



EVALUATING THE EFFECTS OF DIGITAL TECHNOLOGIES, SMART LEARNING TOOLS, AND ADMINISTRATIVE SUPPORT SYSTEMS ON ENGLISH LANGUAGE LEARNING MOTIVATION AMONG ARAB UNIVERSITY STUDENTS FROM EAST JERUSALEM

Wafaa Ibrahim Elayanⁱ

Girne American University (GAU),
Northern Cyprus

Abstract:

This study investigated Arab university students' evaluations of the impact of digital technologies, smart learning tools, and administrative support systems on English language learning motivation in universities in East Jerusalem. A mixed-methods approach was employed to provide a comprehensive understanding of the research problem. The quantitative component adopted a descriptive-correlational design and involved a stratified random sample of 279 university students who completed a validated questionnaire. The qualitative component consisted of semi-structured interviews with selected students to explore their experiences with technology-enhanced English learning. The findings revealed that students generally perceived digital technologies and smart learning tools as significant contributors to enhancing their motivation to learn English. These technologies increased engagement, improved access to learning resources, supported learner autonomy, and facilitated the development of language skills, particularly vocabulary, writing, speaking, and pronunciation. Administrative support systems were perceived at a moderate level, reflecting their indirect but important role in creating supportive learning environments through technological infrastructure and institutional services. Qualitative findings further highlighted the value of artificial intelligence applications, such as ChatGPT, Gemini, and Google Translate, in providing immediate feedback, improving writing and vocabulary, and encouraging independent learning. However, participants also identified challenges, including unstable internet connectivity and differences in institutional support. Overall, the integration of quantitative and qualitative findings suggests that the effectiveness of digital learning tools depends not only on their availability but also on adequate administrative support and technological infrastructure. The study concludes that strengthening digital learning ecosystems can significantly enhance English language learning motivation among Arab university students in East Jerusalem. It recommends integrating AI-based applications into English language instruction through structured

ⁱ Correspondence: email ol-daher@yahoo.com

pedagogical practices, improving digital infrastructure, strengthening speaking and pronunciation programs, and providing continuous institutional support to maximize learning outcomes.

Keywords: digital technologies, smart learning tools, administrative support systems, learning motivation, English language learning, East Jerusalem

1. Introduction

The study sought to investigate the level of university students' evaluations in East Jerusalem regarding the impact of digital technologies, smart learning tools, and administrative support systems on their motivation to learn English. The study addressed the following research question: What is the perceived impact of digital technologies, Smart Learning Tools, and Administrative Support Systems on English Language Learning Motivation among Arab University Students from East Jerusalem? The study adopted a mixed-methods approach. The quantitative component consisted of a stratified random sample of 279 male and female university students. The qualitative component involved semi-structured interviews with 27 students from different universities in East Jerusalem to explore their perceptions and recommendations. These findings are consistent with Abdelali (2025), who emphasized the positive role of digital technologies in enhancing learning motivation. The results also indicate that students perceive these tools as effective in promoting engagement, learner autonomy, and personalized learning experiences. Similar findings were reported by Abbas *et al.* (2026), Hasumi and Chiu (2024), and Liu *et al.* (2024). Furthermore, the findings suggest that administrative support should evolve from a primarily operational function to a more active contributor to learner motivation and effective technology integration.

In addition, it addresses a gap in Arabic educational research concerning the relationship between digital learning environments and motivation in EFL contexts. By focusing on East Jerusalem, it provides context-specific empirical evidence that can support future comparative studies and enhance understanding of how cultural and social conditions influence the adoption of educational technologies.

Practically, the study offers valuable implications for improving English language teaching practices. Its findings may help educational institutions better align digital tools with students' needs and improve instructional design. It also provides guidance for policymakers in developing effective strategies for technology integration, strengthening digital infrastructure, and enhancing administrative support systems to improve educational quality and student motivation. Furthermore, the study supports teachers by identifying effective ways to use digital technologies and smart learning tools to increase engagement. Overall, it contributes to creating more flexible, interactive, and supportive learning environments in the context of ongoing digital transformation in education.

Education in the digital era has undergone substantial transformation due to rapid advancements in digital technologies, which have reshaped learning environments and instructional practices, particularly in English as a Foreign Language (EFL). Digital tools have become integral to education by providing interactive, flexible, and self-directed learning opportunities that enhance both individual and collaborative learning processes (Maxmud-qizi, 2025; Okumuş *et al.*, 2019).

