

EXPLORING THE EFFECTIVENESS OF DIGITAL GAMES AS MOTIVATIONAL TOOLS FOR ENGLISH LANGUAGE LEARNING IN PRIMARY SCHOOL SETTINGS

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Abstract

This study aims to investigate the effectiveness of digital games as motivational tools for English language learning in primary school settings. In recent years, the integration of digital games into educational settings has gained significant attention due to their potential to enhance students' motivation and engagement. However, limited research has explored the specific impact of digital games on English language learning in primary school contexts. To address this gap, a mixed-methods approach was employed, combining quantitative measures of student motivation and language proficiency with qualitative data obtained through interviews and observations. The study involved a sample of primary school students aged 8 to 10 years in Shymkent, who participated in a digital game-based English language learning program over a period of 10 weeks. The findings revealed that the use of digital games positively influenced students' motivation to learn English and contributed to improvements in language proficiency. The students reported high levels of enjoyment and engagement while playing the games, which resulted in increased participation and active learning. Additionally, the qualitative data highlighted the potential of digital games to foster collaborative and communicative skills, as well as to provide opportunities for autonomous learning. However, some challenges, such as limited access to technology and the need for appropriate game design and pedagogical integration, were identified. This research contributes to the growing body of literature on gamification and digital technologies in education, emphasizing the potential of digital games as motivational tools for English language learning in primary school settings.

Keywords: Digital games, motivation, primary school, gamification, educational technology, proficiency, engagement, collaborative learning.

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Introduction

English language proficiency is increasingly recognized as a vital skill in our globalized world. As a result, educational institutions are constantly seeking innovative and effective approaches to enhance English language learning among students, particularly at the primary school level. In recent years, digital games have emerged as a

promising tool to engage and motivate learners in various educational domains, including language learning.

The integration of digital games into educational settings, known as gamification, has gained significant attention due to its potential to create engaging and interactive learning experiences. Digital games offer unique features such as interactivity, immediate feedback, and immersive storytelling, which can enhance students' motivation and involvement in the learning process. Moreover, games have the ability to create a safe and enjoyable environment where students can practice language skills without fear of making mistakes or facing social pressure.

Exploring the effectiveness of digital games as motivational tools for English language learning in primary school settings involves understanding the impact of various factors on students' motivation and language acquisition. Research has shown that integrating technology, such as online computer games, can increase motivation and engagement in learning English as a foreign language (Vasileiadou and Makrina, 2017: 134). Additionally, utilizing tools like Wall Attack in Padlet has been found to enhance vocabulary acquisition and student motivation in English language learning (Hamid, Rosli and Yunus, 2019).

Moreover, studies have highlighted the significance of self-efficacy beliefs in learning English as a foreign language, indicating a positive relationship between self-efficacy and language ability, which influences students' cognitive and motivational engagement (Anam and Stracke, 2019). Furthermore, the L2 motivational self-system has been explored to understand its effectiveness in English learning in general high schools (Wu, Raash and Dashtseren, 2022: 218-226).

While digital games have been widely explored in various educational contexts, limited research has specifically focused on their effectiveness as motivational tools for English language learning in primary school settings. Primary school students, aged 8 to 10 years, represent a critical age group for language acquisition, and their attitudes and motivation towards language learning can significantly impact their long-term language proficiency.

Understanding the potential of digital games to motivate and engage primary school students in English language learning is crucial for designing effective language programs and instructional strategies. Therefore, this study aims to fill this research gap by exploring the effectiveness of digital games as motivational tools for English language learning in primary school settings.

By employing a mixed-methods approach, combining quantitative measures of student motivation and language proficiency with qualitative data obtained through interviews and observations, this study seeks to provide a comprehensive understanding of the impact of digital games on primary school students' motivation and language learning outcomes. Additionally, the study will explore the potential benefits and challenges associated with the use of digital games in the primary school English language learning context.

The findings of this research will contribute to the existing body of literature on gamification and digital technologies in education, specifically highlighting the potential of digital games as motivational tools for English language learning in primary school settings. The results can inform educators, curriculum developers, and policymakers in making informed decisions regarding the integration of digital games into language learning programs and designing effective pedagogical strategies to enhance students' motivation and language proficiency.

