P-ISSN 2656-9094 E-ISSN 2721-9011

EVALUATING THE USE OF DIGITAL TECHNOLOGY FOR ENGLISH CLASSROOMS IN PRIMARY EDUCATION

Agustin Vera Dewi^{1*}, Syarip Hidayat², Shameer Babu M³, Seni Apriliya⁴

^{1,2,4}Indonesian Education University, Indonesia

³Jamia Milia Islamia New Delhi, India

Email: agustinveradewi@upi.edu¹, hidayat@upi.edu²

First Received: August 2025 Final Proof Received: September 2025

ABSTRACT

In the 21st century, digital technology is becoming increasingly important in everyday life. Likewise, in the learning process in primary schools, technology has become an essential tool to support and improve the quality of education. However, the use of digital technology in education has not shown consistently good effectiveness, especially in English as a Foreign Language (EFL) classroom. This study aims to assess the effectiveness and identify the challenges and barriers of using technology in EFL learning in primary schools. The research method used is a mixed method with a sequential explanatory strategy. The results showed that 55% of digital technology use was considered effective, and 50% of teachers reported using digital technology several times a week. The most commonly used tools included laptops, projectors, and internet access, though usage patterns varied. Challenges frequently faced by teachers include limited access to devices, unstable internet connections, insufficient training, and lack of technical support. Despite these issues, many teachers demonstrated initiative and creativity in utilizing available resources, though their strategies often lacked structured pedagogical alignment. The findings highlight the importance of professional development focused on the Technological Pedagogical Content Knowledge (TPACK) framework, which supports teachers in integrating technology meaningfully within EFL instruction. While the overall use of digital technology in primary school learning has reached a moderately effective level, targeted support is needed to help educators align digital tools with language learning goals, especially in under-resourced settings. Addressing these gaps will enable more impactful and inclusive integration of digital technology in EFL education.

Keywords: Evaluation, EFL learning, digital technology, TPACK

INTRODUCTION

As the 21st century progresses, digital technology is becoming increasingly important in everyday life. Likewise, in the learning process in primary schools, technology has become an essential tool to support and improve the quality of education. The use of digital technology has a role in supporting and improving students' cognitive processes and thinking skills (Manongga, 2021). The integration of information and communication technology (ICT) in education has enabled the use of more dynamic and interactive learning methods (Hashemi and Kew, 2021; Hidayatullah et al., 2023). This is in accordance with Hermansah's research which shows that media such as Android and computers can increase student activity in teaching and learning activities (Hermansah, 2022). Through these media, various learning platforms and applications are accessed to enrich the learning experience, especially in language classrooms

such as English as a Foreign Language (EFL), where visual and interactive input can enhance language acquisition and engagement.

However, despite the benefits, the use of digital technology in education has not been consistently effective. At the primary school level, especially in EFL contexts, the integration of digital technology into the learning process is still relatively low. Many teachers and students have not optimally utilized digital technology to improve learning outcomes (Champa, Rochsantiningsih, and Kristiana, 2019). This gap highlights the need for more than just devices; it points to the importance of developing teachers' integrated knowledge of content, pedagogy, and technology—what is widely known as the Technological Pedagogical Content Knowledge (TPACK) framework (Koehler & Mishra, 2009; Rosenberg & Koehler, 2015). Without this integrated knowledge, even well-equipped classrooms may not yield effective learning experiences.

Therefore, it is necessary to evaluate and develop appropriate strategies to optimise the use of digital technology in the learning process. Thus, digital technology can truly contribute to improving the quality of education and student learning outcomes in EFL classes, where language exposure, engagement, and meaningful interaction are essential for progress.

There are some previous studies in evaluating the use of digital technology in learning. Research conducted by Arikarani (2021) concluded that digital learning offers hope because the education system and advances in information and communication technology, along with its supporting devices, greatly enable the creation of facilities that support digital learning. Karsim, Afifah, & Daud (2024) stated that to understand the benefits of implementing digital technology, it is recommended to conduct continuous monitoring and evaluation, which includes assessing the improvement of learning quality, student engagement, and the development of teacher competencies. Research conducted by Tricahayu et al. (2024) states that the use of technology in primary schools is important to improve knowledge and skills but is hampered by technical constraints such as unstable internet connections and broken devices.

