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Title

The Impact of a Gamified EFL Learning Platform on Iranian Primary School Students'
Speaking Development.

عنوان

تأثیر یک پلتفرم آموزش زبان انگلیسی بازی محور بر پیشرفت مهارت گفتاری دانش آموزان دبستانی ایرانی

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1. Introduction

1.1 Background

Digital game-based learning (DGBL) has emerged as a transformative pedagogical approach in English as a Foreign Language (EFL) education, particularly for developing speaking skills among young learners. Gamification, defined as the integration of game design elements such as points, badges, leaderboards, and challenges into non-game contexts, has shown significant potential in enhancing language learning outcomes (Liu et al., 2025; Tsang & Davis, 2024). In the Iranian EFL context, where traditional teaching methods often dominate primary education, the implementation of gamified learning platforms represents a promising avenue for addressing persistent challenges in speaking skill development.

Speaking proficiency remains one of the most challenging aspects of EFL learning for Iranian primary school students, who often experience high levels of foreign language anxiety and limited opportunities for authentic oral communication practice (Ahmed, 2022; Yang et al., 2023). Recent empirical studies have demonstrated that gamification can effectively reduce anxiety among EFL learners while promoting active learning processes. The integration of game elements into language learning environments creates a more engaging and less threatening atmosphere for oral practice, potentially addressing the psychological barriers that impede speaking development in young learners.

The theoretical foundation for gamified language learning draws from multiple educational paradigms, including constructivist learning theory, motivation theory, and flow theory. Research by Reinders and Wattana (2015) demonstrated that DGBL could alleviate anxiety, making students more receptive to using the target language. This psychological benefit is particularly crucial for speaking skill development, as oral communication anxiety represents a significant obstacle to fluency development in EFL contexts.

Contemporary research in gamified EFL instruction has revealed promising outcomes across various language skills and learner populations. Studies have found that gamification has been widely utilized in more than ten non-English-speaking countries and various English language skills, with benefits including improving engagement, motivation, and learning outcomes. However, despite the growing body of research on gamification in language learning, there remains a significant gap in understanding its specific impact on speaking skill development among Iranian primary school students, who face unique cultural and educational challenges in EFL learning contexts.

The integration of technology in Iranian primary education settings presents both opportunities and challenges. While digital literacy among young learners continues to

improve, the effective implementation of gamified learning platforms requires careful consideration of pedagogical design, cultural appropriateness, and technical infrastructure. Understanding how gamification elements can be optimally configured to support speaking skill development in this specific context is essential for maximizing educational benefits while ensuring sustainable implementation.

1.2 Statement of the Problem

Speaking skill development in Iranian primary EFL education faces multiple interconnected challenges that traditional teaching methods have struggled to address effectively. Students at the primary level often experience significant foreign language anxiety, limited authentic communication opportunities, and reduced motivation due to teacher-centered instructional approaches (Ahmed, 2022; Liu et al., 2025). These challenges are particularly pronounced in the Iranian educational context, where cultural factors, large class sizes, and examination-focused curricula create additional barriers to effective oral communication practice.

Research has consistently identified foreign language anxiety as a primary impediment to speaking proficiency development among EFL learners. Digital game-based learning can promote an active learning process and reduce anxiety among EFL learners, as anxiety refers to "the subjective feeling of tensions, apprehensions, nervousness, and worries related to an excitement of the autonomic nervous system". This anxiety is often exacerbated in traditional classroom environments where students fear making mistakes in front of peers and teachers, leading to reluctance to engage in oral communication activities.

The problem is further complicated by the limited availability of engaging, age-appropriate digital learning resources specifically designed for Iranian primary school students. While gamification has shown promise in various educational contexts, systematic reviews reveal that the effectiveness of gamified tools in foreign language learning was mixed, with some bringing positive changes, others negative changes, and some showing no differences. This inconsistency suggests that the success of gamified learning interventions depends heavily on factors such as pedagogical design, target population characteristics, and implementation strategies.

Additionally, current research on gamified EFL learning has predominantly focused on older learners or general language skills, leaving a significant gap in understanding how gamification specifically impacts speaking skill development among primary school students. The unique developmental, cognitive, and motivational characteristics of young learners require tailored approaches that may differ substantially from those effective with adolescent or adult populations.

The absence of empirically validated gamified learning platforms designed specifically for Iranian primary EFL contexts represents a critical gap in the literature. Without evidence-based understanding of how gamification elements can be optimally configured to support speaking development in this population, educators and policymakers lack the necessary guidance for implementing effective technology-enhanced language learning programs.

Therefore, this study addresses the urgent need to investigate the impact of a carefully designed gamified EFL learning platform on Iranian primary school students' speaking development, providing empirical evidence to inform pedagogical practices and educational technology implementation in this underexplored context.

1.3 Purpose of the Study

The primary purpose of this study is to investigate the impact of a gamified EFL learning platform on Iranian primary school students' speaking development. The study aims to examine whether the integration of game design elements including points, badges, leaderboards, and progress tracking can significantly enhance speaking skills including fluency, pronunciation, and confidence among young EFL learners in the Iranian educational context.

