Article

Journal of International Students
Volume 15, Issue 12 (2025), pp. 141-158
ISSN: 2162-3104 (Print), 2166-3750 (Online)
jistudents.org
https://doi.org/10.32674/bpt8fz89

Technology-Enhanced Professional Development and Internationalization: Transformative Learning for English Teachers in South Asia

Yadu Prasad Gyawali[1] & Meghna Mehndroo[2]
[1]*Mid-West University, Nepal*
[2]*Chandigarh University, India*

ABSTRACT

This study examines how technology-enhanced professional development supports transformative teaching and learning among English teachers in higher education institutions in Nepal, India, and Bangladesh. Drawing on semi-structured interviews, the research explores teachers' experiences with digital tools—including online learning platforms, interactive applications, and open educational resources—and how these technologies shape pedagogical practices. Findings reveal that technology integration improves instructional design, promotes innovative and student-centered approaches, and strengthens teacher confidence and classroom effectiveness. The study also identifies challenges, including limited digital literacy, inadequate infrastructure, and institutional barriers, that hinder sustained technology adoption. In addition, results highlight the potential of internationalization—through cross-border collaboration, shared digital resources, and global professional networks—to enrich English-language teaching across the region. Practical recommendations are offered for educators, departments, and institutions seeking to leverage technology to advance professional growth, enhance instructional quality, and promote transformative learning in higher education.

Keywords: Technology, educational technologies, Professional development strategies, English-language teaching, Transforming practices, internationalization

INTRODUCTION

The integration of technology into higher education has become a fundamental progression in modern pedagogy, driven by the need to create dynamic, interactive learning environments. As higher education shifts toward more digital

practices, particularly in English, educators must adapt to technology-driven approaches that offer more transformative learning experiences than traditional methods do (Selwyn, 2016). This paper focuses on the intersection of technology and professional development for English teachers, exploring how these tools enhance instructional practices and lead to more impactful educational outcomes.

Technology integration in education, particularly in language instruction, is critical to creating engaging and effective learning environments (Garrison & Vaughan, 2008). English language teachers are now expected to utilize a variety of digital tools, including online platforms, interactive software, and digital resources, as essential elements of their pedagogy (Dudeney & Hockly, 2012). These tools enable co-learning, collaboration, and deeper student engagement, allowing both educators and learners to benefit from a shared learning process. Moreover, the inclusion of technology promotes social justice by expanding access to educational resources and opportunities (Warschauer, 2003).

This study examines the specific educational technologies that support active learning, such as interactive software that facilitates collaboration and digital resources that provide access to comprehensive information. Additionally, it investigates the role of online platforms in fostering communication and cooperation among students and teachers (Laurillard, 2012). Student engagement and academic success are central to the study, as the research aims to determine how technology can be leveraged to enhance these elements in English language instruction.

Through this analysis, the study provides actionable recommendations for educators and academic institutions seeking to incorporate technology into English language instruction. The goal is to offer meaningful contributions to the ongoing evolution of teaching methodologies in higher education, ensuring their relevance and efficacy in an increasingly digital world (Mishra & Koehler, 2006).

LITERATURE REVIEW

Transformative Learning and Internationalization

Transformative learning involves a profound and meaningful change in students' perspectives, beliefs, and understanding of the world around them. This change occurs through exposure to international perspectives, intercultural interactions, and integrating different knowledge systems (Rakuasa & Hidayatullah 2024). Through transformative learning, students develop a global mindset, cultural competence, and the ability to navigate and thrive in diverse contexts (DeCoito & Briona 2023). The internationalization of higher education is a process that transforms a national institution into an international institution, integrating an international dimension into all management aspects to enhance teaching and learning. Teachers in higher education require training in integrating technology into pedagogy for effective teaching and learning (Alsuwaida, 2022). The integration of technology into higher education pedagogy has become increasingly important for meeting students' expectations and creating engaging learning environments (Essa, 2023). Several studies point to the importance of

intrinsic factors, such as attitudes toward learning technology, in the successful integration of technology into instructor education and professional development (Wilson et al., 2017). In addition to attitudes, participating in meaningful technology experiences and learning technology in collaborative and supportive settings are also essential components of effective professional development for instructors. The use of technology in elementary and secondary education classrooms has significantly increased over the past decade (Allsopp et al., 2009). Furthermore, the use of technology in education is not done in isolation but within an educational setting that considers various factors, such as administration, teacher and student attitudes toward technology, teaching style and philosophy, subject matter, and student learning styles (Clipa & Juravle, 2019). The practical implementation of technology in online classes to encourage participation and student–student interactions may be challenging for instructors who lack information or training on how to use tools effectively (Alsuwaida, 2022). Therefore, higher education institutions must receive training and support in integrating technology into their pedagogy.