Materials and Research Method

This study utilizes a mixed-methods approach to investigate the effectiveness of digital games as motivational tools for English language learning in primary school settings. This method entails the simultaneous collection of both quantitative and qualitative data, enabling a thorough analysis that combines the insights from numerical data with the richness of story data. Through the integration of quantitative metrics assessing student motivation and language proficiency, along with qualitative data gathered through interviews and observations, a comprehensive understanding of the impact of digital games on primary school students' motivation and language learning outcomes can be achieved.

1. Participants: The study involves a sample of primary school students aged 8 to 10 years. The participants are selected from primary schools that have integrated digital game-based English language learning programs into their curriculum. Utilizing simple random sampling in studies can guarantee a diverse and representative sample of schools and participants, thus reflecting the broader population (Osiesi, 2023).

2. Quantitative Measures: To assess student motivation, standardized self-report questionnaires are administered to the participants. These questionnaires may include scales that measure intrinsic motivation, extrinsic motivation, enjoyment, and engagement. Pre- and post-intervention assessments are conducted to compare the changes in motivation levels before and after the implementation of the digital game-based program.

Additionally, students' language proficiency is assessed using recognized language assessment tools. Ning et al. (2022) emphasize the significance of employing interactive technology, such as smart boards, as assessment instruments for pioneering language acquisition in elementary schools (Ning et al., 2022). This study presents empirical evidence that supports the successful utilization of technology in evaluating the outcomes of language instruction. This can also be applied to assessing the influence of digital games on the motivation and proficiency of English language learning. These assessments may cover various language skills, such as reading, writing, listening, and speaking. Pre- and post-intervention language proficiency assessments are conducted to measure the improvements in students' language abilities.

3. Qualitative Data Collection: Qualitative data is collected through interviews and observations to gain deeper insights into students' experiences and perceptions of using digital games for English language learning. Semi-structured interviews are

conducted with a subset of 46 participants to explore their attitudes, motivations, and perceived benefits or challenges associated with the digital game-based program. The interviews allow for in-depth exploration of individual experiences and perspectives.

Observations are carried out during the implementation of the digital game-based program to capture the interactions, engagement levels, and collaborative learning opportunities that arise during gameplay. This qualitative data provides rich contextual information and complements the quantitative findings.

4. Data Analysis: Quantitative data obtained from the self-report questionnaires and language proficiency assessments are analyzed using appropriate statistical techniques. Descriptive statistics, such as means, standard deviations, and frequency distributions, are calculated to summarize the data. Inferential statistics, such as t-tests or analysis of variance (ANOVA), are employed to examine the significance of differences in motivation levels and language proficiency scores before and after the intervention.

Qualitative data from interviews and observations are transcribed, coded, and analyzed thematically. The coding process involves identifying key themes, patterns, and categories related to students' experiences, perceptions, and challenges associated with the use of digital games for English language learning.

5. Integration of Data: The quantitative and qualitative findings are triangulated to provide a comprehensive understanding of the impact of digital games on student motivation and language learning outcomes. The convergence of findings from both approaches strengthens the overall validity and reliability of the study.

By employing this mixed-methods (quantitative and qualitative data) research design, the study aims to provide a holistic understanding of the effectiveness of digital games as motivational tools for English language learning in primary school settings. The integration of quantitative and qualitative data allows for a more comprehensive exploration of the research topic and enhances the validity and reliability of the findings.

Analysis and Results

Motivation plays a crucial role in students' success in learning English as a second language, with integrative and instrumental motivations being key factors influencing students' achievements (Suryasa, Prayoga, and Werdistira 2017: 43). Understanding students' motivation towards learning English, whether driven by life and career-based reasons or integrative factors, is essential in tailoring effective language learning strategies (Kitjaroonchai, 2013: 22).

In primary school settings, cultivating students' interest in learning English through interactive methods can significantly enhance communication, language expression, and knowledge accumulation, thereby improving teaching efficiency (Zhang, 2017). Additionally, implementing Content and Language Integrated Learning (CLIL) has been shown to positively impact students' motivation towards learning a foreign language (Ibarrola and Azpilicueta-Martínez, 2021).

The research findings suggest that digital games can greatly enhance the ability of young learners to take control of their own learning by offering an immersive and self-guided learning environment. This setting expands beyond conventional classroom environments, enabling informal learning contexts where students can enhance their English language proficiency more efficiently. The study found that the group utilizing the digital game-based learning program demonstrated significantly greater enhancements in their English language proficiency in comparison to the control group.