Learner motivation is widely recognized as a critical factor in successful English language acquisition, as it directly influences engagement and persistence in learning (Wei, 2022). Accordingly, digital technologies play an important role in enhancing students' motivation by offering personalized and interactive learning environments that increase interest and participation.

Previous studies have highlighted the positive impact of digital technologies, including educational applications, multimedia resources, and online platforms, on improving English language learning experiences and outcomes (Pawar & Scholar, 2024; Sudha, 2024; Hasumi & Chiu, 2024). In addition, smart learning tools such as artificial intelligence and adaptive systems contribute to personalized learning through immediate feedback, which enhances learners' self-efficacy and motivation (Shao *et al.*, 2025).

Administrative support systems also play a complementary role in facilitating the learning process by providing learning management platforms, technical support, and academic guidance, thereby improving the overall educational experience (Abdelali, 2025). Furthermore, digital learning environments have been found to support students' psychological well-being by reducing anxiety and enhancing self-confidence, contributing to a more positive learning experience (Metwally, 2025).

Self-Determination Theory provides a useful framework for understanding this relationship, as it suggests that autonomy, competence, and relatedness are key drivers of intrinsic motivation, which can be effectively supported through digital learning environments (Shao *et al.*, 2025).

Moreover, students increasingly rely on digital tools such as translation applications, electronic dictionaries, and online platforms for language learning, which reflects the growing importance of examining their perceptions of these tools and their impact on learning experiences (Abbas, Dollah, & Patak, 2026). Digital technologies also enhance interaction and communication among learners, fostering collaborative learning and improving language skills (Maxliyo, 2025).

Despite these advantages, challenges such as digital distraction, time management difficulties, and limited digital literacy remain concerns in technology-enhanced learning environments (Metwally, 2025). Therefore, balancing technological and traditional learning approaches remains essential.

Accordingly, it is important to investigate university students' perceptions of digital technologies, smart learning tools, and administrative support systems in relation to their motivation to learn English. This is particularly relevant in contexts such as East

Jerusalem, where limited empirical research has addressed this issue. Such investigation can provide valuable insights for improving educational practices and enhancing learning outcomes in the digital age.

Despite extensive research on digital transformation in higher education, important gaps remain, particularly in the context of Arab university students in East Jerusalem. Most existing studies are conducted in Western or highly digitized settings, limiting their relevance to contexts shaped by distinct political, cultural, social, and economic conditions, such as East Jerusalem, where students face structural inequalities and diverse institutional environments.

In addition, prior research often examines digital technologies, smart learning tools, and administrative systems separately, rather than exploring their combined and interactive influence on students' learning experiences. This fragmented approach limits a holistic understanding of digital learning environments.

Furthermore, there is a shortage of studies focusing on students' subjective perceptions and lived experiences, as much of the existing literature relies on quantitative indicators that overlook emotional and contextual dimensions of learning. The role of administrative digital systems as pedagogical and motivational support tools has also received limited attention.

Finally, little is known about how cultural identity, institutional trust, and socio-political conditions shape technology acceptance in such contexts. This study addresses these gaps by providing an integrated, student-centered analysis of digital learning environments in East Jerusalem.

2. Literature Review

This chapter provides the foundational theoretical underpinnings and empirical context for the study, establishing the basis for examining English language learning motivation among Arab university students in East Jerusalem.

The study is grounded in a dual-lens theoretical framework that merges structural technology integration with psychological motivation theory, specifically combining the Technology Acceptance Model (TAM) and Self-Determination Theory (SDT). According to Davis (1989) and Venkatesh *et al.* (2003), TAM explains that an individual's intent to adopt and engage with digital learning systems is governed by their Perceived Usefulness and Perceived Ease of Use. In the context of this study, TAM evaluates whether the technical design, utility, and institutional accessibility of digital tools encourage student interaction.

Conversely, Self-Determination Theory, as articulated by Deci and Ryan (2000), asserts that intrinsic motivation flourishes only when three basic psychological needs are met: autonomy, which represents self-governed learning; competence, which reflects a sense of mastery over tasks; and relatedness, which involves social connection. Within this study's integrated framework, structural acceptance acts as a functional gateway to

psychological determination. Digital and smart technologies do not motivate students automatically; instead, they influence motivation indirectly by satisfying the learner's need for autonomy and academic competence.