Specifically, the study seeks to determine the effectiveness of gamified learning interventions in addressing the multifaceted challenges that impede speaking skill development in traditional Iranian primary EFL classrooms. By implementing a carefully designed gamified platform and comparing its outcomes with conventional teaching methods, the research endeavors to provide empirical evidence regarding the potential of game-based approaches to transform speaking instruction for young learners.

Drawing on contemporary research emphasizing the motivational and anxiety-reducing benefits of gamification in language learning (Liu et al., 2025; Yang et al., 2023), this study builds upon the growing body of literature on digital game-based learning while addressing the specific needs and characteristics of Iranian primary school students. The findings will contribute to pedagogical knowledge by demonstrating how educators can leverage gamification strategies to create more engaging, effective, and psychologically supportive environments for speaking skill development.

The study also aims to provide practical insights for curriculum developers, educational technology designers, and policymakers interested in implementing innovative approaches to EFL instruction in Iranian primary education settings, ultimately supporting more effective and enjoyable language learning experiences for young learners.

1.4 Significance of the Study

This study represents a significant contribution to the field of EFL education by addressing critical gaps in our understanding of gamified learning interventions for speaking skill development among primary school students in the Iranian context. The significance of this research extends across theoretical, pedagogical, and practical dimensions, offering valuable insights for multiple stakeholders in language education.

From a theoretical perspective, this study advances our understanding of how game design principles can be effectively integrated into speaking instruction for young EFL learners. Recent research has shown significant attention to the integration of digital technologies into language learning, particularly in EFL education contexts, yet limited empirical evidence exists regarding the specific mechanisms through which gamification enhances oral communication skills in primary-aged learners. The findings may contribute to theories of motivation, engagement, and anxiety reduction in language learning contexts.

Pedagogically, the study addresses the urgent need for evidence-based approaches to speaking instruction that can effectively engage young learners while reducing the psychological barriers that impede oral communication practice. Traditional teaching methods in Iranian primary EFL contexts often fail to provide sufficient opportunities for meaningful speaking practice, and this research offers insights into how gamified platforms can supplement and enhance conventional instruction.

The practical significance of this study is particularly relevant for Iranian educational contexts, where the integration of technology in language learning is increasingly recognized as essential for improving educational outcomes. The findings will provide actionable recommendations for teachers, curriculum designers, and educational technology developers seeking to implement effective gamified learning solutions in primary EFL settings.

Furthermore, the study may inform educational policy discussions regarding the integration of digital learning technologies in Iranian primary education. As educational systems worldwide increasingly recognize the importance of 21st-century digital skills and engaging pedagogical approaches, this research provides empirical evidence to support decision-making regarding technology adoption and teacher training initiatives.

Finally, the study's focus on speaking skill development addresses a critical need in Iranian EFL education, where oral communication proficiency remains a significant challenge for learners at all levels. By demonstrating effective approaches to speaking instruction for primary students, the research may contribute to long-term improvements in English language proficiency across the Iranian educational system.

1.5 Research Questions

Based on the purpose of this study to investigate the impact of a gamified EFL learning platform on Iranian primary school students' speaking development, the following research questions guide this investigation:

1. Is there a significant difference between the speaking fluency development of Iranian primary school students who use a gamified EFL learning platform compared to those who receive traditional instruction?
2. Is there a significant difference between the pronunciation accuracy improvement of Iranian primary school students who use a gamified EFL learning platform compared to those who receive traditional instruction?
3. Is there a significant difference between the speaking confidence levels of Iranian primary school students who use a gamified EFL learning platform compared to those who receive traditional instruction?
4. How do Iranian primary school students perceive the effectiveness and enjoyment of gamified EFL learning compared to traditional speaking instruction methods?

1.6 Research Hypotheses

Based on the research questions, the following null hypotheses are formulated:

H01: There is no significant difference between the speaking fluency development of Iranian primary school students who use a gamified EFL learning platform compared to those who receive traditional instruction.

H02: There is no significant difference between the pronunciation accuracy improvement of Iranian primary school students who use a gamified EFL learning platform compared to those who receive traditional instruction.

H03: There is no significant difference between the speaking confidence levels of Iranian primary school students who use a gamified EFL learning platform compared to those who receive traditional instruction.

H04: There is no significant difference in Iranian primary school students' perceptions of effectiveness and enjoyment between gamified EFL learning and traditional speaking instruction methods.

1.7 Definitions of Key Terms

1.7.1 Gamification

Gamification refers to the integration of game design elements and principles into non-game contexts to enhance engagement, motivation, and learning outcomes. In educational settings, gamification typically includes elements such as points, badges, leaderboards, challenges, progress bars, and reward systems (Liu et al., 2025; Tsang & Davis, 2024). In this study, gamification will be operationalized through a digital platform incorporating these elements specifically designed for EFL speaking practice.

1.7.2 Digital Game-Based Learning (DGBL)

Digital game-based learning is a pedagogical approach that utilizes digital games or game-like elements to facilitate learning and skill development. DGBL can promote an active learning process and reduce anxiety among EFL learners by creating engaging, interactive learning environments that support knowledge acquisition and skill practice through gameplay mechanics.