The internationalization of higher education has become a significant topic of discussion and research in recent years (Lim & Huang, 2022). Studies have shown that internationalization efforts encompass various aspects, including curriculum development, pedagogical approaches, faculty training, research collaboration, and partnerships with institutions abroad (Lee & Cai, 2018). Efforts to internationalize higher education include not only the physical presence of international students and faculty but also the integration of international perspectives and intercultural competence into the educational experience (Pettitt & Macari, 2017). The internationalization of higher education is a change process that transforms a national higher education institution into an international institution, integrating an international dimension into all aspects of its management to improve teaching and learning and achieve the desired competencies (Larbi & Fu, 2017). This process can involve the establishment of international branch campuses, the formation of research partnerships across borders, the recruitment of foreign students and faculty, the implementation of exchange programs, the design of international curricula and global competition for talent. One key goal of internationalization in higher education is to prepare students to thrive in an interconnected and globalized world. To address growth and development challenges, especially in developing countries, internationalization is a viable strategy for tertiary educational institutions (Auf, 2023). Efforts to internationalize higher education have become increasingly important in response to the forces of globalization (Larbi & Fu, 2017). Efforts to internationalize higher education have become increasingly important in response to the forces of globalization. Many teachers are unprepared to integrate technology into their teaching (Lin et al., 2015). The observed lack of preparedness among teachers in integrating technology into their teaching is a significant challenge that needs to be addressed through effective professional development strategies.

Professional development strategies for English Teachers

Professional development can improve English teachers' knowledge and skills in e-learning practices, as well as their attitudes and beliefs toward technology integration. The literature suggests that professional development for English teachers in higher education should go beyond the introduction of hardware and software. Professional development can improve teachers' knowledge and skills in e-learning practices, as well as their attitudes and beliefs toward technology integration (Bai & Lo, 2018). In today's digital age, integrating technology into higher education pedagogy has become increasingly crucial for creating engaging and effective learning environments. The importance of intrinsic factors, such as attitudes toward learning technology, in the successful integration of technology into instructor education and professional development (Wilson et al., 2017). Instructors who receive training or assistance in integrating technology into their pedagogy experience reduced anxiety and increased confidence in using emerging technologies. The success of integrating technology into the classroom is largely dependent on the attitudes and beliefs of teachers toward technology (Soujah, 2014). Furthermore, professional development should provide opportunities for teachers to engage in meaningful technology experiences and collaborate with their peers to reduce anxiety and build confidence in using emerging technologies in the classroom (Potter & RockinsonSzapkiw, 2012). Furthermore, professional development initiatives should focus on improving teachers' understanding of the potential of different technologies for supporting learning and identifying the most appropriate pedagogical uses of technology (Ekanayake & Wishart, 2014). On the other hand, professional development strategies for English teachers in higher education should be comprehensive and holistic, addressing both the technical and the pedagogical aspects of integrating technology into the classroom (Bai & Lo, 2018). However, it is important to note that successful implementation of technology in the classroom can require teachers to change their teaching strategies (MohammadManaAlamry, 2017). This could include a shift toward student-centered and collaborative learning approaches, as well as an emphasis on critical thinking and problem-solving skills, emphasizing the importance of connecting technology with the subject matter, addressing pedagogical considerations, and promoting collaboration and reflection among teachers (Ge, 2017).

The successful implementation of technology in the classroom can require teachers to shift their teaching strategies toward student-centered and collaborative approaches (MohammadManaAlamry, 2017). Furthermore, professional development should promote critical thinking and problem-solving skills among students. Additionally, professional development strategies should address teachers' attitudes, beliefs, and values toward technology integration (Bai & Lo, 2018).

METHODS

This research employs a qualitative case study approach to investigate the international dimensions of technology-facilitated English teachers' professional development (PD) in higher education institutions across Nepal, India, and Bangladesh. According to Yin (2014), a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident. The case study methodology is particularly well-suited for this research, as it allows for an in-depth exploration of English teachers' experiences with technology-enhanced professional development.

Sample and Data Collection

Purposeful sampling was employed to select participants who could provide relevant insights related to the research questions. Six English teachers from three universities in Nepal, India, and Bangladesh were selected to participate in the study. After the participants were chosen, informed consent was obtained for virtual interviews. Table 1 presents the demographic details of these participants. The demographic details of these participants are presented in Table 1 below.

