jannah et al., 2023).

Therefore, students today are growing up in a world where technology is an integral part of their daily lives (Thurairasu, 2022). Since students are interested technology and digital games, researchers have been investigating the effectiveness of the integration of online gamification in grammar teaching and learning. Indeed, gamification has shown great promise in enhancing engagement and learning outcomes in various fields, including language education (Wulantari, Rachman, Sari, Uktolseja & Rofi'I, 2023). Hence, a proper integration of digital gamification in grammar learning can provide beneficial opportunities for learners to better comprehend their grammar lessons in an engaging and enjoyable environment.

1.3 Statement of the Problem

The ideal environment for enhancing the English grammar is the one where learners are in a state of engagement and motivation to learn, in which they actively participate in their learning process. By interacting with the teacher and their peers and implementing activities to practice what they have learned. Grammatical rules and structures cannot only be understood but also applied in engaging and enjoyable activities to ensure the comprehension and mastery of grammar.

However, in the Algerian EFL grammar learning context, grammar is basically taught through traditional face-to-face classes. Learners in such environments are characterized by their low engagement and motivation levels, due to their passive role in the classroom and the limited opportunities to participate and interact, as they are less likely to apply or practice what they have learned. Consequently, learners disengage with the material and it can result negatively in their overall language competence and hinder their development through the journey of learning the language. This leads to thinking about integrating innovative and modern strategies that attract learners and cater their needs to overcome the problem of disengagement.

Gamification is a prominent aspect in education and particularly in the language learning area, and it is considered as a potent weapon used to enhance the learning process (Nurlely, 2024). The integration of online gamification into grammar learning remains an underexplored topic in the context of Algerian education. In this regard, the aim of this study is to investigate the impact of learning grammar via online gamification on learners' engagement, with a particular focus on learners' perceptions regarding this modern approach. The subjects of this investigation would be Second Year students at the English department at Mohamed Khider University, Biskra.

1.4 The Objectives of the Study

The current study aims to overcome the problem of engagement in grammar learning, and the main objectives are the following.

- To demonstrate the impact of online gamification in grammar learning on students' engagement, measure their engagement and understand their perceptions concerning the use of online gamification.
- To improve EFL grammar learning in the context of Algeria by suggesting the integration of a practical and modern approach which contributes effectively in the language learning process.

-To attract teachers' attention into adopting modern strategies in the Grammar course, by providing practical evidence that can encourage them to incorporate innovative learning methods.

1.5 Research Questions

The study seeks to answer the following research questions.

-How does the use of online gamification in EFL grammar learning enhance learners' engagement?

-What are the students' perceptions regarding the use of online gamification in grammar learning?

1.6 Significance of the Study

This study will have a significant contribution to the field of EFL teaching and learning in the Algerian education. It attempts to represent one of the attainable solutions to increase students' engagement and help them to enhance their grammar learning. Learners will benefit from modern strategies that make grammar learning more enjoyable. Moreover, this study will inform teachers about the potential benefits of incorporating online gamification in the language learning process, and it will even show the learners' preferences of modern learning strategies. Eventually, the current study deals with integrating online gamification in grammar learning and tends to explore what impact that integration has on the learners' engagement.

1.7 Structure of the Dissertation

The current study is divided into two chapters. This study begins with an introduction that presents the topic of gamification in education, the problem of the study that the research wants to solve, the objectives and research questions, and the significance of this study. The first chapter defines gamification, demonstrates the learning theory that this study is based on, along

with the review of literature and exploration of the variables. The second chapter is devoted to the fieldwork. It presents the research methodology adopted by the researcher, sampling technique, data collection tools, research procedure and the implementation of flow learning theory in the gamified process. In addition, it presents and analyses the research findings, discusses and relates the obtained data and ends with the implication of the findings. Finally, the study concludes with general introduction, which summarizes the findings, mentions the limitations and weaknesses of the current study and recommends future research directions.

Chapter One: Theoretical Framework

Introduction

This chapter starts with the definition of gamification. Then, it moves to the exploration of flow theory of learning, which this study is based on. After that, it explores the variables related to this research: engagement, gamification and grammar. Lastly, it reviews relevant literature by highlighting and analyzing the recent findings in this research area.

2.1 Gamification

The term "Gamification" was first used and mentioned in 2008 (Paharia, 2010), then in the second half of 2010 it started to gain popularity, witness a widespread adoption and attract the attention of researchers (Deterding et al., 2011). Thus, several researchers and scholars defined gamification as follows. According to Zichermann & Cunningham (2011), gamification is about using game thinking strategies and game mechanics to solve problems and enhance the engagement of audiences (Zichermann & Cunningham, 2011). Moreover, the use of game design elements in non-game contexts (Deterding et al., 2011). In the same sense, Kapp (2012) stated that gamification is the use of game-based mechanics, aesthetics and game thinking to engage and motivate people and promote learning (Kapp, 2012). Therefore, from the definitions provided, it can be concluded that gamification is the integration of games, game elements and mechanics in non-game contexts with the goal of increasing engagement and solving problems.

2.2 Flow Theory

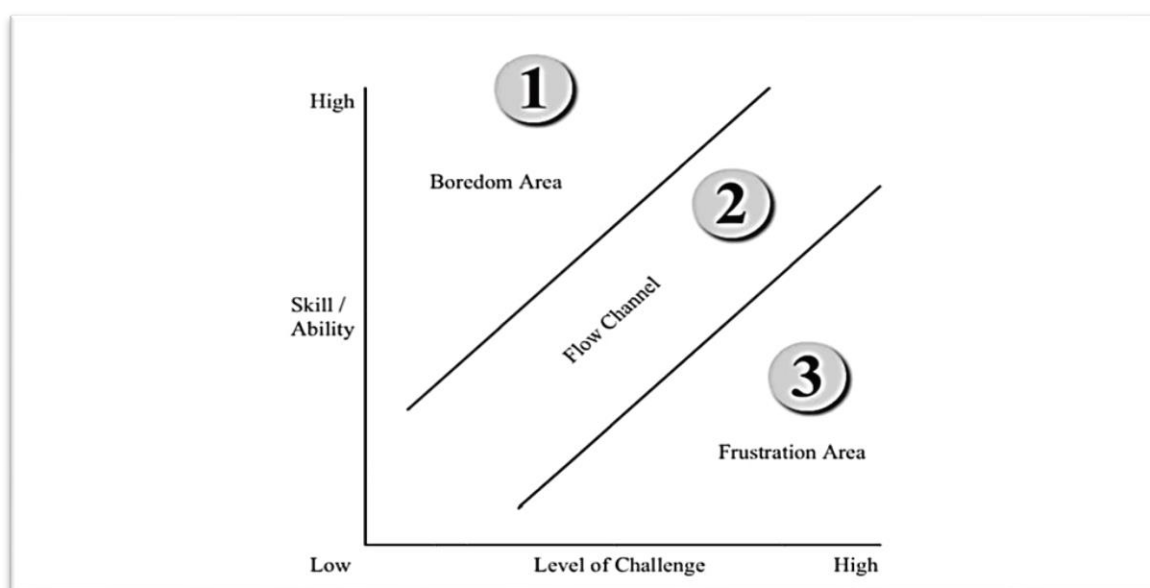
Introduced by Mihaly Csikszentmihalyi in 1975, Flow Theory (FT) or Optimal Experience Theory consists in the psychological state of complete immersion when doing an activity. It emphasizes the strong focus, concentration, engagement and enjoyment. Learners undergo a state of flow in FT. During the state of flow, learners' engagement is often high and they have intense concentration on the task (Vann & Tawfik, 2020). Csikszentmihalyi (1990a; 1997) defined the following eight (8) fundamental components that contribute to experiencing

the FT.

The first component that Csikszentmihalyi identified is the clarity of the task goals. Every task or activity should consist of clear rules and goals to avoid ambiguity among learners, so that they know how to act and understand what is expected from them. Secondly, learners should receive immediate feedback regarding their performance to recognize their progress and work on their mistakes. The third component lies on the balance between the level of the challenge and skills as learners should be exposed to tasks that match with their skills and knowledge, so they will not be bored or frustrated with the task. Then, a high level of concentration is required, in order to enter deeply engage with the task. The fifth component is about learners being able to feel in control over their actions when completing the task, so they feel their ability of changing the results of the task. After that, learners must be fully immersed in the task, and stop to think about themselves or any other external thing. The seventh component lies on losing self-consciousness, by becoming engaged and immersed in the task. Lastly, learners lose track of time because of their engagement and concentration to complete the task.

The creation of environments that foster involve clear goals to achieve, instant feedback, opportunity to focus and concentrate and a balance between challenge and skills are fundamental to experience a state of flow. A combination of these eight elements lead to an increase of enjoyment and engagement, which makes learners feel the worth making effort to experience the optimal experience.

Figure 1: Three Conditions Based on Flow Theory. Adapted from Csikszentmihalyi (1990b).



In FT, three channels for learning are included boredom channel, flow channel and frustration channel (Sharek & Wiebe, 2011). **Figure 1** demonstrates the three channels of flow theory. Learners can fall into the boredom channel (1) if the difficulty of the activity does not increase to be in parallel with the learners' developing skills and abilities, and learners are uninterested resulting in a disengagement from the activity in the boredom area (Vann & Tawfik, 2020). For the frustration area, learners fall into it when their skills and abilities do not match with the difficulty of the activity (Sharek & Wiebe, 2011). As a result, the activity becomes challenging that learners start feeling frustrated and unable to complete the task. Therefore, a balance between learners' skills and activity difficulty must be established to ensure that learners enter the flow channel to become engaged and concentrated on the activity.

The current study adopts FT as the foundational framework to explore how gamification in online grammar learning influences learner engagement. It posits that online gamified grammar activities tailored to the abilities and needs of students can create a state of flow, leading to an increase in students' engagement and resulting in more optimal learning environments and experiences.

2.3 Engagement

Sinatra, Heddy and Lombardi (2015) described engagement as "the holy grail of learning", due to its importance in education and language learning. Engagement refers to the degree of students' involvement in academic and non-academic activities, and their appreciation of the learning outcomes (Audas & Willms, 2001). Engaged learners are characterized by their commitment and connection to the learning process (Hiver, Al-Hoorie, Vitta & Wu, 2021). In this regard, Axelson and Flick (2010) stated that student engagement refers to learners' involvement and interest in learning, and the way they are linked to their classes, teachers and peers. In addition, student engagement refers to students' will in participating in daily regular school activities and following teachers' directions (Chapman, 2003).

Engagement is multifaceted and multidimensional in nature, as it encompasses three types behavioral, emotional and cognitive. First, behavioral engagement is a key element for reaching academic success and improving the learning outcomes (Fredricks, Blumenfeld & Paris, 2004). It involves participation in school activities, accomplishment of homework and tasks, and performance in tests and exams (Jimerson, Campos & Greif, 2003). Second, emotional engagement covers both positive and negative emotional reactions in school or educational institution towards teachers, peers and everything related to teaching and learning environment (Fredricks et al., 2004). Third, cognitive engagement refers to the mental effort made by learners to understand and complete tasks (Hiver et al., 2021). Those dimensions are united under the umbrella of engagement and they contribute to defining the complex construct of engagement.

