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## OVERVIEW STUDY ON USING GAMIFICATION IN EDUCATION FOR PERSONALITY DEVELOPMENT

**Abstract.** Gamification in the educational process has attracted the attention of educators and policymakers over the past three decades because it can increase student motivation and engagement in various academic tasks. Intrinsic and extrinsic motivations have a special effect on the cognitive abilities of students in learning outcomes and improve overall academic performance. Motivation, which is an important means of achieving learning goals, motivates students according to their interests. Since students have different perceptions of information, they can choose their activities based on their learning preferences. This article provides an overview study on using gamification in education for personality development. According to the research topic, ten gamified learning cases are analysed and the relevance of digital gamification in education is identified. This study focuses on gamification's influence on personal development through learning, gamification in learning and business, the role of gamification in education and the role of the English language in business by implementing gamification. As a result, the authors highlight the role of English in business and the use of gamification in language teaching as a foreign language. In addition, the authors identify research gaps and suggest potential future research directions in this area.

**Keywords:** student, education, digital, gamification, English.

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Тұлғаның дамуы үшін білім беруде геймификацияны пайдалануға шолу

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**Аңдатпа.** Геймификация білім беру процесінде соңғы үш онжылдықта педагогтар мен саясаткерлердің назарын аударып отыр, себебі ол студенттердің мотивациясын арттырып, әртүрлі академиялық тапсырмаларды орындауға қатысуын қамтамасыз ете алады. Ішкі және сыртқы мотивация студенттердің оқу нәтижелеріндегі танымдық қабілеттеріне ерекше әсер етіп, жалпы академиялық көрсеткіштерін жақсартады. Оқу мақсаттарына жетудің маңызды құралы болып табылатын мотивация студенттерді олардың қызығушылықтарына қарай ынталандырады. Студенттердің ақпаратты қабылдауы әртүрлі болғандықтан, олар оқу қалауларына қарай өз әрекеттерін таңдай алады. Бұл мақалада тұлғаны дамыту үшін білім беруде геймификацияны пайдалану туралы шолу қарастырылған. Зерттеу тақырыбына сәйкес он геймификацияланған оқыту жағдайы талданып, білім берудегі цифрлық геймификацияның өзектілігі анықталды. Бұл зерттеу геймификацияның оқыту арқылы тұлғаның дамуына әсері, оқудағы және бизнестегі геймификация, білім берудегі геймификацияның рөлі және геймификацияны жүзеге асыру арқылы бизнестегі ағылшын тілінің рөліне баса назар аударылады. Нәтижесінде авторлар ағылшын тілінің бизнестегі рөлін және тілді шет тілі ретінде оқытуда геймификацияны қолдануды атап көрсетеді. Сонымен қатар, авторлар зерттеу кемшіліктерін анықтайды және осы саладағы болашақ зерттеу бағыттарын ұсынады.

**Кілт сөздер:** студент, білім, цифрлық, геймификация, ағылшын тілі.

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### **Обзорное исследование по использованию геймификации в образовании для развития личности**

**Аннотация.** Геймификация в образовательном процессе привлекла внимание преподавателей и политиков за последние три десятилетия, поскольку она может повысить мотивацию учащихся и их участие в различных академических задачах. Внутренняя и внешняя мотивация оказывают особое влияние на познавательные способности учащихся в отношении результатов обучения и улучшают общую успеваемость. Мотивация, которая является важным средством достижения целей обучения, мотивирует учащихся в соответствии с их интересами. Поскольку учащиеся по-разному воспринимают информацию, они могут выбирать виды деятельности исходя из своих учебных предпочтений. В данной статье представлено обзорное исследование использования геймификации в образовании для развития личности. По теме исследования проанализированы десять кейсов геймифицированного обучения и выявлена актуальность цифровой геймификации в образовании. В этом исследовании основное внимание уделяется влиянию геймификации на развитие личности посредством обучения, геймификации в обучении и бизнесе, роли геймификации в образовании и роли английского языка в бизнесе путем внедрения геймификации. В результате авторы подчеркивают роль английского языка в бизнесе и использование геймификации при обучении как иностранному языку. Кроме того, авторы выявляют пробелы в исследованиях и предлагают потенциальные будущие направления исследований в этой области.