Based on the initial observation at SD Negeri Cilangkap, Karangnunggal Sub-district, the use of digital technology in the learning process has not been fully optimised. Although the school already has several digital devices, the number is still not sufficient for the needs of most students. Of the 8 teachers who teach there, only 2 have started to integrate digital technology in learning, and even then, it is rarely done regularly. The number of obstacles makes learning more often return to using conventional methods, which may particularly limit the potential of EFL instruction, where access to multimedia and authentic English input could make a substantial difference (Champa, Rochsantiningsih, and Kristiana, 2019).

From some of the descriptions above, researchers are interested in evaluating the use of digital technology on a broader scale, both the sample of schools and the factors analysed. This research does not only focus on one factor but also evaluates infrastructure readiness, teacher competence, and the impact of technology on student learning outcomes in primary schools. By highlighting EFL classrooms as a central focus, the study aims to investigate how digital technology supports language learning and how teachers navigate its use through the TPACK lens (Barba-Sanchez, Gouveia-Rodrigues, & Martinez, 2022; Taopan, Drajati, & Sumardi, 2020).

The use of digital technology in basic education has been a widely discussed topic in the literature. According to Anggraeny, the use of technology in learning serves to facilitate students in understanding and mastering the concepts taught (Manongga, 2021). In addition, technology can also increase students' learning motivation because the material presented becomes more interesting and able to attract their attention. This is in line with research by Sarnoto et al. (2023) which explains that the use of technology in education can contribute to

improving the quality of learning and assist students in developing the abilities needed to face challenges in the digital era.

Research conducted by Rahma, Harjono, and Sulistyo (2023) states that the implementation of learning using digital-based learning media is still low. The results of the interview conducted by Rahma show two aspects that get high points, namely teachers do not make digital-based media and teachers do not use digital-based media. In addition, the results of the Central Bureau of Statistics survey show that the proportion of teachers who have qualifications in the field of ICT for elementary and equivalent levels is 6.90 per cent (*S.S.K & T.I. Biro Pusat Statistik*, 2018).

From several previous studies, researchers selected three that are relevant to the context of technology integration in English language education at the primary level. The first research was conducted by Suyuti et al. (2023) on "Analysis of the Effectiveness of the Use of Technology in Education on Improving Learning Outcomes." Their findings indicated that the use of technology significantly improves students' cognitive and critical thinking abilities. However, they also emphasized that technology alone is insufficient without supportive learning methods, classroom environments, and teacher quality. This aligns with the Technological Pedagogical Content Knowledge (TPACK) framework, which argues that true effectiveness in technology-enhanced classrooms emerges from the synergy between content knowledge (in this case, English language instruction), pedagogical strategies, and technological tools (Çalik & Mirici, 2024; Taopan, Drajati, & Sumardi, 2020). Despite this, the study did not explore how these elements interact, particularly in language-specific instruction.

The second study, by Savitri et al. (2024), entitled "Analysing the Effectiveness of Using Digital Learning Multimedia in Schools," identified the limitations of school infrastructure as major barriers. Such as insufficient digital devices and restricted student access to smartphones. While this study is valuable in illustrating systemic issues, it lacks a focus on discipline-specific challenges, especially those relevant to English as a Foreign Language (EFL) learning. In primary EFL classrooms, access to multimedia tools can greatly enhance listening, speaking, and vocabulary acquisition through rich input and contextual learning (Champa, Rochsantiningsih, and Kristiana, 2019). However, without teacher training aligned with EFL pedagogy and digital tools (as encouraged by the TPACK model), the potential of such multimedia is often unrealized.

The third study, conducted by Damayanti and Nuzuli (2023), explored "The Effectiveness of Using Communication Technology in Teaching Traditional Education Methods in Elementary Schools." Their results showed increased learning effectiveness and student interest with the use of digital tools, but the study's scope was limited to four schools and focused primarily on generalized perceptions. Crucially, it did not consider subject-specific practices, such as how EFL teachers/students might adapt communication technology to teach skills like pronunciation, grammar, or conversational fluency—areas where technology can offer immersive input and real-time feedback, particularly beneficial in low-exposure EFL contexts.

Most previous research has concentrated on the development or impact of specific applications without taking a holistic and language-oriented approach. In contrast, the present study situates itself within the TPACK framework and focuses explicitly on EFL classrooms at the primary level. By considering infrastructure readiness, teacher digital competence, and the pedagogical demands of language teaching, this research aims to offer a more integrated and comprehensive evaluation of digital technology use in education. In doing so, it not only fills theoretical gaps in existing literature but also responds to the growing need for effective ICT adoption in early English language learning.

