

Digital Literacy and Self-Efficacy of English Language Teachers in South Asia

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ABSTRACT: Pedagogical interventions using machine-generated language have advanced sufficiently to investigate the current efficacies and competencies of practitioners responsible for classroom instruction. This study examines the intersection of digital literacy and instructional self-efficacy among English language teachers in South Asia. In an era of expanding educational technology, it addresses how teachers' technological proficiency relates to their confidence and teaching effectiveness. Employing an integrative literature review and thematic analysis, the research synthesizes findings from diverse studies on technology integration, teacher training, and digital skill development in South Asian classrooms. The analysis reveals a strong positive association between teachers' digital competencies and their self-efficacy. The review notes significant variation in proficiency: younger or recently trained educators often demonstrate stronger digital fluency, while others may rely mainly on basic skills. Educators with higher proficiency in digital tools—from basic productivity software to advanced content creation and collaboration platforms—report greater confidence in integrating technology into language instruction. This, in turn, leads to more innovative, engaging, and effective teaching practices. Conversely, shortcomings in advanced digital skills, limited access to reliable infrastructure, and inadequate institutional support often undermine teacher confidence and impede the adoption of new pedagogical tools. The study concludes that overcoming these barriers requires structured, ongoing professional development and context-specific integration of technology. It underscores the importance of tailored training programs and supportive institutional policies that align with the actual needs of language teachers. By reinforcing teachers' digital capacities through targeted resources and sustained support, education systems can empower educators to leverage technology in pedagogically meaningful ways. Ultimately, these measures contribute to closing the digital divide and enhancing language learning outcomes across the region.

KEYWORDS: Digital Literacy, Teacher Self-Efficacy, Technology Integration, Professional Development, Classroom Innovation

INTRODUCTION

In the educational environment of the 21st century, digital technology has become an important part of language lessons and learning. The integration of advanced technical tools in educational institutions has fundamentally changed the way knowledge is delivered and acquired. From the emergence of natural language processing (NLP) models, the generator artificial intelligence (GenAI) and speech recognition systems to neural machine translation assistants and auto-text overview tools. With this transformation, digital skills and self-efficacy have come to the forefront of teacher training and professional development. Suitable digital resources for English teachers were also selected (McKee, J. & Werlinich, A., 2024). Support student commitment and performance using multimedia tools integrated into lessons and virtual learning platforms (Coleman, D.D. E., 2024). In the meantime, teachers' beliefs about their ability to perform tasks play a key role in determining how technology is safely and effectively implemented in the classroom. Despite the increasing availability of digital tools, many educators are challenging themselves to carefully integrate them into educational practices. Factors such as inadequate training, lack of institutional support, and various trust can affect teachers' motivation and ability to use digital innovation. Burnout is particularly high for English teachers, and their roles include communication, creativity and cultural awareness. This paper examines the relationship between digital literacy and self-efficacy of English teachers in digital workplaces and highlights the importance of this knowledge on developing innovative lessons in effective modes of education. Over the past decade, the development of technology for transforming education and learning has been hampered. Teachers now need to contact digital technology not only as a supplementary resource but also as a central part of educational practice. In parts of the world, the urgency of superior digital skills is strengthened, as is the barriers and digital modernization of South Asian infrastructure. Despite the continued spread of mechanically generated language and automated pedagogical interventions, many education developers continue to develop improvisational exercises or digital skills on systematic efforts to develop digital skills and important effects on the effectiveness of lessons in increasingly digital classrooms. Digital capabilities This is not just about using devices and software. This includes

many skills that extend to transliteracy and multimodal alphabetology. Teachers allow teachers to look for some critical eye, engage all media formats and interact with digital materials in ways that improve student learning. The persistent emptiness remains a gap in assessing the willingness and trust of educators to effectively use these mechanisms. In this article, I have examined the relationship between teachers' digital abilities and self-efficacy along with English teachers. This will affect preparations to adapt to a technology-driven pedagogical future. By identifying existing gaps, challenges and opportunities, this study aims to inform guidelines and practices that support teacher development in increasingly in the field of digital education. The exciting pace and digital lesson healing of integrated classrooms in the machine language prepares teachers as the hope that teachers can intuitively find out how technology is used without intentional professional development. This study addresses and addresses the topic of whether English teachers' self-efficacy and digital ability will become innovative if they are confident in using digital tools. This research was driven twice. It is to determine the extent to which modern digital interventions affect classroom practices and advocate for a shift in paradigms to today, a self-determination process that allows educators to continue developing their capabilities. The impact of this study is not limited to English lesson practice. Digital transformation in educational institutions is increasing worldwide, but it is extremely important for educators' robust digital literacy and self-efficacy as a key feature of academic success. Increasing teachers' digital capabilities should help explain the innovative capabilities of technology and create a more engaging and adaptable integrated learning environment. Through a clear definition of the relationship between educator self-efficacy and digital literacy, this study encourages the inclusion of structured activities for teacher training and digital capabilities in the process of ongoing professional development. Furthermore, today's switch to A defines the role of educators to an active designer of her own professional development and innovative approach.

The primary objectives of this review are to examine current digital literacy among English teachers in a variety of educational settings, explore the barriers English-language teachers face in integrating digital technology into educational practices, analyze and determine the relationship between digital literacy and teacher self-efficacy and how these factors influence others in the context of English lessons, and investigate how digital ability and teacher self-efficacy influence each other in this context. Correspondingly, the research questions for this study include: What is the current state of digital literacy among English teachers across various educational settings? What barriers do English-language teachers encounter when integrating digital technology into their educational practices? How do digital literacy and teacher self-efficacy influence the ability of educators to inspire and affect their students in English lessons? And in what ways do digital ability and teacher self-efficacy mutually influence each other in the context of English lessons?

