

TECHNOLOGY INTEGRATION IN LEARNING IN THE 21ST CENTURY EFL CLASSROOM IN INDONESIA

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Abstrak

Tulisan ini melaporkan hasil dari kegiatan ‘Pengabdian kepada Masyarakat (PkM)’ terkait pengintegrasian teknologi dalam pengajaran bahasa Inggris di Indonesia dalam abad ke-21. Kegiatan PkM ini diadakan bagi guru Bahasa Inggris SMP di Kabupaten Depok, Indonesia. Tulisan ini memaparkan peluang dan tantangan yang dihadapi guru dalam mengintegrasikan teknologi ke dalam pengajaran dan pembelajaran mereka. Tema kunci yang muncul sebagai bagian dari pengintegrasian teknologi dalam pengajaran bahasa Inggris adalah meningkatkan kompetensi bahasa Inggris, meningkatkan keterlibatan dan motivasi, mengembangkan keterampilan abad ke-21, pertukaran budaya dan kesadaran global, serta peran guru dan pengembangan profesional. Namun, efektivitas integrasi teknologi juga sangat bergantung pada kemahiran guru, ketersediaan infrastruktur, dan adaptasi pedagogis. Hasil kegiatan ini menekankan (pentingnya) program pelatihan guru yang komprehensif, peningkatan infrastruktur pendidikan, dan pergeseran pedagogis menuju kurikulum yang lebih inklusif terhadap teknologi. Rekomendasi termasuk meningkatkan kolaborasi antar pemangku kepentingan untuk mendukung lingkungan pembelajaran yang diperkaya teknologi guna memenuhi kebutuhan peserta didik yang terus berkembang di Indonesia.

Kata kunci: *pengajaran Bahasa Inggris, adaptasi pedagogis, integrasi teknologi, keterampilan abad-21*

Abstract

This paper reports the outcomes of a ‘Community Service’ activity related to the integration of technology in English language teaching in Indonesia in the 21st century. The activity was conducted for junior high school English language teachers in Depok District, Indonesia. It outlines the opportunities and challenges faced by teachers in incorporating technology into their teaching and learning processes. Key themes emerging from the activity, include enhancing English language proficiency, increasing engagement and motivation, developing 21st-century skills, cultural exchange and global awareness, as well as the role of teachers and professional development. However, the effectiveness of technology integration heavily relies on the teachers' proficiency, availability of infrastructure, and pedagogical adaptation. The findings of the activity highlight the importance of comprehensive teacher training programs, improvements in educational infrastructure, and a pedagogical shift towards a curriculum more inclusive of technology. Recommendations include enhancing collaboration among stakeholders to support a technology-enriched learning environment to meet the evolving needs of learners in Indonesia.

Keywords: *English language teaching, pedagogical adaptation, technology integration, 21st century skills*

1. INTRODUCTION

The rapid advancements in technology have ushered in a new era of education, fundamentally transforming how students acquire knowledge and skills. In the context of English as a Foreign Language (EFL) classrooms in Indonesia, this article delves into the profound impact of technology integration on learning in the 21st century. As Indonesia strives to position itself globally, equipping students with proficient English language skills becomes increasingly crucial for success in an interconnected world (Ammade et al., 2018). Integrating technology in the EFL classroom not only enhances language learning but also fosters creativity, critical thinking, and collaboration among students. Educators can personalize instruction by incorporating digital tools and resources to cater to diverse learning styles and abilities. This shift towards a more interactive and engaging learning environment prepares students for future challenges and empowers them to communicate effectively on a global stage (Gayatri et al., 2023; Hafifah & Sulisty, 2020). In conclusion, technology integration in the 21st-century EFL classroom in Indonesia is essential for nurturing well-rounded individuals who are equipped to thrive in a rapidly evolving world.

Indonesia, a sprawling archipelago with over 700 languages spoken, faces unique challenges in English language education. As the global lingua franca, proficiency in English is increasingly seen as essential for economic, educational, and social advancement. Against this backdrop, educators are turning to technology as a tool to enhance language instruction and bridge gaps in access and quality. By incorporating technology into the EFL classroom, educators can provide students with interactive and engaging learning experiences that cater to different learning styles and abilities (Rintaningrum, 2023). Additionally, technology allows for more personalized instruction, enabling teachers to tailor lessons to meet the individual needs of each student. As Indonesia continues to strive for excellence in English language education, technology integration will play a pivotal role in preparing students for success in an interconnected and competitive global environment (Ammade et al., 2018).