1.7.3 Speaking Development

Speaking development refers to the progressive improvement in oral communication skills in a second or foreign language, encompassing multiple dimensions including fluency (the ability to speak smoothly and naturally), pronunciation accuracy (correct articulation of sounds and stress patterns), and speaking confidence (the willingness and self-assurance to engage in oral communication). This study measures these three components as indicators of overall speaking skill advancement.

1.7.4 EFL (English as a Foreign Language)

EFL refers to the teaching and learning of English in non-English speaking countries where English is not the primary language of communication in society. In the Iranian context, EFL learning occurs primarily in formal educational settings with limited exposure to authentic English communication outside the classroom environment.

1.7.5 Primary School Students

Primary school students refer to learners typically aged 6-12 years who are enrolled in elementary education programs. In the Iranian educational system, primary education encompasses grades 1-6, and this study focuses on students in upper primary grades (grades 4-6) who have foundational English language exposure and are developmentally ready for structured speaking practice.

1.7.6 Foreign Language Anxiety

Foreign language anxiety is a psychological construct referring to the feelings of tension, apprehension, nervousness, and worry specifically associated with foreign language learning contexts. This type of anxiety is particularly relevant to speaking activities and can significantly impede oral communication development in EFL learners (Ahmed, 2022).

1.7.7 Language Learning Platform

A language learning platform is a digital environment or application designed specifically to facilitate second or foreign language acquisition through structured learning activities, interactive exercises, and progress tracking features. In this study, the platform incorporates gamification elements specifically targeting speaking skill development.

1.8 Limitations and Delimitations

This study, like all empirical research, operates within certain limitations and delimitations that define its scope and potential generalizability.

a. Limitations

Several limitations must be acknowledged in this study. First, the participants will be selected through convenience sampling from accessible primary schools, which may limit the generalizability of findings to the broader population of Iranian primary EFL learners. Second, the study duration of six weeks, while adequate for measuring short-term impacts, may not capture long-term retention effects of gamified learning interventions. Third, the reliance on teacher assessments and self-report measures for some variables may introduce subjective bias in the evaluation of speaking skills. Fourth, individual differences in students' prior technology experience and digital literacy may influence their engagement with the gamified platform, potentially confounding the results. Finally, the study's focus on a single gamified platform design means that findings may not generalize to other types of game-based learning interventions.

b. Delimitations

The study is deliberately delimited in several ways to maintain focus and ensure methodological rigor. Participants are limited to Iranian primary school students in grades 4-6 (ages 9-12) to ensure developmental appropriateness and comparability across the sample. The research focuses specifically on speaking skill development rather than other language skills to allow for in-depth investigation of oral communication outcomes. The intervention period is delimited to six weeks to provide sufficient time for measurable

skill development while maintaining practical feasibility for implementation in school settings. The study employs a quantitative quasi-experimental design and does not include extensive qualitative data collection such as interviews or detailed observational data, allowing for focused statistical analysis of learning outcomes. Finally, the research is geographically delimited to urban and suburban primary schools in Tehran province to control for socioeconomic and educational infrastructure variables that might influence technology implementation.

2. Review of Literature

2.1 Introduction

The integration of digital technologies in English as a Foreign Language (EFL) education has undergone significant evolution in recent years, with gamification emerging as one of the most promising pedagogical innovations for enhancing learner engagement and skill development. The theoretical and empirical foundations for gamified language learning draw from multiple disciplines, including educational psychology, cognitive science, game studies, and second language acquisition research (Liu et al., 2025; Yang et al., 2023).

In foreign language education, educators struggle with declining student engagement as traditional EFL teaching, relying on passive lectures and conventional methods, often fails to maintain learner motivation and interest. This challenge is particularly acute in contexts where students have limited exposure to authentic English communication, such as in Iranian primary schools, where traditional grammar-translation methods and teacher-centered approaches have long dominated instruction.

The emergence of gamification as a pedagogical strategy represents a response to these challenges, offering potential solutions through the integration of intrinsically motivating game elements into educational contexts. Research by Tsang and Davis (2024) found that entertainment-oriented activities such as playing games and listening to songs were the most commonly enjoyed events in the EFL classroom, while activities that are simple, easy, free, relaxed, and different from the usual were also deemed enjoyable by young learners.

The theoretical framework supporting gamified language learning is multifaceted, incorporating motivational theories such as Self-Determination Theory, which emphasizes the importance of autonomy, competence, and relatedness in promoting intrinsic motivation. Game-based learning environments can address these psychological needs by providing learners with choices (autonomy), appropriately challenging tasks with clear feedback (competence), and opportunities for social interaction and collaboration (relatedness).

Furthermore, the concept of "flow" theory, developed by Csikszentmihalyi, provides additional theoretical support for gamified learning approaches. Flow states, characterized by deep engagement and optimal learning conditions, can be facilitated through well-designed game mechanics that balance challenge and skill levels while providing immediate feedback and clear goals.