LITERATURE REVIEW

In this chapter, existing tasks related to digital skills and self-efficacy are examined by English teachers working in digital jobs. It is organized in several sections that systematically organize the conceptual foundations of digital literacy, the theoretical foundations of self-efficacy, integration of digital devices into language education, educational interventions, and new perspectives today. The rapid development of digital technologies such as Natural Language Processing (NLP), Generator Artificial Intelligence (GENAI), and other automated language equipment has led to major changes in the educational environment (Smith, 2022). As English teachers are increasingly expected to be involved in the educational practices of art tools in these states, scientific attention has shifted to understanding and improving digital literacy and self-efficacy (Wang & Li, 2019). This chapter includes a comprehensive analysis of previous research, theoretical models, and empirical results that uncover various aspects of these components and form the basis for deeper insights into interactions in the context of digital classrooms (Chen, 2020). Digital capabilities far dominate the fundamental ability to operate technical devices. It embodies the possibility of using many digital platforms to critically navigate, evaluate and create information (Jones, 2018). Scientists have proposed various models that embody a variety of properties, including technical knowledge, critical thinking, and the effective use of digital media for communication and collaboration (Lee, 2017; Patel, 2019). In relation to English lessons, digital skills include not only fluent technical devices but also the ability to enrich language lessons for species where educational wells have been discovered (Garcia & Kumar, 2021). Effective discussions in the literature include the concepts of transliterations and transliterations of literature. This perspective shows that teachers must deal with a variety of digital formats, from visually auditory to effective creation of different multimodal texts and different digital formats (Cope & Kalantzis, 2015). This knowledge is fundamentally important in digital classrooms. Because educators can create lessons that are not only interactive but also reflect the mode of communication of students (Brown, 2019). The challenges and opportunities for involving multimodal skills require educators, fluidity, and adaptive thinking that critically reflects both technical possibilities and limitations (Martin, 2020). The band's social cognitive theory is central to the discussion of digital self-efficacy. In an educational setting, teacher self-efficacy has proven to be an important determinant of education quality that influences the challenges, challenges and decisions faced with general effectiveness, sustainability, and Tschanen-Moran & Hoy, 2001). For teachers navigating the digital environment, self-efficacy is high in their willingness to experiment with new technologies, integrate innovative teaching strategies, and ultimately improve student learning outcomes (Spiers, 2018). Research shows that educators' self-efficacy in the digital field is closely related to technical skills, previous experience in technology, and the support structures available at the facility (Mouza, Yang, Pan, Ozden & Pollock, 2016). Certified teachers are more likely to take over digital tools

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that improve student commitment and general learning outcomes (Ertmer, 2005). Furthermore, special development programs that emphasize practical training and collaborative learning environments have been shown to significantly improve teachers' self-efficacy in digital contexts (Harris & Hofer, 2011). The potential for transformation of digital tools in language education is well documented throughout the literature. Researchers have investigated how tools such as automated text overviews, neural machine translation, and speech recognition systems can reorganize traditional pedagogy (Kukulska-Hulme, 2020). These technologies provide an unprecedented opportunity to create dynamic, interactive and personalized learning experiences (Godwin-Jones, 2021). However, the effective involvement of such tools relies on teachers with robust digital skills and trust in using these resources as part of their educational repertoire (Selwyn, 2016). Astonishing Studies highlights the inadequate equipment of educators without clearly understanding and mastering these digital devices to meet the rapidly evolving requirements of modern digital classrooms (Dabbagh & Kitsanta, 2012). An important focus in the literature is the role of structured professional development in combating the gap between technological innovation and pedagogical practice. A variety of intervention strategies have been proposed and evaluated, ranging from short-term workshops to permanent collaborative training programs (Avalos, 2011). These pedagogical interventions not only improve technical skills, but also promote a sense of community, improve self-efficacy, and promote continuous learning among educators (Means, Toyama, Murphy, Bakia & Jones, 2010). Instead of examining interactions, many studies focus on either digital skills or self-efficacy (Eldeur et al., 2017). Furthermore, specific research is limited to English teachers, particularly in the context of emerging digital employment in South Asia (Rahman, 2020). Correcting these gaps is important in the language of target strategies to support teachers in the transition to a fully digitized educational environment (Darling-Hammond et al., 2017). The literature checked in this chapter illustrates the interconnected nature of digital capabilities and self-efficacy in the contemporary educational paradigm. English-language teachers are increasingly active in the digital workplace, with the development of robust digital skills and strong confidence being of paramount importance (Bandura, 1997; Ertmer, 2005). Many theoretical frameworks tested (Harris & Hofer, 2011) from Bandura's social cognitive theory to new breeding models that understand how teachers can understand how effective digital tools can be used by them (Harris & Hofer, 2011). Furthermore, important research on professional development interventions has shown both effective strategies and prominent flaws, leading to future research directions (Vescio, Ross & Adams, 2008). With this comprehensive overview, this chapter sets out a clear research rail to explore the dynamic interactions between digital literacy and English teachers.

RESEARCH METHOD

This study employed a qualitative integrative review methodology to explore how digital literacy and teacher self-efficacy intersect in English language teaching (ELT) across South Asia. The integrative review approach allows evidence from diverse study designs to be combined and synthesized into a comprehensive understanding of complex educational issues. I systematically gathered findings from existing literature that addressed AI-enhanced pedagogy, digital fluency, and teacher training in ELT. I conducted an inductive thematic analysis of the content. Throughout the analysis, I maintained a critical perspective attuned to South Asian realities. This meant reading all sources with sensitivity to local constraints and opportunities. By focusing on recent, AI-enhanced educational trends and ELT pedagogies, the methodology ensured the findings speak to today's teaching landscape. In summary, the integrative review and thematic synthesis allowed us to address coherent insights about digital literacy and teacher efficacy under the unique conditions of South Asia.

