



The Impact of Digital Literacy on Developing and Existing English Language Courses: A Case Study on College Students of Gujranwala

Ansar Abbas¹, Priya Anwar², Muniba Zaka³, Umara Qaiser⁴

1. English, Lecturer, Punjab Group of Colleges, M.Phil English Applied Linguistics, UMT, Lahore, mmalikansar441@gmail.com
2. Ph.D English, Applied Linguistics, Assistant Professor at UMT Lahore.
3. English Lecturer at IISAT University, Gujranwala, M.Phil English Linguistics, GIFT University Gujranwala
4. Professor of Practice and Deputy Director, Student Facilitation center at GIFT University

Abstract:

Digital literacy has emerged as a critical component of contemporary education, exerting considerable influence on the instruction of the English language. This study investigates the role of digital literacy in shaping curriculum design and existing English language programs among undergraduate students in Gujranwala, Pakistan. Utilizing a mixed-methods approach, data were collected through structured questionnaires, in-depth interviews, and focus group discussions, and subsequently analyzed using statistical techniques and thematic analysis. The results indicate that elevated levels of digital literacy among both students and educators enhance learner engagement, language acquisition, and independent learning. However, the integration of digital tools within English as a Second Language (ESL) instruction is hindered by infrastructural limitations, inadequate professional training, and socio-economic disparities. The study concludes that comprehensive teacher training, the development of context-sensitive digital resources, and inclusive curriculum reforms are imperative for narrowing the digital divide. By situating global digital literacy discourse within a South Asian context, this research provides actionable insights for policymakers and educators striving to embed digital competencies into ESL education.

Keywords: Digital Literacy, English as A Second Language (ESL), Educational Technology, Gujranwala, Curriculum Design, Learner Engagement

Introduction

Digital literacy has fundamentally transformed contemporary education, particularly within the domain of English Language Teaching (ELT). No longer restricted to conventional classroom methods, English instruction increasingly incorporates a wide range of digital platforms, tools, and practices that foster interactive, learner-centered experiences. Today's learners engage with language in multimodal ways through video content such as YouTube, mobile applications, online forums, and virtual classrooms. These digital formats provide opportunities for vocabulary acquisition, pronunciation refinement, grammar enhancement, and, importantly, the cultivation of autonomous learning and critical thinking skills. At the global level, digital literacy is widely acknowledged as an essential 21st-century competency that intersects with communication,

collaboration, and innovation. UNESCO (2018) defines digital literacy as “the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs, and entrepreneurship.” In language education, digital literacy allows learners to engage with authentic language input, connect with global speakers, and tailor their learning pathways according to individual needs and contexts. Despite its growing global significance, the integration of digital literacy within English as a Second Language (ESL) instruction remains uneven in developing nations. In Pakistan, major urban centers like Lahore and Karachi have witnessed increasing adoption of educational technologies. However, semi-urban and rural areas, such as Gujranwala, often face persistent barriers including inadequate infrastructure, limited teacher training, and socio-cultural constraints. While many students in Gujranwala possess smartphones and have intermittent access to the internet, the pedagogical utilization of digital tools remains limited. Socioeconomic disparities, institutional readiness, and gender-based inequalities further complicate equitable access and engagement with digital resources. This study is motivated by the need to understand how digital literacy functions within such semi-urban contexts. While digital tools are becoming more available, their effective application in ESL education depends largely on the digital competencies of students and educators, institutional support, and curricular alignment. Gujranwala, situated at the intersection of urban influence and rural tradition, offers a compelling site for examining these dynamics.

Accordingly, the study is guided by the following research questions:

1. How does digital literacy influence ESL learners’ engagement and language learning outcomes in Gujranwala?
2. Which digital tools and platforms are perceived as most effective for ESL instruction in this setting?
3. What strategies can enhance digital literacy and reduce the digital divide among students and teachers?

These questions encompass not only technical and infrastructural considerations but also pedagogical, social, and cultural dimensions. By focusing on college-level students an academic group navigating the transition from secondary to higher education this research addresses a segment often overlooked in educational studies. This inquiry is particularly timely in light of Pakistan’s national initiatives, such as the "Digital Pakistan" policy launched in 2019, which aims to embed digital infrastructure into the education system. Effective implementation of such policies has the potential to enhance linguistic proficiency, democratize access to knowledge, and empower students for global communication. Conversely, failure to address digital disparities risks deepening existing educational inequities. Ultimately, this study aims to provide a nuanced understanding of how digital literacy intersects with ESL learning in a semi-urban Pakistani context. It synthesizes global theoretical frameworks with localized data, offering insights for policymakers, curriculum developers, and educators striving to foster digital inclusion and educational equity in South Asia.

