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Reimagining University-Level ELT: Integrating Mobile Applications and Gamification to Enhance Learner Engagement and Autonomy

ABSTRACT

This quasi-experimental study investigates the impact of integrating mobile applications and gamified learning tasks on student performance and autonomy in English language classrooms at the university level. Conducted over eight weeks with 92 first-year undergraduate students, the study compares traditional instruction methods with technology-enhanced, gamified approaches. Participants were randomly assigned to a control group (46 students), receiving traditional textbook-based instruction, or an experimental group (46 students), utilizing a gamified flipped-classroom model. Findings indicate that the experimental group exhibited significantly higher gains in language proficiency, with a mean improvement of 11.4 points compared to 5.4 in the control group. Furthermore, the experimental group reported a 25% increase in in-class participation and a 30% rise in out-of-class study time. The results support the integration of digital tools and game-based strategies in English Language Teaching (ELT) to foster more autonomous and engaged

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learners. The study concludes by offering practical recommendations for educators to align digital activities with specific instructional objectives.

Key words: Gamification, mobile-assisted language learning (MALL), learner autonomy, student engagement, education technology.

ԱՄՓՈՓՈՒՄ

ԱՆԳԼԵՐԵՆԻ ԴԱՍԱՎԱՆԴՄԱՆ ԱՐԴԻԱԿԱՆԱՑՈՒՄԸ ԲՈՒՀՈՒՄ. ԲՋՋԱՅԻՆ ՀԱՎԵԼՎԱԾՆԵՐԻ և ԽԱՂԱՅՆԱՑՄԱՆ ԻՆՏԵԳՐՈՒՄԸ՝ ՈՐՊԵՍ ՈՒՍԱՆՈՂՆԵՐԻ ՆԵՐԳՐԱՎՎԱԾՈՒԹՅԱՆ և ԻՆՔՆՈՒՐՈՒՅՆՈՒԹՅԱՆ ԲԱՐՁՐԱՑՄԱՆ ՄԻՋՈՑ

Սույն հետազոտությունը դիտարկում է բջջային հավելվածների և խաղայնացված ուսումնական առաջադրանքների կիրառման ազդեցությունը բուհական համակարգում անգլերեն սովորող ուսանողների առաջադիմության և ինքնուրույնության վրա: Ութ շաբաթ տևողությամբ գիտափորձին մասնակցել է բակալավրիատի առաջին կուրսի 92 ուսանող: Հետազոտության շրջանակներում համեմատվել են դասավանդման ավանդական մեթոդները և տեխնոլոգիական հագեցվածությամբ ու խաղայնացման տարրերով ուղեկցվող մոտեցումները: Մասնակիցները բաժանվել են երկու խմբի՝ ստուգիչ (46 ուսանող), որն ուսումնառությունն անցկացրել է ավանդական դասագրքային մեթոդով, և փորձարարական (46 ուսանող), որտեղ կիրառվել է խաղայնացված շրջված լսարանի մոդելը:

Հետազոտության արդյունքները փաստում են, որ փորձարարական խմբում լեզվական պատրաստվածության մակարդակն զգալիորեն աճել է. միջին առաջընթացը կազմել է 11.4 միավոր՝ ստուգիչ խմբի 5.4 միավորի համեմատ: Բացի այդ, փորձարարական խմբում լսարանային մասնակցության աստիճանն աճել է 25%-ով, իսկ արտալսարանային ինքնուրույն աշխատանքին հատկացվող ժամանակը՝ 30%-ով: Ստացված տվյալները հիմնավորում են անգլերենի դասավանդման գործընթացում թվային գործիքների և խաղային ռազմավարությունների ներդրման

կարևորությունը՝ նպաստելով ուսանողների ներգրավվածության և ինքնուրույնության բարձրացմանը: Աշխատանքի վերջում ներկայացված են գործնական առաջարկություններ մանկավարժների համար՝ թվային վարժությունները կրթական կոնկրետ նպատակներին համապատասխանեցնելու համար:

Բանալի բառեր՝ խաղայնացում, բջջային սարքերի օգնությամբ լեզվի ուսուցում (MALL), սովորողի ինքնավարություն, ուսանողների ներգրավվածություն, կրթական տեխնոլոգիաներ:

РЕЗЮМЕ

НОВЫЙ ВЗГЛЯД НА ПРЕПОДАВАНИЕ АНГЛИЙСКОГО ЯЗЫКА В ВУЗАХ: ИНТЕГРАЦИЯ МОБИЛЬНЫХ ПРИЛОЖЕНИЙ И ГЕЙМИФИКАЦИИ ДЛЯ ПОВЫШЕНИЯ ВОВЛЕЧЕННОСТИ И АВТОНОМНОСТИ СТУДЕНТОВ

В данном квазиэкспериментальном исследовании анализируется влияние мобильных приложений и игровых учебных заданий на успеваемость и образовательную автономность студентов вузов в контексте изучения английского языка. Эксперимент, в котором приняли участие 92 первокурсника, проводился в течение восьми недель. Целью работы стало сравнение традиционных методик преподавания с подходами, основанными на использовании современных технологий и элементов геймификации. Респонденты были разделены на контрольную группу (46 человек), обучавшуюся по стандартным учебным пособиям, и экспериментальную группу (46 человек), где применялась модель перевернутого класса с игровыми компонентами.