RESULT AND DISCUSSION

The assessment showed that while most English teachers have basic digital skills (text processing, e-mail, and using learning management systems), they demonstrate knowledge, data analysis, or digital collaboration platforms with enhanced tools such as content creation. Young teachers and new digitally trained teachers showed higher levels of competence. This indicates that digital competence among English teachers is heterogeneous and often relies on age, training and institutional support. Lack of knowledge about advanced digital tools can prevent teachers from committing to modern digital jobs where communication, lessons and management tasks are increasingly technically controlled. Teachers who rated themselves as having digital capabilities also reported greater confidence in integration into technology lessons in an online environment, reflecting how digital capabilities improve professional confidence and sense of agency in navigating technology integration classes. It supports Bandura's theory of masters experiencing the experience of constructing self-efficacy, suggesting that improving digital skills allows teachers to play an active role in digital education settings. The challenges of digital workplaces cited challenges, i.e., Lack of access to reliable technology or platforms, Institutional support for new tool for digital innovation etc. Teachers working in public institutions adhere to the most challenging digital resistance and ongoing technical training. Teachers who are unsupported or subject to experience can reduce frustration and motivation that negatively affect classroom innovation. Institutions need to provide targeted, continuous professional development and infrastructure to ensure digital readiness equity. Self-efficacy affects the willingness to experiment with technology. It is said that self-efficacy teachers are open to experimenting with digital tools, even if they are not necessary. These people often created multimedia content, used apps using gaming, and launched blended learning strategies without institutional obligations. This shows that self-efficacy not only affects performance, but also influences digital pedagogy initiatives and

creativity. The structure of trust through digital training can lead to innovation and positive educational behavior. This is essential for the development of the educational environment. The need for contextualized training for digital literacy. I believed that existing programs in digital literacy had no direct connection to English lessons and were far too general or technically common or technically. Favorable focused training courses: Language-specific digital tools (language apps, interactive grammar platforms, etc.) Intensive digital assessment strategies Integrity techniques for language learning Digital training should be tailored to the subject-specific pedagogy to be sensible and sustainable. English teachers need tools and strategies to meet their unique requirements for language acquisition, such as communication, interaction, and personalized feedback. This study shows a strong connection between digital literacy and self-efficacy among English teachers in digital jobs. Although there are most basic digital skills, the gaps remain at a level of advanced skills and trust, especially with matching environments. Self-efficacy plays a key role in determining how teachers effectively adopt and integrate digital tools. Therefore, promoting skills and self-confidence for long-term professional adaptability is extremely important.

The integrative review reveals that South Asian ELT teachers generally possess basic digital skills (e.g. word processing, e-mail, standard LMS use) but show wide variation in more advanced competencies. In line with prior studies, younger and newly trained

teachers report the highest proficiency, whereas many veteran teachers struggle with sophisticated tools. Crucially, the findings indicate a strong link between digital literacy and self-efficacy: teachers who rated their ICT skills highly also reported much greater confidence and sense of agency in tech-enabled lessons. This aligns with Bandura's view that mastery experiences build efficacy. Conversely, high self-efficacy appears to fuel creativity: confident teachers are more likely to experiment with multimedia content, gamified apps and blended-learning designs even without top-down mandates. In short, digital skill and teaching-confidence reinforce one another.

These findings largely mirror existing literature. The review echoes Glister's notion of digital literacy as more than mere tool-use – it entails “transliteracy and multimodal” fluency to create rich, interactive lessons. It also confirms that teacher self-efficacy is a pivotal determinant of classroom innovation. For example, Ertmer (2005) and Mouza et al. (2016) similarly found that educators with strong beliefs in their tech-capabilities are more inclined to adopt and integrate new digital pedagogies; the participants with higher self-efficacy indeed reported more initiative in launching digital activities. Conversely, literature on ICT-integration barriers (Ertmer, 1999; Tzanova, 2024) is reflected here: I saw that when teachers feel unprepared or unsupported, they revert to traditional methods, just as others have reported. The need for contextualized training also emerges in both the data and prior work. General ICT workshops often fail to translate into practice; the respondents explicitly noted that digital literacy courses must be tailored to language pedagogy (e.g., language apps, grammar platforms), a gap also identified by Harris & Hofer (2011) and Vescio et al. (2008).

The reciprocal influence of digital literacy and self-efficacy is clear. On the one hand, gaining competence with tools gives teachers “mastery experiences” that boost their confidence. This is classic social-cognitive theory: as teachers learn to operate an LMS, edit video, or use an interactive whiteboard, they feel more capable overall. On the other hand, teachers' existing self-beliefs shape how they engage with technology. Those with high self-efficacy eagerly experiment with new platforms and AI-enhanced resources. In practice, confident teachers reported trying out cutting-edge methods – for instance, starting blended or flipped classes or creating digital storytelling projects – often without formal assignment from their schools. By contrast, less confident teachers found the same tools daunting; they reported feeling “overwhelmed” by complexity and tended to stick with pen-and-paper instruction. This two-way dynamic reinforces the idea from Harris & Hofer (2011) that pedagogical reasoning and tech fluency grow together: improving one helps the other.

Despite this promising synergy, the review highlights several key barriers. First, infrastructure gaps remain acute across South Asia. Many respondents work in schools with unreliable electricity or slow Internet. Even where government programs have placed ICT labs in schools, connectivity is often spotty. A UNICEF South Asia report notes that boys are far more likely than girls to own Internet-enabled phones, hinting at deep equity issues. In this context, such limitations meant that ambitious tech plans frequently stalled – teachers lacked sufficient devices or bandwidth to try out online exercises. Second, insufficient training emerged repeatedly. I found that most “professional development” is too generic; teachers described ICT workshops that covered only basic software. Few had received hands-on, ELT-specific digital training. Without ongoing, subject-focused support, many teachers felt unprepared to use language learning platforms or AI-based tools effectively. Third, pedagogical resistance is a significant obstacle. Many teachers – especially those with low self-efficacy – view technology as an extra burden. As the data show, a fear of failure or past negative experience leads some educators to cling to traditional methods. Time constraints exacerbate this: fixing a malfunctioning projector or adapting a lesson to a new app can be daunting during busy school days. In sum, this “digital resistance” not only slows individual teachers' growth but can stall whole-school innovation.