Recent systematic reviews and meta-analyses have attempted to synthesize the growing body of empirical evidence regarding gamification's effectiveness in language learning contexts. Studies have found that gamification has been widely utilized in more than ten non-English-speaking countries and various English language skills, with benefits including improving engagement, motivation, and reducing anxiety in English listening and speaking. However, the research also reveals considerable variation in outcomes, suggesting that the effectiveness of gamified interventions depends heavily on factors such as implementation quality, learner characteristics, and pedagogical design principles.

2.2 Gamification in Language Learning

Gamification in language learning represents the strategic application of game design elements and principles to educational contexts with the goal of enhancing learner motivation, engagement, and achievement. The conceptual framework of gamification extends beyond simple point-scoring systems to encompass a comprehensive approach that leverages the psychological and motivational mechanisms that make games inherently engaging.

Empirical evidence indicates that gamification enhances vocabulary retention, grammatical accuracy, and communicative fluency by providing interactive, reward-based learning experiences. Popular gamified platforms, including Duolingo, Kahoot!, and Classcraft, have been analyzed to demonstrate best practices in educational game design. These platforms illustrate how different gamification elements can be combined to create cohesive learning experiences that maintain learner interest while supporting skill development.

The core elements of effective educational gamification typically include several key components. Progress visualization through experience points, level systems, and progress bars provides learners with clear feedback about their advancement and creates a sense of achievement. Badge systems and achievement unlocking create milestone rewards that recognize specific accomplishments and encourage continued engagement. Leaderboards and social comparison features can motivate learners through friendly competition, though these must be carefully implemented to avoid negative effects on less confident learners.

Challenge and quest systems provide structure and purpose to learning activities, transforming routine practice exercises into goal-oriented missions. Immediate feedback mechanisms, a hallmark of effective games, ensure learners receive instant information about their performance, facilitating rapid error correction and skill refinement. Finally, narrative elements and thematic frameworks can provide meaningful context for learning activities, making abstract linguistic concepts more concrete and memorable.

2.2.1 Theoretical Foundations of Gamification

The theoretical underpinnings of gamification in education draw from several established psychological and educational theories. Self-Determination Theory (SDT) provides perhaps the most relevant framework, emphasizing three fundamental psychological needs: autonomy (the need to feel volitional and self-directed), competence (the need to feel effective and capable), and relatedness (the need to feel connected to others and experience a sense of belonging).

Well-designed gamified learning environments can support these needs through carefully implemented features. Autonomy can be supported through choice in learning paths, customizable avatars or profiles, and optional challenge levels. Competence needs are addressed through appropriately scaled challenges, clear progress indicators, and achievement systems that recognize incremental improvements. Relatedness can be fostered through collaborative features, peer interaction opportunities, and social recognition systems.

Cognitive Load Theory also provides important insights for gamification design, suggesting that learning is optimized when cognitive resources are efficiently allocated between essential learning processes and extraneous elements. Effective educational games must carefully balance motivational elements with cognitive demands to avoid overwhelming learners or distracting from core learning objectives.

Flow Theory contributes additional design principles, emphasizing the importance of maintaining optimal challenge levels that match learner abilities while providing clear goals and immediate feedback. The flow state, characterized by deep engagement and intrinsic motivation, represents the ideal learning condition that well-designed gamified systems aim to achieve.

2.2.2 Empirical Evidence on Gamification Effectiveness

Recent empirical research on gamification in language learning has yielded increasingly sophisticated insights into the conditions under which game-based approaches are most effective. Research demonstrates that DGBL could alleviate anxiety, making students more receptive to using the target language, with this reduction in anxiety likely

contributing to increased enjoyment and motivation. This finding is particularly relevant for speaking skill development, where anxiety represents a significant barrier to oral communication practice.

A comprehensive systematic review by researchers has examined the effectiveness of gamified tools across multiple language learning contexts. The findings revealed that the effectiveness of gamified tools in foreign language learning was mixed, with some bringing positive changes, others negative changes, and some showing no differences. This variability underscores the importance of careful design and implementation considerations rather than assuming that gamification is universally beneficial.

Recent research on serious game-based learning has shown significant impact on happiness, motivation, self-compassion, and vocabulary development in EFL learners, suggesting that the benefits of gamification extend beyond purely cognitive outcomes to include important affective and social-emotional dimensions of learning.

The evidence base continues to expand with studies examining specific gamification elements and their individual contributions to learning outcomes. Research has identified several factors that appear to moderate gamification effectiveness, including learner age and developmental level, prior gaming experience, cultural background, and the specific language skills being targeted.

2.3 Speaking Skills Development in EFL

Speaking skills development in EFL contexts presents unique challenges that distinguish it from other language skills acquisition. Oral communication requires the real-time integration of multiple linguistic competencies including pronunciation, vocabulary, grammar, and pragmatic awareness, while simultaneously managing the psychological and social demands of interpersonal communication.

The complexity of speaking skill development is further compounded in EFL environments where learners have limited opportunities for authentic communication practice and may experience significant anxiety about making errors in front of others. Traditional approaches to speaking instruction often emphasize accuracy over fluency, leading to hesitant and overly cautious communication patterns that impede natural language development.