Reeve and Tseng (2011) proposed a fourth type of engagement called agentic engagement. This form of engagement occurs when a student actively contributes to the flow of instruction (Sinatra et al., 2015). Learners participate actively in improving both learning experience and learning environment through offering suggestions, asking questions,

recommending goals to achieve and providing the instructor with their needs and preferences (Reeve & Tseng, 2011). Therefore, in this type of engagement learners have a crucial role in influencing the quality of the learning environment and making initiatives to create a personalized and suitable learning experience.

In conclusion, learners' engagement is fundamental in the realm of teaching and learning, in which it is a key component leading to a meaningful learning (Hiver et al., 2021). Its multifaceted nature emphasizes the importance of fostering learners' good behaviour, emotional investment, mental effort, their contributions and suggestions to improve the learning experience and environment. Moreover, engaged learners are more likely to achieve academic success and develop meaningful connections with their peers and instructors. So, promoting learner engagement improves the learning outcomes and creates dynamic and interactive learning environments. Consequently, engagement plays an essential role in language learning by contributing effectively to meaningful and impactful learning experiences.

2.4 Elements of Gamification

Games are comprised of elements that play a crucial role in the process of gamification. A primary element is the rules of games, because every game is based on a set of rules that indicate and define how the game is played and what players need to do to accomplish the activities. Secondly, time works as a motivational factor for learners. It captures their attention to focus and engage on completing the activity, when it starts to count down or up (Kapp, 2012). The subsequent element is points. They are fundamental in any gamified system, as they enable instructors to follow the development of their learners regularly (Zichermann & Cunningham, 2011). Following points, levels are the next element to consider. Games usually have three different levels easy, intermediate and difficult (Kapp (2012). Levels serve as markers for both players and designers to know their progress (Zichermann & Cunningham, 2011). Additionally,

levels indicate the degree of difficulty, as the player progresses in the game the difficulty of the levels increases gradually.

Badges are one of the reward structures. Players are rewarded with badges when they reach or accomplish a specific level or levels. Also, badges can replace levels and serve as effective progress markers in some games (Zichermann and Cunningham, 2011). Another important element is leaderboards. They function as a ranking system, by containing an ordered list of the players from the first to the last with the obtained score beside each players' name (Zichermann and Cunningham (2011). Leaderboards add motivation and excitement to players in the sense that they will have the desire to improve their ranking and placement compared with other players. Moving on to feedback. It is almost constant in games and players always receive feedback regarding their progress, mistakes and everything related to the game. Consequently, games have the advantage of providing frequent and intense feedback over traditional learning environments (Kapp, 2012). The last element to consider is aesthetics, it lies mainly on visual elements, art and beauty. Aesthetics are fundamental and should not be disregarded so that the experience will not be less engaging and compelling (Kapp, 2012). These elements combine to make games meaningful and purposeful.

2.5 Gamification in Education

Gamification in education refers to the use of game mechanics and elements in the teaching and learning processes (Kiryakova, Angelova & Yordanova, 2014). Wulantari, Rachman, Sari, Uktolseja and Rofi'i (2023) stated that gamification can be implemented in 2.5 different ways such as digital platforms, mobile applications, online platforms or even physical classroom activities. In addition, they mentioned that the main goal of gamification is to create a stimulating and immersive environment that promotes active learning and collaboration among learners.

As compared to the traditional learning methods, online gamification has the potential to improve the learning experience through the integration of technology in the learning process. In contrast to traditional education approaches, online educational games and applications offer learners a distinctive learning experience, through the presentation of educational content in a gamified format that simulates real-life scenarios, thus creating a captivating and interactive learning environment (Li, Chen & Deng, 2024). Gamification transforms traditional classroom practices by incorporating game elements to make the learning process more interactive and competitive (Wulantari et al., 2023).

The essential advantage provided by gamification is increased engagement (Arnold, 2014). The greatest attraction of applying gamification to an activity or a course is that it encourages increased involvement and engagement (Brigham, 2015). Gamification's point of strength lies on increasing learners' levels of engagement, motivation and enjoyment. So, since today learners are interested in technology and games, teachers can take advantage of this factor and integrate gamification in the learning process to attract learners and to overcome the problems of demotivation and disengagement.

For instance, Caponetto, Earp and Ott (2014) conducted a review of articles published between 2011 and 2014 on the topic of gamification in education. The results revealed an increasing popularity of gamification techniques that are applied in a wide range of educational settings, with a frequent mention of improvement and increase in levels of engagement and motivation. This shows the contribution of gamification to the learning process.

Moreover, Dehghanzadeh, Fardanesh, Hatami, Talaei & Noroozi (2019) analyzed publications dating from 2014 through 2019 regarding the use of gamification in English language learning. They found that the popularity of gamification is growing across different level of education, seeing that it is being implemented in different educational levels ranging

from primary to higher education. Additionally, the studies reported positive effects of gamification concerning the learners' learning experiences and their learning outcomes, by highlighting learners' engagement and motivation as the most frequently mentioned benefits in the studies.

To conclude, through a proper integration of online gamification in the English language learning process, teachers can take advantage of this innovative strategy to create dynamic and engaging learning environments and experiences to attract learners, increase their engagement, improve their learning outcomes and achieve the course objectives.

2.6 Grammar

Grammar is a fundamental aspect in English language learning, as it contains a set of rules that guide an effective use of the language. The significance of grammar cannot be neglected or ignored, and learning grammar is a requirement when learning English language (Debata, 2013). Also, reaching a level of proficiency in the four language skills (writing, listening, speaking and reading) demands the mastering of grammatical rules (Sorohiti, Nugraha & Rahmawati, 2024).

Zhang (2009) stated that grammar and vocabulary are the core of English language. He also argued that grammatical competence is an essential part of communicative competence, in which it requires a proper use of grammar and vocabulary to interact effectively and achieve communicative goals. Moreover, Rossiter (2021) explained the importance of grammar in spoken and written language. In the spoken language, it is manageable to communicate with a limited mastery of grammar by using simple forms of communication, because the listener can ask for clarification or repetition in case the meaning is unclear. However, producing complex ideas requires grammatical rules to convey and receive the intended meaning, and to ensure that the speaker and listener are using the same code. Whereas in the written language, grammar is a fundamental aspect that writers depend on the correct use of grammatical rules to avoid

ambiguity and ensure clarity in the ideas.

The role of grammar is crucial in English language, because the comprehension and proper use of grammatical rules enable learners reach proficiency over all the language skills, making the importance and necessity of grammar unquestionable in English language learning.

While grammar serves as the foundation of English language, some challenges and difficulties can rise in grammar instruction, mainly when grammatical rules are delivered to learners via traditional methods. For example, traditional grammar teaching and learning may not effectively engage learners, due to the fact that it solely relies on memorizing rules and writing practices (Ash'ari, Abdullah & Yunus, 2024). Moreover, Daskan (2023) stated that some challenges and difficulties may appear during the teaching and learning process of English grammar such as the absence of learners' interest and motivation in learning grammar. In addition to the complexity of English grammar, because many grammatical rules have exceptions and learners can struggle sometimes to understand and apply the rules and to take into account these exceptions. Furthermore, Sorohiti et al. (2024) found out two main challenges in grammar instruction. The first one lied on the lack of exposure to English language regularly, and this can affect the learners' familiarity with the grammatical structures and their use. While the second consisted in the low levels of learners' engagement and interest.

In conclusion, challenges and difficulties linked with grammar instruction can be solved through the implementation of creative and innovative methods and strategies that suit learners' needs to increase their engagement and motivation to learn grammar.

2.7 Solutions to Grammatical Difficulties

After addressing the problems faced by learners in EFL grammar instruction, several researchers suggested and provided practical solutions to the frequently encountered grammar difficulties, by presenting strategies and methods that improve the quality of grammar instruction.

For example, Sorohiti et al. (2024) suggested the integration of games to captivate students through a careful selection of appropriate educational games, owing to the fact that elements of games offer an interactive learning environment where engagement and motivation are increased, and contextual grammar learning is implemented in an enjoyable manner.

Moreover, Ash'ari et al. (2024) recommended the use of gamified tools or any strategy that revolves around the idea of gamification, for not only enhancing grammar learning but also creating an engaging and enjoyable learning experience. Similarly, Ajaj (2022) recommended English teachers to adopt modern teaching methods in grammar instruction, and to emphasize the application of grammatical rules by making students speak and write in different activities.

Furthermore, Sami (2021) stated that in the context of EFL grammar instruction, games strategy outperforms traditional methods in productivity and effectiveness. Considering that they stimulate interactions between learners and teachers, foster teamwork among learners and active participation. In addition, learners can take various roles in gamified activities like thinkers, problem solvers and decision makers, which facilitates learning grammar in different situations and use language accurately.

Overall, implementing innovative and practical strategies like gamification can improve the quality of EFL grammar learning, because innovation can encourage making a shift toward modern learning methods and strategies that cater learners' needs and embrace engagement and active participation in the learning process. Integrating modern methods can turn to the advantage of both teachers and learners in grammar instruction with engagement and enjoyment.

2.8 Literature Review

Introduction

This review of the literature aims to establish a clear idea of the main findings of previous

studies, and to identify their limitations. Starting with systematic reviews that synthesize, then moving to the analysis of empirical studies.

2.8.1 Systematic Reviews

Wulantari, Rachman, Sari, Uktolseja and Rofi'i (2023) conducted a comprehensive literature review on the role of gamification in English language. This review revealed the potential positive results that might emerge from the integration of gamification in language learning. The first result lied on gamification operating as a motivational tool, which can increase and enhance learners' motivation by integrating elements such as points, leaderboards, badges and rewards. Then, gamification can enhance engagement through interactive and immersive activities, and the gamified environment provides a safe and enjoyable space for students to learn the language. Also, gamification in language learning leads to the collaboration and social interaction, by encouraging learners to work together and provide peer feedback when engaging in collaborative activities. In addition, learners' reception of immediate feedback about their performance enables them to identify areas for improvement and adjust their learning strategies.

Another review carried out by Nurlily (2024), which analyzed empirical studies and scholarly articles from different academic databases and educational journals, to examine the efficacy of gamification in grammar learning. The analysis revealed that the elements of gamification like leaderboards, digital badges, quizzes and feedback, increase learners' motivation, engagement and learning outcomes. Considering that the mentioned elements create supportive learning environments that lower anxiety, encourage participation and enhance performance. Additionally, the researcher described gamification as a potent weapon that provides a dynamic and successful way to improve the quality of grammar learning and English language learning, because it has the potential to be a transformative approach to education as well as an instructional style that makes language acquisition fun and efficient.