Table 1: Demographic Information of the Participants

Name (Pseudonym)	Gender	Qualification	Name of University (Pseudonym)	Country
Sanya	F	Ph.D	Dhaka University	Bangladesh
Md. Aarif	M	Ph.D	Khwaja Yunus Ali University	Bangladesh
Bhavana	F	M.Phil	Mid-West University	Nepal
Krishna	M	Ph.D	Open University	Nepal
Ankit	M	Ph. D	Lovely Professional University	India
Prem	F	Ph.D	Chandigarh University	India

Data analysis

The data analysis followed the procedures outlined by Creswell and Creswell (2018) and adhered to a structured, systematic approach. Initially, field notes were thoroughly examined, and interviews were meticulously transcribed to ensure an organized, comprehensive dataset. Following Braun and Clarke's (2012) thematic analysis framework and Kekeya's (2016) guidelines, the

exploration and coding phase focused on uncovering and categorizing themes within the data.

In the subsequent phase, the identified themes were further defined by analyzing key phrases and concepts from the transcripts. This was followed by axial coding, which helped to establish connections between interrelated themes. The findings were then structured into thematic categories, emphasizing the relationships among the identified themes. The significance of the results was articulated through a detailed description of each theme, highlighting their relevance to the research objectives. Finally, a comprehensive review was conducted to ensure the accuracy and consistency of the findings, which were interpreted in relation to the overall research goals.

RESULTS

To rationalize the analysis and align it more closely with the overarching purpose of assessing the impact of technology-mediated professional development on English teachers in higher education. Each category focuses on critical aspects of technology adoption and its influence on pedagogical strategies.

Technology Utilization and Pedagogical Innovation

Based on the views of English teachers from Nepal, India, and Bangladesh, we must consider the varied contexts and educational environments in each of these countries. Each country's unique infrastructure, educational policies, and access to technology significantly shape how digital tools are adopted and used in pedagogical practices.

In Nepal, teachers face challenges such as inconsistent electricity and internet availability, particularly in rural and remote regions, which impedes the regular use of essential digital tools in educational settings. Despite these obstacles, there is increasing interest in leveraging multimedia and interactive software to enrich language instruction in urban areas. In Nepal, the adoption of innovative technological practices in education tends to be localized, spearheaded by individual educators or NGOs rather than through broad and systemic implementation. When employed, these technologies increase student engagement by fostering interactive learning environments, although their use is not yet extensive enough to effect in substantial change across the national educational framework. In Nepal, when technology is implemented effectively, it transforms classrooms into more dynamic and engaging student environments. However, a significant challenge persists due to the inadequate training and support provided to teachers, which limits their ability to use these technological tools effectively. For example, in urban schools where some teachers have received training, the use of IWBs has led to increased student participation.
The participants in the interviews expressed the transformative possibilities of technology integration. For example.

> I believe that technology can revolutionize English-language teaching in Nepal, especially in urban areas where there is a keen interest in

> multimedia and interactive software. The potential is immense. Students who are able to interact with digital content, engage in virtual discussions, and access a wealth of resources beyond the limitations of traditional textbooks (Ankit)
>
> We need more support from educational authorities to ensure that all teachers have access to adequate training and resources to integrate technology effectively into their teaching. Professional development programs focused on digital literacy and innovative teaching practices are crucial, along with investments in infrastructure to address connectivity issues. With the right support, technology is feasible for bridging the gap between urban and rural education. (Prem)
>
> The potential of technology muffled by the lack of resources and support in our education system is highly frustrating. We talk about the digital age, but for many of us, it remains a distant reality, marred by power outages and unreliable internet connectivity. As an English teacher, I am constantly struggling with these challenges, which make it difficult to use digital tools effectively. There are days when I have to abandon lesson plans because the internet is down or the electricity goes out, leaving my students and me feeling unsatisfied and helpless. (Sanya)

The views of the participants indicate that it is crucial to thoroughly evaluate the challenges and limitations of implementing technology in English-language teaching, especially in contexts such as Nepal, despite recognizing its potential for transformation.

It is essential to acknowledge the disparities in technology access between urban and rural regions, despite the commendable enthusiasm for multimedia and interactive software in urban areas. Although urban schools may have greater access to resources and infrastructure, rural schools often face basic connectivity challenges that can impede effective technology integration. When discussing technology integration, it is important to consider strategies to ensure equal access to technology across all educational settings. Furthermore, it is important to consider the broader systemic issues that contribute to insufficient resources and support in the education system, in addition to advocating for greater support from educational authorities. Increasing funding or implementing training programs may not address the root causes of problems such as corruption, bureaucracy, or mismanagement. Therefore, it is imperative to adopt a more holistic approach that addresses these underlying issues to achieve lasting progress.

In addition, it is crucial to consider alternative solutions and adaptive strategies to address the impact of infrastructure limitations, even though frustration is understandable. One possible approach is to consider alternative teaching methods that rely less on technology. Another option is to collaborate with community organizations to address connectivity challenges. Additionally, advocating for policy changes can help improve the overall infrastructure. In considering the impact of technology on education, particularly English-language

teaching, it is important to approach this topic from a discerning perspective. This involves recognizing the potential benefits as well as the challenges that arise within the education system.