Contemporary approaches to speaking instruction emphasize the importance of creating psychologically safe environments that encourage risk-taking and experimentation with language. This perspective aligns well with gamification principles, which can reduce the stakes of making errors by framing mistakes as part of the learning process rather than failures to be avoided.

2.3.1 Challenges in EFL Speaking Development

Foreign language anxiety represents one of the most significant obstacles to speaking skill development, particularly among young learners who may lack confidence in their linguistic abilities. Anxiety refers to "the subjective feeling of tensions, apprehensions, nervousness, and worries related to an excitement of the autonomic nervous system," and digital game-based learning can promote an active learning process while reducing this anxiety among EFL learners.

Cultural factors also play a crucial role in speaking development, particularly in contexts where educational traditions emphasize teacher authority and student deference. In many Iranian classrooms, students may be reluctant to speak out or take communicative risks due to cultural norms that discourage challenging authority or making public mistakes.

Limited authentic communication opportunities present another significant challenge, as EFL learners often lack exposure to natural conversation partners and meaningful communication contexts. This limitation is particularly pronounced in foreign language contexts where English is not used for daily communication outside educational settings.

2.3.2 Gamification and Speaking Anxiety Reduction

Research has consistently demonstrated that gamification can effectively reduce speaking anxiety through several mechanisms. Empirical studies have shown that gamification can be effective in reducing anxiety among EFL learners through instructional interventions that transform the learning experience. The game-like environment creates a sense of play that can reduce the perceived seriousness of making errors, allowing learners to experiment more freely with language.

The structured progression systems common in gamified platforms provide learners with a sense of achievement and competence that can build confidence over time. As learners accumulate points, unlock achievements, and advance through levels, they develop increased self-efficacy beliefs about their speaking abilities.

Social features in gamified platforms can also support anxiety reduction by providing structured interaction opportunities that feel less threatening than traditional classroom speaking activities. Features such as voice chat with AI tutors or recorded speaking challenges allow learners to practice without the immediate social pressure of face-to-face communication.

2.4 Digital Game-Based Learning and Young Learners

Young learners present unique characteristics and needs that must be considered when designing gamified learning experiences. Children's cognitive development, attention spans, technological skills, and motivational patterns differ significantly from those of adolescents and adults, requiring specialized approaches to educational game design.

Research on children's learning preferences suggests that effective educational games for young learners should incorporate visual and auditory elements, provide frequent positive feedback, maintain relatively simple interfaces, and include social interaction opportunities. Studies examining digital versions of traditional games have shown that primary school students can benefit from game-based approaches to vocabulary learning and retention, particularly when games incorporate familiar elements that bridge traditional play patterns with digital learning opportunities.

The developmental characteristics of primary school students also influence their responses to different gamification elements. Young learners typically respond well to immediate rewards and visual progress indicators, but may struggle with complex point systems or long-term goal structures. Competition-based elements must be carefully balanced to maintain motivation while avoiding discouragement among less confident learners.

2.4.1 Cognitive and Motivational Considerations

Children's cognitive development during the primary school years includes significant advances in abstract thinking, memory strategies, and metacognitive awareness. However, young learners still benefit from concrete representations and hands-on learning experiences, making the visual and interactive elements of gamified platforms particularly suitable for this population.

Attention and engagement patterns among young learners require that educational games provide varied activities, frequent transitions, and multiple sensory inputs to maintain focus. The novelty and interactivity of digital games can be particularly effective in capturing and maintaining children's attention compared to traditional instructional methods.

Motivational patterns among young learners emphasize the importance of intrinsic motivation, curiosity, and play-based learning. Gamification elements that support these natural tendencies are more likely to be effective than those that rely primarily on external rewards or competitive pressure.

2.4.2 Technology Integration in Primary Education

The integration of technology in primary education contexts requires careful consideration of infrastructure, teacher training, and pedagogical alignment. Successful implementation of gamified learning platforms depends on adequate technological resources, reliable internet connectivity, and teacher competencies in digital pedagogy.

Research suggests that educators can employ human-AI interactive games to reduce classroom anxiety and utilize intelligent learning companions to boost students' AI learning self-efficacy and adaptive learning abilities, enabling learners to more effectively express their viewpoints in a foreign language. This highlights the potential for AI-enhanced gamified platforms to provide personalized learning experiences that adapt to individual learner needs and preferences.

Professional development for teachers represents a crucial factor in successful technology integration, as educators need both technical skills and pedagogical knowledge to effectively implement gamified learning approaches. Training programs should address not only the operational aspects of educational technologies but also the theoretical principles underlying effective game-based learning design.

2.5 Iranian EFL Education Context

The Iranian educational system presents unique cultural, linguistic, and institutional characteristics that influence the implementation and effectiveness of innovative pedagogical approaches such as gamification. Understanding this context is essential for designing and evaluating educational interventions that are culturally appropriate and pedagogically effective.