Equally, a review of several previous works conducted by Thuraiasu (2022) stated that gamification can be a solution for the problem of making educational material and content interesting, engaging and enjoyable. Since the main goal of gamification in education and language learning and teaching is to increase students' motivation, engagement with the learning materials. By incorporating elements from video games such as points, leaderboards, challenges, rewards and badges, gamification can make the complex activities in learning grammar or vocabulary more fun. Similarly, Yaccob and Yunus (2019) in their review of past literature they found that English language learners lack interest and motivation, due to difficult and traditional methods of teaching grammar. Consequently, they highlighted the need of exposing learners to gamification in grammar instruction, especially when learners are not cooperative or interested in grammar lessons. Because language games are advantageous option that can create engagement, connection and in context grammar use, and they can help teachers in creating fun and engaging learning materials.

2.8.2 Empirical Studies

2.8.2.1 Learning Outcomes

The integration of online gamification in grammar learning and teaching has shown to be effective in improving the understanding of learners and enhancing their learning outcomes. Koç and Sütçü (2023) came to the conclusion that gamification of the grammar course help the students to better understand the grammar structures, which are sometimes perceived as difficult to learn and least interesting in language learning. As the gamification of grammar course with an online tool was supported by the positive opinions of the students. Furthermore, Fakhruddin, Nurhidayat and Rofi'i (2022) demonstrated that the implementation of the online gamified application Quizizz in grammar learning can help students to enhance their comprehension in grammar and make them focus in their learning. It can be seen in the different average scores in the two learning cycles. In cycle one the students' average score was 75.97, and in cycle two the

students average score was 78.17. This aligns with the findings of Hashim, Rafiq and Yunus (2019), who concluded that gamified learning is effective in terms of grammar achievement, due to the marked improvements in the learners' scores on the grammar post-test, which showed a significant increase from the pre-test.

In this regard, Torres Celi, Ramón Rodríguez and Criollo Vargas (2023) demonstrated that gamified grammar teaching positively affected students in the three grammatical dimensions form, meaning and use. Regarding the form, students showed a significant improvement, as they were able to use the word order to form correct grammar structures, appropriate spelling and verb tenses. Moreover, in the dimension of meaning, students were able to make the right connection between the sentence form with the grammar structure of the tenses in order to convey a clear and coherent meaning. Concerning the use, students were able to choose the most suitable grammar structure to use in a formal or informal language in both written and spoken contexts. Eventually, this proved that gamification in grammar learning and teaching has the potential not only to tackle one aspect or element but also its ability to cover all the aspects in grammar.

2.8.2.2 Learning Experience and Environment

The existing studies have shown that online gamified grammar make the learning experience and environment more enjoyable. There were progress from students in learning grammar through quizziz, it made learning activity more enjoyable and interesting, and it was fun and most students agree that enjoyment leads to better learning (Fakhruddin et al., 2022). Moreover, Aratea and Pasubillo (2024) stated that different activities in gamified learning are described as fun, engaging and student-centered. Also, they noted that gamified learning advances students more than traditional teaching, and creates a meaningful, engaging, fun and innovative learning environment. In addition, Zimik, Khan and Waluyo (2024) reported that students perceived the experience of learning grammar using gamification as an enjoyable way to learn English, since the results, the means (M) and standard deviations (SD), indicated that

students had positive perceptions of their grammar learning experience ($M = 4.21$, $SD = 0.39$).

Zimik et al. (2024) also identified five themes concerning the students' experiences of learning through gamification. The first theme "Learning Effectiveness" demonstrated the satisfaction of students with the use of gamification, as they were able to improve their comprehension and proficiency of English grammar. The second theme "Enjoyment and Fun" showed that using applications of gamification like Kahoot make learning more engaging, by stimulating the motivation of students and reducing their stress and anxiety. The third theme "Teacher's Influence" emphasized the role of the teacher in the gamified classroom, which is fundamental in facilitating students' learning and enhancing their motivation to attend classes. The fourth theme "Self-Improvement" revealed the enhancements in students' confidence and motivation in class, because the application Kahoot helped them to review the content and identify their mistakes. The fifth theme "Learning Benefits" demonstrated that students view gamified learning as a fun and informative way to enhance their English proficiency, and increase their engagement and motivation.

2.8.2.3 Effectiveness of Gamified Applications and Platforms

Several studies focused on implementing different applications of gamification to investigate their effectiveness, and students' perceptions concerning those applications. For example, Redjeki and Muhajir (2021) implemented the application Duolingo in grammar learning activities for the second-year students in the subject of "Grammar for Written Discourse". Fifteen (15) students in EFL classroom from a university in Bogor were involved in the study, and Duolingo activities were worked on during the period of four (4) days by students at home using their smartphones. After being exposed to gamified grammar, all the students stated that they enjoyed learning grammar. They described the experience as fun, quite interesting, simple and modern. In addition, the implementation of Duolingo has shown to promote self-directed learning, since a majority of the participants reported that they can practice

activities independently through this application.

Moreover, Kawattipa (2023) carried out a research which examined the perspectives of high school students' on the use of gamification as an instructional tool in their grammar courses. The study involved forty (40) participants who were students in their final year of secondary education, and employed gamification platforms including Kahoot! and Quizizz. The results revealed that some students expressed concerns regarding gamification that consisted in the stress associated with peer competition, time limitations during gamification implementation and diminished confidence in the event of defeat or lower ranking relative to classmates. However, a majority of thirty-four (34) students had positive views towards gamification, as they showed good attitudes to gamification. Students agreed on the idea of gamified grammar learning. Also, students' attitudes encompassed decreased fear, pleasure in using gamification for learning, a deeper comprehension of English grammar and enhanced readiness for the upcoming tests.

In the same way, Zarzycka-Piskorz (2016) employed the online game Kahoot! to observe and assess the motivation of students when they are being exposed to gamified grammar learning. The participants were one hundred and twelve (112) students who came from various university departments in the University of Kraków, Poland. The results shown a minority of the students (12%) reported that they perceived the experience of learning through gamification as was stressful. Despite that, an overwhelming majority of the students (87%) decided that they can learn grammar through gamification, and decided that the gamified form of learning is better than traditional methods.

2.8.2.4 Impact on Learners According to Their Characters

Research has shown that gamification in education can influence learners in different ways according to their personality traits and characteristics in terms of learning, behavior and engagement. For instance, in a study conducted by Smiderle, Rigo, Marques, Coelho and Jaques

(2020), the aim was to investigate how gamification affects participants differently depending on their characteristics and based on their personality traits. The results of the study revealed a significant improvement in favor of students with low agreeableness, low openness and introverts who used the gamified version of the course. Moreover, introverted students who used the gamified version were more engaged than extroverted students for the same version, which indicated that gamification is more beneficial to introverts. Therefore, online gamification can contribute in solving the problems of low participation in traditional classes especially for introverted learners by engaging them in activities that attract their attention and improve their learning experience.

2.8.2.5 Challenges and Difficulties in Implementing Gamification

While teaching grammar through gamification has shown to be effective and fruitful in terms of increasing levels of students' engagement, both learners and teachers might encounter some difficulties. For instance, in a study conducted by Jannah, Nor and Asfihana (2023), they found that the process of gamification was disrupted as learners faced obstacles concerning the unstable internet signal. They also mentioned the need for teachers to be proficient regarding the games included, because not all of the learners understand the rules of the. Similarly, Zimik et al.'s (2024) mentioned that some challenges might occur like technical difficulties, time pressure and distractions. The aforementioned problems and challenges should be taken into consideration to ensure that the process of teaching through online gamification operates smoothly without any disturbances or interruptions. Consequently, Tamayo, Cajas and Sotomayor (2023) pointed out the need to ensure that students have technological devices and accessibility to the internet in order to connect and carry out the activities. Additionally, Li, Chen and Deng (2024) stated that the digital environment provided by the school can either improve or hinder the impact of digital educational games on students' motivation levels, depending on how well it supports the gamified learning experiences. Eventually, the availability of resources and material is a

fundamental factor in the implementation of gamification in the educational institutions, unless learners take the gamified course from their homes.

Conclusion

In summary, this chapter starts by defining gamification then demonstrates the adopted theory of learning and its components. After that, it explains the related variables, starting by defining engagement, explaining its types and showing its importance. Components of gamification also are illustrated and their effective role in education. Challenges faced in grammar learning and teaching like the lack of learners' engagement and interest are identified, and the recommended solutions to these problems are provided consisting in the integration of new methods like gamification. Moreover, the review of literature shows the significant role of gamification in enhancing learners' engagement in grammar learning, and the findings demonstrate the benefits of integrating the gamified approach.

Chapter Two: The Field Work

Introduction

This chapter outlines the research design and methodologies used to investigate learners' engagement in gamified grammar learning. It begins by detailing the research design and approach, followed by the description of the population and sampling, data collection tools and data analysis. It also describes the implementation of flow theory in the gamified activities. Then it presents the results and discussion, aiming to provide a comprehensive investigation into the impact of online gamification on learners' engagement in grammar learning²

3.1 Research Design

This study adopted the explanatory research design since it investigates the impact of online gamification on EFL learners' engagement in grammar learning. Explanatory research is a type of research that aims to explain how specific variables impact each other ("What is Explanatory Research?," n.d.). More specifically, it uses an explanatory sequential mixed methods design. In this type of research, the researcher first conducts quantitative research first then qualitative research is conducted (Asenahabi, 2019). It is the most suitable research design for the current study, because it allows the researcher to measure the participants' engagement and understand their opinions regarding the integration of online gamification in grammar learning.

3.2 Research Approach

This study opted for mixed methods approach to investigate the impact of online gamification on EFL learners' engagement in grammar learning. Mixed methods research is a combination of qualitative and quantitative approaches in a research study (Asenahabi, 2019). It is used to take advantage from both quantitative and qualitative research (Creswell, 2014). Furthermore, this approach evolved due to the fact that both qualitative approach and quantitative approach have limitations, so combining them lessens the weaknesses of the other (Asenahabi,

2019). Mixed methods approach leads to gaining greater insights and providing a deeper understanding of the research problem (Creswell, 2014). This approach is chosen because the quantitative research is believed to measure and explore students' engagement in the gamified approach, and the qualitative research helps to understand students' perceptions regarding the use of online gamification in grammar learning and how it affects their engagement.

3.3 Population and Sampling

The population in this research includes ten groups of Second Year students of the Foreign Languages Department, Section of English at Mohamed Kheider University of Biskra during the academic year 2024/2025. The chosen population is believed to be the most suitable one, due to the fact that students at this level are dealing with the grammatical phrases and clauses, which are fundamental in constructing and understanding sentences.

Depending on a random sampling technique, twenty (20) students were selected randomly from the total population of 460 Second Year students to participate in this current study. This relatively small sample size was due to the time limitations and only twenty participants were recruited.

