

# Integrating Digital Literacy into English Language Teacher Training Programs: Best Practices and Challenges


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ARTICLE INFO	Abstract
<p><b>Keywords:</b> <i>Digital literacy integration, teacher training programs, best practices, challenges.</i></p> <p>©2025 Author(s): This is an open-access article distributed under the terms of the <a href="https://creativecommons.org/licenses/by/4.0/">Creative Commons Attribution 4.0 International</a></p> 	<p><i>This study investigates the integration of digital literacy into English language teacher training programs in Awka North, Nigeria. A stratified random sampling technique was employed to select 20 schools representing various types (public and private) and educational levels (primary and secondary) within the locality. Data were collected through structured questionnaires distributed to teachers and educators, with 700 questionnaires distributed and 681 retrieved, yielding a response rate of 97.3%. Quantitative analysis using descriptive statistics was conducted using the Statistical Package for the Social Sciences (SPSS) software. The findings indicate mixed perceptions regarding the existing strategies and methods for integrating digital literacy, with respondents highlighting strengths such as hands-on experience opportunities but also identifying challenges such as limited access to resources. Based on the findings, recommendations are proposed to enhance digital literacy integration, including comprehensive training programs, ongoing support, addressing resource limitations, and implementing practical recommendations. In conclusion, the study underscores the importance of adopting a holistic approach to digital literacy integration in teacher training programs to ensure educators are adequately equipped to navigate the complexities of the digital age and effectively prepare students for success in the modern world.</i></p>

## Introduction

The integration of digital literacy into English language teacher training programs has become increasingly essential in today’s technology-driven educational environment. Digital literacy involves the ability to critically navigate, evaluate, and create information using various digital technologies—skills that are especially crucial for English language teachers aiming to create engaging, learner-centered classrooms (Kassymova et al., 2020). As digital tools evolve rapidly, English language educators must go beyond basic technological proficiency to effectively incorporate these tools into pedagogical practices that enhance language acquisition (McKnight et al., 2016).

Despite growing recognition of its importance, digital literacy integration within English language teacher training remains uneven. While some programs offer robust training in digital pedagogy, others provide only minimal instruction, leading to disparities in teachers’ preparedness and confidence (Schmidt & DeSchryver, 2022). Sánchez-Cruzado et al. (2021) highlight the lack of a standardized approach, which often forces teachers to develop digital competencies on their own, resulting in inconsistent outcomes across educational settings.

Best practices in this area emphasize hands-on, experiential learning with digital tools, collaborative training environments, and sustained professional development. Programs that prioritize the pedagogical integration of technology—rather than focusing solely on technical skills—

are more effective in preparing teachers for real-world classroom challenges (Budhai, 2021). The TPACK framework, introduced by Santos and Castro (2021), exemplifies this approach by encouraging a balanced integration of technological, pedagogical, and content knowledge in English language instruction.

Nevertheless, significant challenges persist. Limited access to digital resources, inadequate training for teacher educators, and institutional constraints continue to hinder effective implementation (Ertmer & Ottenbreit-Leftwich, 2010). Additionally, personal barriers such as resistance to change and low confidence in using technology can further impede progress. Addressing these issues requires more than just technical support—it demands a culture of innovation that fosters continuous learning and risk-taking (Ertmer & Ottenbreit-Leftwich, 2010). Trust (2018) reports that with targeted support and peer collaboration, English language teachers are increasingly adopting digital tools and integrating them into their instructional practices. Such findings underscore the value of community, mentorship, and ongoing development in promoting digital literacy among language educators.

### **Statement of the Problem**

The integration of digital literacy into English language teacher training programs is essential for equipping educators with the competencies required to navigate modern, technology-enhanced learning environments. Despite its growing importance, there remains a significant gap in how effectively digital literacy is incorporated into teacher training curricula. While some programs offer comprehensive instruction, others provide limited or outdated training, leading to inconsistencies in teacher preparedness (Choudhary & Bansal, 2022).

The literature offers only limited guidance on best practices for digital literacy integration, with few studies reaching consensus on the most effective methods (Spante et al., 2018). Challenges such as restricted access to digital tools, inadequate training for teacher educators, and individual resistance to technology adoption further complicate integration efforts (Dinc, 2019). These barriers must be clearly understood to develop targeted solutions that support effective digital pedagogy in language education.

Moreover, while some researchers highlight promising advancements, others emphasize the continued lack of standardized frameworks and institutional backing, which hinders uniform implementation across programs (Adams-Becker et al., 2017). A focused examination of these issues—along with an analysis of best practices and challenges—can provide actionable insights for strengthening digital literacy in English language teacher training and enhancing overall teaching effectiveness in the digital age.