METHOD

The research method used in this study is a mixed method with a sequential explanatory strategy. Creswell and Plano as cited in Justan and Aziz (2024) stated that mixed method research design is a procedure for collecting, analysing, and combining quantitative and qualitative methods in one study. In a sequential explanatory strategy, the first step is to collect and analyse quantitative data, followed by the collection and analysis of qualitative data based on the preliminary results of the quantitative data. This method allows researchers to get a more comprehensive picture of the use of digital technology in learning in primary schools.

The subjects in this study were 40 primary school teachers from 8 sub-districts in Tasikmalaya Regency. The research instrument used was a questionnaire consisting of 9 questions regarding the use of digital technology in learning. Data collection was conducted through a questionnaire distributed using Google Form to obtain quantitative data. In addition, the data obtained was then analysed to evaluate the extent to which digital technology has been used and its impact on the learning process in primary schools.

FINDINGS AND DISCUSSION

Level of Digital Technology Adoption in Primary School Learning

Primary school teachers have started using digital technology for learning. As many as 67.5% of teachers in primary schools who use digital technology are high grade teachers. From the interview results, it was found that learning in the higher grades is more complex and thus requires more varied technology assistance. With the help of digital technology, primary school teachers in the higher grades are able to present material interactively and in-depth, and provide additional learning resources that help students understand complex concepts. This is particularly relevant in EFL classrooms, where digital tools such as multimedia presentations, videos, and online dictionaries can offer vital exposure to authentic language input and support contextual understanding: elements that are often limited in traditional EFL learning environments (Hashemi & Kew, 2021).

The technological teaching experience among primary school teachers varies, with the majority having over 10 years of experience, and only 0.8% exceeding 20 years. This suggests that technological adaptability isn't exclusive to younger teachers—some with decades of experience have also embraced it. However, the low percentage of older teachers reflects ongoing challenges, such as limited exposure to digital tools, inadequate training, and a tendency to stick with traditional teaching methods. These factors contribute to a slower adoption of technology. Therefore, continuous professional development aligned with the TPACK framework is essential. It ensures that all teachers, regardless of experience, gain not only technological competence but also the pedagogical and content knowledge required to use it effectively in EFL contexts. Simply knowing how to use an app isn't enough—it must be integrated with sound teaching strategies and clear language learning goals (Barba-Sanchez, Gouveia-Rodrigues, & Martinez, 2022; Hashemi & Kew, 2021; Taopan, Drajati, & Sumardi, 2020).

In addition, the intensity of digital technology used in learning in primary schools also varies. An overview of this variation in the intensity of digital technology use is presented in the following figure:

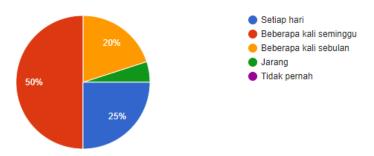


Figure 1. Frequency of digital technology use in teaching by elementary school teachers

The diagram shows that 50% of teachers use digital technology several times a week, indicating that the technology is applied consistently but not daily. A total of 25% of teachers use digital technology daily, indicating a high level of integration in their learning routines. Meanwhile, 20% of teachers reported that they use digital technology several times a month, indicating relatively sporadic use. Finally, 5% of teachers stated that they rarely use digital technology in the learning process, indicating that technology is not yet an integral part of their teaching methods.

This data provides a clear picture of how often digital technology is integrated in teaching and learning activities, as well as showing differences in adoption rates among educators. From a TPACK-informed perspective, these varying frequencies suggest differences not just in access or preference, but also in the depth of teachers' understanding of how to connect digital tools with pedagogical approaches that suit English language learning goals (Çalik & Mirici, 2024; Taopan, Drajati, & Sumardi, 2020). In EFL classrooms, where repetition, interaction, and exposure are key to language acquisition, the inconsistency in digital technology use may limit the potential benefits that tools like storytelling apps, pronunciation platforms, or videobased comprehension tasks could offer (Champa, Rochsantiningsih, and Kristiana, 2019). Therefore, promoting more sustained and intentional use of digital technology must go hand-in-hand with professional training that develops integrated technological, pedagogical, and content knowledge.

Types of Digital Technology Used by Teachers in Primary Schools

Digital technology is technology that is operated using a computerised system, the system is based on the form of information as numerical values 0 and 1 that identify the on and off buttons (Sitepu, 2021). At the primary school level, various types of digital technology are used by teachers with varying percentages of use. In this study, the variation in the use of digital technology types by teachers in primary schools is presented in the following figure:

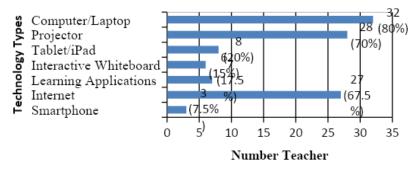


Figure 2. Types of digital technology used in teaching by elementary school teachers.