3.4 Data Collection Tools

Since this study is adopting a mixed methods approach, two data gathering tools are going to be employed to collect the required data to answer the research question from the participants. The first tool serves the quantitative findings while the second serves the qualitative findings.

3.4.1 Survey

The survey is designed to measure and investigate learners' engagement after being exposed to grammar learning using online gamification. It focused on getting feedback about using gamification that participants experienced to enhance their engagement in grammar

learning.

The survey of this study is designed to collect data from second year students at Biskra University. It starts with a brief introduction that describes the aim of the study with a focus on the importance of the respondents' answers. The survey was divided into three main sections each focusing on a particular aspect. The first section aimed at finding out the personal background information of our sample through three (03) simple questions, it investigates the participants' gender, age and their familiarity with playing computer or mobile phone games.

The second section contained sixteen (16) items, where the researcher constructed five (5) items, and eleven (11) items are adapted from Whitton's engagement scale which is originally composed of 18 items. Participants were asked to rate their agreement with a series of items on a five-point Likert scale (strongly disagree, disagree, neutral, agree, strongly agree) to measure their levels of engagement and motivation and experience with gamification. The following are the engagement items.

- I felt engaged while participating in the gamified learning activities.
- I felt motivated in this style of learning.
- I was able to concentrate while working on the activities.
- I wanted to complete the activities.
- I felt absorbed in the activities.
- I felt that time passed quickly.
- I felt that I could achieve the goal of the activities.
- I knew what I had to do to complete the activities.
- It was not clear what I could and could not do.
- It was clear what I could learn from the activities.
- I found it easy to get started.

- I found the activity boring.
- I found the activities satisfying.
- The feedback I received was useful.
- I have improved my grammar understanding.
- I have enjoyed this style of learning more than traditional face-to-face classes.

The third section is comprised of four (4) dichotomous questions (Yes or No), with the aim of evaluating the effectiveness, acceptance and support of integrating online gamification by learners. The following are the dichotomous questions.

- Did the gamification elements like time, rules and points make you feel more engaged and motivated to complete the activities?
- Did you face any problems or difficulties during the experience of online gamification?
- Do you agree on integrating online gamification in the learning process?
- Do you recommend this style of learning to your peers and other learners?

3.4.1.1 Piloting the Survey

The current phase was done in order to verify the survey questions and items. It was submitted through Email to three (3) Second Year students from Section of English at Biskra University. The main aim of the this phase of the survey was to check if there are any difficult or ambiguous questions for students, to verify if students answers for the questions will serve the study, and to check if there were any repeated questions. Consequently, all the students agreed that the questions were clear, comprehensive and there was no ambiguity.

3.4.1.2 Administration of the Survey

The survey was administered to the twenty participants in this study. It was transformed into a digital format and administered via Google Forms. The survey link was distributed through

Email to the participants on April 24th. All the participants answered the survey.

3.4.2 Interview

After the survey, an interview was conducted with the participants to reveal their perspectives regarding the use of online gamification in grammar learning. Similar to the survey, a piloting phase was done by conducting a preliminary interview with two (2) Second Year students to check whether the questions were clear for the students. The questions were adjusted and modified to construct the interview' final form. The interview questions are mainly composed of five (5) items, where three (3) items are constructed by the researcher, and two (2) items are adapted from Koç and Sütçü (2023) interview in their work on exploring the impact of gamified grammar course on students' academic achievement. It was conducted on May 8th. The following are the interview questions, which are meant to investigate students' opinions and experience about employing online gamification in grammar learning.

Question 1: What do you think about using Kahoot! in grammar learning?

Question 2: Can you describe your experience with using Kahoot! in grammar learning?

Question 3: Did Kahoot! change your opinion towards grammar learning? If yes, how?

Question 4: In what ways do you think that using Kahoot! in grammar makes learning more engaging?

Question 5: What challenges have you faced during the use of Kahoot! ?

3.5 Data Analysis

3.5.1 Analysis of the Survey

Concerning the analysis of the quantitative data, SPSS software is used to obtain descriptive statistics and calculate the internal consistency of the survey items to analyse the

results of the survey responses.

3.5.2 Analysis of the Interview

Thematic analysis is believed to serve as the suitable data analysis method to analyze students' interview responses. Thematic analysis is the process of identifying, analyzing and reporting patterns or themes within qualitative data (Braun & Clarke, 2006). It focuses on constructing themes based on collected qualitative data from data gathering tools like focus groups, observations and interviews. According to Braun and Clarke (2006), the typical process used in thematic analysis includes six (6) major phases as follows.

The first phase lies on becoming familiar with the data after gathering the data. The researcher must read what have been collected such as the interview extracts in an active way and look for meaning to become familiar with content. Also, data must transcribed into written form to conduct a thematic analysis in case of working with verbal data like in interviews. The next phase is about generating initial codes to identify important data that are relevant to answer the research question. By applying codes to the dataset, collating codes across segments of the dataset and to organize data into groups that can be developed into themes. The third phase concerns searching for themes after coding and collating data. The different codes are sorted into potential themes through the analysis and combination of codes to construct a theme.

The following phase consists in the review and modification of themes. It involves refining, combining or discarding themes. In the fifth phase, each theme is given a suitable name that matches with its core, and a definition is provided to demonstrate the analysis of each theme. The last phase is about producing a report, where the final thematic analysis and provide supporting data extracts in order to persuade readers of the validity of the analysis are written.

3.6 Procedure

The procedure commenced with a random recruitment of twenty (20) students to participate in the present study. The researcher explained to the participants what the current

study is about so everything will be clear for them. Their email addresses were collected to keep contact and to facilitate coordination between them and the researcher. After that, the participants were asked to download the application Kahoot! on their phones or computers according to what they are using, to ensure the easy access to educational games that are going to be sent. Kahoot! is a web based educational application that is used in language learning and teaching and other domains. There is a variety of similar applications like Quizziz and Duolingo. Kahoot! is among the popular applications used in language education. The researcher and the participants agreed on using Kahoot! from their homes. Furthermore, the topics covered in the games are based on the lessons that were delivered to the participants in their second semester grammar course. By precisely focusing on three (3) main types of phrases which are Gerund Phrase, Participial Phrase and Prepositional Phrase.

The integration of Kahoot! lasted for ten (10) days from April 13th to April 22nd, where this period was divided into three times or sessions and each session was devoted to a single topic. The first session on April 13th dedicated to Gerund Phrases, followed by the second session on April 18th focusing on Participial Phrases, and concluding with the Prepositional Phrase session on April 22nd.

Each time involved two (2) games to be played; the initial game contained a review of the phrase's rule, its functions and examples. While the second game focused on testing their knowledge through multiple-choice items. Each game lasted for 10 to 15 minutes, which made the session half an hour or forty (40) minutes long approximately. Except for the last session (Prepositional Phrase) only one game was played, because it was a long activity composed of 53 multiple-choice items. The integration of Kahoot! aimed to enhance learners engagement through the modern and practical approach of gamification.

By the end of the integration of Kahoot! period, the researcher submitted a survey to the participants on April 24th via email. Then two weeks after, an interview was conducted with

them on May 8th.

3.7 Using Flow Theory

Multiple gamification elements are used in Kahoot! to support both gamified learning and flow theory. The games are characterized by the clear rules and goals; requiring participants to answer the questions by selecting the appropriate choice. The aim is to practice grammatical rules and to complete the game with the minimal number of wrong answers in order to collect maximum number of points.

Feedback mechanisms are used in the game, as participants were provided with immediate feedback when they finished a game. By showing them the questions they got wrong, the questions they missed, the correction of those questions and the points they obtained. A leaderboard is also used in the game, displayed at the end of every activity to inform participants about their ranking and performance compared to others.

Those feedback mechanisms can have a positive impact on participants. Elements of gamification like leaderboards, badges and feedback lead to an increase in learners' motivation, engagement and learning outcomes (Nurlely, 2024). For instance, leaderboard increase learners' engagement as they focus on obtaining points to improve their ranking on the leaderboard, and prevent them from the boredom channel (Vann & Tawfik, 2020).

In this regard, Kahoot! employs points and leaderboards, which contribute to avoiding the boredom channel by creating a sense of competition among participants to obtain points and increase their ranking on the leaderboard. In addition, the devoted activities in the current study are achievable and are not hard to complete so that participants avoid falling into the frustration area. Eventually, through the provision of clear goals and immediate feedback, the goal is to keep participants engaged and focused on the activity to encourage flow.

4.1 Results

Introduction

This section is devoted to present and analyse the obtained data and its findings from the two research tools, which have been employed to answer the research question. The findings will be discussed in relation to previous related works. Finally, this section concludes with the implications of the research findings.

4.2 Results of the Survey

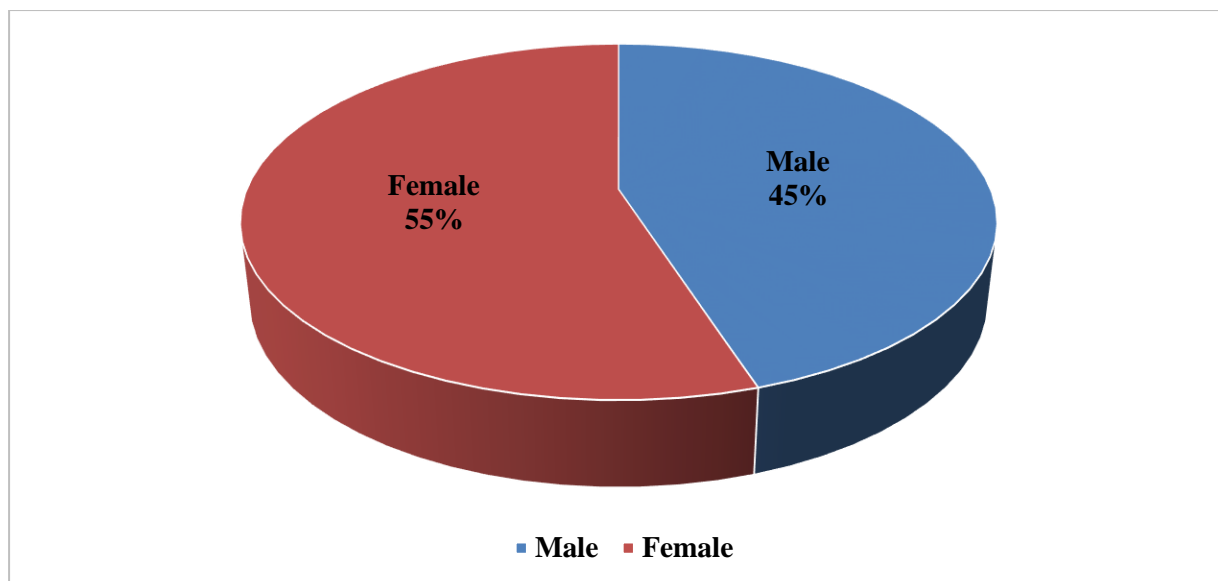
Section One: Background Information

Question 1: Specify your gender.

