

**A COMPARATIVE ANALYSIS OF TRADITIONAL AND MOBILE-ASSISTED ENGLISH LANGUAGE TEACHING METHODS IN DEVELOPING STUDENTS' DIGITAL COMPETENCE****Yuldashev Sherzod Zairjanovich**

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**Abstract**

The rapid digital transformation of education has fundamentally reshaped pedagogical paradigms worldwide, particularly in foreign language teaching. This study investigates the comparative effectiveness of traditional English language teaching methods and mobile-assisted language learning (MALL) in developing students' digital competence. Using a quasi-experimental research design, data were collected from 180 undergraduate students enrolled in pedagogy and psychology programs at the International School of Finance Technology and Science (ISFT), Uzbekistan. The experimental group was taught English using mobile applications (Kahoot, Gimkit, Quizlet, Google Classroom, and Telegram bots), while the control group received instruction through traditional teacher-centered methodologies. Pre-test and post-test digital competence scores were analyzed using paired sample t-tests, ANCOVA, and regression analysis. Results revealed statistically significant improvements in digital competence among students exposed to mobile-assisted learning compared to traditional instruction. The findings support the integration of mobile technologies as a transformative tool in English language education and provide a validated methodological model for developing digital competence in higher education.

**Keywords**

digital competence, mobile-assisted language learning, MALL, English language teaching, higher education, pedagogical technology, Uzbekistan

**Introduction**

Digitalization has become a defining feature of modern education systems. In recent years, the emergence of mobile learning technologies has revolutionized the way languages are taught and learned. While traditional English language teaching methods remain prevalent in many institutions, these approaches often lack sufficient emphasis on the development of students' digital competence—an essential skill in the 21st century educational landscape.

In Uzbekistan, national education reforms emphasize the integration of digital tools in pedagogy to enhance learning outcomes and prepare students for global competitiveness. Despite this strategic priority, empirical evidence regarding the comparative effectiveness of traditional and mobile-assisted teaching approaches in fostering digital competence remains limited.

This research aims to fill this gap by systematically comparing traditional and mobile-assisted English language teaching methods in developing students' digital competence in higher education.

**Literature Review**

### Digital Competence in Higher Education

Digital competence is defined as the confident, critical, and responsible use of digital technologies for learning, communication, and professional development (European Commission, 2023). It encompasses information literacy, communication skills, digital content creation, safety, and problem-solving.

Studies indicate that digital competence significantly correlates with academic success, employability, and lifelong learning readiness (Ferrari, 2012; Redecker, 2017).

### Traditional English Language Teaching Methods

Traditional teaching methods primarily rely on lecture-based instruction, printed materials, chalk-and-board teaching, and limited technological integration. While effective for grammar and reading comprehension, these methods often fail to cultivate students' digital literacy and autonomous learning skills (Richards & Rodgers, 2014).

### Mobile-Assisted Language Learning (MALL)

MALL refers to the use of mobile devices and applications to support language learning anytime and anywhere. Research demonstrates that MALL enhances learner engagement, motivation, collaboration, and digital competence (Kukulka-Hulme & Shield, 2008; Burston, 2015).

Empirical studies consistently show that mobile-assisted learning leads to higher academic performance and improved technological fluency compared to traditional approaches (Al-Emran et al., 2020).

### Methodology

#### Research Design

A quasi-experimental design with pre-test and post-test control groups was employed.

#### Participants

Group	Program	N
Experimental	Pedagogy & Psychology	90
Control	Pedagogy & Psychology	90
<b>Total</b>		<b>180</b>

#### Instruments

- Digital Competence Assessment Test (DCAT)
- Student Digital Skills Questionnaire
- Observation checklist

#### Intervention

Tools Used	Purpose
Kahoot	Vocabulary and grammar assessment
Gimkit	Gamified revision
Quizlet	Flashcard-based vocabulary learning
Google Classroom	Assignment submission
Telegram Bots	Continuous practice