The diagram above shows that the most widely used type of digital technology is computer or laptop, with a percentage of 80%. The use of projectors reached 70%, the internet 67.5%, tablets or iPads 20%, learning apps 17.5%, interactive whiteboards 15%, and smartphones 7.5%.

The results of interviews with teachers also support this data. They stated that computers and laptops are the most commonly used tools in supporting teaching and learning activities. The reason is because most teachers already have a computer or laptop, either privately or school-owned. In addition, computers and laptops have multifunctional capabilities that can be used for various purposes, such as accessing online learning materials, creating and displaying teaching materials, and facilitating communication between teachers and students through digital platforms. In EFL learning, such devices enable teachers to integrate audio-visual resources (e.g., videos, songs, animations) that support vocabulary retention, listening comprehension, and even basic pronunciation training, which are the key components that are essential in early-stage language development (Champa, Rochsantiningsih, and Kristiana, 2019).

Projectors and the internet are also considered very important to deliver materials visually and search for additional information. Interviews with several teachers show that projectors make it easier for them to display learning materials more clearly and attractively, while the internet provides quick access to various sources of information that support the learning process. They mentioned that these two tools are very helpful in improving the quality of teaching and making it easier to deliver materials to students. However, it is not possible to use the projector every day as the number is limited, with only one unit that must be used interchangeably with other classes. In addition, the internet access owned by the school also does not reach all classes, so sometimes teachers have to use their personal internet or move to another room that has an internet connection.

From a TPACK perspective, the heavy use of basic tools such as computers, projectors, and internet browsers suggests a technological leaning that often lacks full pedagogical integration (Barba-Sanchez, Gouveia-Rodrigues, & Martinez, 2022; Çalik & Mirici, 2024; Hashemi & Kew, 2021; Taopan, Drajati, & Sumardi, 2020). Teachers may be using these tools as visual aids or content access points, but whether they are using them to scaffold language skills (listening, speaking, reading, writing) remains in question. For example, simply showing slides or playing a video in class may fulfill the technological knowledge (TK) component, but without aligned pedagogical knowledge (PK) and content knowledge (CK); such as structured vocabulary games, listening comprehension tasks, or guided storytelling in English. Thus, the EFL learning gains may be limited (Hashemi & Kew, 2021).

The use of tablets or iPads, learning apps, and interactive whiteboards, although still limited, is starting to show an increase. Interviews revealed that the increase in the use of these devices is due to the assistance received by schools in the form of providing these devices. However, the utilisation of these technologies requires careful preparation and good risk management to avoid technical problems that may arise during the learning process (Çalik & Mirici, 2024). For EFL classrooms in particular, tools like tablets can unlock access to personalized language learning apps, pronunciation games, interactive storybooks, and collaborative writing tools, but these benefits can only be realized if teachers are trained to integrate them meaningfully. Again, this underscores the critical importance of TPACK-informed teacher training (Koehler & Mishra, 2009; Rosenberg & Koehler, 2015).

Meanwhile, the use of smartphones is still relatively low due to the school's strict policy in restricting their use in the primary school environment. Interviews also revealed that most students in rural areas experience economic limitations, so many families only have one device that is shared or even no device at all. In addition to economic factors, the use of smartphones

in the context of learning is also considered less effective for group activities with a large number of students. Teachers stated that this is due to the small screen size of smartphones and the limited applications or software that support collaborative learning activities in large groups.

Effectiveness of Digital Technology Use in Primary Schools

The use of learning media is not just a tool, but also an important strategy in creating effective and enjoyable learning for students, which ultimately contributes to improving their learning outcomes (Titin et al., 2023). Data regarding the effectiveness of using digital technology in learning in primary schools is presented in the following table:

Table 1. Effectiveness of Digital Technology Use in Elementary School Education

No.	Statement	Number	Percentage
1 Very Effective		12	30
2 Effective		22	55
3 Moderately Effective		6	15
4 Less Effective		0	0
5 Not Effective		0	0

Of the 40 teachers in this study, 55 per cent stated that the use of digital technology in the learning process is effective. Thirty per cent of teachers considered the use of digital technology to be very effective, while 15 per cent considered it to be moderately effective. No teacher thought that the use of digital technology is less effective or not effective at all. All teachers interviewed have the same belief that digital technology has great potential to improve the learning process and is in line with the times. However, its effectiveness is highly dependent on human resource support as well as technical support from the devices used.