Additional examination using regression analysis, while accounting for prior English proficiency, demonstrated that the progress achieved in specific sections of the game (the learning path) was a significant predictor of the students' advancements in language learning. This progression directly corresponds to the organized design of the game, which introduces language elements in a specific order that aligns with established theories and assessments of second language acquisition.

Additionally, the study emphasizes that the duration dedicated to specific educational activities within the game has a greater impact than the overall time spent using the app or the frequency of app usage. Advancement in these educational endeavors results in improved learning outcomes. Moreover, the inclusion of the ability for children to revisit preferred activities within the game's exploration area not only sustained their engagement but also strengthened their acquisition of knowledge. The repeated interaction with enjoyable material reinforces their understanding and improves their language skills, demonstrating the game's dual role as both a source of motivation and an educational resource.

Empirical studies have examined the influence of digital games on students' language learning outcomes. Researchers have emphasized the necessity for additional investigations to determine the effects of digital games on language learning (Su et al., 2021). Research has also investigated the capacity of digital games to enhance students' ability to remember and retrieve vocabulary, demonstrating a favorable correlation between digital game-based educational settings and language learning achievements (Patra et al., 2022). Research conducted by Wijanarko et al. (2021) has demonstrated that incorporating digital games into distance learning can have a positive impact on students' speaking abilities. This suggests that utilizing digital game-based methods can effectively improve language proficiency in remote learning environments.

The research affirms that digital games are effective tools for facilitating the learning of the English language among primary school students. These games provide motivating, interactive, and pedagogically sound experiences that are specifically designed to meet the developmental needs of young learners.

A comprehensive overview of the use of digital game-based learning for English language learning. It highlights the potential benefits, instructional considerations, and empirical evidence supporting the effectiveness of this approach. The insights and recommendations provided in the article contribute to the understanding and implementation of engaging and immersive English language learning environments through digital game-based learning.

Research by Patra et al. (2022) indicated that the use of digital games has a positive influence on vocabulary development and comprehension skills in young English language learners (Patra, Shanmugam, Ismail, and Mandal 2022: 10). This suggests that digital games can improve language skills among primary school students.

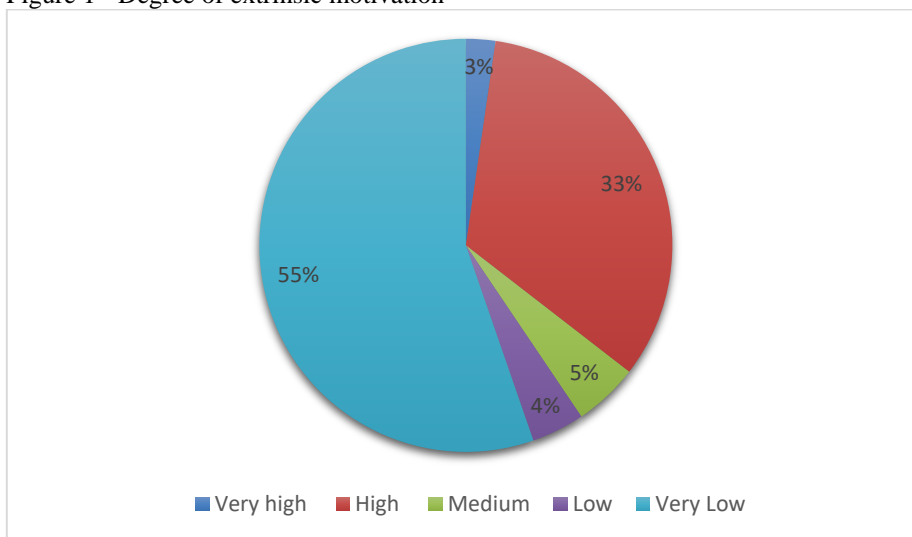
Furthermore, Parsazadeh et al. (2020) demonstrated that integrating computational thinking into digital storytelling enhanced students' problem-solving skills, motivation, and performance in English language learning (Parsazadeh and et. al, 2020: 495). This underscores the potential of digital games to improve various aspects of language learning.