These barriers play out unevenly across South Asia's diverse contexts. In urban centres or well-funded private schools, basic ICT resources are more available and PD programs exist, so many English teachers there reported moderate to high digital skills. By contrast, rural and remote schools often have no Wi-Fi and few devices; some teachers even lack reliable electricity. Gender and socio-economic divides deepen the challenge: for example, UNICEF notes girls in South Asia are far less likely than

boys to possess basic digital skills, implying that female teachers and students may be doubly marginalized. On the policy front, governments are beginning to respond (for instance, India's National Education Policy promotes ICT, and Bangladesh has invested in digital classrooms), but implementation is uneven. Professional development opportunities likewise vary: some countries mandate ICT certification for teachers, while others offer little systematic training. These regional factors mean that any solution must be context-specific: what works in a Dhaka urban school may not suit a village in Nepal.

Digital literacy has proven to be an important competence, especially for educators, for English teachers, who have to navigate the increasingly complex traditional learning environment. Integrating digital tools into educational practices requires more than technical knowledge. It requires the acquisition of transliteration rates and multimodal alphabet science, which allows educators to critically evaluate digital content and provide more dynamic and engaging lessons (Gilster, 1997; Lee, 2017). This study shows that many teachers in urban schools and universities have moderate to high levels of digital ability. This is reflected in this familiarity with online curriculum, digital assessment equipment, and multimedia platforms (Godwin-Jones, 2021). However, the possibilities of digital resources are often limited by their fundamental use, limiting the transformational effect this technology has on language lessons (Kukulska Hulme, 2020). In reality, young and recently trained educators are usually rather smart to navigate new digital technologies, but experienced teachers often encounter difficulties in integrating sophisticated tools into established educational practices. Challenges such as inadequate training, limited institutional support, and lack of trust often hamper effective digital integration (Ertmer, 2005; Harris & Hofer, 2011). This heterogeneous knowledge not only improves technical skills, but also generates teacher self-efficacy, but also highlights the need for ongoing, ongoing, professional development of sensitivity. Implementing practical and collaborative training initiatives will enable educators to address digital resources and ultimately lead more innovative and effective language lessons (Mishra & Koehler, 2006; Vescio, Ross & Adams, 2008). Ultimately, improving digital literacy and teachers' self-efficacy to thrive in today's educational environment are fundamentally important. Enhancement of these skills through robust and continuous professional development is important to transform traditional classrooms into dynamic, digitally enriched learning rooms.

The self-efficacy beliefs by English teachers regarding the use of digital tools and technology play an important role in designing their willingness to integrate technology into educational practices. Self-efficacy, defined as an individual's belief in the ability to succeed in a particular task (Frau-Meigs & UNESCO, 2024), has a significant impact on teachers and innovation acceptance and innovation in classroom digital resources. With a strong sense of digital self-efficacy, pedagogy tends to experiment with new technological platforms, deal creatively with digital content, and fix technical issues (Long & Magerko, 2020). As a result, they also employ more advanced teaching methods, such as blended learning, transformed classrooms, and e-assessment strategies, to contribute to increased student commitment and improve learning outcomes (Long & Magerko, 2020; Levi, 2024). Nevertheless, the perceived complexity of emerging digital tools can be overwhelming for some teachers, leading to the inability to effectively manage these technologies during class. This not only limits the use of transformative digital technologies, but also limits the possibility of decisions on interactive and communication learning experiences (Levi, 2024). Previous positive experiences of technology tend to enhance self-efficacy, but limited exposure or negative encounters can effectively undermine the trust of teachers of digital tools (Floridi, 2024). Institutional support and targeted professional development are largely shaped to promote and maintain teacher self-efficacy. Practical training programs that combine technical skills and educational strategies have proven effective in enabling educators to integrate digital technology into language lessons (Elango, 2024). Furthermore, environments that promote peer cooperation and enable continuous technical support contribute to a collective sense of self-efficacy, allowing even those with limited initial experience to embrace digital innovation (Arbino, 2024). In summary, cultivation of robust self-efficacy beliefs for English teachers is extremely important as it navigates the rapidly developing digital educational landscape. Focused efforts in professional development, combined with sustainable institutional and peers, are important to ensure that educators have the trust and technical skills needed to thrive in technical classrooms.

Digital tools and technology have become key components of the latest English classroom. This has resulted in a fundamentally redesigned educational practice. Two interconnected factors, teachers' digital skills and self-efficacy, play an important role in enabling educators to effectively integrate these tools. The level of digital ability that not only does teachers trust their use of digital resources, but also encourages interactions where self-efficacy further improves digital capabilities. For English educators, digital capabilities include a wide range of equipment, including learning management systems, online language learning resources (Duolingo, Quizlet) (Rozado, 2023), and multimedia content such as videos and podcasts, virtual classrooms. These tools are essential to promoting an interactive, communication and learning-centric environment. This is the need for ESL and EFL contexts, which can significantly undermine innovative activities such as online discussion, digital storytelling, interactive grammar exercises, and collaborative writing tasks.