Table 1: Students Gender Distribution

Gender	Number	Percentage %
Female	11	55%
Male	9	45%
Total	20	100%

Graph 1: Students Gender Distribution



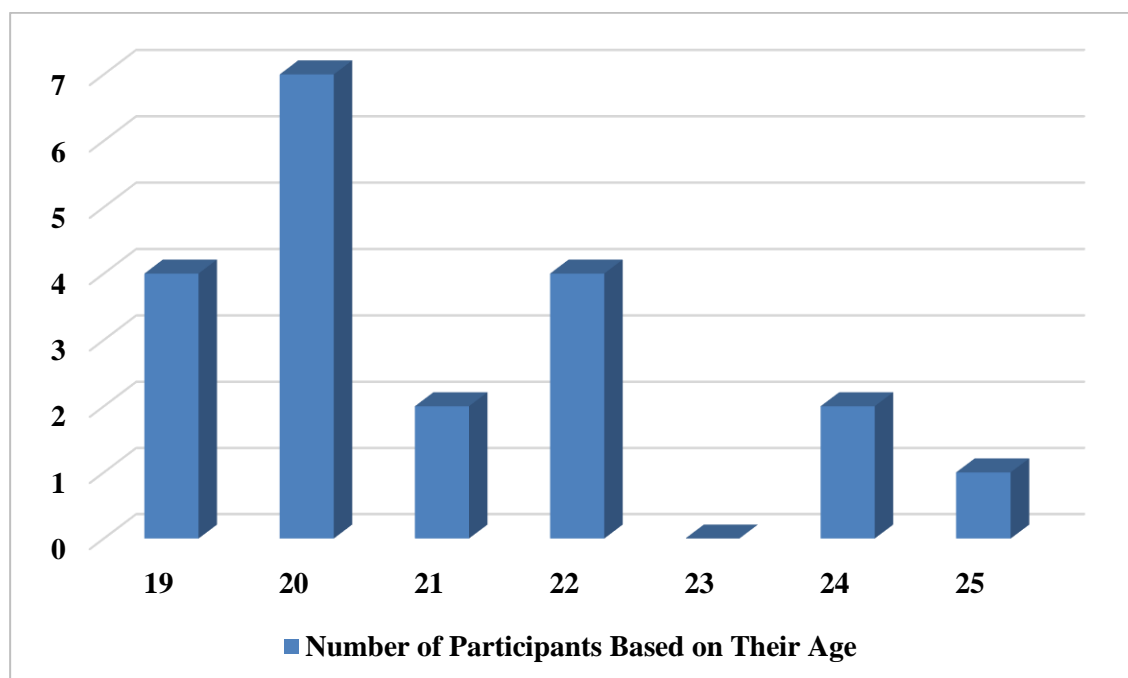
Concerning the participants' gender distribution, **Table 1** above shows that out of twenty (20) participants, eleven (11) with a percentage of (55%) are females. While nine (9) with a percentage of (45%) are males. It is observed that the number of girls approximates that of boys, which indicates an almost balanced gender distribution within the sample.

Question 2: Specify your age.

Table 2: Students Age Distribution

Age	Number	Percentage %
19	4	20%
20	7	35%
21	2	10%
22	4	20%
23	0	0%
24	2	10%
25	1	5%

Graph 2: Students Age Distribution



As **Table 2** demonstrates, most of the participants are in their late teens and early twenties, with four (4) students aged 19 years old, seven students (7) representing a percentage of (35%) aged 20. Also, two (2) students aged 21 and four (4) aged 22. This was expected because the participants are second year English students.

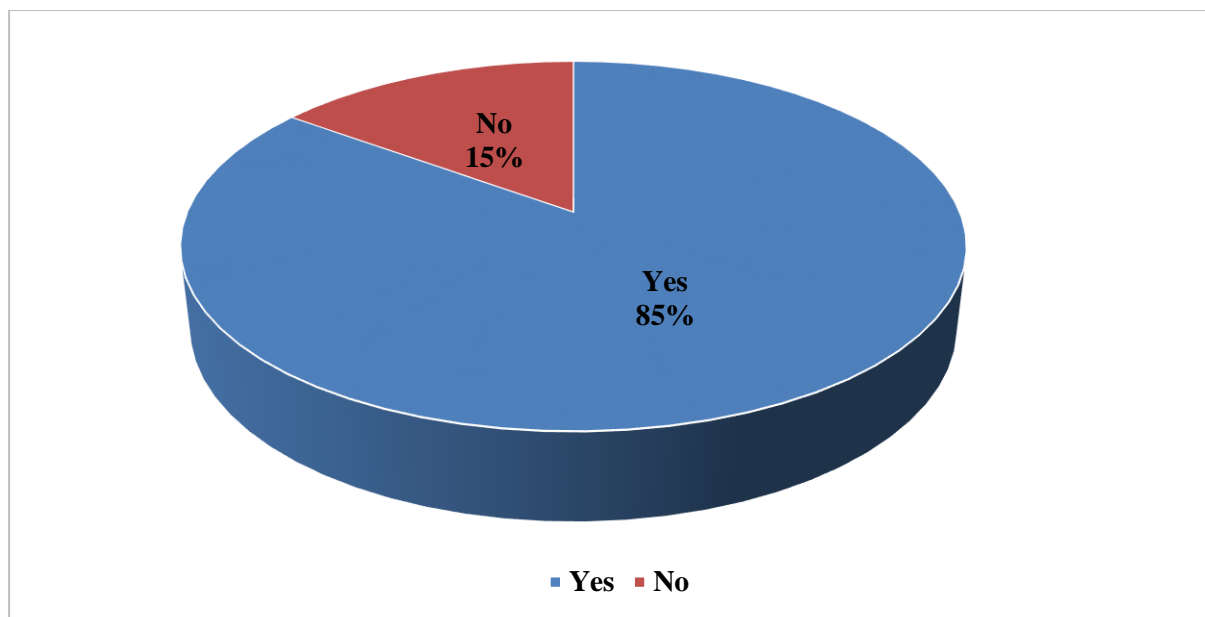
Question 3: Do you play computer or mobile phone games?

This question sought to see the participants' familiarity with playing games, and to know if they are used to play games on these devices.

Table 3: Students Familiarity with Games

Option	Number	Percentage %
Yes	17	85%
No	3	15%
Total	20	100%

Graph 3: Students Familiarity with Games



The majority of the participants (85%) declared that they play computer or mobile phone games, as shown in **Table 3** and **Graph 3**. While a three (3) of them making the percentage of (15%) declared that they do not play games. This demonstrates that a large portion of the sample is used to playing games, and highlights an interest in computer and mobile phone games.

Section Two: Engagement Items

Table 4: The Survey Items Internal Consistency

Categories	Cronbach's Alpha
Participants' Engagement and Immersion (6 items)	0.893
Clarity of the Game (5 items)	0.894
Participants' Perceptions (5 items)	0.850

The survey items can be categorized into three main categories for a clear understanding of the results. The following are the three categories. The first category Participants' Engagement and Immersion is comprised of six (6) items, the second Clarity of the Game is made of five (5) items, while the third Participants' Perceptions is comprised of five (5) items.

To ensure reliability among the items of each category in the survey, Cronbach alpha reliability test has been conducted although the sample size is small (n=20), in order to check to which extent the items of a single category are related to each other and how well they measure the variable. **Table 4** shows the results of Cronbach's reliability test.

Tables 5 6 7 present the results of the survey items, showing the mean (M) and the standard deviation (SD). Tables also show the percentage of participants' responses according to the 5 point Likert scale (SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SDA = Strongly Disagree).

Category 1: Students' Engagement and Immersion

The first category consists of six items: "I felt engaged while participating in the gamified learning activities," "I felt motivated in this style of learning," "I was able to concentrate while working on the activities," "I wanted to complete the activities," "I felt absorbed in the activities" and "I felt that time passed quickly." These items aim to measure students' engagement and motivation levels and to explore their immersion with the online gamified activities.

Table 5: Students' Engagement and Immersion

Items	M	SD	SA(%)	A(%)	N(%)	DA(%)	SDA(%)
I felt engaged while participating in the gamified learning activities	4.1	0.79	35	40	25	0	0
I felt motivated in this style of learning	4.0	0.55	15	70	15	0	0

I was able to concentrate							
while working on the	3.7	0.78	5	70	20	5	0
activities							
I wanted to complete the							
activities	3.9	0.84	20	60	15	5	0
I felt absorbed in the							
activities	3.8	1.1	30	40	15	10	5
I felt that time passed							
quickly	3.85	0.91	15	65	15	0	5

Table 5 provides insights into participants' engagement levels regarding the gamified learning experience. Participants reported high levels of engagement ($M = 4.1$, $SD = 0.79$), with a total of 75% (35% strongly agree and 40% agree) expressing positive feelings of engagement. This demonstrates that the use of gamified activities increased participants' engagement and attracted them to learn using a modern approach. Similarly, motivation levels were also high ($M = 4.0$, $SD = 0.55$), as most of the participants (70%) expressed their agreement on feeling motivated in this style of learning. These results indicate the effectiveness of online gamification in fostering motivation among learners.

The concentration of the participants during Kahoot! activities was good ($M = 3.7$), since most of them (5% strongly agree and 70% agree) declared that they felt able of concentrating while working on the completion of the activities. However, a small percentage (5%) reported a lack of concentration, and four participants with a percentage of 20% remained neutral. This posits that while Kahoot! was effective in fostering learners' concentration, some of them faced challenges or distractions, suggesting opportunities to enhance concentration for all the learners.

Furthermore, while a proportion of 20% felt neutral about finishing the activities, a significant majority of the participants (80%) expressed their strong desire to complete the activities. The results indicate that Kahoot! activities were engaging for the participants.

Concerning the feelings of absorption, a combined 70% of the respondents (30% strongly agree and 40% agree) believed they felt absorbed in the activities ($M = 3.8$), but 10% disagreed and 5% strongly disagreed. It can be said that a majority of the participants experienced a sense of engagement and immersion during the activities. For the last item in the first category, a large proportion of 80% (15% strongly agree and 65% agree) with a mean of 3.85 felt they lost track of time in the gamified learning experience. Whereas 20% were neutral about time and 5% strongly disagreed. The results of these last two items demonstrate a majority of the participants being in deep engagement and immersion with the activities, as they were absorbed and perceived time to pass quickly.

Category 2: Clarity of the Game

The second category contains the five following items: “I felt that I could achieve the goal of the activities,” “I knew what I had to do to complete the activities,” “It was not clear what I could and could not do,” “It was clear what I could learn from the activities” and “I found it easy to get started.” These items shed light on Kahoot! activities by assessing the clarity of the game goals and rules, and participants' accessibility to the application.