### **Research Objectives**

The broad objectives of this study is to explore the possibility of integrating digital literacy into English language teacher training programs: best practices and challenges. Specifically, the study seeks to:

1. Assess the existing strategies and methods employed in teacher training programs for integrating digital literacy.
2. Investigate and document best practices for integrating digital literacy into teacher training programs.
3. Identify and analyze the primary challenges and barriers faced in integrating digital literacy into teacher training programs.
4. Formulate practical recommendations for enhancing the integration of digital literacy in teacher training programs.

### **Research Questions**

The following research questions were formulated to guide the study:

1. What effective strategies and methods are used in teacher training to integrate digital literacy?
2. What are the best practices for integrating digital literacy in teacher training?
3. What challenges hinder the integration of digital literacy in teacher training programs?
4. What recommendations can improve digital literacy integration in teacher training?

### **Conceptual Clarification**

Digital literacy refers to the skills and knowledge required to effectively and critically use digital technologies. It encompasses a range of competencies, including navigating, evaluating, and creating information using digital tools (Falloon, 2020). Digital literacy is not limited to basic technical skills but extends to understanding digital technology's social and ethical implications. Comprehensive definition of digital literacy, which includes cognitive, technical, and social-emotional dimensions. These dimensions highlight the multifaceted nature of digital literacy, which is crucial for preparing teachers to use technology effectively in educational settings (Kasperski et al., 2022).

Teacher training programs, or teacher education programs, are structured courses and curricula designed to prepare individuals to become professional educators. These programs typically include theoretical coursework, practical teaching experiences, and professional development components (Kennedy, 2016). Teacher training programs are examined in terms of how they integrate digital literacy into their curricula. The focus is on both pre-service (initial teacher education) and in-service (continuing professional development) programs. This distinction is important because the needs and challenges associated with integrating digital literacy can differ significantly between these two types of programs (Sparks et al., 2016).

Best practices refer to the most effective and efficient methods or techniques for achieving desired outcomes. Best practices for integrating digital literacy into teacher training programs are identified and documented based on empirical research and expert consensus (Spante et al., 2018). Best practices in this context may include pedagogical strategies, curriculum design, instructional technologies, and assessment methods that have been shown to enhance digital literacy among teachers.

Challenges refer to the obstacles and barriers that impede the successful integration of digital literacy into teacher training programs. These challenges can be structural, such as limited access to digital resources and insufficient institutional support, or personal, such as teachers' resistance to change and lack of confidence in using technology (Johnson et al., 2016). Understanding these challenges is crucial for developing practical recommendations to overcome them. Johnson et al., (2016) provide a comprehensive framework for analyzing these challenges, which includes factors related to knowledge, confidence, beliefs, and culture. By identifying and analyzing these challenges, the study aims to provide actionable insights to help teacher training programs integrate digital literacy more effectively.

### **Theoretical Framework**

#### **Technological Pedagogical Content Knowledge (TPACK)**

Developed by Mishra and Koehler (2006), the TPACK framework integrates three primary knowledge domains: technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK). It emphasizes the intersection and interaction of these knowledge domains in the context of teaching and learning with technology. TPACK provides a theoretical foundation for understanding how teachers can effectively integrate digital technologies into their teaching practices while also considering pedagogical approaches and subject matter content. It emphasizes the importance of balancing technological skills with pedagogical strategies and content knowledge to create meaningful learning experiences for students.

### **Basic Tenets of Technological Pedagogical Content Knowledge (TPACK)**

1. **Technological Knowledge (TK):** TK encompasses an educator's understanding of various digital tools, software applications, and hardware devices relevant to educational contexts. This knowledge extends beyond basic proficiency with technology to include awareness of emerging trends, accessibility considerations, and troubleshooting skills necessary for effective integration into teaching practices. Educators with strong TK can select appropriate digital resources, adapt technology to diverse learning needs, and facilitate meaningful learning experiences enhanced by technological tools.
2. **Pedagogical Knowledge (PK):** PK refers to an educator's expertise in instructional strategies, classroom management techniques, and an understanding of how students learn best. This knowledge encompasses theories of learning and development, differentiated instruction approaches, and assessment practices tailored to individual and group needs. Educators with robust PK can design engaging lessons, create supportive learning environments, and effectively scaffold student learning experiences to optimize educational outcomes.
3. **Content Knowledge (CK):** CK represents an educator's proficiency in subject matter content, including curriculum standards, disciplinary concepts, and instructional materials relevant to their teaching domain. This knowledge encompasses a deep understanding of key concepts, skills, and theories within a specific academic discipline. Educators with strong CK can design coherent curricula, facilitate meaningful learning experiences aligned with learning objectives, and assess student understanding effectively within their subject area.