**Ключевые слова:** студент, образование, цифровое, геймификация, английский язык.

## Introduction

A gamification is a learning tool for digital natives, second foreign language learners and other disciplines. Through it, students get used to the way of learning and the free atmosphere, and they form their internal motivational skills because when learning through the game, information about the student's achievements is visible [1, 2]. This approach is particularly effective for independent learners because it provides an interactive and engaging environment that promotes active learning. It has been scientifically proven that gamification has a great impact on student activity and motivation [3]. For this purpose, computer technology is used in all aspects of human life [4], especially in educational sectors [5]. The online atmosphere can be used as a simulator for pre-service professionals to train their skills. For instance, through online simulators, they can develop their interpersonal skills without any conflicts [6]. Gamification has gained significant attention in the use of augmented reality technology in cultural heritage. Boboc et al. (2022) provide an overview of the applications of augmented reality in cultural heritage over the last decade [7]. They highlight the growing interest in gamification as a means to enhance visitor engagement and interaction with cultural heritage sites. By incorporating game elements, such as challenges, rewards, and competition, gamification can create immersive experiences that promote active participation and learning. However, the specific impact of gamification on personal identity in the context of cultural heritage remains unexplored. In the next subsections, the authors will explore such research questions about:

1. How gamification impacts personal development through learning;
2. Gamification in learning and business;
3. The role of gamification in education;
4. The Role of English Language in business by implementing Gamification.

## Research methods and materials

This study is a review approach and uses secondary data from published reliable research sources. The authors rely on a scientific method that aims to introduce the reader to research results, ideas and discussions on personal development through gamification, the role of gamification in education, and the role of the English language in implementing gamification. As research findings, the authors will summarize this review study with knowledge gaps and future research recommendations.

## Results and discussion

### *Literature review*

#### *How gamification impacts personal development through learning*

The use of gamification during education has become recognized as a powerful tool to influence the development of the individual. In their 2019 study, Gatti, Ulrich, and Seele found that consistent use of gamification has an impact on student learning outcomes. They suggested that gamification reinforces emerging “psycho-politics” around measuring and changing students' social and emotional learning, and posits that gamification can impact personal development by incorporating it into the learning process. This shows that gamification is relevant to the implementation of current educational programs and has the potential to influence the personal development of students [8]. In a similar vein, Williamson (2017) discussed the effect of gamification on the socio-emotional state of the student through educational technologies. The author considered the relationship between gamification methods and the psychological concepts of the learner's character development and personal qualities, thus further emphasizing the possibility of gamification to influence the development of the individual through education [9]. On the other hand, Leclercq, Poncin, and Hammedi (2017) provided insight into the potential of gamification to increase engagement and participation, which are important components of effective learning and personal growth [10].

In addition to learning through play, its integration into business demonstrated the potential for personal development through play. Sidali et al. (2015) argue that tourism as a rural development strategy meets the potential of gamification, thereby creating niche experiences tailored to individual preferences, and contributing to personal development [11]. This means that by preserving cultural heritage, people have the opportunity to connect with their past historical culture and develop self-awareness and understanding. Destruction of the traces of the past due to modernization leads to nostalgia, so it is necessary to strengthen the need to preserve these traces [12]. This shows the importance of heritage tourism in preserving and protecting cultural heritage.

The needs of most tourists are based on the psychological need to change their current living conditions in some temporary way when their economic conditions are fully improved; their main motivation is to refresh the body and soul, to relax the mind or to achieve a higher level of success; for tourists, the purpose of tourism is emotional gain or material gain, and interest is the main factor in choosing a tourism product. Currently, detailed information about various tourism products in our country or internationally is available and each tourist destination and tourism product's unique features are highlighted. It is ideal to experience all these tourist products under current conditions, so tourists must follow their interests. To choose tourism products that suit them; ideals, beliefs, and worldviews are higher-level tourism psychological activities. Tourists accurately position their psychological goals for travel through their own beliefs or ideals. The reflection of worldview focuses on the tourism process. Every cognition and perception in it [13]. Moreover, a person forms an idea of himself as a subject of travel, his personal and social identity, forms an idea of the role of travel in development, of how travel can and should be used to look for solutions to internal and external problems. Thus, this literature review showed the insightful potential of gamification integration into tourism business for personal development. Through interaction with tourism products, participants gain pleasant experiences, realize self-worth, and promote psychological growth.