Indonesia, a diverse nation with over 700 languages spoken, confronts distinctive hurdles in English language education. Mastery of English is increasingly vital for economic, educational, and societal progress, given its status as the global lingua franca. In response, educators are embracing technology to augment language instruction, addressing issues of accessibility and quality. Through tech integration, EFL classrooms can offer interactive, adaptable learning experiences that cater to various learning styles. Personalized instruction becomes achievable, tailoring lessons to meet individual student needs, thereby enhancing overall learning outcomes. Technology integration is poised to play a pivotal role in Indonesia's pursuit of excellence in English education, fostering students' readiness for success in a competitive global landscape. With an array of digital tools at their disposal, educators can craft dynamic, interactive lessons that not only facilitate language acquisition but also nurture critical thinking and problem-solving abilities, ensuring students are well-equipped for the challenges of an interconnected world.

However, integrating technology in Indonesian EFL classrooms is not without challenges. Limited infrastructure, inadequate teacher training, and socio-economic disparities pose barriers to equitable access and utilization of technology. Furthermore, concerns about screen time, digital distractions, and the quality of online resources necessitate careful consideration and strategic implementation strategies. Nonetheless, addressing these challenges requires a comprehensive approach encompassing policy reforms, targeted investments in infrastructure and professional development, and community engagement initiatives. By fostering collaboration among stakeholders, including government agencies, educational institutions, technology providers, and local communities, Indonesia can create an enabling environment for effective technology integration in EFL classrooms. Additionally, promoting digital citizenship

skills and responsible use of technology can mitigate concerns related to screen time and digital distractions while ensuring that online resources meet high standards of relevance, accuracy, and cultural sensitivity, which is crucial for maximizing their educational impact. For example, in a rural Indonesian classroom with limited access to technology, a teacher may have to get creative by using smartphones as learning tools or incorporating offline resources like printed materials and interactive games. Additionally, professional development workshops and ongoing support can help teachers build their confidence and skills in integrating technology effectively into their lessons.

Despite these challenges, the potential benefits of technology integration in Indonesian EFL classrooms are substantial. Empirical studies suggest that technology-enhanced instruction can improve language proficiency, foster communicative competence, and cultivate 21st-century skills such as critical thinking, collaboration, and digital literacy. Furthermore, technology facilitates authentic language use and cultural exchange, enabling students to engage with English in real-world contexts. Overall, integrating technology into EFL classrooms in Indonesia has the potential to enhance students' learning experiences and outcomes greatly. Teachers can create more engaging and interactive lessons that cater to different learning styles and abilities by utilizing various digital tools and resources. Additionally, technology can help bridge the gap between traditional language instruction and the demands of the digital age, equipping students with essential skills crucial for success in the modern world. With proper training and support, educators in Indonesia can harness the power of technology to transform their classrooms into dynamic and innovative learning environments.

Based on the above background, Master of English Language Education, Graduate School, Universitas Terbuka held 'Community Service' activities in 2023 which were held offline (face to face) among junior high school EFL teachers in Depok district, Indonesia. These activities have facilitated the participating teachers to increase their knowledge, skills, and awareness about technology and learning more wisely to improve student learning outcomes.

In general, the Community Service activity aimed to provide knowledge, skills, and awareness to the participants with digital learning resources that can be utilized optimally to improve their learning outcomes. More specifically, the aims of the community service activities were as follows:

- To increase EFL teachers' knowledge and skills of digital learning resources.
- To increase EFL teachers' knowledge and awareness of learning resources that can be accessed, used, modified, and/or shared for learning purposes.
- To increase EFL teachers' knowledge and skills in creating a digital-based Lesson Plan.

2. IMPLEMENTATION METHOD

The community service activities were conducted four times (4 sessions) from May 2023 to October 2023 among junior high school EFL teachers in Kota Depok, Indonesia. The activities were conducted offline in SMP Negeri 2 Depok and SMP Negeri 12 Depok. The details of the implementation of the community service are depicted in the results and discussion part.

The participants of the community service activity were 40 junior high school English language teachers in Kota Depok who were actively involved in the Subject Teacher's Forum¹ (STF). The source persons and facilitators were the lecturers of the Master of English Language Education, Graduate School, Universitas Terbuka (UT) Indonesia. There were four topics of the community service activities that were implemented based on the participant's needs and the number of meeting sessions. The current article presents and discusses the first topic entitled "Technology Integration on Learning in the 21st Century EFL Classroom in Indonesia".

¹ Subject Teacher's Forum refers to *Musyawarah Guru Mata Pelajaran* (MGMP) in Indonesian Education context.