Improved Student Understanding

This statement about the effectiveness of using digital technology in primary schools is supported by data on the improvement of students' learning comprehension presented in the following figure:

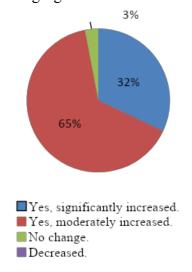


Figure 3. Diagram showing the increase in student understanding after using digital technology in the learning process.

The diagram above shows that 32% of teachers stated that students' understanding is greatly improved when using digital technology in the learning process. According to them, aids in the form of images, videos, and educational games have helped students experience improved understanding. In the context of EFL classrooms, similar multimedia support is even more crucial, as language learners rely heavily on visual, auditory, and interactive cues to grasp new vocabulary, grammar, and pronunciation (Barba-Sanchez, Gouveia-Rodrigues, & Martinez, 2022). This reinforces the need for tools that provide comprehensible input, which is essential in foreign language acquisition.

This improvement is in line with Jerome Bruner's learning theory, which emphasises the importance of visual representations and interactive experiences in reinforcing understanding of difficult concepts. Bruner argues that visual representations and interactive experiences can help students build deeper understanding and facilitate the internalisation of abstract material, so that students can more easily understand and apply these concepts in different contexts (Hatip & Setiawan, 2021). However, in more current practice, these experiences are best framed through the TPACK framework, which ensures that digital tools are not only used for engagement, but are pedagogically sound and aligned with specific learning objectives, especially in English language instruction (Çalik & Mirici, 2024).

The percentage of improvement with very effective criteria is lower than the moderately effective criteria, which is 65%. The interview results revealed that some teachers still face obstacles that affect the effectiveness of improving student understanding. Although there is an increase in student understanding, the level of improvement is not so high. In addition, there were also 3% of teachers who stated that there was no change. This is based on the teacher's experience which shows that digital technology has not had a significant impact on improving student understanding in her class. The teacher argued that adapting to digital technology requires more time and effort, both on the part of teachers and students. These responses reflect a need for stronger TPACK-based professional development, where teachers are trained not just in how to operate tools, but in how to integrate them meaningfully in EFL-focused instruction. Nevertheless, these teachers remain optimistic that with the right support, digital technology can be a very effective tool in learning.

Increased Student Motivation

Motivation can serve as a driver for the achievement of good results (Adan, 2023). Learning using digital technology will provide higher motivation, because computers will be associated with fun, creativity, and games (Manongga, 2021). The statement regarding the effectiveness of using digital technology to increase student learning motivation in this study is presented in the following diagram:

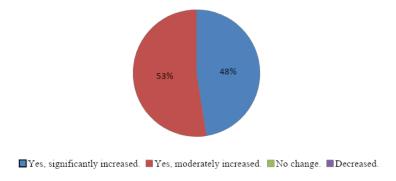


Figure 4. Diagram showing the increase in student motivation after using digital technology in the learning process.

Of the four criteria proposed, 47 per cent of teachers answered 'Yes, Greatly Improved' and 53 per cent answered 'Yes, Moderately Improved'. Meanwhile, no teachers answered 'No Change' or 'Decreased', with a percentage of 0% each. The interview results show that this increase in motivation is driven by the teachers' skills and the availability of adequate tools. Teachers who answered 'Yes, Greatly Improved' used various digital learning tools or applications and modified them with various learning methods. According to them, the use of interactive digital applications is of great interest to students, thus contributing significantly to the increase in learning motivation. In EFL classes, this motivation is especially important, as language learners often face anxiety, self-consciousness, or boredom with traditional drills. Digital tools that promote creativity and interaction: such as voice-recording apps, gamified vocabulary builders, or speaking avatars. Which can help reduce affective filters and encourage more active participation in language practice (Barba-Sanchez, Gouveia-Rodrigues, & Martinez, 2022; Taopan, Drajati, & Sumardi, 2020).

In contrast, teachers who answered 'Yes, Moderately Improved' stated that they are still unskilled in exploring and developing digital learning apps. Device limitation is also a factor that affects learning effectiveness. Therefore, the more skilled teachers are in using technology and the more complete the available devices, the more effective digital technology will be in increasing students' learning motivation.