India presents a diverse landscape of technology integration within its diverse educational framework, where urban schools are equipped with state-of-the-art technology, whereas universities in rural areas lag due to resource constraints. However, concerted efforts from both the government and private sectors are driving a steady improvement in digital literacy, resulting in broader adoption of online platforms and digital resources nationwide. For example,

> In higher education institutions across India, there is a notable push toward accepting technology to enhance the learning experience. As a teacher on this land, I have been at the forefront of assimilating advanced tools and platforms into my teaching practices. While urban universities may have a head start in terms of resources and infrastructure, I believe that ensuring that technology is accessible and utilized effectively across all higher education institutions in India is imperative. (Prem)

> Moving forward, it is essential to prioritize investments in technology infrastructure and professional development for educators to ensure widespread adoption and maximize the impact of technology in higher education (Ankit).

Prem emphasizes the proactive approach of educators in India's higher education institutions regarding adopting technology. The text recognizes the differences in resources and infrastructure between urban and rural universities, but highlights the importance of providing equal access to technology across all institutions. This perspective highlights the importance of ensuring that technology integration efforts are inclusive and accessible.

Other participants, Krishna, emphasized the importance of prioritizing investments in technology infrastructure and providing professional development opportunities for educators. It acknowledges the importance of providing ongoing support and training to ensure the effective use of technology in classrooms. This viewpoint highlights the importance of taking a comprehensive approach to technology integration, considering not only the hardware and software aspects but also the role of teachers in the process.

However, there is a distinct movement toward blended learning environments and the integration of AI-driven platforms that facilitate personalized learning experiences. These advances are predominantly observed within urban centers. Additionally, areas with a well-established technology infrastructure clearly benefit from the use of technology in education. One of the teachers opines

> Blended learning is gaining momentum in higher education institutions in India, offering a hybrid approach that combines traditional classroom instruction with online resources and tools. According to my understanding, this model allows greater flexibility and customization,

> catering to the diverse learning needs of students. While the adoption of blended learning may be more prevalent in certain institutions, I believe it has the potential to revolutionize higher education across the board, fostering a more dynamic and interactive learning environment. (Md. Aarif)

The perspective Md. Aarif presented by other participants explores the idea of blended learning and its increasing popularity in Indian higher education. The text acknowledges the advantages of integrating traditional classroom teaching with online resources and tools, including increased flexibility and customization to meet a wide range of learning requirements. The focus on transforming higher education through blended learning demonstrates a progressive mindset toward teaching and a readiness to adopt inventive instructional techniques.
This includes enhanced learning outcomes through the provision of a variety of educational materials and the adoption of more interactive teaching methods. An example of this is in northern India, where digital classrooms have been instrumental in improving students' understanding of complex subjects through virtual simulations. These perspectives collectively provide a thoughtful understanding of the role of technology in higher education in India, along with a commitment to ensuring its broad implementation and influence. The text highlights the importance of addressing infrastructure issues, adopting creative teaching methods, and prioritizing teacher training to maximize the benefits of technology in improving the learning process.

In Bangladesh, the prevalent use of low-cost digital solutions aligns with the nation's budgetary limitations. However, the rise in mobile technology and online platforms has been notably spurred by the need to counter educational interruptions, such as those experienced during the COVID-19 pandemic. Digital tools are increasingly being used to bridge geographical and socioeconomic divides, enhancing educational accessibility. Online platforms in Bangladesh have markedly improved learning interactivity and expanded access to educational resources that were previously limited, demonstrating a significant shift in the way education is approached in the region.
For example,

> The rise of mobile technology and online platforms, particularly during the COVID-19 pandemic, has been instrumental in overcoming educational interruptions and bridging geographical and socioeconomic divides. It is inspiring to see how digital tools have improved interactivity in learning and expanded access to educational resources, marking a significant shift in education approaches in our region. However, I also recognize that the effectiveness of technology in education depends on teachers' proficiency with these tools. Although urban schools may report successful integration of technology, rural areas face ongoing struggles due to infrastructural limitations. As educators, we must continue to prioritize professional development to ensure that all teachers are equipped to effectively utilize digital tools in the classroom. (Sanya)

This view explains that the emergence of mobile technology and online platforms has been instrumental in addressing disruptions caused by the COVID-19 pandemic and in bridging educational gaps across regions and socioeconomic backgrounds. It is remarkable to observe how digital resources not only enabled interactive learning experiences but also broadened access to educational materials, representing a notable advancement in educational approaches within our region. However, it is important to acknowledge that the success of technology in education significantly affects teachers' proficiency with these tools. Urban schools may showcase the successful integration of technology, but rural areas still face challenges with infrastructure, which hinders their ability to fully utilize digital resources. Therefore, prioritizing ongoing professional development initiatives is crucial to ensure that educators in all settings have the necessary skills to use digital tools in their teaching practices effectively.