Literature Review

Digital literacy has become a foundational element in contemporary education, significantly shaping the way learners access, interpret, and generate information. Within ESL instruction, digital literacy is not merely a supplementary skill but a pivotal enabler of learner autonomy, engagement, and linguistic proficiency. This literature review explores five key areas: the

evolution of digital literacy, its relevance in ESL contexts, dimensions of learner engagement, theoretical frameworks, and the regional research gap particularly in under-resourced areas such as Gujranwala.

Digital Literacy and Education

The concept of digital literacy has evolved beyond basic technological competence to encompass cognitive, ethical, and communicative skills essential for effective participation in digital environments. Khlaisang (2022) conceptualizes digital literacy as an amalgamation of technical fluency, critical evaluation of information, ethical online behavior, and the ability to adapt to emerging technologies. This broader understanding positions digital literacy as a multidimensional construct interlinked with media literacy, critical thinking, and lifelong learning. Research underscores its value in promoting learner autonomy. Yoshida (2022) argues that digitally literate students actively seek authentic resources, manage their learning strategies, and collaborate through digital means. Wu (2023) further emphasizes digital literacy's adaptive potential, noting that students with strong digital skills are better equipped to engage with diverse platforms and global content key capabilities in today's increasingly hybrid and digital educational landscape.

Digital Literacy in ESL Contexts

In ESL education, digital tools provide rich opportunities for multimodal exposure, language reinforcement, and real-time practice. Studies have highlighted the efficacy of mobile applications, virtual classrooms, and online dictionaries in developing vocabulary, listening skills, and pronunciation. Bharathi (2023) notes that synchronous digital platforms enhance student-teacher interaction and provide immediate feedback, thereby increasing learner engagement. Likewise, Ponggen (2024) demonstrates how mobile apps facilitate daily language practice, reinforcing long-term skill development. Gamified digital platforms have gained traction for their capacity to sustain motivation through reward systems, progress tracking, and interactivity. Koltovskaia (2020) emphasizes that multimedia resources such as animations, audio recordings, and video tutorials significantly improve comprehension and retention by addressing diverse learning preferences. Furthermore, the availability of self-paced materials allows ESL learners to tailor their studies to individual goals, supporting self-regulated learning in traditionally teacher-dominated settings.

Learner Engagement

Learner engagement is typically conceptualized across three dimensions: cognitive, behavioral, and affective. Cognitive engagement entails deep learning and strategic thinking; behavioral engagement involves active participation; and affective engagement relates to emotions such as motivation and interest (Vo, 2024; Al-Banali, 2020). Thoughtful integration of digital tools can support all three areas. Cognitive engagement is enhanced through interactive exercises and problem-solving tasks; behavioral engagement increases through collaborative digital activities and app usage; and affective engagement is reinforced by gamification, multimedia content, and personalized learning experiences. This is particularly significant in ESL contexts, where learners may experience anxiety or a lack of confidence barriers that can be mitigated through digital scaffolding and support mechanisms.

Theoretical Frameworks

Three theoretical perspectives underpin this study: Constructivist Learning Theory, the Technology Acceptance Model (TAM), and Socio-cultural Theory. Constructivist Learning Theory posits that learners construct knowledge through interaction and experience (Grubaugh et

al., 2023). Digital tools support this by allowing students to manipulate language in real-time, solve problems, and engage with peers in collaborative settings examples include simulations, language games, and interactive grammar platforms. The Technology Acceptance Model (TAM), introduced by Davis (1989), explains how perceived usefulness and ease of use influence the adoption of technology. Xiaoke (2021) found that student willingness to use educational technology is directly linked to their perception of its relevance and accessibility. TAM provides a valuable lens through which to examine varying degrees of digital tool adoption in ESL classrooms. Socio-cultural Theory, rooted in Vygotskian principles, emphasizes the role of social interaction and cultural context in learning (Raturi, 2023). From this viewpoint, digital platforms function as spaces for meaningful communication, allowing ESL learners to engage in authentic discourse with peers, instructors, and native speakers through forums, video chats, and collaborative tools.