Moreover, Klimova et al. (2023) found that design features of digital games, such as personalization and interactivity, significantly impact English language proficiency among college students (Klimova and et. al, 2023). This emphasizes the importance of game design in facilitating language learning.

Overall, the combination of this research indicates that digital games may be valuable instruments for motivating English language acquisition in primary school environments. Digital games can improve vocabulary acquisition, comprehension, problem-solving skills, and overall language proficiency in English language learning. This is achieved by incorporating interactivity, collaboration, computational thinking, and personalized design. Additionally, digital games promote positive learning behaviors and attitudes.

Along the same lines, when observing the results on the degree of motivations presented by students for learning English of the prevailing motivation determined as the extrinsic one, figure 1, it is shown that students do not find positive stimuli that lead them to want to learn without conditioning or rewards. This motivational analysis determines that 48% of the students demonstrate disinterest in the English area, which is reflected in the not participating in the proposed activities in class and deficit in the fulfillment of the assigned tasks, which generates a low academic level that could be observed in the vocabulary test.

Figure 1 - Degree of extrinsic motivation



Conclusion

The conclusion section of a scientific article summarizes the main findings of the study and provides a discussion of their implications. The findings of this study contribute to our understanding of the effectiveness of digital games as motivational tools for English language learning in primary school settings. Through a mixed-methods approach, combining quantitative measures of student motivation and language proficiency with qualitative data obtained through interviews and observations, several key findings emerged.

Firstly, the quantitative analysis revealed a significant improvement in student motivation to learn English after the implementation of the digital game-based program. The self-report questionnaires indicated increased levels of intrinsic motivation, extrinsic motivation, enjoyment, and engagement among the participants. This suggests that digital games have the potential to create a stimulating and engaging learning environment that enhances students' motivation to engage with the English language.

Secondly, the quantitative analysis also demonstrated a positive impact of the digital game-based program on students' language proficiency. The pre- and post-intervention language proficiency assessments showed a statistically significant improvement in language skills, including reading, writing, listening, and speaking. This indicates that the use of digital games in the primary school English language learning context can effectively support language development.

The qualitative analysis provided further insights into students' experiences and perceptions of using digital games for English language learning. The interviews revealed that students enjoyed playing the games and perceived them as enjoyable and

engaging. The observations highlighted the collaborative and communicative opportunities that arose during gameplay, fostering not only language skills but also teamwork and interaction among students.

Despite the positive findings, some challenges were identified. Limited access to technology and the need for appropriate game design and pedagogical integration were recognized as potential obstacles to the effective implementation of digital game-based programs in primary schools. These challenges should be addressed to maximize the benefits of digital games as motivational tools for English language learning.

Overall, the results of this study suggest that digital games can effectively enhance student motivation and contribute to improvements in English language proficiency in primary school settings. The integration of digital games into English language learning programs holds great potential for creating engaging, interactive, and learner-centered educational experiences.

The implications of this research are significant for educators, curriculum developers, and policymakers. They provide evidence of the value of incorporating digital games into language learning pedagogy to foster student motivation and enhance language proficiency. Educators can utilize these findings to design effective instructional strategies that leverage digital games as motivational tools. Curriculum developers and policymakers can consider integrating digital game-based programs into primary school language learning curricula to promote student engagement and achievement.

In conclusion, this study contributes to the growing body of literature on gamification and educational technology by highlighting the effectiveness of digital games as motivational tools for English language learning in primary school settings. Further research is warranted to explore specific game design elements, address challenges, and investigate the long-term effects of digital game-based learning on language acquisition. By harnessing the potential of digital games, we can create dynamic and engaging language learning environments that empower primary school students in their English language proficiency journey.

A major constraint of the study examining the efficacy of digital games as motivational aids for English language learning in primary school environments is the restricted number of participants included in the research. The study's limited duration may not comprehensively assess the possible enduring effects of incorporating digital games into English language learning initiatives in primary schools.

Future research could investigate the enduring consequences of incorporating digital games into language learning curricula through conducting extensive longitudinal studies that monitor students' language proficiency and motivation over an extended duration.

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PhD, постдок, Өзбекәлі Жәнібеков атындағы Оңтүстік Қазақстан педагогикалық университеті, Шымкент/Қазақстан.