2.1 Core Thematic Pillars of the Literature

Contemporary educational literature organizes the relationship between technology and language acquisition into several critical structural areas. First, the ongoing digital transformation in higher education—encompassing Learning Management Systems (LMS), mobile applications, and social channels—has created flexible learning landscapes that extend practice far beyond classroom walls (Selwyn, 2016; Redecker, 2017). However, Shao and Wu (2023) demonstrate that digital tools do not directly alter performance; their impact is entirely mediated by emotional and cognitive student engagement.

Building on these foundational digital platforms, smart learning environments and generative AI represent an advanced stage of education characterized by personalized learning pathways, immediate feedback, and optimized cognitive loads (Hwang, 2014; Holmes *et al.*, 2019). Modern applications like ChatGPT and Gemini enhance linguistic self-confidence and vocabulary skills, provided they are backed by sound pedagogy rather than reliance on the mere novelty of the tool (Mahapatra, 2024). However, the success of these advanced systems is heavily reliant on institutional readiness. Administrative support must go beyond providing equipment to encompass sustainable ICT infrastructure, structured technical training, and stable academic services (Bates, 2019). In resource-constrained or complex socio-educational environments like East Jerusalem, administrative backing directly dictates the success or failure of digital shifts (Ramon & Ansari, 2022).

Furthermore, shifting to smart learning introduces critical cognitive and behavioral vulnerabilities. These include digital fatigue, structural inequalities regarding device access, algorithmic biases, and a distinct risk of student overreliance on automated text generation, which can compromise both academic integrity and deep language processing (Kasneci *et al.*, 2023; Ouyang *et al.*, 2022).

2.2 Review of Empirical Studies and Historical Gaps

Recent global research establishes that digital literacy and AI tools positively influence English language proficiency and academic performance when strong psychological mediators are present. For instance, Zhang (2025) and Shao *et al.* (2025) confirmed that digital tools boost proficiency indirectly by cultivating learning motivation and emotional regulation. Similarly, Abbas *et al.* (2026) showed that highly motivated learners experiencing Directed Motivational Currents (DMC) naturally incorporate AI apps and social media to maximize their autonomy and push past local educational limits.

Conversely, Abdelali (2025) and Serajuddin (2023) emphasize that structural realities—such as poor campus infrastructure, inadequate teacher training, and unequal

device access—frequently disrupt technology's potential in EFL environments. Thus, motivation fluctuates wildly depending on how personal student drive interacts with supportive institutional conditions (Wei, 2022; Hasumi & Chiu, 2024).

A critical critique of this existing literature reveals distinct methodological, conceptual, and contextual gaps that this study is designed to address. Methodologically, previous literature relies heavily on isolated quantitative metrics or pure theoretical reviews (Zhang, 2025; Wei, 2022), whereas this study employs a robust mixed-methods design pairing statistical generalization with qualitative depth. Conceptually, prior research frequently evaluates digital technologies or smart AI tools as separate, isolated variables, and often treats motivation as a secondary mediator for overall performance. This study integrates the entire ecosystem—digital tech, smart tools, and administrative systems—and centers English language learning motivation as the primary outcome under investigation.

Finally, while the vast majority of existing literature is concentrated within stable Western or East Asian academic environments, this research specifically investigates the restricted, unique socio-educational realities of Arab university students in East Jerusalem, directly evaluating how local student resilience interacts with emerging AI capabilities and institutional barriers.

3. Methodology and Procedures of the Study

This study employed a mixed-methods approach, integrating both quantitative and qualitative designs to provide a comprehensive understanding of the research problem. The quantitative component follows a descriptive-correlational design to examine the relationships between digital technologies, smart learning tools, administrative support systems, and English language learning motivation among Arab university students in East Jerusalem. Data were collected from 279 male and female students through a structured questionnaire to enable statistical analysis of the study variables.

Complementarily, the qualitative component employs semi-structured interviews with selected university students to explore their experiences and perceptions in greater depth. This approach allows for a richer understanding of motivational factors within their specific educational context.

The integration of both methods enhances the validity and depth of the findings by combining statistical generalization with contextual interpretation, thereby providing a more comprehensive analysis of the phenomenon under investigation.