Regional Gaps in Digital Literacy Research

Despite the growing body of literature on digital literacy in education, most studies are situated in urban or high-income settings, leaving a significant gap in understanding its practice in semi-urban and rural contexts of developing countries. Adeniyi-Egbeola et al. (2021) argue that infrastructural deficiencies, limited teacher preparedness, and socio-economic inequalities shape the efficacy of digital education initiatives. In areas like Gujranwala, students often contend with unreliable internet connectivity, limited access to devices, and a lack of locally relevant digital content. Gender disparities further limit participation, with female learners frequently facing cultural restrictions on technology use. These challenges underscore the need for contextualized research that reflects the lived realities of learners and educators in such regions. Addressing this gap, the present study contributes to a more inclusive understanding of digital literacy and ESL education in South Asia. By investigating the specific barriers and opportunities present in Gujranwala, it offers practical insights for designing equitable digital education policies and instructional strategies.

Methodology

This study employed a mixed-methods research design to explore the role of digital literacy in enhancing ESL learning outcomes among college students in Gujranwala. The integration of both quantitative and qualitative data collection and analysis allowed for a comprehensive understanding of the topic, balancing numerical trends with contextualized perspectives. The methodological framework was designed to ensure reliability, validity, and contextual sensitivity, given the socio-cultural diversity of the sample population.

Research Design

A concurrent mixed-methods approach was utilized, combining quantitative and qualitative data collection to triangulate findings and enrich interpretation. The quantitative component consisted of structured surveys administered to 200 ESL undergraduate students, while the qualitative component involved semi-structured interviews and focus group discussions with selected students and ESL instructors. This design allowed the researcher to quantify patterns in digital literacy and student engagement, while also capturing the lived experiences, challenges, and perceptions of both learners and educators. The rationale for using mixed methods stems from the complex and multidimensional nature of digital literacy, which includes technical skill, motivational factors, socio-cultural influences, and pedagogical interactions. While surveys provided generalizable insights into students' engagement and technology use, interviews and focus groups enabled a deeper exploration of contextual factors, personal narratives, and emergent themes that may not have been captured through quantitative tools alone.

Participants

The participants for this study were drawn from public and private colleges across Gujranwala, a semi-urban district in the Punjab province of Pakistan. A total of 200 ESL undergraduate students participated in the quantitative survey, while 10 instructors and 30 students were involved in qualitative interviews and focus group discussions. To ensure representativeness across socio-economic and institutional backgrounds, stratified random sampling was employed. This technique divided the student population into subgroups based on gender, type of institution (public vs. private), and location (urban vs. peripheral), from which random samples were then selected proportionally. This approach ensured that the sample reflected the diversity of the student population in Gujranwala, enhancing the generalizability of the findings within this context. All participants were enrolled in English language courses as part of their undergraduate programs and had varying levels of exposure to digital tools both within and outside the classroom.

Instruments

Two primary instruments were employed in the quantitative phase of the study:

Digital Literacy Assessment: This instrument was adapted from the European Commission's Digital Competence Framework for Citizens (DigComp), which outlines competencies across five key areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. The adapted version was contextualized for ESL learners, focusing on their ability to use digital tools for language learning and communication.

ESL Engagement Survey: Designed by the researcher and validated through expert review, this survey assessed students' cognitive, behavioral, and affective engagement in English language learning. It included Likert-scale items measuring self-reported motivation, confidence in using English, participation in class and digital learning activities, and frequency of digital tool use. For the qualitative phase, semi-structured interview guides were developed for both students and instructors. These guides explored themes such as perceptions of digital learning, challenges in accessing or using technology, perceived impact on language learning, and recommendations for improvement. Focus group discussions were similarly guided but allowed for more open-ended dialogue and peer interaction.