#### *Gamification in learning and business*

Gamification is the concept of applying game elements such as mode, value, and incentives to various life experiences, such as shopping for groceries, visiting websites, learning, etc. [14]. The use of digital technologies through gamification is effective because it facilitates the learning process and helps to increase the activity and motivation of students. For example, at Khan Academy, a student can register online for free and study all e-learning materials on their own, with specific assignments for each new topic (Figure 1). In addition, the student not only studies, but also checks and monitors the acquired knowledge. The future of such training is very great for the next generation. Khan Academy is an open access e-learning that constantly uses gamification practices to measure progress and achievements, display student learning percentages on leaderboards. It employs personalized and student-centered teaching approaches and covers several subjects such as maths, English as a foreign language, art, sciences, humanities, economics, ect.

It is attracting considerable attention in various fields, including education and health. However, its application and impact on the business industry have not been extensively explored. Nowadays everyone can create their online profile as an individual on the www... page. Interaction between the Internet and a person is getting a special social space. Personal information is transferred into the digital area. From the perspective of behavioural psychology (like implementing online gamification elements), people are influenced by digitalization. It is becoming a usual action that a user interface is designed to make people consent to their sharing of data or buying things. Xu et al. (2013) stated that the purpose of implementing gamification in the tourism industry falls into two groups such as increasing the motivation of tourists by using online gamification to gain a behaviour change (for example, buying products), and enabling tourists to value co-creation (for instance, provoking an intrinsic motivation). In addition, with gamification, tourists can enjoy their time digitally through smartphones, tablets, or other digital devices [15]. For example, during a haul

flight, passengers can be delved into online games. When they are engaged in online games, they can feel different emotions like in real life [16].

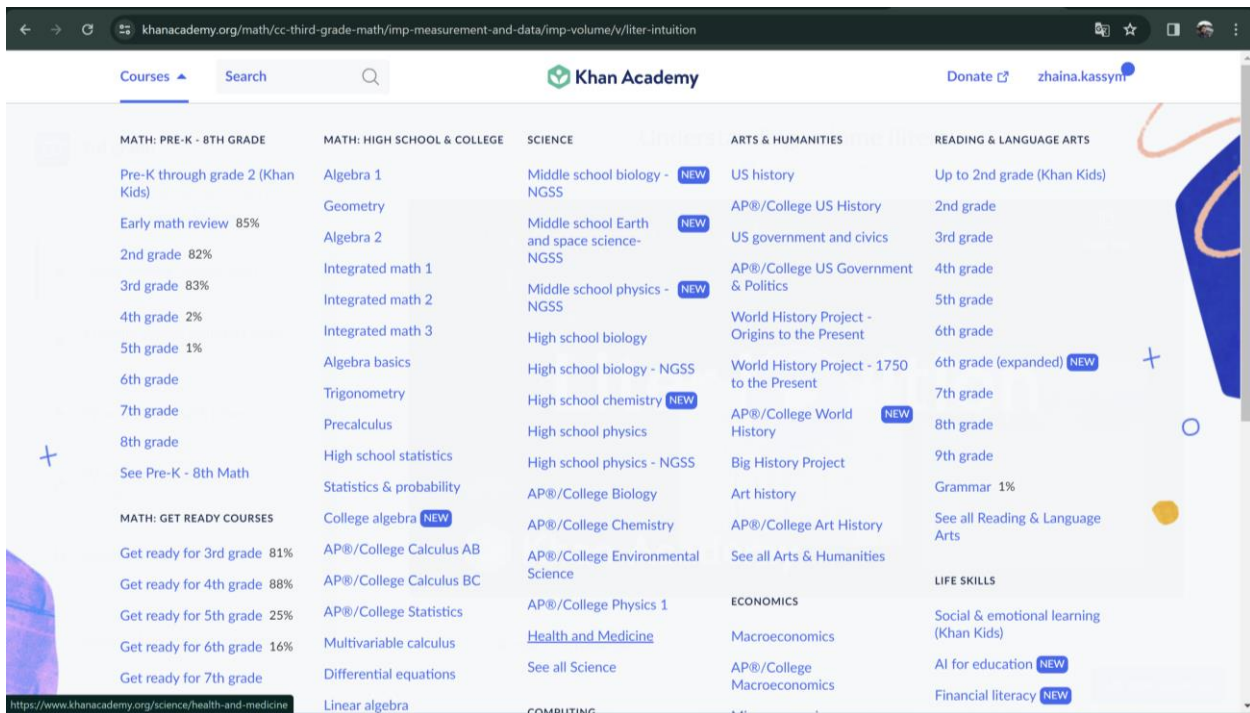


Figure 1 – E-learning at Khan Academy (<https://www.khanacademy.org>)

One specific area where gamification has been applied is science education. Gamification in science education aims to increase student engagement and promote scientific thinking. It has the potential to address the decline in students' motivation towards science learning [17]. These studies highlight the positive impact of gamification in science education, but there is a need for further research to explore its specific applications and effectiveness in different science disciplines.