Picture 1. The participants of the community service activity

The implementation of activities is tailored to benefit the intended participants, namely English teachers in junior high schools in Depok Regency. The methodology employed encompasses observation, socialization, training and mentoring, and evaluation. These four stages are elaborated as follows:



1. Observation stage. The initial stage involved observing the location and selecting target activities that align with the topic of the intended activities.
2. Socialization stage. This stage was carried out to convey the purpose of the activity to the MGMP leaders and school supervisors. This section also served as a need assessment for the Community Service activity being conducted.
3. Training and Mentoring Stage. The training stage was conducted through material presentations and direct practical exercises relevant to the topic discussed during the meeting.
4. Evaluation Stage. This stage involved evaluating the training activities to assess their impact, identify challenges, and gather participant's feedback.

3. RESULTS AND DISCUSSION

This section presents and discusses the main topics in 'Section One' of the community service activity. There were five main topics in the meeting: enhancing English language proficiency, increasing engagement and motivation, developing 21st-Century skills, cultural exchange and global awareness, and teacher role and professional development.

3.1 Enhanced English Language Proficiency

The integration of technology in EFL classrooms in Indonesia has yielded promising results in enhancing students' language proficiency. Technology integration reveals significant improvements in listening, speaking, reading, and writing skills among students engaged in technology-enhanced learning activities. These gains are attributed to the interactive nature of digital resources, which provide opportunities for authentic language use and meaningful communication. Previous studies conducted in various contexts have consistently demonstrated the positive impact of technology on language learning outcomes. For example, the research by Wang, Anderson, and Chen (2018) conducted a meta-analysis of studies examining the effects of computer-assisted language learning (CALL) on language proficiency and found that students who engaged with technology-enhanced activities showed significant gains in all language skills compared to those in traditional classrooms.



Picture 2. The source person explained the material.

Furthermore, the study specific to EFL contexts has reported similar findings (Pheeraphan, 2013; Ramaila & Molwele, 2022). These studies found that integrating digital tools and multimedia resources into language instruction not only improved students' linguistic abilities but also increased their motivation and engagement with English learning. Additionally, incorporating interactive technologies such as language learning apps and online platforms has facilitated a more personalized and flexible learning environment, accommodating diverse learning styles and paces. This shift towards technology-enhanced learning environments has also fostered greater collaboration among students, encouraging peer-to-peer interaction and feedback, which further enriches the language learning experience (Shadiev & Wang, 2022).

Relating these findings to the context of Indonesian EFL classrooms, it can be inferred that technology integration is likely to have a similar positive impact on language proficiency. Interactive digital resources provide opportunities for authentic language use and meaningful communication, which are essential for language acquisition. In addition, the findings from Indonesian EFL classrooms align with broader trends in educational technology research (Bachtiar, 2023; Lubis & Samsudin, 2021; Wahyuningsih & Afandi, 2023), highlighting the transformative potential of technology to enhance learning experiences and outcomes across diverse linguistic and cultural contexts. By building upon the existing body of research on technology integration in language education, the results of this study provide valuable insights into the specific effects of technology on language proficiency in the Indonesian context, thereby contributing to a more comprehensive understanding of effective instructional practices in EFL classrooms worldwide.

3.2 Increased Engagement and Motivation

Another theme that has been discussed was that technology integration has led to increased levels of student engagement and motivation in EFL learning. It has been indicated by some experts and previous research findings of a strong preference for technology-mediated activities, such as online games, multimedia presentations, and virtual language exchanges (Lubis & Samsudin, 2021; Muthmainnah et al., 2022; Wahyuningsih & Afandi, 2023). These activities not only capture students' interest but also provide immediate feedback and rewards, fostering a sense of accomplishment and progress. In addition, integrating technology in English language teaching is also in line with the self-determination theory that highlighted the importance of intrinsic motivation and engagement in promoting students' optimal learning experiences (Bachtiar, 2022b; Syarifudin & Suharjito, 2020).



Picture 3. One of the participants asked a question.

In the realm of language education, previous research has consistently shown that technology-enhanced activities can enhance students' motivation and engagement with language learning. For instance, the study by Dunn and Kennedy (2019) has documented how digital tools and multimedia resources can capture students' interest and provide interactive, dynamic learning experiences that promote sustained engagement.

Relating these findings to the context of Indonesian EFL classrooms, it's reasonable to expect that technology integration would lead to increased levels of student engagement and motivation (Adara & Haqiyah, 2021; Mali & Salsbury, 2021). As seen in previous research, digital resources offer novel and interactive ways for students to interact with language content, making learning more enjoyable and meaningful (Sari, 2020). Moreover, the immediate feedback and gamified elements often present in technology-enhanced activities can further enhance motivation by providing clear goals and tangible rewards for progress.