4. Results

This section presents a comprehensive summary of the statistical analyses (descriptive and inferential) investigating the impact of Digital Technologies, Smart Learning Tools,

and Administrative Support Systems on English Language Learning Motivation among Arab University Students in East Jerusalem.

4.1 Descriptive Analysis of the Main Research Domains

The quantitative data evaluated four core domains to address the main research question. Overall, students rated the combined impact of these domains as **moderate**, reflected by an overall mean score of **3.35 (67.00%)**.

The domains are ranked below in descending order based on their perceived impact (Table 4):

Rank	Domain	Mean	SD	Percentage	Evaluation
1	Smart Learning Tools	3.70	0.90	74.00%	High
2	Digital Technologies in Learning	3.63	0.81	72.60%	High
3	Technological Challenges	3.14	0.76	62.80%	Moderate
4	Administrative Support	2.95	0.95	59.00%	Moderate

4.2 Detailed Item-Level Analysis of Sub-Questions

Sub-Question 1: Impact of Digital Technologies in Learning

This domain achieved a **high** overall evaluation (Mean = 3.63, Table 5). Students highly valued the functional utility of these tools:

- **Highest-ranked item:** *"Digital technologies help me improve my English skills"* (Mean = 3.78, 75.60%).
- **Lowest-ranked item:** *"Using digital technologies makes English lessons more interesting"* (Mean = 3.45, 69.00%).

Sub-Question 2: Impact of Smart Learning Tools

All items within this domain received a **high** evaluation, making it the highest-rated driver of motivation (Mean = 3.70, Table 6):

- **Highest-ranked item:** *"Smart learning tools support my English learning"* (Mean = 3.75, 75.00%).
- **Lowest-ranked item:** *"Smart learning tools improve my pronunciation, vocabulary, and grammar"* (Mean = 3.64, 72.80%).

Sub-Question 3: Impact of Administrative Support Systems

Administrative backing was perceived moderately, yielding an overall **moderate** evaluation (Mean = 2.95, Table 7):

- **Highest-ranked item:** *"School policies encourage technology-based learning"* (Mean = 3.26, 65.20%).
- **Lowest-ranked item:** *"The school provides guidance or training on digital tools"* (Mean = 2.80, 56.00%).

Sub-Question 4: Perceived Impact of Technological Challenges

Students reported a **moderate** level of obstruction from technical issues (Mean = 3.14, Table 8):

- **Highest-ranked item:** *"Lack of digital devices limits my use of technology"* (Mean = 3.24, 64.80%).
- **Lowest-ranked item:** *"Technological challenges reduce my motivation to learn English"* (Mean = 3.09, 61.80%).

4.3 Inferential Analysis: Hypotheses Testing

Independent Samples t-tests and One-Way Analysis of Variance (ANOVA) followed by LSD post-hoc comparisons were conducted ($\alpha \leq .05$) to evaluate differences across demographic variables.

Demographic Factor: Gender

- **No significant differences** were found in Digital Technologies, Smart Learning Tools, Technological Challenges, or the Overall Mean.
- **Significant differences** emerged in **Administrative Support** ($p = .001$), favoring **female students** (Mean = 3.10) over male students (Mean = 2.70).

Demographic Factor: Availability of a Digital Device at Home

- **No significant differences** across most major domains.
- **Significant differences** were isolated to **Administrative Support** ($p = .006$). Interestingly, students who **did not own** a home device gave a higher rating to administrative support (Mean = 3.45) than those who did (Mean = 2.90).

Demographic Factor: Internet Availability at Home

- **No statistically significant differences** were found across any domain based on whether internet access was "Always" or "Sometimes" available.

Demographic Factor: Type of High School Graduated From

The ANOVA test revealed significant variations across school backgrounds (Table 12 & 13):

- **Digital Technologies & Smart Learning Tools:** Significant differences were found in favor of graduates from **Private and "Other" schools** over Public and UNRWA schools.
- **Administrative Support:** Significant differences favored **Public and UNRWA school** graduates over Private school graduates (e.g., UNRWA vs. Private Mean Difference = 0.98).