The TPACK framework stands out as an ideal theoretical lens for investigating the integration of digital literacy into teacher training programs due to its multifaceted nature and practical applicability. By recognizing the interconnectedness of technological, pedagogical, and content knowledge, TPACK offers a holistic perspective that resonates with the complexities of digital literacy instruction. This framework not only provides practical guidance for designing and implementing training programs tailored to educators' specific needs but also emphasizes the seamless integration of technology into existing pedagogical practices and subject matter content. Moreover, TPACK's continued relevance in guiding educators' professional development efforts ensures that teachers can effectively adapt to evolving technologies and emerging educational trends, thereby enhancing technology-enhanced teaching practices and ultimately improving learning outcomes for students.

### **Methodology**

The study was conducted in Awka North, a Local Government Area in Nigeria. The population comprised teachers and educators from various primary and secondary schools within the locality. A stratified random sampling technique was employed to ensure representation across different types of schools (public and private) and educational levels (primary and secondary). From a list of schools in Awka North, 20 schools were randomly selected to participate in the study.

Data were collected through the distribution of structured questionnaires to teachers and educators in the selected schools. The questionnaire was designed to gather information on the integration of digital literacy into teacher training programs. A total of 700 questionnaires were distributed among the participants. After the distribution of questionnaires, efforts were made to retrieve the completed questionnaires from the participants. A total of 681 questionnaires were successfully retrieved, representing a response rate of 97.3%.

Quantitative analysis was employed to analyze the data collected from the questionnaires. Statistical techniques such as descriptive statistics, including frequencies and percentages, were used to summarize the responses to each item in the questionnaire. The Statistical Package for the Social Sciences (SPSS) software was utilized to perform the data analysis.

**Data Presentation and Analysis**

**Research Question 1: What effective strategies and methods are used in teacher training to integrate digital literacy?**

S/N	Items	$\bar{x}$	Decisions
1	Teacher training programs at my institution provide comprehensive instruction on digital literacy skills.	2.4	Disagree
2	The current strategies used in my teacher training program effectively prepare teachers to integrate digital technologies into their classrooms.	2.5	Agree
3	There are adequate opportunities for hands-on experience with digital tools in my teacher training program.	2.5	Agree
4	My teacher training program includes sufficient coursework focused on the pedagogical uses of digital technologies.	2.6	Agree
5	I feel that the methods used to teach digital literacy in my training program are up-to-date and relevant to current educational practices.	2.3	Disagree

The findings for research question 1 reveal mixed perceptions about the existing strategies and methods employed in teacher training programs for integrating digital literacy. While respondents agreed that current strategies (2.5), hands-on experience opportunities (2.5), and pedagogical coursework (2.6) are adequately addressed, they disagreed about the comprehensiveness of digital literacy instruction (2.4) and the relevance of teaching methods to current educational practices (2.3). This suggests that although some aspects of digital literacy integration are effective, significant gaps remain in providing comprehensive and up-to-date training, indicating a need for improvement in these areas to ensure teachers are fully prepared to integrate digital technologies into their classrooms effectively.

**Research Question 2: What are the best practices for integrating digital literacy in teacher training?**

S/N	Items	$\bar{x}$	Decisions
6	My teacher training program encourages collaborative learning when it comes to integrating digital literacy.	2.7	Agree
7	Best practices for using digital tools in the classroom are clearly demonstrated during my teacher training.	2.5	Agree
8	My training includes case studies or examples of successful digital literacy integration.	2.6	Agree
9	There is ongoing support and professional development for digital literacy after the initial teacher training.	2.4	Disagree
10	The training program effectively incorporates the TPACK framework to integrate technology with pedagogy and content knowledge.	2.6	Agree

The findings for Research Question 1 indicate that best practices for integrating digital literacy into teacher training programs are generally well-regarded, with respondents agreeing that their programs encourage collaborative learning (2.7), clearly demonstrate best practices for digital tools (2.5), include case studies of successful integration (2.6), and effectively incorporate the TPACK framework (2.6). However, there is a significant gap in ongoing support and professional development for digital literacy after initial training, as indicated by a lower rating (2.4). This suggests

that while initial training components are strong, there is a need for improved continuous support to sustain and enhance digital literacy integration in education.