Figure 2 – Virtual Reality in the business by Justin Wong  
(<https://topsoftwarecompanies.co/virtual-reality/importance-of-virtual-reality-solutions-in-your-business>)

According to Justin Wong (2020), Virtual Reality (VR) is one of the main technological innovations of today. Initially, it was used as a convenient technology for games and entertainment. Today, VR is used in different applications, including education and business. Figure 2 VR solutions for education and training, tourism, interior design, etc. show different features used in business; VR provides a virtual experience that allows people to simulate real-life situations. This way of learning can solve some of the problems in education by allowing students to perform real-life problem tasks.

#### *The role of gamification in education*

Several studies have demonstrated the effectiveness of gamified technologies in facilitating language learning. Virtual reality technologies with gaming strategies can be used to learn a foreign language. This suggests that incorporating gamification elements into language learning activities can enhance student engagement and improve learning outcomes. Furthermore, Alobaid (2020) reported that students in the experimental group outperformed their counterparts in the control group in terms of vocabulary learning outcomes, enjoyment, and motivation [18]. These findings provide strong evidence for the positive impact of gamification on English language learning.

With the widespread adoption of digitalization, gamification has received considerable attention in the educational context, with the field of teaching English as a foreign language (TEFL) being no exception. According to Deterding et al. (2011), gamification refers to “the use of game design elements in non-game contexts” [19]. The elements of game design can be divided into the following two categories; obvious and hidden categories. The first concerns the game-like components of commercial video games, for example, points, badges, leaderboards, avatars, and virtual money. The second involves underlying mechanisms related to people's inherent psychological needs that make gaming activities enjoyable. Feedback, achievement, competition, cooperation, challenge, avoidance, ownership, and user control are examples of hidden game design elements. It should be noted that gamification occurs not only in digital modality but also in non-digital mode [20]. However, in most sources, gamification involves the use of technology since the term itself first appeared in the digital media sector in 2008 and achieved broad utilization in 2010.

Recent research in the realm of education has yielded compelling results that show the considerable benefits of gamification. First and foremost, gamification provides a viable alternative to traditional education, offering a highly engaging approach. This is crucial because engagement is positively linked to student success outcomes, including satisfaction, perseverance, and academic results [21]. For instance, Sun and Hsieh (2018) conducted quasi-experimental research aiming to examine the impact of the gamified interactive response system (IRS) on high school students' intrinsic and extrinsic motivation, engagement, and attention levels in English classes [22]. The findings indicated that the gamified IRS positively affected the participants' intrinsic motivation, overall engagement, emotional engagement, and focused attention, which was attributed to the interactive and competitive nature of the system. Similarly, Koppitsch and Meyer (2021) compared the effects of gamified activities with and without points and found that point-based gamification was more effective in engaging students than the traditional lecture, but no significant difference was observed between point-based and poll-based gamification [23]. Despite the advantages, the results also showed that point-based gamification led to low learning retention as students were more focused on scoring points and winning the game than carefully thinking. Therefore, it was highlighted that instructors must consider reinforcing the content covered in gamification activities.

Another benefit of gamification lies in its positive impact on students' academic performance. For example, Arufe Giráldez et al. (2022) analyzed the impact of a multimodal gamified learning environment on university students' final grades [24]. The researchers developed a system of points, leaderboards, and levels that were awarded to students for willingly completing academic tasks. According to the results of a two-year experiment, students from the intervention group

scored better than those in the group that was taught using traditional teaching methods. Thus, gamification has the potential to improve learners' academic performance.