Data Collection and Analysis

Quantitative data collection was conducted using printed and online surveys distributed across the selected colleges. Responses were coded and entered into SPSS (Statistical Package for the Social Sciences) for statistical analysis. Descriptive statistics (frequencies, means, and percentages) were used to summarize participant characteristics and survey responses. Correlation analysis was conducted to explore relationships between digital literacy levels and ESL engagement metrics. Qualitative data were collected through audio-recorded interviews and focus group sessions, each lasting approximately 30–45 minutes. Transcripts were created and analyzed using NVivo, a qualitative data analysis software. A thematic coding process was applied, involving open coding, axial coding, and selective coding. Emerging themes were reviewed by two independent researchers to ensure inter-coder reliability. To enhance the credibility and trustworthiness of the findings, methodological triangulation was employed. This involved comparing and contrasting insights from quantitative and qualitative data, as well as integrating perspectives from different participant groups (students and teachers). Instrument validity was strengthened through expert panel review and a pilot test conducted with 20 students. Reliability of the instruments was confirmed through internal consistency measures, with Cronbach's alpha coefficients exceeding the accepted threshold of 0.7 for all major constructs.

Ethical Considerations

Ethical approval for the study was obtained from the Institutional Research Ethics Committee of the affiliated university. Participation in both the survey and interviews was entirely voluntary, and participants were informed of their right to withdraw at any time without penalty. Informed consent was obtained from all participants prior to data collection. To protect confidentiality, all identifying information was removed from the datasets, and pseudonyms were used in reporting qualitative data. The study adhered to ethical standards regarding anonymity, data security, and respectful engagement with participants. All data were stored securely in password-protected files accessible only to the research team, and the study complied with ethical guidelines for human subject research in social sciences.

Results and Analysis

This section presents the findings of the study based on quantitative data from student surveys and qualitative insights from teacher interviews and student focus group discussions. The results are organized thematically according to the key dimensions of digital literacy's impact on ESL learning: learner motivation, personal development, communication confidence, perceived effectiveness of digital tools, barriers to access and integration, and teacher perspectives.

Digital Motivation

One of the most significant findings of the study was the strong motivational impact of digital tools on students' attitudes toward learning English. Among the 200 students surveyed, 73.5% agreed or strongly agreed that the use of digital tools such as mobile apps, educational games, and online videos helped them stay motivated and engaged in their English language studies. This finding aligns with international research which emphasizes the motivational benefits of interactive and multimedia learning environments. Students reported that digital platforms made learning more enjoyable and less monotonous, particularly through gamified experiences that allowed them to earn rewards, track progress, and engage in self-paced learning. The feedback from focus group participants further emphasized that digital tools broke the routine of traditional textbook-based instruction and made learning more dynamic. Many students shared that they felt more excited to attend classes or complete assignments when digital resources were involved. Such motivation is crucial in second language acquisition, where sustained practice and positive reinforcement are essential for long-term retention.

Personal Growth

Another notable theme emerging from the data was the association between English learning and personal development. Over 76% of students indicated that improving their English language skills contributed directly to their personal growth. This intrinsic motivation was reflected in statements about increased confidence, academic success, and aspirations for future employment or international study opportunities. Students emphasized that digital learning tools helped them become more independent learners. Rather than relying solely on classroom instruction, many reported spending time outside class using mobile apps, YouTube tutorials, and English language podcasts. These self-directed learning practices facilitated the development of time management, digital research, and problem-solving skills capabilities that go beyond language acquisition and contribute to broader personal and academic growth. This finding supports the growing consensus in language education literature that digital literacy is closely linked with the development of 21st-century skills. By enabling learners to access diverse resources, monitor their progress, and learn at their own pace, digital tools play a pivotal role in fostering self-efficacy and a growth mindset.

Communication Confidence

A third key finding was related to learners' confidence in communication, particularly in interacting with native or fluent English speakers through digital platforms. Approximately 70% of respondents indicated that they felt more confident communicating in English after engaging with digital tools such as online language exchanges, chat forums, and language apps with speaking features. This increased confidence stems partly from the anonymity and low-pressure environment of digital communication, which allows students to practice without the fear of judgment or embarrassment often associated with in-person interaction. Students shared that features such as voice recording, pronunciation feedback, and real-time chat functions helped them gradually build fluency and accuracy. Teachers also reported improvements in students' verbal participation during class discussions and presentations, attributing this change to students' practice with digital tools outside the classroom. This finding supports prior studies that suggest digital platforms offer safe, low-anxiety spaces for second language learners to develop oral communication skills.