From a technical perspective, teacher self-efficacy is a key determinant of how effective digital tools are used in the classroom. Convinced that they can navigate digital resources, educators are more experimenting with ambitious technology, taking on a regular basis and adapting their educational approach to meet the diverse needs of their students. In contrast, a lack of trust can lead to the fact that teachers only use digital tools in a basic and traditional way due to concerns about managing technical challenges or managing unusual software. Improved digital capabilities not only enhance teacher trust, but also encourage the use of more

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refined and more diverse technical resources, creating a positive feedback loop that further enhances digital capabilities (Ramesh, 2019). Teachers spend time developing professionally and embrace new digital tools, but increasing self-efficacy makes it easier for lessons, active learning, collaboration and critical thinking.

Such a dynamic approach is particularly advantageous in language learning when students benefit from authentic interactions with multimedia content and personalized feedback via digital platforms (Mayr, 2021). Finally, the intertwined relationship between digital ability and self-efficacy allows English-speaking teachers to create English-student-centric classrooms that not only improve technology integration, but also improve overall learning outcomes. Despite the potential for digital technology transformation in improving language lessons, English teachers continue to participate in the classroom on a variety of challenges in integrating these tools. These challenges include personal limitations, inadequate institutional support, and technical obstacles. All of these are hindering the creation of a completely digital learning environment. The fight against these obstacles is important to enable digital devices to enrich language education and to ensure that teachers and learners can be committed. Many educational environments,



Figure 1: Self-Efficacy of individuals' belief in their capacity to act

especially rural and economically disadvantaged schools, have a severe shortage of critical devices, such as computers, tablets and reliable internet connections (Lee, 2010). This infrastructure deficit limits the ability of educators to use extended resources such as virtual classrooms, online learning platforms and interactive multimedia content. Without consistent access to modern technology, teachers cannot experiment with innovative teaching methods and are forced to rely on outdated educational approaches that adhere to the potential benefits of digital integration. Professional development represents an even more important barrier. While many educators have basic skills when using standard applications such as presentation software and text processors, educational practices often lack the sophisticated training required to include demanding digital tools. Due to the lack of continuous, context-specific professional development, teachers are not prepared to effectively use learning management systems, online assessment tools, and interactive multimedia applications. Without systematic training that emphasizes both technical knowledge and pedagogical innovation, it would be difficult for educators to integrate digital tools into lessons in a wise way. Resistance to further modify the integration process. Teachers with low digital self-efficacy could view the technology as overly complex and increasingly prefer traditional methods over innovative and technical manipulation approaches. The fear of past negative experiences and technical failures can lead to new tools being used, which can increase the limited digital engagement cycle. This resistance not only hampers the growth of individual teachers, but also suppresses the broader development of educational practices in the digital age. Learning new digital tools, redesigning educational plans, and troubleshooting technical issues requires a significant investment in rare times for many teachers (Tzanova, 2024). For educators who already have some responsibility, it is often unrealistic, time to explore, and masters of digital technology. The additional time required to resolve technical obstacles during class can disrupt the lesson flow and further prevent the introduction of innovative practices. Effective implementation requires robust support from school management, including strategic planning, technical support, and regular infrastructure improvements. Unfortunately, many institutions lack a consistent digital strategy, leading to fragmented efforts that require individual teachers to tackle their own challenges. Without a collaborative institutional approach to technology adoption, even the intended initiatives will not have potential impacts and will not change classroom practices. The digital gap between students continues to introduce additional

complications. Even if teachers have access to modern digital tools, there is a considerable difference in student access to technology such as trustworthy Internet connections and personal devices, which can undermine efforts to create an integrated digital learning environment (Ottonsbreit-Linkwich, 2017). These inequalities impact student commitment and academic outcomes, encouraging educators to implement alternative strategies that meet different levels of technical access. Frequent software breakdowns, network failures, and hardware inconsistencies can cause serious complaints to both teachers and students (McMaster, 2009). Educational teachers often lack the technical knowledge needed to quickly diagnose and solve these problems. This leads to waste of education time and a decline in trust in digital ways. As a result, repeated technical difficulties discourage the continued use of digital tools in the classroom. Limited access to digital infrastructure, inadequate professional development, and resistance stem from self-efficacy, time constraints and inadequate institutional support, distinguish between student digital access and repetitive technical issues, creating significant obstacles to effective pedagogical innovation. Overcoming these obstacles requires comprehensive and coordinated efforts to improve technical access, provide sustainable training opportunities, promote a culture of digital innovation, and address inequality in digital access among students. Systematically addressing these challenges allows educators to use the power of digital technology to create more engaging, integrated and effective language lessons. Successful integration not only improves the quality of education, but also gives trusted and skilled teachers control over development requirements in the digital age. Investments in infrastructure, professional development, and collaborative institutional strategies will fully realize the possibilities of digital technology in language lessons, ultimately changing the education of today's learners. Finally, overcoming these obstacles is not a quick solution, but a sustained commitment to change. By investing in training, improving infrastructure and encouraging collaboration among educators, schools can bridge the digital gap. This comprehensive approach allows English teachers to effectively integrate digital technologies, improving student commitment, academic achievement, and increasingly preparing all learners for success in the digital world. These measures ensure a brighter future.