Table 6: Clarity of the Game

Items	M	SD	SA(%)	A(%)	N(%)	DA(%)	SDA(%)
I felt that I could achieve the goal of the activities	3.9	1.09	25	60	5	10	0

I knew what I had to do to complete the activities	3.95	0.67	20	55	25	0	0
It was not clear what I could and could not do	1.9	0.83	0	5	15	45	35
It was clear what I could learn from the activities	3.85	1.01	25	50	15	5	5
I found it easy to get started	4.05	0.87	30	55	5	10	0

As shown in **Table 6**, participants mainly felt confident about achieving the activity goals ($m = 3.9$), because a large portion of 85% in total agreement (25% strongly agree and 60% agree) believed that the activities were attainable. Nevertheless, the standard deviation 1.09 reflects a variability in responses, with 10% in disagreement. Moreover, a significant portion of 75% ($m = 3.95$) understood what expected to be done to complete the activity, while 10% misunderstood what they needed to do. Equally, participants disagreed with the item "It was not clear what I could and could not do", showing an overall agreement from them about clarity. The results suggest that the activities had clear goals and rules, which made them perceived as attainable, and effective in terms of establishing understandable rules that made participants feel able of reaching the activity objectives. The disagreement expressed by some participants suggest opportunities to enhance clarity of goals and rules.

The mean score of 3.85 indicates that most of the respondents affirmed the clarity of the knowledge that could be gained from the activities, with some participants (5% strongly disagree and 5% disagree) expressing ambiguity about what they could learn from the activities.

Therefore, it can be concluded that Kahoot! is effective in delivering knowledge in a clear way to learners. Although it is fundamental to address the problems faced by some learners to enhance the clarity and effectiveness of the activities.

Category 3: Students' Perceptions

The third category consists of the following five items: "I found the activity boring," "I found the activities satisfying," "The feedback I received was useful," "I have improved my grammar understanding" and "I have enjoyed this style of learning more than traditional face-to-face classes." This category aims to investigate students' satisfaction with the gamified activities and their impact on grammar learning, and to see to whether they support online gamification.

Table 7: Students' Perceptions

Items	M	SD	SA(%)	A(%)	N(%)	DA(%)	SDA(%)
I found the activity boring	1.25	1.46	0	5	15	60	20
I found the activities satisfying	3.8	1.08	20	60	10	10	0
The feedback I received was useful	3.75	0.94	15	60	15	5	5
I have improved my grammar understanding	4.0	0.71	20	65	10	5	0
I have enjoyed this style of learning more than	3.7	1.01	15	60	10	10	5

traditional face-to-face
classes

Table 7 shows the results of learners' perceptions about their gamified learning experience. Participants denied experiencing any feelings of boredom (20% strongly disagree and 60% disagree), and reported high rates of satisfaction ($m = 3.8$). Only one participant representing a percentage of 5% found the gamified activities boring and 15% remained neutral, and two participants representing a percentage of 10% found them dissatisfying and 10% stayed neutral. The activities were generally engaging, satisfying and interesting for a predominant proportion of respondents, though a minority felt bored or dissatisfied.

Only two participants disagreed on the usefulness of feedback in Kahoot! and this may be related to their incompleteness of activities or lack of attention at the end. Conversely, the feedback mechanisms as the correction of wrong answers, collection of points and display of a leaderboard were useful for the participants ($m = 3.75$). Additionally, 85% (20% strongly agree and 65% agree) believed that Kahoot! has helped them to improve their grammar understanding, which display its positive contribution to the learning outcomes ($m = 4.0$). In the last item, 75% of the participants expressed their preference of the gamified style of learning over the traditional ($m = 3.7$), but 10% remained neutral and 15% disagreed (5% strongly disagreed and 10% disagreed). The results demonstrate learners' interest in technology and modern methods of learning, as they favored the gamified learning and found it enjoying experience.

Section Three: Dichotomous Questions

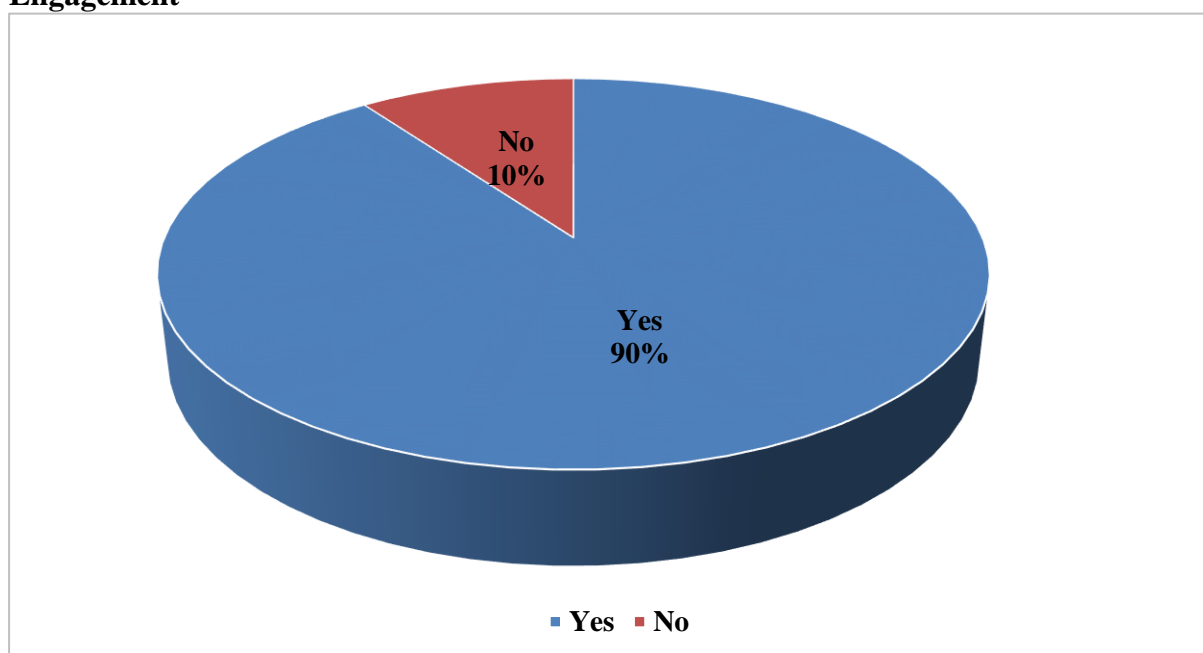
-Did the gamification elements like time, rules and points make you feel more engaged and motivated to complete the activities?

This question aims to examine whether the elements of gamification contribute to enhancing students' levels of engagement and motivation.

Table 8: Students' Responses to Gamification Elements and Their Impact on Engagement

Option	Number	Percentage %
Yes	18	90%
No	2	10%
Total	20	100%

Graph 4: Students' Responses to Gamification Elements and Their Impact on Engagement



As the table demonstrates, two participants (2) representing the percentage of (10%) did not experience any increase in their engagement, which highlights the need to develop gamified

approaches based on learners' characteristics. Whereas, the majority of participants (90%) noted that elements of gamification used in Kahoot! such as rules, time, points and leaderboards are effective in increasing their engagement and motivation. Consequently, the results show that the components of gamification have an important role in enhancing the learning experience and fostering active participation by making students more engaged and motivated to learn.

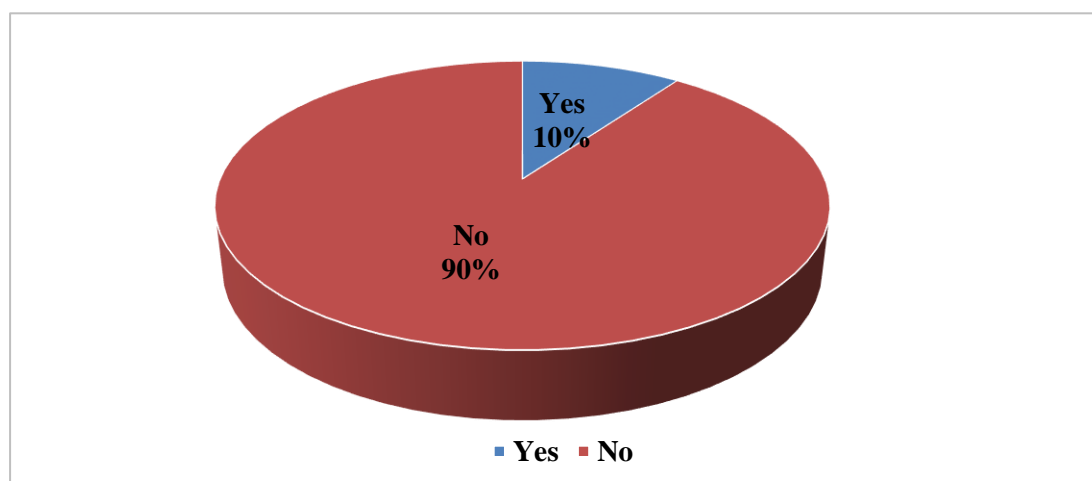
-Did you face any problems or difficulties during the experience of online gamification?

This question sought to check whether students encountered any problems during the use of Kahoot! application in grammar learning.

Table 9: Students' Responses to Problems Faced in Gamified Learning

Option	Number	Percentage %
Yes	2	10%
No	18	90%
Total	20	100%

Graph 5: Students' Responses to Problems Faced in Gamified Learning



Through this table, it is observed that a large portion of students (90%) reported they did not encounter any problems when using Kahoot! application. However, two students (2) making the percentage of (10%) declared that they faced problems, and this can be related to technical problems like unstable internet connection, or problems related to time constraints which make students anxious to complete the activity.