Challenges of Using Digital Technology in Primary Schools

As well as being helped by digital technology, teachers also face a number of challenges in optimising the use of digital technology. An overview of the challenges faced by teachers in using digital technology in primary schools will be presented in the following figure:

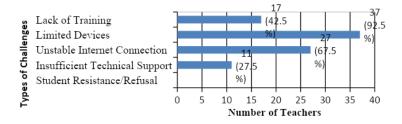


Figure 5. Challenges of Using Digital Technology in Elementary Schools

Based on the diagram above, it is known that there is no resistance or rejection from students towards the use of digital technology, with a percentage of 0%. However, the challenge of using digital technology most experienced by primary school teachers is the limitation of devices, with a percentage of 92.5%. Furthermore, 67.5% of teachers experienced problems with unstable internet connections, 42.5% felt that they had received insufficient training, and 27.5% faced problems with inadequate technical support. These issues are particularly critical in EFL classrooms, where many digital learning tools require consistent access to devices and stable internet to be used effectively, such as pronunciation apps, interactive storybooks, and video-based listening tasks (Champa, Rochsantiningsih, and Kristiana, 2019).

From the interviews, it was found that the limited equipment was caused by the unequal distribution of aid from the centre. Although there is a budget from the Education Unit Operational Assistance (BOSP) fund allocated for the component of providing multimedia learning tools, the amount of funds is not sufficient to provide an adequate number of devices for all students. If these funds are used to purchase additional devices, there will be a negative

impact on other operational costs, such as maintenance, teaching staff salaries, and other administrative needs. The use of the School Operational Fund (BOS) is also regulated in Permendikbudristek No. 2 of 2022, which includes 11 components for the use of funds. BOS supports 8 standards, namely admission of new students, library development, implementation of learning and extracurricular activities, implementation of learning assessment and evaluation, school administration activities, professional development of teachers and education personnel, power and service subscription costs, and maintenance of school facilities and infrastructure (Taopik, Mardiana, & Sianturi, 2024). These financial constraints make it difficult to prioritize sustained access to digital tools in language learning, where device availability can directly impact the quality and consistency of student engagement in EFL activities.

Unstable internet connections are also a problem for schools in remote areas. This limited internet access hinders the use of technology in the learning process and reduces the effectiveness of using multimedia devices. From the interviews, information was obtained that 27 schools stated that each classroom could not access the internet due to the distance from the school WiFi Optical Distribution Point (ODP). In addition, 3 of the 27 schools also experience limited internet access due to frequent power outages that affect network stability. As a result, students and teachers cannot utilise the internet network for learning optimally. These barriers also affect teachers' ability to fully engage with the TPACK framework, particularly the "technological knowledge" component, as sporadic access to the internet or tools makes it difficult for teachers to build consistent, confident routines around integrating EFL content with appropriate digital pedagogy (Barba-Sanchez, Gouveia-Rodrigues, & Martinez, 2022; Hashemi & Kew, 2021; Koehler & Mishra, 2009; Taopan, Drajati, & Sumardi, 2020).

While there are still challenges to overcome, the ongoing advancement of digital technologies and the determination of educational institutions to adapt to these changes will ensure a bright future for education in the digital age (Subroto et al., 2023). With strong commitment and continuous innovation, education in the future will be able to harness the potential of technology to provide more effective and inclusive learning experiences. This is especially true for EFL instruction, where thoughtful, well-supported integration of technology can significantly improve learner engagement, access to authentic English input, and long-term language outcomes from using a TPACK-informed approach (Koehler & Mishra, 2009; Taopan, Drajati, & Sumardi, 2020).

Strategies for Using Digital Technology in Primary Schools

In the current digital era, it requires teacher figures who are able to face technological challenges in education (Sadriani, Ahmad, and Arifin, 2023). To optimise the use of digital technology in learning, elementary school teachers undertake various strategies to overcome challenges they face. Some of the selected strategies are presented in the following diagram:

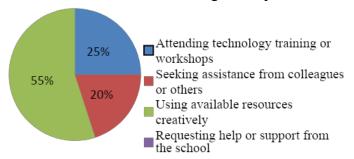


Figure 6. Strategies Used by Elementary School Teachers to Address Challenges in Using Digital Technology in the Learning Process.

