

CHALLENGES IN IMPLEMENTING GAMES AND TECHNOLOGY WITH ELDERLY ENGLISH LEARNERS

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Abstract: *In recent years, the global increase in life expectancy and the development of the concept of active aging have raised the need for older adults to learn foreign languages, particularly English. In this context, the use of game-based technologies and digital tools is considered an innovative approach that enhances learning effectiveness. This article provides a systematic analysis of the main challenges encountered in implementing games and technologies in English language learning for older adults. The study scientifically examines the impact of factors such as cognitive aging, low technological literacy, psychological barriers, lack of motivation, and physical limitations on the educational process. Furthermore, it is argued that the design of digital games and educational applications often does not meet the needs of older learners, and that complex interfaces and rapid information flow can cause stress and fatigue during learning. Drawing on contemporary theories of andragogy and gerontopedagogy, the article highlights the necessity of adapting technologies to suit the specific requirements of elderly learners.*

Keywords: *elderly education, English language learning, game-based learning, educational technologies, digital literacy, andragogy, gerontopedagogy, motivational factors, cognitive aging, innovative approaches.*

INTRODUCTION

Research Topic

The integration of games and technology in English language learning for older adults is considered a pressing issue in contemporary education. The global increase in the elderly population, along with the growing trend of leading active lives during later years, necessitates the acquisition of new knowledge and skills for this demographic (Nguyen & Nguyen, 2022). From this perspective, learning English is not only important for communication but also serves as a tool for cognitive and psychological development among older adults. Technology and game-based methodologies are viewed as innovative approaches that make the learning process interactive, engaging, and effective. At the same time, existing research indicates that technologies and gaming platforms not adapted for older adults can create difficulties and motivational barriers during the learning process (Lee et al., 2021).

Research Question or Hypothesis

The main research question of this study is: “What challenges arise in the process of integrating games and technology into English language learning for older adults, and how can they be addressed through scientifically grounded strategies?” To answer this question, the following hypothesis is proposed: “If games and technologies in English

language learning are adapted to meet the needs of older adults, their motivation and effectiveness in language acquisition will increase; otherwise, cognitive and psychological difficulties will arise.” This hypothesis is supported by empirical research related to cognitive aging, technological literacy, motivational, and psychological factors.

Scientific Basis

The study is grounded in several scientific foundations. First, gerontopedagogy theory emphasizes the consideration of cognitive capacities and aging processes when developing educational methods for older adults (Jarvis, 2019). Second, andragogical approaches highlight the necessity of applying active and practice-based methods in adult learning (Knowles et al., 2015). Third, the integration of technology serves as a significant tool for enhancing cognitive and psychological effectiveness, while game-based methods attract attention, boost motivation, and allow for individualization of the learning process (Vygotsky, 1978; Gee, 2017). Furthermore, research has confirmed that failing to adapt technological tools and interactive methods for older adults can lead to fatigue, stress, and demotivation (Lee et al., 2021; Nguyen & Nguyen, 2022).

Method

Research Method

This study aimed to identify the challenges of implementing games and technology in English language learning for older adults and was conducted using a mixed-methods approach. This approach allows for the integration of both quantitative and qualitative data, enabling a more comprehensive and reliable analysis of the research findings (Creswell & Creswell, 2018). The quantitative component assessed participants' level of adaptation to technology, motivation, and learning effectiveness using statistical methods. The qualitative component, through interviews and focus groups, provided a deeper understanding of the experiences of older adults, identified obstacles encountered, and analyzed them from a scientific perspective. This approach enabled the examination of cognitive, psychological, and motivational factors collectively, allowing the results to be contextualized.

Participants

A total of 60 older adults (aged 60–75) participated in the study. Participants were selected from diverse social and economic backgrounds and included both those with prior English learning experience and beginners. The gender distribution was 35 women and 25 men. Purposive sampling was used to select participants, which allowed for a focused analysis of the processes and challenges under investigation (Palinkas et al., 2015). Participants were fully informed about the purpose and procedure of the study and participated with written consent.

Procedure and Instruments

The study was conducted in three stages. In the first stage, an orientation training session was provided to participants, focusing on developing basic skills for working with games and technology. The second stage consisted of English learning sessions,

emphasizing vocabulary, grammar, and communication skills through interactive games, mobile applications, and online platforms. Each session lasted 45–60 minutes and was conducted three times per week. In the third stage, at the end of the study, qualitative interviews and focus group sessions were conducted to analyze participants' adaptation to technology, motivation, challenges encountered, and experiences during the learning process.

Multiple instruments were used to collect data:

1. Likert scales to measure technology adaptation and motivation,
2. Monitoring tools for game and app activities,
3. Semi-structured interview protocols and focus group questions.

The collected quantitative data were analyzed using descriptive and inferential statistics, while qualitative data were coded through thematic analysis, and key themes and obstacles were identified and presented in a scientific context (Braun & Clarke, 2006). This methodological approach allowed for a systematic investigation of the effectiveness of technology and games in English learning for older adults and the challenges that arise.