Traditional approaches to English language teaching in Iranian schools have historically emphasized grammar-translation methods, memorization of vocabulary lists, and teacher-centered instruction. While recent educational reforms have called for more communicative and student-centered approaches, implementation has been uneven, and many classrooms continue to rely on traditional methods.

Cultural factors also play a significant role in shaping learning environments and student expectations. Respect for teacher authority, emphasis on academic achievement, and preference for structured learning activities are deeply embedded cultural values that influence how students respond to different pedagogical approaches.

The integration of technology in Iranian primary education has accelerated in recent years, particularly following the COVID-19 pandemic, which necessitated rapid adoption of digital learning tools. This experience has increased both teacher and student

familiarity with educational technologies, creating more favorable conditions for implementing innovative approaches such as gamified learning platforms.

2.5.1 Challenges and Opportunities

Several challenges must be addressed when implementing gamified learning approaches in Iranian primary EFL contexts. Infrastructure limitations, including inconsistent internet connectivity and varying levels of access to digital devices, can impede effective technology integration. Teacher preparation programs may not adequately address digital pedagogy, leaving educators unprepared to effectively implement game-based learning approaches.

However, significant opportunities also exist for enhancing EFL education through gamification. High levels of student interest in digital technologies and games create favorable conditions for engagement with gamified learning platforms. Growing recognition among educators and policymakers of the need for innovative approaches to language teaching provides institutional support for experimental pedagogical approaches.

The cultural emphasis on education and achievement in Iranian society can be leveraged through gamification elements that recognize student progress and provide clear indicators of advancement. Achievement systems and progress tracking features align well with cultural values that emphasize academic success and continuous improvement.

2.5.2 Recent Research in Iranian Contexts

Limited research has specifically examined gamification in Iranian EFL contexts, representing a significant gap in the literature. The available studies have generally focused on higher education contexts or adult learners, leaving primary school applications largely unexplored.

This gap provides the rationale for the current study, which aims to contribute empirical evidence regarding the effectiveness of gamified learning approaches for Iranian primary school EFL learners. By examining outcomes specific to this population and context, the research will provide valuable insights for educators, curriculum developers, and policymakers interested in implementing innovative approaches to English language education.

3. Methodology

3.1 Participants

The participants of this study will be Iranian primary school students enrolled in grades 4-6 (ages 9-12) in urban and suburban schools within Tehran province. A sample of approximately 80 students will be recruited through convenience sampling from schools that have agreed to participate in the research. The sample will be divided into two equal groups of 40 students each: an experimental group that will use the gamified EFL learning platform and a control group that will receive traditional speaking instruction.

All participants will be native Persian speakers with similar socioeconomic backgrounds and prior English language learning experience. To ensure comparability between groups, participants will be selected based on their current English proficiency level as determined by standardized placement tests and teacher assessments. Students with significant prior exposure to English-speaking environments or those receiving private English tutoring will be excluded to maintain group homogeneity.

The selection criteria will include students who have completed at least one year of formal English instruction, possess basic literacy skills in both Persian and English, and have access to digital devices necessary for platform interaction. Parental consent and student assent will be obtained for all participants before data collection begins.

3.2 Instrumentation

Multiple instruments will be used to assess speaking development and gather data on student perceptions and learning outcomes.

3.2.1 Speaking Assessment Rubric

Speaking skills will be evaluated using a comprehensive rubric adapted from established EFL assessment frameworks and validated for use with primary school learners. The rubric assesses three primary dimensions: fluency (speech rate, hesitations, and natural flow), pronunciation accuracy (phoneme production, word stress, and intonation patterns), and speaking confidence (willingness to communicate, volume, and eye contact). Each dimension is rated on a 5-point scale with detailed descriptors for each level.

3.2.2 Pre- and Post-Test Speaking Tasks

Standardized speaking tasks will be administered before and after the intervention to measure skill development. Tasks include picture description, role-play scenarios, and structured interviews designed to elicit natural speech samples. All speaking sessions will be audio-recorded for later analysis by trained raters to ensure reliability and validity of assessments.

3.2.3 Student Perception Questionnaire

A questionnaire will be developed to assess students' perceptions of the gamified learning experience, including enjoyment, perceived effectiveness, motivation levels, and preferences for different learning activities. The questionnaire will use age-appropriate language and visual scales suitable for primary school students.

3.2.4 Gamification Platform Analytics

The gamified learning platform will include built-in analytics to track student engagement metrics such as time spent on activities, completion rates, points earned, badges unlocked, and interaction patterns. These data will provide objective measures of student engagement and platform usage.

3.3 Procedure

Following ethical approval from the university research committee and relevant educational authorities, schools will be contacted to recruit participants and obtain necessary permissions. Parents will receive detailed information about the study and provide written consent for their children's participation.

The study will follow a quasi-experimental design with pre-test, intervention, and post-test phases conducted over an 8-week period. During the first week, all participants will complete pre-test speaking assessments and demographic questionnaires. The experimental group will then receive training on using the gamified platform, while the control group will continue with traditional speaking instruction methods.