From this study, it was found that 55% of the interviewees used existing resources creatively, 25% attended training or technology workshops, 20% sought help from colleagues or other parties, and no one chose the strategy of applying for help or support from the school. From the interview results, it was found that the strategy of applying for help or support from the school was not chosen because all schools have provided maximum support. However, these efforts must also be adjusted to the conditions of the school and assistance from the central government. Thus, educators are more likely to rely on creativity and personal initiative in utilizing technology to support the learning process of EFL classrooms. This often means improvising ways to deliver language content (Tütüniş, Ünal, & Babanoğlu, 2022). Such as using personal devices to play audio recordings, designing printed vocabulary games from digital templates, or creating offline language tasks using previously downloaded resources.

While this creativity is commendable, the reliance on self-initiative also reflects gaps in formal professional development and institutional support, especially in equipping teachers with TPACK-aligned strategies. Attending training or seeking help from peers, as done by 45% of participants, shows an emerging effort toward developing integrated digital-pedagogical competence. However, without a structured framework, such as TPACK, many teachers may still struggle to align tools with appropriate language learning goals, especially in EFL instruction where sequencing, scaffolding, and feedback are critical for building communicative competence (Barba-Sanchez, Gouveia-Rodrigues, & Martinez, 2022; Hashemi & Kew, 2021; Koehler & Mishra, 2009; Rosenberg & Koehler, 2015; Taopan, Drajati, & Sumardi, 2020; Tütüniş, Ünal, & Babanoğlu, 2022).

CONCLUSION

The evaluation of digital technology use in primary schools reveals both promising progress and persistent challenges, particularly within English as a Foreign Language (EFL) classrooms. The findings show that digital tools have been effective in improving student understanding and motivation, especially when teachers use them creatively and interactively. However, obstacles such as limited access to devices, unstable internet connections, insufficient training, and weak technical support continue to hinder optimal implementation. These limitations also affect teachers' ability to integrate technology effectively within the pedagogical and content demands of EFL instruction. As such, there is a critical need for professional development guided by the Technological Pedagogical Content Knowledge (TPACK) framework to help educators align digital tools with appropriate teaching strategies and language learning goals. With sustained institutional support and targeted investment in teacher training, digital technology can be more meaningfully and equitably integrated into EFL classrooms, ultimately enhancing the quality and inclusivity of primary education in the digital era.

REFERENCES

Adan, S. I. A. (2023). Pentingnya motivasi belajar dalam meningkatkan hasil belajar siswa. *PIJAR: Jurnal Pendidikan dan Pengajaran*, *1*(2), 76–86.

Arikarani, Y., & Amirudin, M. F. (2021). Pemanfaatan media dan teknologi digital dalam mengatasi masalah pembelajaran dimasa pandemi. *Edification Journal: Pendidikan Agama Islam*, 4(1), 93-116.

- Barba-Sanchez, V., Gouveia-Rodrigues, R., & Martinez, A. M. (2022). Information and communication technology (ICT) skills and job satisfaction of primary education teachers in the context of Covid-19. Theoretical model. *Profesional de la información*, 31(6).
- Çalik, E. Ö., & Mirici, İ. H. (2024). A Systematic Review of TPACK Research on English Language Teaching. *Conhecimento & Diversidade*, 16(42), 435-462.
- Champa, R. A., Rochsantiningsih, D., & Kristiana, D. (2019, April). TEACHERS'CHALLENGES TO INTEGRATE ICT IN EFL TEACHING AND LEARNING ACTIVITIES. *In English Language and Literature International Conference (ELLiC) Proceedings* (Vol. 3, pp. 135-145).
- Damayanti, D., & Nuzuli, A. K. (2023). Evaluasi efektivitas penggunaan teknologi komunikasi dalam pengajaran metode pendidikan tradisional di sekolah dasar. *Journal of Scientech Research and Development*, 5(1), 208-219.
- Hashemi, A., & Kew, S. N. (2021). The barriers to the use of ICT in English language teaching: A systematic literature review. *Bilgi ve İletişim Teknolojileri Dergisi*, *3*(1), 77-88.
- Hatip, A., & Setiawan, W. (2021). Teori kognitif bruner dalam pembelajaran matematika. *PHI: Jurnal Pendidikan Matematika*, 5(2), 87-97.
- Hermansah, R. (2022). Dampak penggunaan media berbasis android dalam aktivitas pembelajaran sejarah kebudayaan Islam. *Jentre*, 3(1), 12-25.
- Hidayatullah, M. T., Asbari, M., Ibrahim, M. I., & Faidz, A. H. H. (2023). Urgensi aplikasi teknologi dalam pendidikan di indonesia. *Journal of Information Systems and Management (JISMA)*, 2(6), 70-73.
- Justan, R., Aziz, A., & Makassar, U. M. (2024). Penelitian kombinasi (mixed methods). *ULIL ALBAB: Jurnal Ilmiah Multidisiplin*, 3(2), 253-263.
- Karsim, K., Afifah, N., & Daud, I. (2024). Pendampingan Dan Penerapan Adaptasi Teknologi Digital Pada Guru SDS Islamiyah Pontianak. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 5(1), 368-373.
- Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. Contemporary issues in technology and teacher education, 9(1), 60-70.
- Manongga, A. (2022, January). Pentingnya teknologi informasi dalam mendukung proses belajar mengajar di sekolah dasar. In *Prosiding Seminar Nasional Pendidikan Dasar*.
- Rahma, F. A., Harjono, H. S., & Sulistyo, U. (2023). Problematika pemanfaatan media pembelajaran berbasis digital. *Jurnal Basicedu*, 7(1), 603-611.
- Rosenberg, J. M., & Koehler, M. J. (2015). Context and technological pedagogical content knowledge (TPACK): A systematic review. *Journal of research on technology in education*, 47(3), 186-210.
- Sadriani, A., Ahmad, M. R. S., & Arifin, I. (2023, July). Peran guru dalam perkembangan teknologi pendidikan di era digital. In *Seminar Nasional Dies Natalis 62* (Vol. 1, pp. 32-37).
- Sarnoto, A. Z., Hidayat, R., Hakim, L., Alhan, K., Sari, W. D., & Ika, I. (2023). Analisis penerapan teknologi dalam pembelajaran dan dampaknya terhadap hasil belajar. *Journal on Education*, 6(1), 82-92.