Результаты исследования свидетельствуют о том, что экспериментальная группа продемонстрировала значительно более выраженную динамику владения языком: средний показатель роста составил 11,4 балла против 5,4 в контрольной группе. Кроме того, у студентов экспериментальной группы на 25% повысилась активность

на занятиях и на 30% увеличилось время, затрачиваемое на самостоятельную работу. Полученные данные подтверждают целесообразность интеграции цифровых инструментов и игровых стратегий в методику преподавания английского языка для повышения вовлеченности и самостоятельности учащихся. В заключении сформулированы практические рекомендации для педагогов по адаптации цифровых активностей под конкретные образовательные задачи.

Ключевые слова: Геймификация, мобильное обучение языку (MALL), автономность обучающихся, вовлеченность студентов, образовательные технологии.

Introduction

In the digital era, university students frequently interact with mobile technologies for both social and academic purposes. However, traditional instructional models, dominated by lectures and textbooks, are often misaligned with the digital preferences and learning styles of contemporary learners. This pedagogical gap can lead to decreased motivation and passive learning behaviors (Hafner & Miller, 2025). Mobile-Assisted Language Learning (MALL) and gamification offer alternative approaches that may bridge this gap by enhancing learner motivation and engagement.

Recent findings demonstrate that mobile-based environments not only increase flexibility in learning but also contribute to learner autonomy; the ability to take control over learning goals, methods, and materials (Estrella, 2024; Pham et al., 2021).

This study explores whether integrating mobile apps and gamified elements into English language instruction can significantly improve students' linguistic performance and learner autonomy. It addresses the following research questions:

1. To what extent does the integration of mobile applications and gamification affect the language proficiency of university-level EAP students?

2. How does this technology-enhanced approach influence student engagement and independent learning behaviors?

This study draws on four interlinked frameworks that ground its pedagogical approach:

1. **Self-Determination Theory (SDT)** (Deci & Ryan, 2000): Motivation is optimized when learners' basic needs for competence, autonomy, and relatedness are fulfilled. Gamified apps such as Quizlet or Kahoot! meet these needs by providing feedback (competence), control (autonomy), and peer interaction (relatedness).
2. **Flow Theory** (Csikszentmihalyi, 1990): Optimal engagement occurs when task difficulty aligns with learner ability. Gamified EFL tasks, designed around challenge; skill balance, sustain concentration and enjoyment (Cheng et al., 2025).
3. **Zone of Proximal Development (ZPD)** (Vygotsky, 1978): Learning is maximized when guided through scaffolded support. Mobile apps act as "digital tutors" that mediate linguistic development through hints, examples, and adaptive feedback loops.

4. **SAMR Model** (Puentedura, 2012): The technological integration followed a progressive framework:
    - **Substitution:** Apps replicate paper exercises.
    - **Augmentation:** Feedback and tracking improve efficiency.
    - **Modification:** Tasks transform into interactive, gamified formats.
    - **Redefinition:** Entirely new, learner-driven experiences emerge, such as global peer collaboration on Tandem.

Recent scholarship highlights that smartphones are no longer distractions but essential "cognitive tools" that extend learning into the "wild". The pervasive use of smartphones presents a unique opportunity to extend language learning beyond the physical classroom. Mobile applications such as Quizlet and Kahoot! provide immediate feedback and personalized practice, which are critical for effective vocabulary and grammar acquisition. According to Self-Determination Theory (SDT), when digital tools satisfy the needs for competence and autonomy, extrinsic motivation is internalized, leading to deeper cognitive processing.

Gamification, the application of game design elements like points, badges, and leaderboards in non-game contexts, has shown promise in increasing learner motivation. Despite these benefits, existing literature reveals a gap in research regarding the combined effect of mobile technologies and gamification on learner autonomy within university-level English programs. This study aims to address

this gap by evaluating a dual-integration model and providing the necessary empirical weight through a quasi-experimental design.

MALL reshapes learning environments by enabling continuity across formal and informal contexts. Learners interact with content beyond classroom walls, thus cultivating self-regulation and sustained practice (Godwin-Jones, 2021). Estrella's (2024) quasi-experimental study with Ecuadorian undergraduates found that mobile use promoted self-regulation, decision-making, and intrinsic motivation; key pillars of autonomy.