Similarly, the effectiveness of technology in education depends largely on teachers' proficiency with these tools. The urban area reports successful integration of technology, as in other contexts. For example, when tablets are used for reading and interactive applications, rural areas face ongoing struggles with the basic implementation of such technologies due to infrastructure limitations, impacting the overall efficacy of digital education efforts in these regions. One of the participants reflected that technology is needed; however, more support is needed. According to him,

> The rise of mobile technology and online platforms has been especially significant in bridging geographical and socioeconomic divides, enhancing educational accessibility, and improving interactivity in learning. However, to truly maximize the efficacy of digital education efforts, it is imperative to address infrastructural limitations in rural areas and ensure equitable access to technology for all students, regardless of their geographical location. (Prem)

Importantly, the positive effects of mobile technology and online platforms on education should not overshadow the need to address infrastructural limitations in rural areas. Just providing access to technology is not enough. It is important to have comprehensive support systems in place to ensure meaningful integration and utilization of digital resources in education, along with technological access. This involves investing in teacher training, developing curricula specifically for digital platforms, and providing continuous technical support. Simply granting access to technology without addressing these larger systemic issues runs the risk of worsening existing disparities and could result in underutilization or misuse of digital resources.

Thus, it is crucial to adopt a comprehensive approach that addresses both infrastructure constraints and the need for capacity-building initiatives. This will enable us to fully optimize the effectiveness of digital education and guarantee equal access to all students. The perspectives shared by English teachers from Nepal, India, and Bangladesh provide a comprehensive understanding of how technology is incorporated into teaching methods in various educational settings. The adoption and use of digital tools in education are clearly influenced by the

unique infrastructure, policies, and technological access of each country. Despite diverse obstacles, including infrastructure limitations, financial constraints, and disparities between urban and rural areas, there is a collective recognition of the significant impact technology can have on increasing educational accessibility and improving learning outcomes. Similarly, participants' perspectives emphasize the importance of addressing infrastructural challenges, providing continuous professional development for educators, and embracing a comprehensive approach to technology integration. Although there is excitement about the use of multimedia and interactive software in urban areas, it is essential to guarantee fair access to technology and support systems in all educational settings. Additionally, the discussions highlight the importance of implementing systemic changes and investing in infrastructure, teacher training, and curriculum development to leverage the advantages of technology in education fully.

Addressing Challenges, Enhancing Collaboration, and Improving Outcomes Through Technology Integration

Teachers encounter technical and architectural challenges, cultural reluctance, and a need for stronger professional development programs. These problems emphasize the need for institutional assistance to help instructors use digital technologies in their teaching. Technology may revolutionize teacher cooperation locally and worldwide, depending on the topic. Technology fosters cooperation, enriches instruction, and shares new ideas and best practices by enabling professional networking and knowledge exchange.

Educators face challenges related to infrastructure and technology and cultural resistance and advocate for better professional development initiatives. These issues underscore the need for support from institutions to help instructors integrate digital technologies into their lessons. Depending on the subject, technology may revolutionize teacher collaboration on a local and global scale. By facilitating professional networking and knowledge exchange, technology promotes collaboration, enhances instruction, and encourages the dissemination of innovative concepts and best practices. One Nepalese participant expressed the need for technological integration for professional development through several challenges due to the digital divide. For example,

> Power outages and unreliable internet connectivity often disrupt me. Moreover, there is a certain resistance to change embedded within our cultural norms, making it challenging to embrace digital tools fully. However, I firmly believe that with improved professional development initiatives and support from educational institutions, we can overcome these challenges. Technology has the potential to revolutionize collaboration among teachers locally and globally by facilitating professional networking and knowledge exchange (Bhavana).

This comprehensive theme explores the various dimensions of technology integration in education, including the challenges faced by instructors and the potential benefits for collaboration and student achievement. The statement

recognizes the challenges that educators face, which encompass technical and infrastructure barriers, cultural opposition, and the need for enhanced professional development initiatives. Furthermore, the theme delves into the necessity for institutions to provide the assistance necessary to enable educators to surmount these obstacles and utilize digital tools in their instructional methodologies. One of the participants from India expressed his desire to contribute to the study.

> I am optimistic about the transformative potential of technology in fostering collaboration among teachers. By facilitating professional networking and knowledge exchange, technology can bridge geographical boundaries and enrich instruction. It is crucial for educational institutions to provide the necessary support to help educators overcome these challenges and effectively utilize digital tools in their teaching methodologies. (Prem).