- Savitri N. D., Putri P. I., Wulandari S., and Alpian Y., (2024) "Analisis Efektivitas Penggunaan Multimedia Pembelajaran Digital Di Sekolah Dasar," *Js (Jurnal Sekolah)*, 8(2), p. 220, doi: 10.24114/js.v8i2.55977.
- Sitepu, E. N. (2022). Media pembelajaran berbasis digital. *Prosiding Pendidikan Dasar*, 1(1), 242-248.
- S. S. K. dan T. I. Biro Pusat Statistik, "Penggunaan dan Pemanfaatan Teknologi Informasi dan Komunikasi Sektor Bisnis 2018," *J. Penelit. Pendidik. Guru Sekol. Dasar*, vol. 6, no. August, pp. 1–144, 2018.
- Subroto, D. E., Supriandi, S., Wirawan, R., & Rukmana, A. Y. (2023). Implementasi teknologi dalam pembelajaran di era digital: Tantangan dan peluang bagi dunia pendidikan di Indonesia. *Jurnal Pendidikan West Science*, 1(07), 473-480.
- Suyuti, S., Wahyuningrum, P. E., Jamil, M. A., Nawawi, M. L., Aditia, D., & Rusmayani, N. G. A. L. (2023). Analisis efektivitas penggunaan teknologi dalam pendidikan terhadap peningkatan hasil belajar. *Journal on Education*, 6(1), 1-11.
- Taopan, L. L., Drajati, N. A., & Sumardi, S. (2020). TPACK Framework: Challenges and Opportunities in EFL classrooms. *Research and Innovation in Language Learning*, *3*(1), 1-22.
- Taopik, D., Mardiana, C., & Sianturi, R. (2024). Efektivitas Pengelolaan Bantuan Operasional Sekolah (BOS) Terhadap Kondisi Sarana dan Prasaran. *Kalam Cendekia: Jurnal Ilmiah Kependidikan*, 12(1).
- Titin, T., Yuniarti, A., Shalihat, A. P., Amanda, D., Ramadhini, I. L., & Virnanda, V. (2023). Memahami media untuk efektifitas pembelajaran. *JUTECH: Journal Education and Technology*, 4(2), 111-123.
- Tricahayu, B., Sari, M., Siregar, A. R. P., & Widyati, N. A. (2024). Analisis Efektivitas Penggunaan Teknologi Informasi Dalam Proses Pembelajaran di Sekolah Dasar. *Innovative: Journal Of Social Science Research*, 4(1), 3725-3731.
- Tütüniş, B., Ünal, K., & Babanoğlu, P. (2022). ICT (web tools) for English language teaching in primary schools: TPACK framework and usage. *International Journal of Education, Technology and Science*, 2(1), 95-107.