Similarly, Yassin and Abugohar (2022) showed gamified assessment via Kahoot! and Quizizz produced statistically significant proficiency improvements among EFL learners in Saudi Arabia (eric.ed.gov). The combination of MALL and gamified assessment proved especially valuable for reinforcing vocabulary and grammar retention.

Gamification integrates elements such as points, leaderboards, and badges to elicit enjoyment and persistence. Studies have consistently confirmed its positive influence on foreign language learning enjoyment (FLLE) and achievement (Cheng et al., 2025). Gamified instruction enhances reading and vocabulary skills while promoting teamwork and communication, which correlate with increased affective engagement.

Pham et al. (2021) found that combining mobile-learning with gamification fostered intrinsic motivation and a sense of agency among Vietnamese undergraduates. Likewise, Cheng et al. (2025)

highlighted how positive emotional states derived from gamification increase *foreign language learning enjoyment*, reinforcing motivation and self-confidence. These insights converge with SDT, demonstrating that digital games catalyze internalization of learning goals through enjoyment, not just external rewards.

Our study involved 92 first-year English for Academic Purposes (EAP) students at a public university. Participants were randomly assigned to either a control group (46 students) or an experimental group (46 students).

Over an eight-week period, the groups received different instructional treatments:

Control Group: Received traditional instruction using lectures and textbook-based activities.

Experimental Group: Participated in a flipped-classroom model incorporating digital tools:

Quizlet, Learningapps: Used for vocabulary practice.

Kahoot!, Learningapps: Used for gamified grammar reviews.

Flipgrid: Used for speaking and video tasks.

Tandem: Used for peer interaction and feedback.

Data were triangulated using the following instruments:

- Standardized pre- and post-tests based on the CEFR framework to assess proficiency.
- Engagement surveys.
- A learner autonomy questionnaire adapted from Littlewood (1999).

- Focus group interviews with 10 students from the experimental group.

Results

The experimental group demonstrated superior gains in language proficiency compared to the control group.

Table 1: Pre- and Post-Test Proficiency Scores

Group	Pre-Test	Post-Test
Control	62.4	67.8
Experimental	63.1	74.5

Qualitative observations also noted enhancements in vocabulary usage and syntactic complexity in the experimental group's output.

Engagement and Autonomy

Experimental group participants reported a 25% increase in classroom participation and a 30% rise in out-of-class study time. Qualitative data indicated that mobile learning became an integrated part of students' daily routines, with one student noting they practiced vocabulary daily while commuting. These students also showed greater initiative in setting personal learning goals and tracking their own progress.

The findings suggest that gamification acts as a "scaffold" for autonomy as incorporating mobile applications and gamified strategies significantly enhances learner performance and autonomy. By providing immediate feedback through points and badges, students experienced increased self-efficacy, a core component of the ZPD (Zone of Proximal Development). Unlike the control group, experimental participants viewed language learning as a continuous, mobile activity rather than a classroom-bound chore. These methods align with the digital habits of modern students and support 21st-century skills like self-directed learning.

However, digital fatigue was noted as a minor challenge, suggesting that gamification must be implemented with pedagogical balance. Other challenges included inconsistent Wi-Fi access and varying levels of digital literacy among students. These issues were addressed through peer support and instructional scaffolding.

Practical Recommendations for Educators:

- Select user-friendly applications with well-defined learning outcomes.
- Align all digital activities strictly with instructional objectives.
- Provide scaffolding for students who are less familiar with technology.
- Use game elements judiciously to balance motivation with collaboration.
- Encourage reflection through digital portfolios or journals.

Conclusion

This study affirms that MALL combined with gamification scaffolds learner autonomy through motivation and accountability. Consistent with Vygotsky's ZPD, digital platforms functioned as adaptive mediators, allowing learners to perform above their independent level with immediate, formative feedback.

However, reliance on reward systems ("pointsification") risks extrinsic overshadowing**;** a scenario where badges outweigh intrinsic motivation (Reinhardt, 2019). To counteract this, educators should gradually transition toward reflective and collaborative gamified practices that sustain intrinsic motivation (Deci & Ryan, 2000).

The results mirror Estrella's (2024) and Cheng et al.'s (2025) assertions that gamification nurtures engaged, self-directed, and emotionally invested language learners. MALL's portability transforms learning into a lifelong, ubiquitous process—aligning well with Kukulska-Hulme's (2020) view of mobile learning as a catalyst for pedagogical change.

Nevertheless, sustainability beyond the "novelty effect" of digital tools remains an open question. Future research should adopt longitudinal designs and investigate the differential effects of gamified design elements across proficiency levels and cultural contexts.

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