The intervention phase will last six weeks, during which the experimental group will engage with the gamified platform for 30 minutes per session, three times per week, under teacher supervision. The platform will include speaking activities such as pronunciation challenges, conversation simulations, vocabulary games, and interactive storytelling tasks. Students will earn points for participation, badges for achieving specific milestones, and advance through levels based on their performance.

The control group will receive equivalent amounts of speaking practice through traditional methods including choral repetition, pair work, teacher-led dialogues, and textbook-based activities. Both groups will be taught by the same teacher to control for instructor variables.

During the final week, all participants will complete post-test speaking assessments using the same instruments and procedures as the pre-test. Additionally, the experimental group will complete the student perception questionnaire to gather data on their experiences with the gamified platform.

3.4 Research Design

This study employs a quasi-experimental design with a non-equivalent control group to examine the effectiveness of a gamified EFL learning platform on Iranian primary school students' speaking development. The quasi-experimental approach is appropriate given the practical constraints of educational research settings where random assignment of students to groups may not be feasible due to existing classroom structures and administrative considerations.

The design includes pre-test and post-test measurements to assess changes in speaking skills over the intervention period, allowing for the examination of growth in both experimental and control groups. The comparison between groups will provide evidence regarding the differential effectiveness of gamified versus traditional instruction methods.

The six-week intervention period provides sufficient time for meaningful skill development while remaining practical for implementation within existing school schedules and curricula. This duration aligns with research recommendations for educational interventions and allows for the observation of both immediate and short-term retention effects.

3.5 Data Analysis

Data analysis will be conducted using SPSS software with multiple statistical procedures to address the research questions comprehensively. Descriptive statistics will be calculated for all variables to summarize participant characteristics and provide baseline information about the sample.

To examine differences in speaking development between groups, independent samples t-tests will be conducted comparing post-test scores between the experimental and control groups, while controlling for pre-test performance through ANCOVA (Analysis of Covariance). This approach will allow for the assessment of intervention effects while accounting for initial differences between groups.

Paired samples t-tests will be used to examine within-group changes from pre-test to post-test for both experimental and control groups, providing information about the magnitude of improvement within each condition.

Effect sizes will be calculated using Cohen's d to determine the practical significance of any observed differences between groups. This analysis will help interpret whether statistically significant differences represent meaningful improvements in speaking skills.

For the qualitative data from student perception questionnaires, descriptive statistics and frequency analyses will be conducted to summarize student responses and identify patterns in their experiences with the gamified platform.

Platform analytics data will be analyzed using correlation analysis to examine relationships between engagement metrics (time spent, activities completed, points earned) and speaking skill improvements, providing insights into which platform features are most associated with learning gains.

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Appendix A: Speaking Assessment Rubric

Fluency Assessment (5-point scale)

Level 5 - Excellent Fluency

- Speech flows naturally with minimal hesitations
- Normal rate of speech for age group
- Self-corrections are smooth and do not interrupt communication
- Connected discourse with appropriate transitions

Level 4 - Good Fluency

- Generally smooth speech with occasional hesitations
- Slightly slower than normal rate but maintains communication
- Some self-corrections that minimally impact flow
- Mostly connected speech with adequate transitions

Level 3 - Adequate Fluency

- Speech interrupted by frequent hesitations and pauses
- Slower rate that may affect listener comprehension
- Self-corrections are noticeable but communication continues
- Some connected speech with limited transitions

Level 2 - Limited Fluency

- Frequent long pauses and hesitations disrupt communication
- Very slow rate that significantly impacts comprehension
- Self-corrections often unsuccessful or confusing
- Mostly isolated phrases with minimal connection

Level 1 - Poor Fluency

- Communication severely disrupted by hesitations and pauses
- Extremely slow rate making comprehension difficult
- Unable to self-correct effectively
- Isolated words or short phrases only

Pronunciation Assessment (5-point scale)

Level 5 - Excellent Pronunciation

- All phonemes produced accurately

- Appropriate word stress and sentence intonation
- Clear articulation that enhances communication
- Native-like rhythm and connected speech patterns

Level 4 - Good Pronunciation

- Most phonemes produced accurately with minor errors
- Generally appropriate stress and intonation
- Clear articulation with occasional unclear sounds
- Good rhythm with some connected speech features

Level 3 - Adequate Pronunciation

- Some phoneme errors that occasionally impact meaning
- Inconsistent stress and intonation patterns
- Generally clear with some unclear articulation
- Basic rhythm with limited connected speech

Level 2 - Limited Pronunciation

- Frequent phoneme errors that impact comprehension
- Inappropriate stress and intonation affecting meaning
- Often unclear articulation requiring listener effort
- Poor rhythm and little connected speech

Level 1 - Poor Pronunciation

- Severe phoneme errors preventing comprehension
- No appropriate stress or intonation patterns
- Very unclear articulation impeding communication
- No recognizable rhythm or connected speech

Speaking Confidence Assessment (5-point scale)

Level 5 - Excellent Confidence

- Initiates conversation willingly and enthusiastically
- Maintains appropriate volume and clear voice projection
- Sustained eye contact and positive body language
- Takes communicative risks and attempts complex expression