In support of this view, the participants from Bangladesh opined

> The integration of technology into education is still in its infancy in Bangladesh. Infrastructure limitations and the lack of adequate resources pose significant challenges to educators. Moreover, cultural resistance to change further complicates the situation. However, I see immense potential in technology to revolutionize teacher collaboration and enhance student outcomes. By facilitating professional networking and the exchange of knowledge, technology can play a key role in enriching instruction and disseminating innovative concepts. Institutions must step up and provide the necessary support to empower educators to integrate digital tools effectively into their teaching practices. (Sanya)

On the other hand, there are transformative effects of technology on both student outcomes and teacher collaboration. This study evaluates the degree to which technology supports collaboration among educators on a global scale and at the local level by facilitating professional networking and knowledge exchange. In addition, technology integration has tangible impacts on the academic performance, participation, and overall educational experiences of students.

DISCUSSION

The discussion of the study of technology and pedagogical innovation among English teachers in Nepal, India, and Bangladesh provides essential information on the broad range of experiences and difficulties these educators encounter.

The discussion concerning Nepal highlights both the revolutionary potential of technology in education and the considerable constraints that stand in the way of its successful implementation, which aligns with the findings (Yurtseven, 2020). Nevertheless, educators in metropolitan areas need to have extensive training and assistance to make successful use of digital technologies, although they are considerably better equipped. In rural areas, the problems are made worse by the lack of necessary infrastructure, including inconsistencies in energy availability and instability in internet access. The lack of consistency in access not

only makes it more difficult to implement new technology but also makes it more challenging to innovate in education over the long term. In light of this, although there is significant interest in multimedia and interactive software, and recognition of its potential to transform English language instruction, real development is hampered by these systemic constraints.

In the context of India, the situation illustrates a striking disparity between the educational environments of urban and rural areas. University campuses located in urban areas, which are often better equipped with technology and infrastructure, exhibit a more dynamic integration of digital tools, as discussed by Goh & Kale (2015). On the other hand, the lack of resources available to rural educational institutions causes them to fall substantially behind. The proliferation of technology in higher education, particularly through blended learning environments and platforms driven by artificial intelligence, as reported by (Ding et al., 2024), indicates a proactive commitment to developing innovative pedagogical practices. Despite this, it is still extremely important for all institutions to have equal access to available technologies and to receive training in this area. As discussed in the previous study by (Alsuwaida, 2022), efforts must be stepped up to guarantee that the advantages of technology are not restricted to metropolitan areas that are well equipped with resources but rather that they are extended to all educational sectors across the nation.

During the COVID-19 pandemic, Bangladesh demonstrated a clever use of low-cost digital solutions to address educational interruptions. Following the ideas of (Auf, 2023),, this was notably highlighted in the case of Bangladesh. The proliferation of mobile technology and online platforms has significantly improved the accessibility and interactivity of educational opportunities across a wide range of socioeconomic backgrounds (Bon & Inpin 2024). On the other hand, rural regions continue to face fundamental infrastructure challenges that hinder the successful integration of technology, as in Nepal. Therefore, although significant progress has been made in using digital tools for educational enhancement, the full potential of these technologies has not yet been realized because of continuous restrictions in infrastructure and resources. Two key takeaways from this section are provided below.

Infrastructure and Resource Disparities: Across Nepal, India, and Bangladesh, there is a notable divide between urban and rural areas in terms of access to digital technology. While educators in metropolitan areas have greater access to technology, rural educators face significant challenges due to limited infrastructure, including unstable internet and inconsistent electricity. This disparity hampers the effective integration of technology into educational practices, particularly in rural settings, limiting long-term innovation and progress.

Need for Comprehensive Support and Training: Despite the enthusiasm for digital tools and the recognition of their potential to revolutionize English language instruction, practical challenges persist. A common theme across all three nations is the need for extensive training, strategic policy interventions, and

infrastructure improvements. Successful implementation of technology in education requires access to resources and ongoing professional development and government-backed initiatives to ensure equitable and effective use of digital tools across all regions.

IMPLICATIONS

The findings of this study, which explore the application of technology and pedagogical innovation in English-language teaching in Nepal, India, and Bangladesh, present crucial implications for educational stakeholders, policymakers, and practitioners. A key focus of these implications is to enhance the integration of technology to improve academic outcomes while addressing the unique challenges faced in diverse educational environments. A central implication of this study is the urgent need for infrastructure development, particularly in rural and remote areas where inconsistent power supply and unreliable internet access hinder the effective use of digital tools. Governments and relevant stakeholders must make substantial financial investments to establish a robust infrastructure that ensures stable electricity and internet connectivity. These elements are fundamental to the successful adoption and sustained use of educational technologies.