Tool Effectiveness

In evaluating the perceived effectiveness of various digital tools, the study found clear preferences among students. Gamified language apps (such as Duolingo and Memrise) and multimedia resources (including English-language videos, songs, and animations) were rated as the most effective tools for learning. These platforms combine visual, auditory, and interactive elements that cater to different learning styles and provide immediate feedback, which is known to reinforce learning and retention. In contrast, traditional digital formats such as static PDFs or scanned textbook materials were viewed as less effective. Students commented that these resources were often unengaging, lacked interactivity, and did not offer personalized learning paths. They expressed a preference for tools that encouraged active participation and offered motivational features such as scoreboards, badges, and level progression. This feedback suggests that digital content design plays a critical role in learning outcomes. Tools that are aesthetically engaging, linguistically accessible, and pedagogically interactive tend to support deeper learner engagement and improved language acquisition.

Barriers Identified

While the overall findings point to positive outcomes of digital literacy in ESL learning, the study also identified several critical barriers that hinder full participation and equitable access to digital tools. First and foremost is the issue of unequal access to devices and reliable internet connectivity. Although the majority of students owned smartphones, not all had consistent or private access to them. In many households, particularly in rural areas surrounding Gujranwala, devices were shared among family members, limiting students' ability to engage with learning materials during peak hours or in distraction-free environments. Additionally, inconsistent internet access especially during load shedding or due to data costs frequently interrupted online learning sessions. Second, there was a clear lack of comprehensive teacher training in the use of digital tools. Many educators reported minimal exposure to digital teaching strategies during their professional development. As a result, even when technological resources were available, they were underutilized or misaligned with pedagogical objectives. Teachers often defaulted to using basic presentation tools or pre-made content, rather than developing interactive or learner-centered digital lessons. Third, the data highlighted gender disparities in digital access. Female students, in particular, reported restricted device usage due to social norms that prioritize male access to technology or limit unsupervised internet use by girls. In some cases, parents expressed concerns about privacy, safety, or cultural appropriateness, leading to the imposition of rules that hindered regular engagement with digital

platforms. These barriers exacerbate existing educational inequalities and demand targeted interventions at the policy and community levels.

Teacher Perspectives

The insights gathered from interviews with English language instructors provided an important complementary perspective to the student data. Teachers largely recognized the potential benefits of digital tools in enhancing ESL instruction but emphasized the need for support in the form of structured training, contextual resources, and institutional encouragement. Several educators highlighted the absence of localized digital materials aligned with the Pakistani curriculum. Imported tools, while innovative, often lacked cultural relevance or linguistic appropriateness for students with limited prior exposure to English. Teachers expressed interest in materials that reflected local contexts such as culturally familiar scenarios, bilingual options, and level-appropriate content while still leveraging the interactivity and engagement of global platforms. In addition, educators emphasized the importance of developing standardized digital literacy benchmarks within the national curriculum to guide both instruction and assessment. They also advocated for the creation of communities of practice where teachers could share experiences, resources, and innovations in digital pedagogy.

Overall, the findings underscore a critical intersection between digital readiness, pedagogical innovation, and contextual adaptation. While digital literacy offers clear benefits for ESL engagement and learning, its successful implementation hinges on addressing systemic barriers, empowering educators, and creating inclusive learning environments that reflect the realities of semi-urban contexts like Gujranwala.

Discussion

The results of this study resonate with and reinforce global findings that digital literacy plays a crucial role in fostering learner engagement, autonomy, and linguistic proficiency in English as a Second Language (ESL) contexts. As Mo and Tse (2023) observe, when integrated effectively, digital tools can significantly enhance learners' motivation, participation, and confidence by making language learning more interactive, accessible, and contextually relevant. In the case of Gujranwala's college students, digital literacy enabled learners to take greater control over their learning processes, navigate authentic language materials, and engage in self-directed practice through mobile applications, multimedia content, and online platforms. Yet, despite these benefits, the study highlights several region-specific challenges that complicate the integration of digital tools into ESL education in semi-urban Pakistani settings. One of the most pressing concerns is the infrastructural divide. While many students possess smartphones and have some form of internet access, the quality and consistency of connectivity are highly variable. Intermittent power outages, poor bandwidth, and limited access to personal devices often impede learners' ability to engage with digital content in a sustained or meaningful way. These infrastructural limitations underscore the importance of broader systemic support if digital literacy is to move beyond isolated success stories and become a normative aspect of language education. Moreover, socio-cultural factors emerge as significant determinants of digital access and engagement. In particular, the study reveals that female students face additional barriers in accessing digital tools, often due to restrictive household dynamics, safety concerns, or conservative attitudes towards technology use. Even when devices are available at home, usage by female learners is sometimes mediated or restricted by parents or siblings. These findings align with previous research that points to gendered disparities in digital inclusion, particularly in South Asian and Muslim-majority contexts

where cultural norms heavily influence educational practices and access to technology (Adeniyi-Egbeola et al. 2021).