As digital technology increases the field of language education, it is absolutely necessary for English educators to acquire robust digital skills, but also to maintain the self-efficacy required to seamlessly integrate these innovations into educational practices. To address this dual challenge, targeted strategies and professional development initiatives must be designed and implemented to enhance both technical skills and trust. Such initiatives are essential components in transforming traditional educational paradigms into dynamic, technologically rich learning environments. The basic strategy is the implementation of targeted training programs for digital literacy, as proposed by Brannon (2022). These structured training programs should be tailored to the specific requirements of English lessons and include the practical use of numerous digital tools, including learning management systems (LMS), interactive voice applications, online evaluation platforms, and various multimedia resources. By including hands-on workshops, interactive tutorials and work experience, these programs aim to improve teachers to gain a deeper understanding of how to use these tools contextually to optimize language lessons. Development of peer mentoring and joint learning initiatives is also important. Through the establishment of a formal peer mentoring program, experienced and digitally confident educators can guide their colleagues through challenges related to technology integration. This collaborative approach not only encourages the exchange of best practices, but also creates a supportive community of professionals where teachers share success and solve common challenges together. Such mentoring networks promote a culture of continuous learning and innovation, ensuring that digital capabilities are further developed through continuous dialogue and reflection practice. Both synchronous and asynchronous collaboration sessions can cover key topics such as blend learning approaches, digital content creation, and strategies for transformed classroom environments (Wiesner, 2020). Another strategic obligation is to promote reductions in growth related to technology integration. Educators are encouraged to view digital challenges as opportunities for professional growth rather than as an insurmountable obstacle. Institutional initiatives such as high-tech showcase events serve as platforms for successful digital tools integration and thus encourage a more comprehensive introduction. These events not only demonstrate exemplary projects, but also reinforce the idea that new technology-related challenges are an important part of the learning process, ultimately improving teachers' digital self-efficacy. Trusted technical support and easily available digital resources also play a key role in fostering effective technology integration. Institutions should ensure that teachers have access to robust support infrastructure including online forums, comprehensive auxiliary repositories, detailed guidelines, tutorials and video modes. Through ongoing technical support, frustration and downtime can be caused by software errors and connectivity issues, allowing educators to quickly resolve issues and maintain confidence in digital practice. Educators should have the skills to provide immediate feedback, support differentiated lessons, and provide a platform to promote collaborative learning among students. For example, digital tools that promote interaction in real-time and personalized learning paths improve not only student learning outcomes, but also teachers' trust in their ability to manage dynamic, technically transmitted classrooms (YI, 2021). Training must address both the technical manipulation of these tools and the educational strategies needed to adapt to a variety of learning contexts. Finally, the integration of reflexive practices in professional development is extremely important to ensure that digital capabilities and self-efficacy continue. Through individual journaling and group discussion educators, regular options for structured reflection critically assess the effectiveness of digital technology on student learning outcomes and further identify areas for professional growth. Such reflective practices help teachers to recognize their outcomes, address continuous challenges, improve their technology integration strategies, and increase trust and capabilities over time. To conclude the completion, a comprehensive framework of strategies and professional development

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initiatives to improve the digital capabilities and self-fulfillment of English educators is essential. By investing in targeted training, including both technical and pedagogical aspects, promoting peer mentoring culture, ensuring reliable technical support, integrating student-centered digital tools, and integrating continuous recursive practices, institutions can integrate teachers and navigate the potential for digital technology transformation. This integrated approach not only improves the quality of language lessons, but also prepares educators to meet the advanced requirements of the digital age, ultimately leading to more innovative and effective classroom practices.

Schools should prioritize time and resources for technology-rich English instruction. For instance, administrators might schedule dedicated periods for digital literacy training or allocate mini-grants for purchasing tablets and audio-visual materials. Leaders can also set up in-school tech councils or librarian roles to guide teachers. Importantly, policies should protect teacher agency: technology must serve pedagogy rather than dictate it. As one recent policy analysis observes, “AI should improve, not replace, human capabilities in education,” and the goal is to strike “the right balance between technological efficiency and human involvement”. In practical terms, this means encouraging pilot projects led by teachers themselves, rather than imposing top-down tech programs. Teacher education and professional development should integrate English pedagogy with digital skills in a culturally relevant way. I recommend designing modules on topics like “Using Local Stories and ICT for Language Learning” or “Multilingual Digital Tools in the English Classroom.” For example, a program in Bangladesh co-taught English and ICT by having girls create digital audio-visual stories in their mother tongue with English vocabulary. Similarly, ELT trainers can map popular curriculum units to educational apps or offline content (as the British Council did by aligning its Learning English materials to India’s curricula). These context-rich modules keep English instruction authentic to students’ lives. Teacher participants should practice lesson design using mobile phones, recorded dialogs, or local cultural artifacts, building confidence in practical ways. I encourage the formation of collaborative teacher networks and communities of practice (COPs) focused on ELT innovation. Such communities – whether in-person at cluster schools or virtually via WhatsApp and online forums – allow educators to “share common concerns or passions,” learn from each other’s experiments, and co-create resources. For example, groups of English teachers might meet monthly to showcase how they used a new app or to translate digital storybooks into local dialects. These COPs are inherently flexible: teachers set the agenda based on their immediate classroom challenges. In practice, education officials could seed these communities with initial workshops and then let teachers lead follow-up sessions. Over time, empowered networks of practitioners can sustain innovation long after any single project ends.

Teacher educators and experienced ELT mentors should be enlisted to guide their peers in integrating technology. Senior teachers can host informal tech-demos or co-teach classes using multimedia. Pairing a tech-savvy instructor with a novice colleague turns PD into a hands-on coaching opportunity. Teachers often find new media daunting, so having a trusted mentor show “how others had handled” similar challenges (as one educator found via online advice) can build confidence. In union, these mentorship and community practices ensure that digital tools remain in the teachers’ hands – and hearts – as means to enrich teaching. Educational institutions, ministries of education, and teacher training programs must build long-term structures for subject-specific development. The global call for Quality Education (SDG 4) explicitly demands “more qualified teachers and improved teacher education and development programmes”, and technology can help achieve that at scale. For example, governments in South Asia can expand internet connectivity to all schools and invest in virtual PD platforms.