**Research Question 3: What challenges hinder the integration of digital literacy in teacher training programs?**

S/N	Items	$\bar{x}$	Decisions
11	Limited access to digital resources is a significant barrier in my teacher training program.	2.7	Agree
12	Insufficient training for teacher educators is a major challenge in effectively integrating digital literacy.	2.6	Agree
13	There is a lack of institutional support for integrating digital literacy in my training program.	2.3	Disagree
14	Teachers in training often show resistance to incorporating new digital technologies into their teaching practices.	2.4	Disagree
15	Confidence in using digital tools is a common issue among teachers in my training program.	2.4	Disagree

The findings for research question 1 reveal that significant challenges exist in integrating digital literacy into teacher training programs, particularly regarding limited access to digital resources (2.7) and insufficient training for teacher educators (2.6). However, respondents were less convinced that a lack of institutional support (2.3), resistance to new digital technologies (2.4), and confidence in using digital tools (2.4) are major barriers. This suggests that while resource limitations and educator training are widely recognized issues, there is less consensus on the impact of institutional and personal barriers, highlighting the need for a balanced approach that addresses both logistical constraints and support structures within teacher training programs.

**Research Question 4: What recommendations can improve digital literacy integration in teacher training?**

S/N	Items	$\bar{x}$	Decisions
16	I believe that providing more hands-on experience with digital tools would enhance digital literacy training.	2.7	Agree
17	Increased access to digital resources would significantly improve the integration of digital literacy in teacher training.	2.6	Agree
18	Regular professional development workshops on digital literacy should be included in the teacher training curriculum.	2.7	Agree
19	Greater institutional support is needed to effectively integrate digital literacy into teacher training programs.	2.7	Agree
20	Incorporating feedback from current teachers would help in formulating better strategies for digital literacy integration.	2.6	Agree

The findings for Research Question 1 show a strong consensus among respondents on the practical recommendations for enhancing digital literacy integration in teacher training programs. There is clear agreement that providing more hands-on experience with digital tools (2.7), increasing access to digital resources (2.6), including regular professional development workshops (2.7), and greater institutional support (2.7) would significantly improve digital literacy training. Additionally, incorporating feedback from current teachers (2.6) is also seen as beneficial. These results underscore the importance of practical, resource-based, and supportive strategies in effectively integrating digital literacy into teacher training programs.

## Discussions of Findings

The findings from the research reveal crucial insights into the current landscape of digital literacy integration within teacher training programs. Firstly, while respondents generally agree that existing strategies effectively prepare teachers to integrate digital technologies into their classrooms, there are notable disparities in the comprehensiveness of digital literacy instruction and the relevance of teaching methods to current educational practices. This aligns with the assertion made by McKnight et al., (2016) Successful incorporation of technology into educational settings requires a thorough understanding of pedagogical strategies and digital tools, emphasizing the need for enhanced training methodologies.

Secondly, the research highlights the importance of ongoing support and professional development for sustaining digital literacy integration beyond initial training. While initial training components receive positive evaluations, there is a significant gap in providing continuous support, as evidenced by a lower rating in this aspect. Brunetti et al., (2020) emphasizes the role of collaboration and peer support in overcoming resistance to technology integration among teachers, suggesting that fostering a culture of ongoing learning and collaboration can mitigate challenges in sustaining digital literacy initiatives.

Thirdly, the study underscores the significance of addressing resource limitations and enhancing training for teacher educators in digital literacy integration efforts. Limited access to digital resources and insufficient training for teacher educators are recognized as major challenges in integrating digital literacy. Hénard & Roseveare (2012) argue that overcoming these challenges requires not only providing resources and training but also fostering a supportive culture that encourages experimentation and continuous learning among educators.

Lastly, the research findings highlight the importance of practical recommendations such as providing hands-on experience, increasing access to digital resources, and incorporating regular professional development workshops. These recommendations align with Fallon (2020) emphasis on the need for comprehensive digital literacy training that goes beyond basic technical skills to include critical thinking and creativity in utilizing digital tools effectively. By implementing these recommendations, teacher training programs can better equip educators to navigate the complexities of the digital age and prepare students for success in an increasingly technology-driven world.

## Conclusion

This research shed light on the current state of digital literacy integration within teacher training programs, revealing strengths and areas for improvement. While existing strategies show promise in preparing teachers to integrate digital technologies into their classrooms, there are notable gaps in the comprehensiveness of instruction and the provision of ongoing support. Challenges such as limited access to resources and insufficient training for educators underscore the need for concerted efforts to address these barriers. However, practical recommendations, including hands-on experience, increased resource access, and regular professional development workshops, offer viable pathways for enhancing digital literacy training.