### Statistical Analysis

- Paired-sample t-test
- ANCOVA
- Linear regression
- Cohen's d effect size

### Results

#### Pre-test and Post-test Comparison

Group	Pre-test Mean	Post-test Mean	Gain
Experimental	46.2	81.4	+35.2
Control	45.9	61.3	+15.4

$$t(178) = 12.74, p < 0.001$$

#### 4.2 Regression Model

$$DC = \beta_0 + \beta_1(MALL) + \varepsilon$$

$$\beta_1 = 0.63 (p < 0.001)$$

### Discussion

#### Theoretical Implications

The findings of this study provide strong empirical confirmation that Mobile-Assisted Language Learning (MALL) significantly outperforms traditional English language teaching methods in developing students' digital competence. This result aligns with the core principles of constructivist learning theory, which emphasizes active knowledge construction, learner autonomy, and contextualized learning (Vygotsky, 1978; Piaget, 1972).

Within a mobile-assisted environment, learners are positioned not merely as recipients of information but as active participants who interact with digital content, engage in collaborative problem-solving, and regulate their own learning processes. Consequently, digital competence is developed not as an isolated technical skill but as an integrated cognitive, social, and metacognitive capability.

Furthermore, the findings support connectivist learning theory (Siemens, 2005), which conceptualizes learning as a process of building networks and navigating digital information

flows. Mobile platforms provide dynamic learning networks that facilitate real-time communication, peer collaboration, and access to multimodal resources—key components for cultivating sustainable digital competence.

### **Pedagogical Mechanisms of Mobile Applications**

The mobile applications employed in this research contributed differentially to the development of specific components of digital competence:

<b>Application</b>	<b>Competence Development</b>
Kahoot	Critical thinking, rapid digital decision-making, reflective learning
Gimkit	Problem-solving under digital conditions
Quizlet	Digital content management and information literacy
Google Classroom	Learning management system (LMS) navigation, digital documentation
Telegram bots	Autonomous learning, media literacy

Together, these tools formed an integrated digital pedagogical ecosystem that systematically strengthened students' technological fluency, digital communication skills, and self-regulated learning behaviors.

### **Interpretation of Statistical Results**

Regression analysis demonstrated that MALL accounted for 63% of the variance in students' digital competence ( $\beta = 0.63$ ,  $p < 0.001$ ), indicating that instructional design—not merely technological availability—is the primary determinant of digital competence development.

Traditional instruction tends to emphasize content transmission and teacher-centered control, which limits students' exposure to authentic digital learning environments. In contrast, mobile-assisted instruction creates interactive, learner-centered digital spaces that promote continuous practice, feedback, and digital agency.

### **Contextual Significance for Uzbekistan**

Given Uzbekistan's national digital education reform agenda, the results of this study provide empirically grounded justification for large-scale integration of mobile technologies into higher education curricula. Implementation of MALL can accelerate:

- students' digital literacy development
- autonomous learning capacity
- English language proficiency
- institutional digital culture

This positions MALL not merely as an instructional supplement but as a strategic educational innovation tool.

### **Scientific Novelty**

This study contributes to the field through:

1. Development of a validated mobile-based digital competence development model
2. Construction of a statistical predictive model for digital competence growth
3. Empirical validation of MALL within Uzbekistan's higher education context

### Conclusion

This study provides robust empirical evidence that Mobile-Assisted Language Learning significantly enhances students' digital competence more effectively than traditional English language teaching approaches.

The results demonstrate that while traditional methods primarily facilitate linguistic knowledge transmission, mobile-assisted instruction simultaneously develops linguistic, digital, communicative, and metacognitive competences—positioning digital competence as a central learning outcome rather than a peripheral skill.

### Key Conclusions:

1. MALL is a highly effective methodological mechanism for digital competence development.
2. Mobile-integrated instruction fosters learner autonomy, reflective thinking, and digital agency.
3. Digital competence must be formally embedded within English language curricula as a core educational objective.

### Practical Recommendations:

- Introduce mobile-assisted English modules in pedagogy and psychology faculties
- Implement professional development programs for instructors focused on MALL methodologies
- Integrate digital competence indicators into curriculum standards
- Institutionalize digital competence assessment within educational quality assurance systems

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