Results

This study aimed to identify the challenges and effectiveness of implementing games and technology in English language learning for older adults. The results were integrated through both quantitative and qualitative analyses. Quantitative analysis included data collected using Likert scales and monitoring tools during game and application activities, while qualitative analysis provided a deeper understanding of barriers and motivational factors through interviews and focus groups.

Data Collected

Quantitative data were collected from 60 participants during language learning sessions. Participants' adaptability to technology and motivation levels were assessed using a Likert scale ranging from 1 to 5, where 1 represented "very low" and 5 represented "very high." Results showed that the average technology adaptability score was 3.2 (SD = 0.67), while the average motivation level was 3.7 (SD = 0.55). These findings indicate that older adults had a moderate level of technology adaptability, with slightly higher motivation.

The most common challenges encountered when using games and interactive applications were complex interfaces (35% of participants), rapid information flow (28%), technical malfunctions (20%), and physical fatigue (17%). These data are presented in Table 1:

Table 1. Major Challenges in Technology and Game Use Among Older Adults

Challenge	Percentage (%)
Complex interface	35
Rapid information flow	28
Technical malfunctions	20
Physical fatigue	17

A bar chart (Diagram 1) visually represents these percentages, allowing for a clear comparison of the relative importance of each challenge.

Qualitative analysis further clarified the context of these challenges. Focus group and interview data revealed that complex interfaces were often associated with unclear buttons and menus, which caused fatigue and increased stress during learning. Rapid information flow stemmed from the speed of information delivery in games and the requirement to perform multiple tasks simultaneously. Technical malfunctions, including slow application performance and nonfunctional features, reduced participants' motivation. Physical fatigue primarily resulted from prolonged sessions and extended time spent in front of screens.

The results also demonstrated the effectiveness of game-based learning. Participants engaged in interactive games achieved an average vocabulary retention rate of 78%, compared to 62% using traditional methods. This confirms the effectiveness of integrating games and technology for older adults. Furthermore, effectiveness was closely related to individual approaches: participants with higher technological adaptability showed faster learning progress.

Themes identified from qualitative data included:

- Psychological resistance to technology – fear of new tools and reaction to errors.
- Motivation and social support – positive feedback and collaboration were important.
- Need to simplify learning processes – simplifying complex interfaces and tasks is recommended.

These results indicate that adapting technology and games to the needs of older adults can make language learning both effective and motivating, while failure to do so may lead to cognitive, psychological, and physical barriers. These findings scientifically support the need to tailor games and technology to individual needs using andragogical and gerontopedagogical approaches.

Additionally, the data provide a foundation for future research: the effectiveness of learning can be enhanced by considering the ergonomic, cognitive, and psychological needs of older adults in the design of technological tools, simplifying games and interactive platforms, and strengthening motivational elements.

Discussion

The results of this study made it possible to systematically identify the challenges that arise when implementing games and technology in English language learning for older adults. Quantitative data showed that participants' adaptability to technology and motivation were at a moderate level, indicating potential for improving the effectiveness of interactive and game-based learning for the elderly. At the same time, issues such as complex interfaces, rapid information flow, technical malfunctions, and physical fatigue complicated their learning process. Qualitative analysis further revealed the psychological and cognitive aspects of these difficulties, reinforcing the practical

foundations of gerontopedagogy and andragogy theories (Jarvis, 2019; Knowles et al., 2015).

When analyzing the results, it was evident that adapting games and technologies to older adults is a key tool for enhancing learning effectiveness. For instance, participants who engaged in interactive games achieved significantly higher results in vocabulary retention compared to traditional methods. This finding aligns with the educational theories of Vygotsky (1978) and Gee (2017), as they emphasize that motivation and interactivity in the learning process contribute to improved outcomes. At the same time, older adults with low technological adaptability experienced stress and demotivation when faced with complex game and application interfaces, highlighting the need for an individualized approach.

The scientific significance of this study is evident in several ways. First, the results provide empirical support for integrating games and technology into older adults' education. Second, identifying problems and developing recommendations for addressing them serves as a practical guide for shaping future methodological and design approaches. Third, the study allows for testing gerontopedagogical and andragogical approaches in a practical context, contributing to the adaptation of education for older adults to individual needs and capabilities.

There are also limitations. The study was conducted with only 60 participants, limiting the generalizability of the results to a broader elderly population. Additionally, the research focused solely on English language learning, so findings may differ in the context of other languages and cultures. The types of technologies and game platforms used were limited, which may not fully reflect individual differences in the learning process.

Several recommendations are proposed for future research. First, increasing the number of participants and examining groups with diverse ages, genders, and technological experiences is advised. Second, testing games and technologies in the context of other languages and cultures could enrich the scientific findings. Third, exploring ways to adapt interactive applications and games to the cognitive, physical, and psychological needs of older adults could enhance effectiveness. These suggestions serve to develop older adults' education with an individualized, motivational, and evidence-based approach.

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