Another central issue relates to teacher preparedness. While a number of educators recognize the potential of digital tools to enrich language teaching, many report feeling under-equipped to use these tools effectively. The lack of structured training, ongoing professional development, and institutional guidance results in limited pedagogical integration. In most classrooms observed during this study, digital technology was used sporadically often limited to projecting slides or accessing pre-recorded content rather than being fully embedded into teaching strategies that promote interaction, feedback, and learner autonomy. This gap suggests an urgent need for targeted teacher training programs that focus not only on the technical aspects of digital tools, but also on how to use them pedagogically to foster language development and engagement.

The findings of this study also lend strong support to Constructivist Learning Theory, which posits that learners actively construct knowledge through meaningful experiences, social interaction, and reflection. Digital literacy, when thoughtfully integrated into ESL instruction, provides learners with opportunities to co-construct knowledge by engaging with multimedia texts, collaborating in online environments, and receiving immediate feedback. These opportunities facilitate deeper cognitive engagement and foster behavioral and emotional investment in learning, particularly when learners are able to set their own goals and track their progress through digital platforms. At the same time, the study validates the principles of the Technology Acceptance Model (TAM), which emphasizes the importance of perceived usefulness and ease of use in determining whether individuals adopt a new technology. Students in this study were more likely to use digital tools when they found them intuitive, accessible, and relevant to their language learning goals. Apps that provided gamified experiences, interactive quizzes, and real-time language feedback were particularly popular. However, when digital tools were perceived as overly complex, linguistically inaccessible, or poorly aligned with curriculum objectives, students were less inclined to engage with them regularly. Despite the positive potential, the study emphasizes that sustainable integration of digital literacy into ESL curricula requires careful alignment with local realities. The assumption that access to devices or the internet automatically translates into digital competence or educational benefit is overly simplistic. In regions like Gujranwala, digital adoption is shaped by a constellation of factors including household economics, gender norms, institutional readiness, and policy frameworks that must be addressed holistically. Without infrastructural investment, curricular alignment, and teacher empowerment, the promise of digital literacy risks becoming yet another form of educational inequality.

Furthermore, student feedback during focus group discussions highlighted the motivational effects of personalized digital learning. Learners expressed appreciation for platforms that allowed them to move at their own pace, repeat difficult lessons, and experiment with pronunciation and grammar without fear of public embarrassment. These personalized affordances not only support skill acquisition but also foster learner confidence and a sense of ownership key components of intrinsic motivation as identified by Deci and Ryan's Self-Determination Theory. In this regard, it becomes clear that digital literacy in ESL is not merely a matter of technological provision but one of pedagogical transformation. The most effective learning environments are those that leverage digital tools not as add-ons, but as integral components of a learner-centered educational experience. Instructors need to be supported in transitioning from traditional, lecture-based modes of instruction to more dynamic, interactive models that align with digital learning ecosystems. Ultimately, this study illustrates that while global theories and practices in digital education

provide valuable frameworks, their application must be critically adapted to local contexts. Gujranwala's semi-urban setting presents a microcosm of broader national and regional challenges, and as such, it serves as a vital site for experimenting with, refining, and scaling context-appropriate digital literacy strategies. As Pakistan continues to prioritize education in its national development agenda, it is imperative that digital literacy be positioned not only as a technical skill but as a transformative force for equitable, inclusive, and high-quality language education.