In the context of Kazakhstan, Seilbayeva (2021) did a qualitative study to investigate 'Bilim-Innovation' lyceum teachers' experiences and perceptions of gamification [25]. The sample included instructors from different disciplines across eight schools. It was revealed that teachers' attitudes towards gamification are mainly positive, as gamification reduces both teachers' and students' workload. Additionally, it was suggested that school instructors be provided with structured training in integrating gamification into their classes. Assan and Kunanbayeva (2023) explored the influence of various interactive technologies, such as gamification, online platforms, and virtual reality, on the development of Kazakhstani language learners' communicative competence [26]. A mixed-methods approach, involving pre- and post-tests to measure communicative proficiency, semi-structured interviews with both language learners and teachers, and classroom observations, was applied. The findings demonstrated that the incorporation of gamification, online platforms, and virtual reality in English teaching significantly enhanced students' language proficiency, motivation, and communication skills. English language was the most commonly used language to evaluate the effectiveness of gamified technology in language learning. This highlights the significance of gamification in English language education and its potential to enhance language proficiency.

#### *The Role of English Language in business by implementing Gamification*

English is considered the most widely used and spoken language in international tourism, playing a crucial role in delivering quality service in the tourism and hospitality industry. However, the effective teaching and learning of English for tourism purposes have been a challenge. In recent years, gamification has emerged as a potential solution to enhance the learning experience and outcomes in English as a Second Language (ESL) contexts. Gamification, the use of game elements and mechanics in non-game contexts, is effective in supporting the learning of English as a second language. It has been shown to enhance engagement, motivation, and satisfaction among learners [3]. Teachers can create interactive and immersive learning environments on tourism to increase students' motivation to participate in classes and accelerate foreign language learning. English for special purposes and English for tourism also play a major role in teaching English in the field of tourism. Therefore, to improve practical ability and communicative ability, it is necessary to develop an English language communication test suitable for tourist professions and to scientifically study their tourist language ability [27].

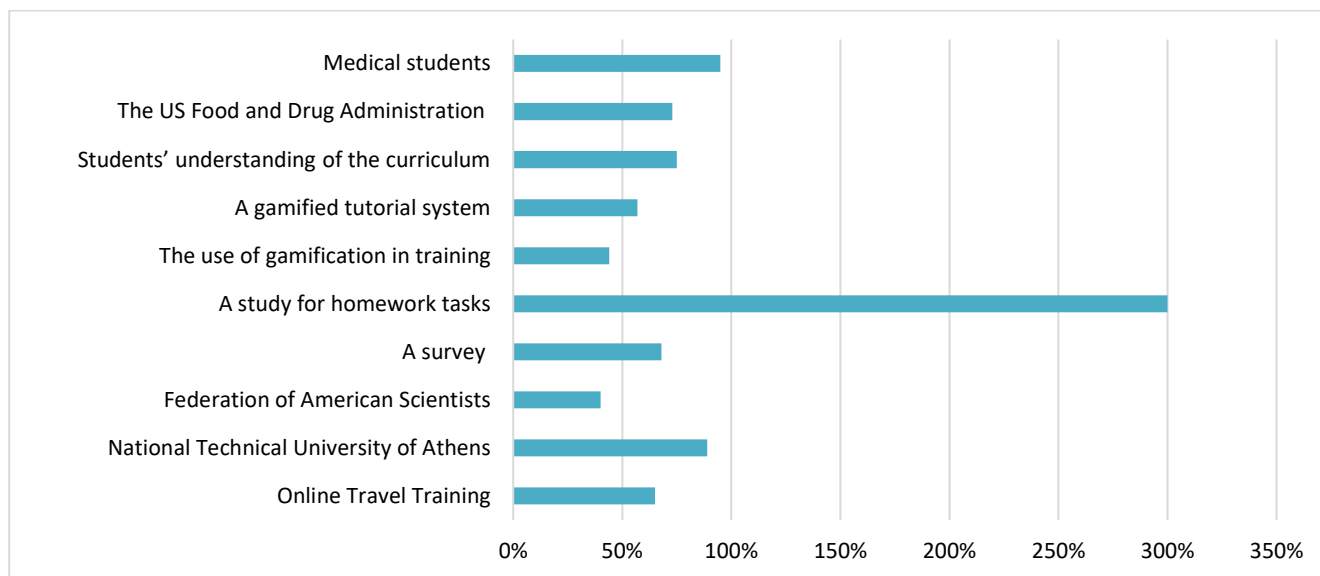
In addition, thematic analysis methods used in bilingual cross-linguistic studies are important to study the role of intangible cultural heritage in tourism. The relationship between climate change and the media structure of tourism can be explored by collecting and analyzing publications in English. All this shows the importance of improving the English language for effective communication and sustainable development in tourism. Due to the restriction of movement during the COVID-19 pandemic, there is a need to integrate technologies such as mobile language learning, gamification, and virtual reality into English teaching to develop online tools to support English language learning and create a learning format.