Furthermore, the research highlights a significant gap in digital literacy between educators in urban and rural settings, underlining the critical need for targeted professional development and training programs. These programs must focus on building essential skills, such as digital literacy, effective use of educational technology, and proficiency in online teaching methods. Continuous access to professional development is vital to ensuring that all educators are equipped to integrate technology meaningfully into their teaching practices.

Strategic investments and policy reforms are also necessary to create an enabling environment for the integration of technology in education. This includes implementing policies that secure sufficient funding for technological enhancements in educational institutions and providing incentives to encourage the adoption of educational technology. Both the public and private sectors play a role in fostering collaboration and ensuring the successful implementation of these tools.

To address the systemic challenges of mismanagement, corruption, and bureaucracy, it is essential to adopt comprehensive strategies that prioritize transparency, accountability, and effective resource management. Increasing financial investments or upgrading physical infrastructure will be insufficient without addressing these deeper issues. Equitable access to technology across all educational settings, regardless of socioeconomic or geographic disparities, is critical. This involves not only providing the necessary tools but also ensuring that students develop the skills required to use them effectively. Cost-effective mobile technology solutions may be particularly beneficial in reaching underserved populations, such as those in rural or economically disadvantaged regions.

Finally, the study underscores the need for adaptive teaching approaches that integrate both conventional pedagogical methods and technological advancements. This blended approach may offer more practical and effective educational solutions in areas with infrastructure limitations. Collaborating with community organizations and local stakeholders can further facilitate the widespread adoption of technology in education by addressing connectivity challenges and enhancing access.

CONCLUSION

This study highlights the growing importance of technology in higher education and its impact on English language instruction in Nepal, India, and Bangladesh. By examining various digital tools through semistructured interviews with English teachers, practical strategies for enhancing teaching methods and fostering innovative pedagogical approaches can be identified. The findings reveal both the benefits and challenges of implementing technology-driven methods and offer potential solutions for overcoming barriers. The research underscores the potential of technology-enabled transnational professional development and collaboration. Practical recommendations are provided for educators and institutions aiming to integrate technology into their teaching practices to increase educational standards. These insights contribute to a deeper understanding of how technology can be leveraged to improve teaching and learning in diverse academic contexts.

References

Allsopp, D. H., Alvarez McHatton, P., & Cranston-Gingras, A. (2009). Examining perceptions of systematic integration of instructional technology in a teacher education program. *Teacher Education and Special Education*, *32*(4), 337-350. https://doi.org//10.1177/0888406409346144

Alsuwaida, N. (2022). Online courses in art and design during the coronavirus pandemic (COVID-19): Teaching reflections from a first-time online instructor. *Sage Open*, *12*(1). https://doi.org/10.1177/21582440221079827

Auf, T. A. (2023). Transnational Higher Education Partnerships in the covid-19 era; students'rating of an online and modular learning program. *European Journal of Education Studies*, *10*(1). https://doi.org/10.46827/ejes.v10i1.4642

Bai, B., & Lo, C. K. (2018). The Barriers to Technology Integration in Hong Kong primary school English Education: Preliminary findings and recommendations for future practices. *International Journal of Languages, Literature and Linguistics*, *4*(4), 290-297.https://doi.org/10.18178/ijlll.2018.4.4.189

Bon, S., & Inpin, B. (2024). Roles of two PD modes in technology integration for EFL classes: Training and professional learning communities. *Issues in Educational Research*, *34*(1), 1-18.

Clipa, O., & Juravle, V. (2019). The role of the online environment in school–family communication. *Innovations, Technologies and Research in Education*, 289.https://doi.org/10.22364/atee.2019.itre.19

DeCoito, I., Briona, L.K. (2023). Fostering an Entrepreneurial Mindset Through Project-Based Learning and Digital Technologies in STEM Teacher Education. In: Kaya-Capocci, S., Peters-Burton, E. (eds) Enhancing Entrepreneurial Mindsets Through STEM Education. Integrated Science, vol 15. Springer, Cham. https://doi.org/10.1007/978-3-031-17816-0_9

Ding, A. C. E., Shi, L., Yang, H., & Choi, I. (2024). Enhancing Teacher AI Literacy and Integration through Different Types of Cases in Teacher Professional Development. *Computers and Education Open*, 100178.

Dudeney, G., & Hockly, N. (2012). *ICT in ELT: How did we get here and where are we going?*. ELT Journal, 66(4), 533-542. https://doi.org/10.1093/elt/ccs050

Ekanayake, S. Y. & Wishart, J. (2015). Integrating mobile phones into teaching and learning: A case study of teacher training through professional development workshops. *British Journal of Educational Technology*, *46*(1), 173-189. https://doi.org/10.1111/bjet.12131

Essa, E. K. (2023). The Effectiveness of Hybrid Learning in Enhancing Academic Mindfulness and Deeper Learning of University Students *International Journal of Research in Education and Science*, *9*(1), 188-202. https://doi.org/10.46328/ijres.3081

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. John Wiley & Sons.