Demographic Factor: Year of Study

Academic seniority significantly affected perceptions of support and disruption (Table 14 & 15):

- **Administrative Support:** Fourth and Fifth-year students reported significantly higher satisfaction with administrative structures compared to Third-year students.
- **Technological Challenges:** Senior students (Years 2, 4, and 5) perceived technological barriers more acutely than first-year students.
- **Overall Mean:** Fourth and Fifth-year students demonstrated significantly higher overall motivation scores compared to their Third-year peers.

Demographic Factor: Type of Higher Education Institution

- **No significant differences** were reported for Digital Technologies, Smart Tools, or Overall Motivation.
- **Significant differences** were noted in institutional perceptions of **Administrative Support** via LSD post-hoc analysis ($p = .008$); students enrolled in **colleges** reported higher administrative satisfaction than those in **universities** by a margin of 0.30.

5. Discussion

The study reveals a critical shift among Arab university students in East Jerusalem from institution-centered learning to self-directed, AI-driven language acquisition. While students highly value smart technologies, their academic progress is frequently constrained by uneven institutional support and infrastructural barriers.

Core Finding 1: The Institutional Gap

Students strongly embrace advanced learning tools, ranking **Smart Learning Tools (Mean: 3.70)** and **Digital Technologies (Mean: 3.63)** with the highest quantitative evaluations. Qualitative interviews mirror this, showing massive daily device integration (97%) and a heavy reliance on generative AI tools like ChatGPT and Gemini (83%).

Conversely, **Administrative Support scored the lowest (Mean: 2.95)**. Students noted that university support remains strictly operational (managing portals and hosting exams at 60%) rather than pedagogical, leaving a distinct gap between student initiative and institutional guidance.

Core Finding 2: Pragmatism & Resilience Over Novelty

The novelty of technology has faded; students view these systems strictly through a pragmatic lens. Tools are valued primarily for concrete skill development (**Mean: 3.78**) rather than making lessons "interesting" (**Mean: 3.45**).

Furthermore, despite facing notable infrastructural hurdles—including unstable internet access (70%) and a lack of personal devices—technological challenges did not derail student motivation (**Lowest item: 3.09**). Due to the high professional stakes of

mastering English, students demonstrate high resilience, leveraging university networks and mobile data to bypass home-based limitations.

Core Finding 3: Socio-Economic Shifts & Academic Seniority

- **Resource Dependency:** Students without a home digital device rated university administrative support significantly higher (**Mean: 3.45**) than those with devices (**Mean: 2.90**), demonstrating a heavy reliance on campus labs and technical services.
- **Academic Maturity:** Senior students (4th and 5th years) reported a much higher awareness of technological barriers and institutional support systems, driven by more demanding academic workloads and impending career goals.

Core Finding 4: Cognitive Risks of AI Dependency

The qualitative data highlights emerging behavioral concerns: **60%** of students worry about overreliance on digital tools, and **67%** struggle to verify the accuracy of AI outputs. The speed of automated answers risks creating a dependency loop that bypasses the deep cognitive processing required for true language fluency.

6. Conclusions

The findings of this study demonstrate that digital technologies and smart learning tools play a significant role in enhancing English language learning motivation among Arab university students in East Jerusalem. Students reported high levels of engagement with digital technologies, particularly AI-powered tools, which were perceived as effective in supporting language development, improving learning experiences, and fostering academic confidence. Qualitative findings further revealed that digital technologies contribute positively to language skills development, especially writing, translation, vocabulary acquisition, and pronunciation. At the same time, technological challenges, including internet connectivity issues, limited access to digital resources, and overreliance on technological tools, continue to affect students' learning experiences.

The study also highlights the importance of institutional and administrative support in maximizing the educational benefits of digital technologies. While students generally perceived administrative support at a moderate level, the findings suggest that effective digital learning requires not only access to technological tools but also adequate training, technical support, and well-developed digital infrastructures. Overall, the results emphasize that sustainable integration of digital technologies, AI-based learning tools, and institutional support mechanisms can enhance students' motivation and improve English language learning outcomes in higher education contexts.

Based on the quantitative and qualitative findings, the study recommends integrating AI applications such as ChatGPT, Gemini, and Google Translate into English language curricula in a structured manner, particularly for writing, vocabulary development, and immediate linguistic feedback. The study also emphasizes the

importance of developing speaking and pronunciation training programs. It also recommends strengthening institutional digital learning platforms and providing free and accessible digital learning resources.

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Conflict of Interest Statement

The author declares no conflicts of interest.

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