Conclusion

This study affirms that digital literacy plays a transformative role in enhancing student engagement, language acquisition, and learning autonomy in English as a Second Language (ESL) classrooms. Among college students in Gujranwala a semi-urban region of Pakistan the incorporation of digital tools has shown to significantly improve learner motivation, participation, and communication abilities, particularly through platforms that enable interactive, real-time language practice. Students with access to basic digital resources and skills reported higher confidence in their ability to engage with English language content, especially when exposed to multimedia tools such as language learning apps, online videos, and digital dictionaries. The findings support the notion that digital literacy contributes meaningfully to the cognitive, behavioral, and affective dimensions of ESL engagement. However, the study also uncovers persistent and multifaceted challenges that hinder equitable integration of digital tools in the ESL classroom. These include infrastructural limitations such as unreliable internet connectivity, limited access to personal digital devices, and lack of institutional support. Furthermore, socio-economic disparities and gender-based digital exclusion continue to marginalize many students. Female learners, in particular, often face restrictive household norms that limit their independent digital participation. Equally concerning is the limited preparedness of educators to effectively incorporate digital tools in language instruction. Many teachers lack the technical training and pedagogical strategies necessary to optimize the use of digital resources, resulting in an inconsistent and often superficial application of technology in the classroom.

Addressing these gaps requires a holistic approach that combines investment in infrastructure with sustained efforts in capacity building and curriculum reform. Teacher training programs must embed digital literacy as a foundational component, equipping educators not only with the technical know-how but also with pedagogical frameworks for effective technology integration. Simultaneously, the development of affordable and culturally relevant digital learning materials tailored to local linguistic and educational contexts is essential to ensure student engagement and comprehension. Public-private partnerships can play a key role in funding technology access and supporting community-wide digital inclusion, especially in under-resourced schools and semi-urban areas. Moreover, policy efforts should target the structural inequalities that perpetuate digital exclusion, particularly among marginalized groups such as girls and economically disadvantaged students. Raising awareness among families, fostering inclusive learning environments, and promoting gender-sensitive digital access can contribute to bridging this divide. In addition, a shift towards blended learning models that combine traditional instruction with digital delivery can provide greater flexibility and autonomy for learners, especially those navigating constraints related to time, geography, or resources. This study also underscores the relevance of theoretical frameworks such as Constructivist Learning Theory and the Technology Acceptance Model (TAM), both of which offer valuable insights into how learners adopt and adapt to digital tools. The positive reception of digital learning platforms among students supports the idea that perceived usefulness and ease of use are critical to adoption. Meanwhile, the constructivist

emphasis on learner-centered and experience-based education is reflected in the students' active engagement with technology.

Looking ahead, future research should explore the long-term effects of digital literacy on language proficiency, assess the sustainability of digital interventions, and examine the specific barriers faced by female students in restrictive socio-cultural environments. Comparative studies across other semi-urban and rural areas in Pakistan can further enhance the understanding of regional variations in digital readiness and inform policy development. In conclusion, digital literacy represents far more than technological proficiency; it is a foundational competency that empowers learners, transforms pedagogy, and enhances access to quality education. For ESL students in Gujranwala and similar contexts, the thoughtful integration of digital tools supported by inclusive policies, trained educators, and context-aware resources can significantly narrow learning gaps and prepare students for the linguistic demands of a globally connected world.

References

- Adeniyi-Egbeola, et al. "Digital Literacy Practices of Nigerian Educators." *Journal of Language Teaching*, 2021.
- Al-Banali. "Affective Engagement in ESL Contexts." *Journal of Language Studies*, 2020.
- Bharathi. "Role of Virtual Classrooms in ESL." *Educational Technology Review*, 2023.
- Dewi, Utami & Santosa. "Digital Tools and Language Learning." *Asian EFL Journal*, 2024.
- Grubaugh, Levitt, and Deever. "Constructivist Learning in Digital Education." *Educational Psychology Quarterly*, 2023.
- Khlaisang. "Digital Literacy and Critical Thinking." *Journal of Information Literacy*, 2022.
- Koltovskaia. "Multimedia Tools in ESL." *Language Learning & Technology*, 2020.
- Mo and Tse. "Digital Storytelling and ESL Engagement." *ELT Journal*, 2023.
- Pongen. "Digital Communication Tools in ESL." *International Journal of Language Education*, 2024.
- Raturi. "Socio-Cultural Perspectives in Digital ESL Learning." *Journal of Language and Culture*, 2023.
- Xiaoke. "Technology Acceptance in ESL Education." *Computers & Education*, 2021.
- Yoshida. "Critical Digital Literacy." *Educational Media International*, 2022.
- Wu. "Adaptive Digital Competencies." *Teaching and Teacher Education*, 2023.