## Recommendations

In line with the findings, this study recommends that there is the need to:

1. Conduct a comprehensive review of current strategies and methods used in teacher training programs for integrating digital literacy, with a focus on updating and enhancing instruction to ensure alignment with current educational practices and technological advancements.
2. Document and disseminate best practices for integrating digital literacy into teacher training programs, emphasizing collaborative learning, clear demonstration of digital tools.

3. Identify and address challenges such as limited access to digital resources, insufficient training for educators, institutional support gaps, and personal barriers such as resistance and lack of confidence in using digital tools through targeted interventions and resource allocation.

Develop and implement practical recommendations such as providing hands-on experience, increasing resource accessibility, incorporating regular professional development workshops, and fostering greater institutional support to enhance the integration of digital literacy into teacher training programs effectively.

## References

- Adams-Becker, S., Cummins, M., Davis, A., Freeman, A., Hall Giesinger, C., & Ananthanarayanan, V. (2017). NMC Horizon Report: 2017 Higher Education Edition. *New Media Consortium*.
- Brunetti, F., Matt, D. T., Bonfanti, A., De Longhi, A., Pedrini, G., & Orzes, G. (2020). Digital transformation challenges: strategies emerging from a multi-stakeholder approach. *The TQM Journal*, 32(4), 697-724.
- Budhai, S. S. (2021). Best practices in engaging online learners through active and experiential learning strategies. Routledge.
- Choudhary, H., & Bansal, N. (2022). Barriers affecting the effectiveness of digital literacy training programs (DLTPs) for marginalised populations: a systematic literature review. *Journal of Technical Education and Training*, 14(1), 110-127.
- Dinc, E. (2019). Prospective teachers' perceptions of barriers to technology integration in education. *Contemporary educational technology*, 10(4), 381-398.
- Falloon, G. (2020). From digital literacy to digital competence: the teacher digital competency (TDC) framework. *Educational technology research and development*, 68(5), 2449-2472.
- Hénard, F., & Roseveare, D. (2012). Fostering quality teaching in higher education: Policies and practices. *An IMHE guide for higher education institutions*, 1(1), 7-11.
- Johnson, A. M., Jacovina, M. E., Russell, D. G., & Soto, C. M. (2016). Challenges and solutions when using technologies in the classroom. In *Adaptive educational technologies for literacy instruction* (pp. 13-30). Routledge.
- Kasperski, R., Blau, I., & Ben-Yehudah, G. (2022). Teaching digital literacy: are teachers' perspectives consistent with actual pedagogy?. *Technology, Pedagogy and Education*, 31(5), 615-635.
- Kassymova, G., Akhmetova, A., Baibekova, M., Kalniyazova, A., Mazhinov, B., & Mussina, S. (2020). E-Learning environments and problem-based learning. *International Journal of Advanced Science and Technology*, 29(7), 346-356.
- Kennedy, M. M. (2016). How does professional development improve teaching?. *Review of educational research*, 86(4), 945-980.
- McKnight, K., O'Malley, K., Ruzic, R., Horsley, M. K., Franey, J. J., & Bassett, K. (2016). Teaching in a digital age: How educators use technology to improve student learning. *Journal of research on technology in education*, 48(3), 194-211.
- McKnight, K., O'Malley, K., Ruzic, R., Horsley, M. K., Franey, J. J., & Bassett, K. (2016). Teaching in a digital age: How educators use technology to improve student learning. *Journal of research on technology in education*, 48(3), 194-211.
- Sánchez-Cruzado, C., Santiago Campión, R., & Sánchez-Compañía, M. T. (2021). Teacher digital literacy: The indisputable challenge after COVID-19. *Sustainability*, 13(4), 1858.
- Santos, J. M., & Castro, R. D. (2021). Technological Pedagogical content knowledge (TPACK) in action: Application of learning in the classroom by pre-service teachers (PST). *Social Sciences & Humanities Open*, 3(1), 100110.
- Schmidt, L. J., & DeSchryver, M. (2022). The role of digital application literacy in online assessment. *Journal of Educational Technology Systems*, 50(3), 356-378.

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- Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. *Cogent education*, 5(1), 1519143.
- Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. *Cogent education*, 5(1), 1519143.
- Sparks, J. R., Katz, I. R., & Beile, P. M. (2016). Assessing digital information literacy in higher education: A review of existing frameworks and assessments with recommendations for next-generation assessment. *ETS Research Report Series*, 2016(2), 1-33.