#### *Research results*

Gamification has been explored in education and healthcare for some time, but it has only taken off in the tourism industry in recent years. Research on gamification in tourism should be strengthened and the combination of gamification and tourism should be explored in education to improve tourist engagement and satisfaction by enhancing the tourist experience. On the one hand, with the emergence of sustainable tourism, gamification is combined with sustainable tourism, and games are used to help tourists improve their sustainability awareness and learn related sustainable behaviours, such as saving resources, protecting the environment, etc., and investigating gamification practicality and effectiveness in promoting sustainable tourism practices. This research

could provide insights into the role of gamification in promoting sustainable tourism and its impact on tourists' attitudes and behaviours.

Table 1 indicates the positive results of ten case studies about gamification usage in the educational sectors worldwide. It was published by Nikita Verma on February 19, 2023. Gamification has the potential to transform teaching approaches positively. As can be seen from Figure 3, gamification on student engagement, motivation, and learning performance plays a crucial role. The case at the National Technical University of Athens shows an increase of 89% in student performance through problem-based learning by playing an online game called “Horses for Courses” among 365 students who were majoring in statistics. The case led to a 65% rise in online user engagement through Online Travel Training in Europe. By playing online, American students boosted their memory and recall by 40%, according to the Federation of American Scientists. They highlight that if a student is engaged in learning by himself, he can retain 90% of what he has learned online by using gamification. A conducted survey among 124 students measured their behaviour attitudes and revealed that their motivation and engagement levels rose to 68% in the gamified course than a traditional course. Students need to get feedback from their tutors after completing home assignments and the case study highlights a 300% higher homework completion rate when using a gamified course with levels and an online feedback system. Moreover, the next case states that gamification enhances learning motivation and reduces boredom; using gamification in training increased students' motivation by 44%.



\*<https://axonpark.com/how-effective-is-gamification-in-education-10-case-studies-and-examples/#:~:text=It%20was%20found%20that%20challenge,the%20students%20increased%20by%2034.75%25.>

**Figure 3 – Ten case studies about gamification in the educational system**

The next case studies mention that learners using gamified tutorials completed tasks 57% faster than the control group, whereas 260 students were asked by the end of the semester about the implementation of gamification in their future curriculum and it was revealed that 75% of students understood their learning process effectively thank the gamification activities and 89% of them wanted to be engaged in gamification in other subjects as well. In addition, gamification is also beneficial for inclusive education, as the case study about children with attention deficit hyperactivity disorder reported positive outcomes in attention after having regularly played “EndeavorRx”, 73% of children improved their attention in the learning process. In the case study



with medical students, 95% of the medical learners agreed that they were engaged during the gamified session and shared their insights about the better activity than traditional lectures. Table 1 about ten gamification case studies proves that gamified learning is, even more, fun, social, and easy to create interactive learning lessons; using gamified courses is more interesting than traditional lectures for students and accessible across a wide range of platforms.

#### *Research Gaps for the Future*

Future research should investigate the effectiveness of other technologies, such as virtual reality and mobile-assisted gamification, in facilitating English language learning. Furthermore, the potential of gamification in learning languages other than English should be explored to understand its cross-linguistic applicability. Lastly, considering the ongoing pandemic outbreak, future research should focus on exploring innovative pedagogical methods that integrate gamification to facilitate remote English language learning.

#### **Conclusion**

To sum up, gamification has become a valuable tool in education, particularly for teaching English as a foreign language. Recent studies highlighted the advantages of gamification, namely a positive impact on engagement and academic performance. Research in Kazakhstan showed that instructors have favourable views toward gamification and that the implementation of gamification can boost learners' motivation, language proficiency, and communicative skills. In general, the concept of gamification in the Kazakhstani setting is understudied; therefore, further research on this topic should be conducted. Additionally, innovative pedagogical methods that integrate gamification should be explored to facilitate remote English language learning during the pandemic. Thus, gamification has the potential to revolutionize language learning and create engaging and immersive learning experiences for students. The English language plays a vital role in the business industry, and gamification has emerged as a promising approach to enhance English language learning in this field. By combining game elements and mechanics in language teaching, teachers can have an engaging lesson that improves interactive learning outcomes.

*Research recommendations.* It is recommended to focus on the development of innovative and effective gaming approaches. Additionally, the focus should be on investigating the specific strategies and methods of gamification that are most effective in teaching.

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