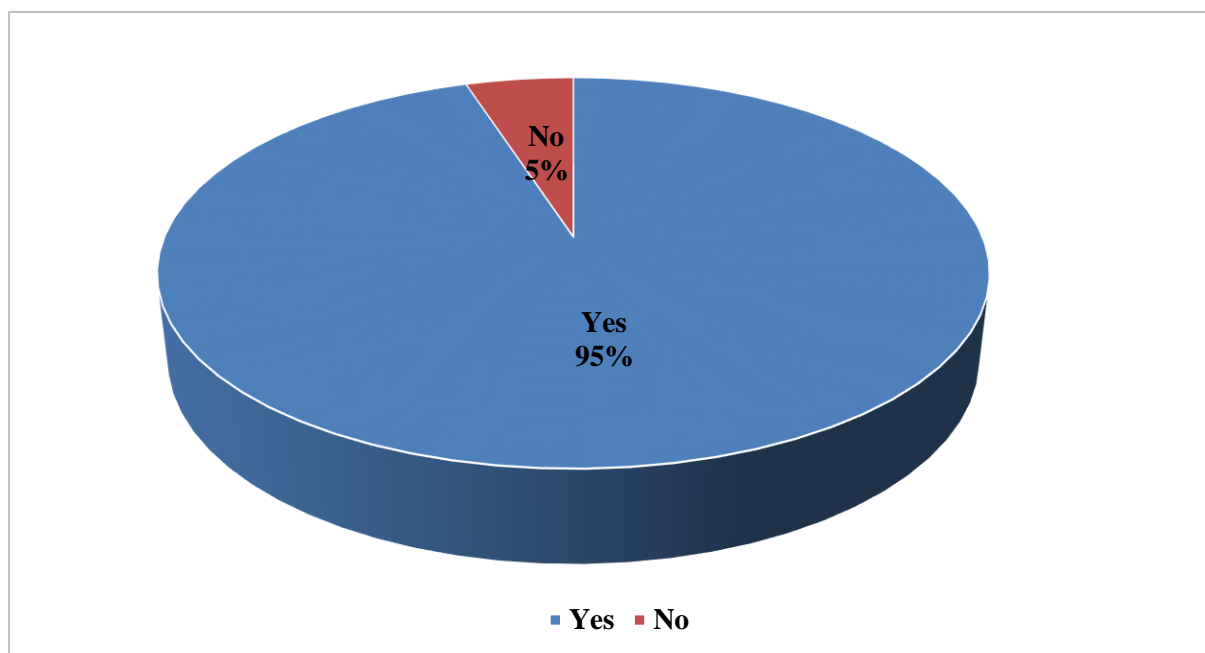
-Do you agree on integrating online gamification in the learning process?

The aim of this question is to see students' perceptions towards the integration of online gamification to enhance engagement in language learning.

Table 10: Students' Responses on Integrating Online Gamification in Learning Process

Option	Number	Percentage %
Yes	19	95%
No	1	5%
Total	20	100%

Graph 6: Students' Responses on Integrating Online Gamification in Learning Process



As shown in **Table 10**, almost all of the participants (95%) agreed with the idea of integrating online gamification into the learning process, except for one students (5%) who disagreed with this idea. This may be related to his preference for traditional learning methods. The results of this question demonstrate that students prefer modern and technological learning approaches, by showing that most students have a positive attitude towards online gamification.

-Do you recommend this style of learning to your peers and other learners?

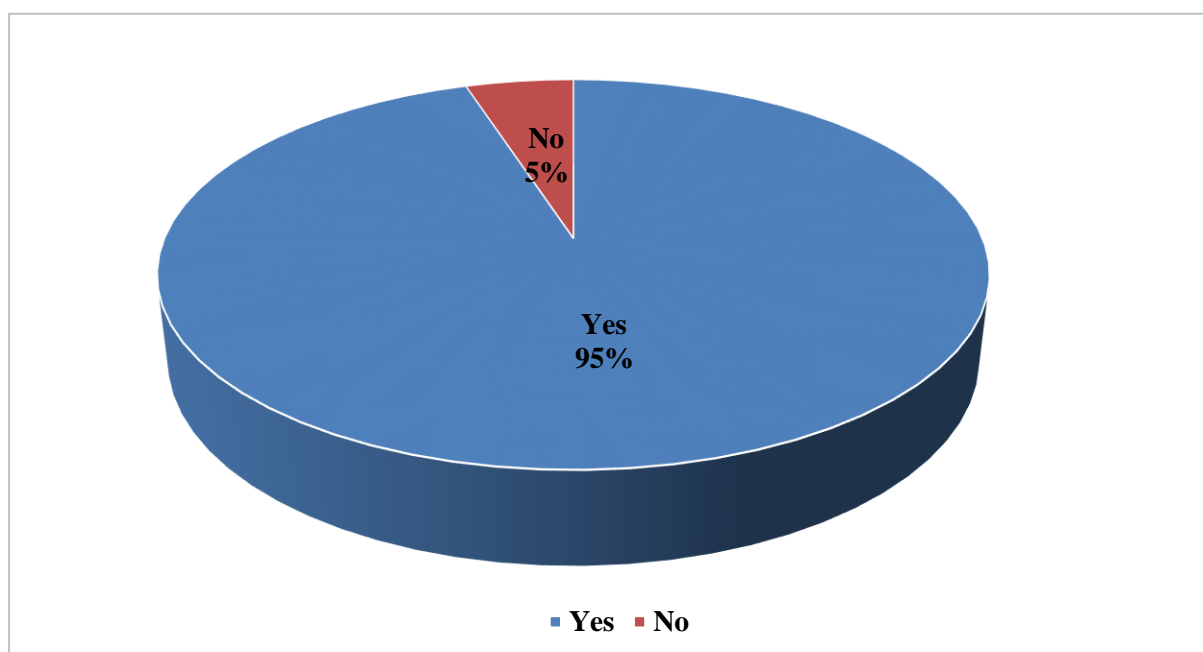
This question aims to explore students' satisfaction with integrating the gamified learning approach, and whether they encourage others students to use this modern approach.

Table 11: Students' Responses on Recommending Online Gamification

Option	Number	Percentage %
Yes	19	95%

No	1	5%
Total	20	100%

Graph 7: Students' Responses on Recommending Online Gamification



In the last question of the survey, students showed a positive attitude concerning the recommendation of online gamification to other learners, as a greater part of them (95%) expressed that they encourage their peers and other language learners to use this practical approach in their learning process. This indicates that online gamification is an effective tool in education, and shows students' recognition of its potential in making their learning experience more engaging and motivating.

4.3 Results of the Interview

Following the approach outlined by Braun and Clarke (2006), a thematic analysis was conducted on the interview responses in order to delve into students' experiences learning English grammar using the online gamification application Kahoot!. Participants were labeled

with special identifiers such as P1, P2 and P3 to maintain anonymity.

Theme 1: Engagement and Enjoyment

Students declared that Kahoot! made grammar learning an engaging and fun experience, as they described their experience using the following words most frequently: fun, engaging and enjoyable. The use of the gamified learning style turned their usual passive grammar learning into an interactive and enjoyable experience. Moreover, the ability to compete with their peers along with the gamification elements (points, time and leaderboards) increased their engagement to play and complete the game. Some students mentioned that seeing their peers on leaderboard made them more engaged to increase their performance and collect more points. In addition, the feedback was a helpful factor for them, because it identified their mistakes and provided the correction immediately. The following are examples of participants' responses.

"It was like a new experience to use in grammar. I had fun doing the activities." (P1)

"I describe the experience as fun and engaging." (P5)

"It makes grammar more fun." (P15)

Theme 2: Learning Effectiveness

Participants stated the positive impact of online gamification on learning outcomes. They reported that the use of Kahoot! improved their grammar understanding, and it was an effective application to check their understanding and revise lessons. Kahoot! allowed students to apply grammar rules and reinforce their grammar learning through practical use. Notably, some participants highlighted that they used it in preparing for their grammar test, while others mentioned its effectiveness in helping to better comprehend grammatical rules. Consequently, they approved the improvements in their learning as Kahoot! contributed effectively to their grammar understanding. Below are some examples of the participants' responses.

"I think that using Kahoot! is good to test my knowledge and understanding of the lessons." (P7)

"It helped me prepare for the test." (P9)

"I find Kahoot! fun and enjoying application to use in grammar." (P13)

Theme 3: Learners' Perceptions about Grammar

The use of online gamification in grammar learning changed learners' opinions about the complexity of grammar. Most of them stated that they view grammar as engaging and enjoyable instead of boring and complex rules and structures. Furthermore, this modern approach switches to modernity and practicality, so it made learners realize that learning grammar can be engaging and effective. The use of technology made an effective connection between students' interests and their grammar learning, as their perception of grammar changed from a passive to an engaging and enjoyable learning experience. They expressed positive feelings towards Kahoot! and using it regularly, and some of them reported they felt free and lost the fear of making mistakes. The use of online gamification normalized making mistakes and helped students to gain confidence to improve their grammar understanding. Below are some examples of the responses.

"Yes, it did, now I see grammar as fun. I used to see it as a boring module." (P8)

"Yes, I realized that grammar games are enjoyable." (P17)

"It made me lose the fear of making mistakes in grammar." (P14)

Theme 4: Gamification and Engagement

Fundamentally, online gamification was perceived as modern method through using Kahoot! in grammar learning with the aim of enhancing engagement. Participants admired the practicality of time, points and leaderboards, which pushed them to increase their performance

and finish the activities with the minimal number of wrong answers. Leaderboards created a sense of competition among students in which they worked on improving their ranking compared to their peers. Moreover, the use of time made them more engaged with activities, points served as markers of progress making students focus more on completing the activity to avoid the wrong answers and collect as much points possible. The combination of multiple gamification elements affected students' engagement in an effective manner. Additionally, these elements added excitement to the activities and made them more engaging. Kahoot! worked as a catalyst and transformed the participants grammar lessons into enjoyable and engaging experience. The following responses reflect this theme.

"Points and leaderboard make grammar learning more engaging." (P2)

"The use of time keeps me excited to do the activity and answer quickly." (P5)

"The use of Kahoot! changes hard grammar lessons to fun games." (P12)

Theme 5: Challenges and Difficulties

Participants were asked about any difficulties or challenges they encountered while using Kahoot! because two of them reported they faced problems in the survey. Therefore, technical problems generally related to internet connection were stated. In addition, the time limits to answer every question or item made some participants anxious and stressful in some occasions. It is important to address these problems to improve the gamified learning experience. Below are the examples of students' responses.

"The internet connection was slow sometimes." (P18)

"The time limit for the questions was stressful sometimes for me." (P6)

The thematic analysis revealed that learners viewed Kahoot! as an effective and engaging

tool for grammar learning, through the evident enhancements in their engagement, and shaped their perceptions on online gamification in a positive way. Although challenges may appear like internet problems so they should be addressed to fully benefit from this modern approach.

4.4 Discussing the Findings

The main aim of this study is to investigate the impact of learning grammar through online gamification on EFL students' engagement. In addition, the study attempted to understand learners' perceptions regarding online gamification and how it affects to their engagement. Therefore, the researcher conducted two data gathering tools consisting in a survey and an interview to collect feedback from second year English students

The aim is to answer two research questions, the first question is: How does the use of online gamification in EFL grammar learning enhance learners' engagement? the current comprehensive study investigates this inquiry, by unveiling valuable insights about the capability of online gamification in EFL grammar learning. The provided empirical evidence demonstrates significant enhancements in students' engagement in grammar learning, and a noticed students' support towards using Kahoot! in their learning process. These results show that using online gamification in grammar learning significantly enhances learners' engagement, as they revealed significant improvements in learners' engagement. In addition, these results show the potential of gamification as a potent tool for increasing learners' engagement and improving the learning experience.

The findings display gamification as a catalyst serving to boost students' engagement and their learning outcomes in grammar learning, and these results are in parallel with the outcomes of other studies in different contexts. For instance, Zarzycka-Piskorz (2016) found that Polish university students welcomed the idea of gamification as a majority of them preferred the gamified learning approach over the traditional. Additionally, Redjeki and Muhajir (2021) revealed that

all Indonesian EFL university students who participated really enjoyed the experience of integrating a gamified learning tool in their grammar course, and it promoted their independence to learn even from their homes.