Level 4 - Good Confidence

- Usually willing to participate when prompted

- Adequate volume with clear voice projection
- Regular eye contact with generally positive body language
- Attempts new expressions with minimal hesitation

Level 3 - Adequate Confidence

- Participates when encouraged but rarely initiates
- Variable volume sometimes requiring prompting
- Intermittent eye contact with neutral body language
- Stays within comfortable expression patterns

Level 2 - Limited Confidence

- Reluctant to participate, requires significant encouragement
- Low volume requiring frequent requests to speak up
- Minimal eye contact with signs of nervousness
- Avoids complex expressions, uses simple patterns

Level 1 - Poor Confidence

- Avoids speaking opportunities when possible
- Very low volume or whispered speech
- No eye contact, clear signs of anxiety or distress
- Minimal attempts at expression, often one-word responses

Appendix B: Student Perception Questionnaire

About You: Name: _____ Age: _____ Grade: _____

Instructions: Please circle the face that shows how you feel about each statement.

1. I enjoyed using the English learning game. 😄 Very Happy 😊 Happy 😐 OK 😞
Sad 😓 Very Sad

2. The game helped me learn to speak English better. 😄 Very Happy 😊 Happy 😐
OK 😞 Sad 😓 Very Sad

3. I felt excited when I earned points and badges. 😄 Very Happy 😊 Happy 😐 OK
😞 Sad 😓 Very Sad

4. The game made me want to practice speaking English more. 😄 Very Happy 😊
Happy 😐 OK 😞 Sad 😓 Very Sad

5. I felt nervous when speaking English in the game. 😄 Very Happy 😊 Happy 😐
OK 😞 Sad 😓 Very Sad

6. The activities in the game were fun. 😄 Very Happy 😊 Happy 😐 OK 😞 Sad 😓
Very Sad

7. I liked seeing my progress on the game. 😄 Very Happy 😊 Happy 😐 OK 😞 Sad
😓 Very Sad

8. The game was easy to use. 😄 Very Happy 😊 Happy 😐 OK 😞 Sad 😓 Very Sad

9. I would like to use this game again. 😄 Very Happy 😊 Happy 😐 OK 😞 Sad 😓
Very Sad

10. The game helped me feel more confident speaking English. 😄 Very Happy 😊
Happy 😐 OK 😞 Sad 😓 Very Sad

What did you like most about the English learning game?

What did you like least about the English learning game?

How could we make the game better?

Appendix C: Gamified Platform Features and Activities

Platform Overview: The EFL speaking development platform integrates multiple gamification elements designed specifically for Iranian primary school students aged 9-12. The platform includes culturally appropriate content, Persian language support for navigation, and activities aligned with Iranian English curriculum standards.

Core Gamification Elements:

Points System:

- Speaking practice: 10 points per minute of active speaking
- Pronunciation accuracy: 5-25 points based on assessment
- Daily login: 5 points
- Completing activities: 10-50 points based on difficulty
- Helping virtual characters: 15 points per interaction

Badge System:

- "First Steps" - Complete first speaking activity
- "Brave Speaker" - Speak for 5 minutes total
- "Pronunciation Pro" - Achieve 80% pronunciation accuracy
- "Conversation Master" - Complete 10 dialogue activities
- "Story Teller" - Record and share one story
- "Daily Learner" - Login for 7 consecutive days
- "Helper Friend" - Complete 5 peer assistance activities

Level Progression:

- Beginner Explorer (Levels 1-5)
- Confident Communicator (Levels 6-10)
- Fluent Speaker (Levels 11-15)
- Master Storyteller (Levels 16-20)

Speaking Activities:

1. Pronunciation Challenges: Students record themselves pronouncing target sounds, words, and phrases. The system provides immediate feedback using speech recognition technology and awards points for accuracy improvements.

2. Virtual Conversations: Interactive dialogues with AI characters in various scenarios (shopping, school, family). Students practice functional English while advancing through story-based missions.

3. Picture Description Games: Students describe images and earn points for vocabulary use, sentence structure, and creativity. Progressive difficulty levels introduce more complex scenes and vocabulary.

4. Role-Play Adventures: Students assume different characters and navigate English-speaking scenarios. Activities include ordering food, asking for directions, and introducing themselves to new friends.

5. Story Creation Challenges: Students create and record original stories using provided vocabulary and grammar structures. They can share stories with classmates and provide feedback through structured peer review activities.

6. Singing and Chanting: Interactive songs and chants help students practice rhythm, intonation, and pronunciation while earning musical achievement badges.

Progress Tracking Features:

- Visual progress bars for each skill area
- Personal learning dashboard with statistics
- Weekly progress reports for students and teachers
- Achievement gallery displaying earned badges
- Personalized learning path recommendations

Social Features:

- Class leaderboards (optional, can be disabled)
- Peer encouragement system with positive message exchanges
- Collaborative story-building activities
- Virtual study groups for practice sessions

Teacher Dashboard:

- Real-time monitoring of student progress
- Individual and class performance analytics
- Customizable activity assignments
- Assessment tools and rubrics
- Parent communication features