Ge, L. (2017). Study on the Professional Development of College English Teachers in the Big Data Era. *Social Science, Education, and Human Science*. https://doi.org/10.12783/dtssehs/mess2017/12203

Goh, D., & Kale, U. (2016). The urban–rural gap: project-based learning with Web 2.0 among West Virginian teachers. *Technology, Pedagogy, and Education*, *25*(3), 355-376. https://doi.org/10.1080/1475939x.2015.1051490

Larbi, F. O. & Fu, W. (2017). Practices and challenges of internationalization of higher education in China; international students: A case study of Beijing Normal University. *International Journal of Comparative Education and Development*, *19*(2/3), 78-96. https://doi.org/10.1108/ijced-12-2016-0025

Laurillard, D. (2012). *Teaching as a design science: Building pedagogical patterns for learning and technology*. Routledge.

Lee, B.K. & Cai, H. (2019). Evaluation of an online course 'Internationalization at Home' on the social contexts of addiction. *Journal of Studies in International Education*, *23*(3), 365-388. https://doi.org/10.1177/1028315318797155

Lim, M. A. & Huang, Z. M. (2022). An Analysis of Chinese Students' Use of Chinese essay references: Another role for international students in the internationalization of the curriculum. *Learning and Teaching*, *15*(2), 29-52. https://doi.org/10.3167/latiss.2022.150203

Lin, C. C., Yu, W. W., Wang, J., & Ho, M.H. (2015). Faculty perceived integration of emerging technologies and pedagogical knowledge in the instructional setting. *Procedia Social and Behavioral Sciences*, *176*, 854-860. https://doi.org/10.1016/j.sbspro.2015.01.550

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

MohammadManaAlamry, M. (2017). The Efficiency of the New Mathematics Curriculum in Saudi Mathematics Educators' Attitudes of Using Computers in Secondary Schools. *18*670-631. https://doi.org/10.21608/jsre.2017.8041

Pettitt, C., & Macari, D. (2017). Intercultural pedagogy in study abroad: The experience of white female graduate students. *Higher Education Politics & Economics*, *3*(1), 2. https://doi.org/10.32674/hepe.v3i1.14

Potter, S. L. & Rockinson-Szapkiw, A. J. (2012). Integration of technology for instructional improvement: The impact of professional development. *Performance Improvement*, *51*(2), 22-27. https://doi.org/10.1002/pfi.21246

Rakuasa, H., Faris, D. A., & Hidayatullah, M. (2024). Transforming Education in the Age of Artificial Intelligence: Challenges and Opportunities in Indonesia, A Literature Review. *Journal Education Innovation (JEI)*, *2*(1), 180-186

Selwyn, N. (2016). *Education and technology: Key issues and debates*. Bloomsbury Publishing.

Soujah, S. (2014). Integration of Technology in Schools Is We Overinvested and Underprepared? *International Journal of Information and Education Technology*, *4*(5), 444.https://doi.org/10.7763/ijiet.2014.v4.447

Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. MIT Press.

Wei, L; (2023) Transformative pedagogy for inclusion and social justice through translanguaging, colearning, and transpositioning. *Language Teaching*, 11 (1) pp. 1-12. https://doi.org/10.1017/S0261444823000186

Wilson, J. E., Zhang, J., Lomas, C., Lavkulich, L. M., & Yada, R. Y. (2017). Instructors Perspectives on Learning Technologies in the Multidisciplinary Faculty of Land and Food Systems at the University of British Columbia, Canada. *International Journal of Information and Education Technology*, *7*(10). https://doi.org/10.18178/ijiet.2017.7.10.971

Yin, R. K. (2014). *Case Study Research: Design and Methods* (5th ed.). SAGE Publications.

Yurtseven Avci, Z., O'Dwyer, L.M. & Lawson, J. (2020). Designing effective professional development for the integration of technology in schools. *Journal of Computer Assisted Learning*, *36*(2), 160-177.

Author bios

Yadu Prasad Gyawali, PhD, Assistant Professor at Mid-Western University (MU), Surkhet, in Nepal, has contributed to English language teaching and research domains. Currently working as the Executive Director of the Directorate of International Relations at Mid-West University, Nepal. In addition to his teaching duties, he serves as a teacher trainer, consultant, and editor for various journals. His research interests include teachers' professional development and the use of ICT in second language education. Email: yadu.gyawali@mu.edu.np

Meghna Mehndroo, PhD, is a Professor at Chandigarh University, Punjab, in India. She has been contributing to teaching, research, training, and administrative functioning. She is the principal of the University Institute of Teacher Training and Research (UITTR), Chandigarh University. Email: meghna3691@gmail.com