In this study, participants consistently reported increased engagement and enjoyment levels while using Kahoot! in grammar. The positive opinions towards the gamified learning experience delivers a strong evidence on the impact of gamification on learners' engagement and enjoyment (Zimik et al., 2024). Moreover, participants generally expressed high levels of concentration, and a significant majority believed that they were absorbed in the activities that they lost track of time and felt it passed quickly. Also, they were confident about achieving the goals of Kahoot! activities as the rules were clear, which made every activity attainable and not hard to complete. Regarding Participants' perceptions in the survey, The gamified experience was mainly satisfying, with most of the participants finding the feedback helpful to check their knowledge, and declaring their preference for the gamified learning approach and recommending it to their peers. This last corroborates with the results of Zarzycka-Piskorz (2016) as learners preferred gamification over traditional pedagogical methods. Regarding the dichotomous questions, students confirmed that elements of gamification increased their engagement and motivation, which shows their usefulness in making them more actively involved in their learning process. Additionally, they highly supported the integration of the gamified learning approach in their learning, and the recommendation of this approach to their peers.

Concerning the second research question what are the students' perceptions regarding the use of online gamification in grammar learning? the study seeks to understand learners' perceptions concerning their experience with gamified grammar learning and further investigate how it affected their engagement. The results unveiled five potential themes via thematic analysis to the interview responses, the themes explain the factors that contribute to learners' engagement in gamified grammar learning. The first identified theme "Engagement and Enjoyment"

underlines the deep engagement that participants experienced when using Kahoot!. Participants perceived Kahoot! as an engaging and enjoyable tool to use in grammar learning. This aligns with the findings of Zimik et al. (2024), who reported that learners viewed Kahoot! as an enjoyable and engaging medium that reduces the stress related to grammar learning. Therefore, it can be said that online gamification effectively contributes to increasing learners' engagement levels. The second theme "Learning Effectiveness" points out the improvements declared by students in their grammar understanding. They found Kahoot! beneficial in verifying their understanding and practicing what they have learnt, as it reinforces and strengthens their comprehension of grammar. In several research studies, not only Kahoot! but also a variety of different gamified applications like Duolingo and Quizziz have shown their significant role in advancing learners' grammar comprehension and augmenting learning outcomes (Rafiq & Yunus, 2019 ; Fakhruddin et al., 2022 ; Koç & Sütçü, 2023).

Moreover, the third theme "Learners' Perceptions about Grammar" emphasizes the positive feedback provided by learners regarding the use of online gamification, and how their perceptions about grammar learning changed after the experience. This practical and modern approach successfully attracted learners into learning grammar in an engaging way. In the same way, Zarzycka-Piskorz (2016) received positive opinions of university students supporting the gamified style of learning. As Kawattipa (2023) revealed that gamification reduces learners' fear and anxiety, participants expressed their decreased fear and feelings of enjoyment while using Kahoot! in this third theme.

The fourth theme "Gamification and Engagement" accentuates the engagement and excitement increased by the process of gamification and its elements. Nurlely (2024) stated that elements of gamification like leaderboards and feedback increase students' engagement, motivation and add excitement to the learning process. The participants affirmed this by reporting their admiration to the use of time, points, leaderboards and feedback in Kahoot! as they made

them more immersed with the activities, by competing with their peers and

The fifth and last theme "Challenges and Difficulties" reveals the problems encountered by learners in the gamified learning experience. Unstable internet connection and time limits were among the challenges reported by two of the participants. These reported issues should be taken seriously because they might hinder their engagement with the activities and disrupt the gamified experience. Consequently, the digital environment plays a crucial role in either increasing or decreasing learners' engagement, and this depends on how it encourages the gamified learning experience (Chen & Deng, 2024).

With the implementation of flow theory, the results indicate that a large proportion of participants avoided both the boredom and frustration areas, so they fell into flow channel and were immersed into the activities as reported in the survey. Flow theory is really related to the gamification process, since participants were deeply engaged with the Kahoot! activities.

The findings of this study highlight the constructive role of gamification mainly in grammar learning. The study affirms the use of Kahoot! as a catalyst that enhances learners' engagement and increases their learning outcomes, in which learners liked the style of gamified learning and found it to be an effective approach in reinforcing grammatical rules and structures.

4.5 Implication of the Findings

The findings of this study have several implications for EFL grammar learning, especially in the context of Algerian EFL learning and teaching. First, the integration of online gamification in grammar course can enhance learners' engagement and improve the learning experience. Instructors can benefit from this practical approach and employ it by using gamified applications or even designing activities that suit the course objectives. Teachers can incorporate online gamified activities in the regular sessions by making students play games individually or in groups. This facilitates the comprehension of grammar lessons and increase students' interest

and engagement in grammar. On the other hand, online gamification can be used for practical purposes such as revision sessions or to apply it for homework assignments in order to reinforce grammar understanding.

Second, course designers and developers can also benefit from gamification by designing tailored gamified strategies that suit the specific needs of students, taking into consideration students' characteristics such as their proficiency levels (beginner, intermediate and advanced). By implementing gamified activities based on level of learners, easy tasks for beginners, achievable activities for intermediate and complex tasks for advanced learners. This helps to keep learners' engaged and ensures that the activities support the learning goals.

General Conclusion

5.1 Conclusion

This section will conclude the study by summarising the key research findings in relation to the research aims and questions, and discussing the value and contribution thereof. It will also review the limitations of the study and propose opportunities for future research.

Grammar is a fundamental aspect in language learning, whereas learners are often disengaged with it due to its complex structures and rules. The goal here is to enhance their engagement and improve the learning process. Therefore, this study central focus is to use an alternative method in order to improve the learning experience in grammar. This investigates the impact of learning grammar via online gamification on learners' engagement. It also aimed to understand learners' perceptions regarding gamification.

The theoretical aspect in this research is presented in the first chapter, which demonstrated the use of flow theory and highlighted the literature review about the variables. It focused on learners' engagement, gamification in education, grammar difficulties and solutions for a better learning. The second chapter is dedicated to the field work by investigating learners' engagement. Two data collection tools were used to answer the research questions. The quantitative findings revealed a significant improvement in learners' engagement in grammar learning, while the qualitative results provided a strong feedback towards gamification, its integration and its impact on engagement and learning experience.

The integration of this modern and practical approach can be a beneficial addition to attract learners and improve their engagement, and contribute to the development of both grammar learning and teaching.

5.2 Limitations

The study provided insights into the potential of gamification in grammar learning.

However, several limitations should be acknowledged. First, the sample size was relatively small as the researcher was able to recruit only twenty (20) participants to take part in the study. Also, the duration of integrating Kahoot! was only ten days. This study implemented an explanatory research design aiming to investigate the impact of gamification on students' engagement, but further studies can rely on larger samples and extended durations of implementation to draw conclusions that are more significant.

5.3 Recommendations for Future Research

The researcher recommends future researchers to investigate the impact of gamification on learners using larger samples and in a longer duration of time to gain insights that are more significant. By implementing experimental research designs to explore the effect of gamification on students' learning outcomes through the incorporation pre and posttests, and the use control and experimental groups. Finally, in order to expand this area of research, future studies can examine the effectiveness of gamification in other courses like oral expression course to enhance learners' participation, interaction and their language proficiency.

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Appendix A

Learners' Engagement in Online Gamified EFL Grammar Learning Survey

This survey investigates learners' engagement in using online gamification in grammar learning. Your answers will help in improving the quality of learning grammar. It will take 5-10 minutes to complete answering this survey.

Age: _____

Gender: _____

Do you play computer games or mobile phone games?

Yes _____ No _____

Could you please rank the following statements regarding your experience using online gamification in grammar learning. (SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SDA = Strongly Disagree).

Items	SDA	D	N	A	SA
I felt engaged while participating in the gamified learning activities					
I felt motivated in this style of learning					
I was able to concentrate while working on the activities					
I wanted to complete the activities					
I felt absorbed in the activities					
I felt that time passed quickly					
I felt that I could achieve the goal of the activities					
I knew what I had to do to complete the activities					
It was not clear what I could and could not do					

It was clear what I could learn from the activities
I found it easy to get started
I found the activity boring
I found the activities satisfying
The feedback I received was useful
I have improved my grammar understanding
I have enjoyed this style of learning more than traditional face-to-face classes

-Did the gamification elements like time, rules and points make you feel more engaged and motivated to complete the activities?

Yes _____ No _____

-Did you face any problems or difficulties during the experience of online gamification?

Yes _____ No _____

-Do you agree on integrating online gamification in the learning process?

Yes _____ No _____

-Do you recommend this style of learning to your peers and other learners?

Yes _____ No _____

Appendix B

Students' Interview

Question 1: What do you think about using Kahoot! in grammar learning?

Question 2: Can you describe your experience with using Kahoot! in grammar learning?

Question 3: Did Kahoot! change your opinion towards grammar learning? If yes, how?

Question 4: In what ways do you think that using Kahoot! in grammar makes learning more engaging?

Question 5: What challenges have you faced during the use of Kahoot! ?

الملخص

يهدف البحث الحالي إلى دراسة تأثير اللعب عبر الإنترنت على تعلم قواعد اللغة الإنجليزية كلغة أجنبية؛ ويركز على مشاركة الطلاب وتصوراتهم فيما يتعلق بنهج التعلم اللعبي. تستهدف الدراسة طلاب السنة الثانية لأنهم يتعاملون مع العبارات والجمل، وهي مكونات أساسية للقواعد. يكمن الإطار النظري في نظرية تدفق التعلم المتعلقة باللعب. يستخدم البحث تصميم بحث توضيحي ونهج الأساليب المختلطة. ويستخدم أداتين لجمع البيانات للإجابة على أسئلة البحث، واستبيان لجمع البيانات الكمية ومقابلات للحصول على رؤى نوعية. تتكون العينة من 20 طالبًا في السنة الثانية بجامعة بسكرة. يشارك المشاركون في تعلم قواعد اللغة اللعبي باستخدام تطبيق تكشف النتائج عن تحسينات في مشاركة المتعلمين، وتفضيل قوي لدمج التكنولوجيا في عملية التعلم، وردود فعل إيجابية بشأن استخدام اللعب في تعلم القواعد بعد التعرض لتعلم قواعد اللغة اللعبي. تُسلط الدراسة الضوء على إمكانات اللعب الإلكتروني في تعزيز تفاعل المتعلمين الجزائريين، من خلال اقتراح دمجهم في الأنشطة الصفية والواجبات المنزلية لتحسين تجربة التعلم. وتُختتم الدراسة بتوصيات لتوسيع نطاق هذا البحث من خلال استخدام تصاميم تجريبية بعينات أكبر وفترات زمنية أطول.