The UNICEF India initiative to connect government schools and train 100,000 teachers in digital awareness is a model of how ministries can commit resources and public funds to teacher upskilling. Similarly, Sri Lanka’s program of pairing well-equipped urban schools with remote village classroom suggests ways to leverage digital links to address teacher shortages. At the institutional level, teacher colleges and ELT institutes should embed digital literacy into their curricula. Pre-service programs might require student teachers to design lesson plans using educational software, or to reflect on how local culture and language can be honoured in digital English lessons. In-service training could include certification courses in ELT technology integration, developed in partnership with local universities or teacher guilds. Crucially, professional development must be ongoing, not a one-time workshop. Ministries and schools should schedule periodic refreshers and build online resource hubs (e.g., a regional portal of lesson ideas or video exchanges) that teachers can return to.

This sustained approach echoes UNESCO’s recommendation that digital tools be leveraged as a common good and that digital competence is fostered continually for teachers. Policy support must recognize subject specificity. All too often, ICT trainings are generic. South Asian governments and NGOs should aim for ELT-tailored programs, understanding that language teachers have different needs than, say, math teachers. Initiatives like the British Council’s blended program in Maharashtra, which mapped English content to local curricula, demonstrate how narrowly-focused training yields practical benefits. Ministries can similarly commission or endorse ELT-specific MOOCs and workshops. In sum, by aligning national goals (like reducing the digital divide) with classroom realities, policymakers can nurture a stable ecosystem where teachers continually refine their English teaching with technology.

A recurring lesson from this study and the literature is that teachers’ human expertise must remain central as technology enters the classroom. Even as AI and apps promise efficiency, the teacher’s role as mentor, motivator and cultural guide is irreplaceable. Experts caution that I must preserve “critical thinking, empathy, and emotional intelligence,” core to learning, which

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“remain deeply human in nature”. In practical terms, this means that technology integration should be teacher-driven, not teacher-determined by algorithms. For example, adaptive software might suggest vocabulary exercises, but teachers choose which cultural contexts or examples to emphasize for their students. During implementation, educators should be encouraged to voice concerns, adapt digital lessons to local norms, and reject tools that conflict with their professional judgment. Cultural and linguistic sensitivity is equally vital. South Asia’s multilingual landscape means that English instruction often happens amid several local languages. Technology-based materials must respect and incorporate this richness.

UNESCO stresses including “linguistic and cultural minority communities” in digital education planning. In practice, this could take the form of bilingual glossaries in apps, or recording class discussions in students’ mother tongue alongside English targets. In fact, while English is widely viewed as a language of opportunity, research also confirms the enduring value of mother-tongue instruction. Blending the two can look like using a South Asian folk story as the basis for an English lesson, or allowing students to draft an essay in their first language before translating key sentences. I recommend that any digital literacy curricula or PD modules be co-developed with local educators to ensure cultural relevance. This approach affirms teachers’ agency – their intimate knowledge of the community – and avoids techno-centric solutions that ignore context.

Barrier	Proposed Solution
Insufficient training	Provide targeted professional development workshops (both technical and pedagogical).
Infrastructure deficits	Invest in school ICT (devices, broadband, maintenance); prioritize rural connectivity and hardware support.
Lack of administrative support	Engage school leaders with EdTech training; develop clear integration policies and leadership plans.
Time constraints	Allocate dedicated time for technology planning (reduce other duties, provide planning periods, co-teaching strategies).
Resistance to change	Establish peer-mentoring and tech-coaching networks; showcase success stories to build confidence.

Figure 2: Barrier to Effective Integration of Technology in the Classroom and Proposed Solutions

By foregrounding the human element, I ensure technology truly supports teachers. For example, AI tools can handle rote tasks (like instant quiz scoring), freeing teachers to engage students in discussion. But decisions about classroom tone, peer interaction, and the choice of which topics to explore must remain educators’ prerogative. As one recent analysis puts it, AI is best seen as “a personalized, data-driven support system” – one that should be harnessed through collaboration among educators and researchers. In South Asia, where education is as much about community values as it is about exams, this human-centric stance will help technology adoption feel empowering rather than alienating. Looking ahead, I see considerable opportunity in smartly integrating artificial intelligence and interactive platforms into language classrooms – but always in service of pedagogy. Tools like speech-recognition apps, chatbots for language practice, and AI-driven content recommendations can be introduced as teacher’s aids, not replacements. For example, teachers might use an AI-powered pronunciation tutor to give students extra speaking practice outside class, while they themselves focus on teaching conversation skills and context. In writing classes, automated feedback tools can flag errors for learners, but teachers would then guide reflective discussions on those errors. This blended approach keeps the educator’s role as mentor intact. Importantly, any new AI or platform pilot should be accompanied by evaluation. As Kannadhasan (2024) suggests, researchers and educators should “collaborate to address the complexities of AI integration” and rigorously examine outcomes. I recommend action-oriented studies where teachers try out, say, a free AI-based vocabulary app or a collaborative online platform in one or two classes, then provide feedback on usability and learning gains. Insights from these pilots can then inform scale-up. Meanwhile, policy guidance on ethics and data privacy will be crucial: teachers and schools need reassurance that student data in these tools will be handled responsibly. Ultimately, the goal is a synergy of AI and human teaching. Imagine a rural language lab where a projector displays interactive story games in English, but a teacher pauses the session to discuss cultural references in Bengali. Or picture a teachers’ WhatsApp group where members share a clever English lesson built on a local festival and get encouragement from peers across the region. In such scenarios, AI and digital platforms are woven into existing pedagogies, extending the teacher’s reach without displacing their judgment. By pursuing these research and practice directions in tandem, I can create an ecosystem in South Asia where English language teachers grow more digitally literate and self-assured, students learn through culturally rich and interactive methods, and technology acts as a bridge rather than a barrier. Each policy, program, or research project should aim to amplify the educator’s voice and experience, ensuring that innovation is truly meaningful on the ground.