Бастауыш мектепте ағылшын тілін үйренудің мотивациялық құралы ретінде сандық ойындардың тиімділігін зерттеу

Андатпа. Бұл зерттеудің мақсаты – бастауыш мектепте ағылшын тілін үйренудің мотивациялық құралы ретінде цифрлық ойындардың тиімділігін зерттеу. Соңғы жылдары цифрлық ойындарды білім беру ортасына біріктіру олардың студенттердің ынтасын және белсенділігін арттыру мүмкіндігіне байланысты үлкен көңіл бөлді. Дегенмен, шектеулі зерттеулер цифрлық ойындардың бастауыш мектепте ағылшын тілін үйренуге ерекше әсерін зерттеді. Бұл олқылықты жою үшін бастауыш сынып оқушыларының мотивациясының және тілді меңгеруінің сандық өлшемдерін сұхбаттар мен бақылаулардың сапалы деректерімен біріктіретін аралас әдістер әдісі қолданылды. Зерттеуге 10 апта бойы цифрлық ойынға негізделген ағылшын тілін оқыту бағдарламасына қатысқан 8-10 жас аралығындағы Шымкент қаласындағы бастауыш мектеп оқушыларының үлгісі қатысты. Нәтижелер цифрлық ойындарды қолдану студенттердің ағылшын тілін үйренуге деген ынтасына оң әсер етіп, тілді меңгеру

деңгейін арттыруға ықпал еткенін көрсетті. Оқушылардың ойындарды ойнау кезінде ләззат пен қызығушылықтың жоғары деңгейін айтты, бұл белсенді қатысу мен оқуға әкелді. Сонымен қатар, сапалы деректер сандық ойындардың ынтымақтастық пен коммуникация дағдыларын дамытуға, сондай-ақ офлайн режимде оқыту мүмкіндіктерін қамтамасыз етуге арналған әлеуетін атап өтті. Дегенмен, кейбір мәселелер анықталды, мысалы, технологияға қол жеткізудің шектеулілігі және тиісті ойын дизайны мен педагогикалық интеграцияның қажеттілігі. Бұл зерттеу геймификация және білім берудегі цифрлық технологиялар бойынша әдебиеттердің көбеюіне ықпал етеді, сандық ойындардың бастауыш мектепте ағылшын тілін үйренудің мотивациялық құралы ретінде әлеуетін көрсетеді.

Кілт сөздер: Сандық ойындар, мотивация, бастауыш мектеп, геймификация, білім беру технологиясы, шеберлік, белсенділік, бірлескен оқыту.

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Изучение эффективности цифровых игр как мотивационных инструментов для изучения английского языка в начальной школе

Аннотация. Целью данного исследования является изучение эффективности цифровых игр в качестве мотивационных инструментов для изучения английского языка в начальной школе. В последние годы интеграция цифровых игр в образовательную среду привлекла значительное внимание благодаря их потенциалу повышать мотивацию и вовлеченность учащихся. Однако в ограниченных исследованиях изучалось конкретное влияние цифровых игр на изучение английского языка в начальной школе. Чтобы устранить этот пробел, был применен подход со смешанными методами, сочетающий количественные показатели мотивации учащихся и уровня владения языком с качественными данными, полученными в ходе интервью и наблюдений. В исследовании участвовала выборка учащихся начальной школы в возрасте от 8 до 10 лет, которые в течение 10 недель участвовали в программе изучения английского языка на основе цифровых игр. Результаты показали, что использование цифровых игр положительно повлияло на мотивацию учащихся к изучению английского языка и способствовало улучшению уровня владения языком. Учащиеся сообщили о высоком уровне удовольствия и вовлеченности во время игр, что привело к более активному участию и обучению. Кроме того, качественные данные высветили потенциал цифровых игр для развития навыков совместной работы и общения, а также для предоставления возможностей для автономного обучения. Однако были выявлены некоторые проблемы, такие как ограниченный доступ к технологиям и необходимость соответствующего игрового дизайна и педагогической интеграции. Это исследование вносит свой вклад в растущий объем литературы по геймификации и цифровым технологиям в образовании, подчеркивая потенциал цифровых игр как мотивационных инструментов для изучения английского языка в начальной школе.

Ключевые слова: Цифровые игры, мотивация, начальная школа, геймификация, образовательная технология, мастерство, вовлеченность, совместное обучение.