IMPLICATION TO RESEARCH AND PRACTICE

The findings and the literature both stress that “one-size-fits-all” ICT courses are inadequate. English teachers benefit most from workshops and modules that directly link digital tools to language pedagogy – for example, how to use pronunciation apps, corpus tools, or interactive grammar platforms in ELT. Practical, hands-on training (e.g., micro-teaching with tech, live lesson modelling) can help teachers see the relevance of new tools. Institutions should design PD programs around real classroom scenarios and discipline-specific needs. Empowering teachers to take initiative is crucial. Peer mentoring and professional learning communities emerged as powerful supports in this review. When experienced, tech-savvy instructors guide their colleagues through challenges, it not only shares expertise but also builds a culture of collective efficacy. Similarly, encouraging reflective practice – such as action research, journaling, or collaborative problem-solving – helps teachers internalize successes and learn from setbacks. In effect, teachers become self-directed learners: when one educator masters an AI-enabled quiz tool, for example, she can share tips and boost confidence across the staff. This heutagogical approach ensures that even in the absence of formal training, motivated teachers can drive their own growth. On a similar note, AI-enhanced tools (e.g., adaptive learning platforms, automated writing tutors, language-generation models) are rapidly entering ELT. The review suggests that such tools can dramatically enrich learning – but only if teachers feel literate in using them. The literature notes that recent advances (NLP, generative AI) are “transforming the educational environment”. In practice, forward-looking schools might introduce teachers to AI assistants (for drafting exercises or feedback) and social learning platforms that allow real-time interaction. When teachers are confident using these tools, they can create personalized learning paths and innovative tasks that were previously impossible. Conversely, without targeted training, AI technology risks widening gaps: teachers who distrust or misunderstand AI may underutilize powerful new resources. Thus, building AI literacy should be a priority – helping teachers to evaluate and integrate these platforms critically.

Overall, this discussion underscores that digital literacy and self-efficacy are mutually reinforcing. Interventions must therefore address both: upgrading teachers’ skills and bolstering their confidence in tandem. For example, step-by-step coaching in a new classroom app (to improve ability) should be paired with encouragement and technical support (to maintain efficacy). Importantly, the greatest gains may come from fostering teachers’ sense of agency: when educators view tech challenges as opportunities for learning and creativity, they sustain innovation over time. In summary, the findings and the broader literature suggest a transformative future for ELT in South Asia. If investment is made in digital infrastructure and in-context PD, English teachers can evolve from reluctant users to confident designers of digital curriculum. AI-driven platforms and emerging pedagogies will offer new ways to engage students, but realizing this promise depends on teachers who believe they can succeed with technology. By addressing infrastructural gaps, resistance, and training needs together, policymakers and schools can help English educators truly harness the power of digital learning for better outcomes.

SCOPE FOR FUTURE RESEARCH

The study underscores the need for deeper, context-sensitive research into English teachers’ digital literacy and self-efficacy in South Asia. In particular, localized longitudinal studies would track how teachers’ skills and confidence evolve over time under different school conditions. By following the same cohorts of teachers, such research could reveal how ongoing exposure to technology and changing curriculum policies affect outcomes, rather than relying on one-off surveys. I note that the current evidence base on technology for teacher development in the region is “limited but of great interest”, suggesting many rich questions remain. Another promising avenue is participatory action research (PAR) in rural and underserved communities. In PAR, teachers become co-researchers who help design and test digital teaching methods, yielding solutions grounded in local realities. This approach can empower educators by honouring their professional knowledge and giving them ownership of innovations. As Hollow and Jefferies have argued, there is a call for “rigorous research focused on understanding how EdTech interventions work in specific contexts”. In practice this means researchers might collaborate with village schoolteachers to document and iteratively refine technology-enhanced English lessons that respect regional languages and customs. Finally, I urge systematic evaluation of emerging AI-based instructional tools in ELT. Rapid advances in artificial intelligence (e.g., adaptive learning platforms, generative language apps) offer new possibilities for language practice and feedback. But their impact and best uses in local classrooms remain largely unexplored. Scholars like Kannadhasan (2024) highlight an urgent need to investigate AI’s role in ELT – for example, developing adaptive algorithms “designed to meet the different needs of learners” and rigorously “evaluating the success of AI-based interventions”. Future studies could pilot AI tutors or automated grading tools in South Asian schools, measuring effects on student progress and teacher confidence. I also recommend sensitive studies on human factors: how teachers perceive these tools, what ethical concerns arise, and how implementation aligns with cultural values.

CONCLUSION

As digital technology further redesigns the educational environment, it is clear that both digital ability and the self-efficacy of English educator teachers are striving to provide effective lessons. This study has a robust correlation between educators' ability to navigate digital tools and emphasize confidence in the application of these technologies in the classroom. With comprehensive digital skills and a strong sense of self-efficacy, education is better positioned to promote dynamic, innovative educational barriers

that actively engage students and improve learning outcomes. The results emphasize that it is to overcome the diverse challenges associated with digital integration, and is a necessary coordinated effort for all involved in developing educational institutions, political makers, and teachers. Institutional investment in targeted initiatives for sustainable, targeted professional development is paramount. Such initiatives need to not only provide teachers with advanced technical skills, but also cultivate a support culture that promotes trust in the face of a rapidly developed technological landscape. Furthermore, promoting an environment that evaluates continuous growth and adaptive learning is extremely important for maintaining digital innovation in educational settings. With strategic training programs, establishment of preferment networks and assurance of reliable technical support, education managers can help teachers meet the requirements of modern digital education. Ultimately, a collaborative and collaborative approach to improving digital literacy and self-efficacy allows educators to change their educational practices and increase improvements in both teacher performance and student success. Cultivating these skills is not just an option when digital dimensions are connected to effective lessons. This is a fundamental prerequisite for thriving in today's progressive education ecosystem.

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