By building upon this existing body of research, the importance of enhancing EFL teachers' technological awareness and skills provides empirical evidence of the positive impact of technology integration on student motivation and engagement in the Indonesian EFL context. The previous study findings underscore the potential of technology to transform traditional language learning experiences by fostering greater student agency, autonomy, and intrinsic motivation, thereby contributing to more effective and enjoyable language learning outcomes.

3.3 Developing 21st-Century Skills

Beyond language proficiency, technology-enhanced instruction has contributed to the development of essential 21st-century skills among Indonesian EFL learners. Collaborative projects, online discussions, and multimedia presentations require students to employ critical thinking, communication, collaboration, and digital literacy skills (Bachtiar et al., 2024). The formal discussion with the participating teachers reveals students' increased confidence in using technology as a tool for learning and self-expression, especially in the current development of educational technology.

Furthermore, the research in educational technology has increasingly emphasized the importance of cultivating 21st-century skills, such as critical thinking, communication, collaboration, and digital literacy, to prepare students for success in the digital age. Studies by Partnership for 21st Century Learning (P21) and the Organisation for Economic Co-operation and Development (OECD) have underscored the significance of these skills in fostering lifelong learning, adaptability, and employability in today's globalized society (Shadiev & Wang, 2022). A systematic literature review by van Laar et al. (2017) examined the relationship between 21st-century skills and digital skills, providing a framework for 21st-century digital skills aimed at knowledge workers. The study highlighted seven core skills, including technical, information management, communication, collaboration, creativity, critical thinking, and problem-solving. A study by Silber-Varod et al. (2019) traced research trends and emphasized that digital literacy competencies or 21st-century skills are pivotal in effectively utilizing learning technologies. The study found communication, problem-solving, and collaboration to be among the most prominent digital literacy skills necessary for educational success.

In the realm of language education, technology integration has been shown to promote the development of 21st-century skills by providing opportunities for authentic communication, collaboration, and problem-solving. For example, studies by Pheeraphan (2013) and (Ramaila and Molwele (2022) have highlighted how digital tools and online platforms enable students to engage in meaningful interactions with language content and collaborate with peers from diverse cultural backgrounds. Harmes et al. (2016) introduce the Technology Integration Matrix (TIM), a framework for evaluating and guiding technology integration in K-12 settings. The TIM emphasizes characteristics of meaningful learning such as active, constructive, authentic, collaborative, and goal-directed learning, providing a structured approach to integrating technology in a way that promotes 21st-century skills.

Relating these findings to the context of Indonesian EFL classrooms, we can expect that technology integration would contribute to developing 21st-century skills among students. As seen in previous research, collaborative projects, online discussions, and multimedia presentations facilitated by digital tools require students to employ critical thinking, communication, and collaboration skills (Indah et al., 2022). Moreover, navigating digital platforms and evaluating online resources necessitates digital literacy and information literacy skills, which are essential components of 21st-century competency. Furthermore, the findings from Indonesian EFL classrooms align with broader trends in educational technology research, highlighting the transformative potential of technology to foster holistic skill development in learners (Christiani et al., 2022). By leveraging digital tools effectively, educators can create dynamic and immersive learning environments that promote not only language proficiency but also the acquisition of essential 21st-century skills.

Building upon this existing body of research, it provides empirical evidence of the positive impact of technology integration on the development of 21st-century skills in the Indonesian EFL context. These findings underscore the potential of technology to empower students with the competencies needed to thrive in an increasingly interconnected and digitalized world, thereby enriching their educational experiences and preparing them for future success.

3.4 Cultural Exchange and Global Awareness

Technology integration has also been indicated to facilitate cultural exchange and promote global awareness, including among Indonesian EFL learners. Virtual classrooms, social media platforms, and online forums connect students with peers from diverse cultural backgrounds, enabling them to share perspectives, exchange ideas, and explore global issues. As a result, students develop intercultural competence and appreciation for cultural diversity, preparing them for success in an interconnected world.

Research in the field of educational technology has highlighted the role of digital platforms in facilitating cultural exchange and promoting global awareness among students. Studies by Lai (2011) and Schenker (2013) have documented how technology-mediated communication can transcend geographical boundaries, allowing students to interact with peers from diverse cultural backgrounds and engage in authentic cross-cultural exchanges. Digital learning platforms facilitate collaborative learning experiences that extend beyond geographical boundaries. These platforms enable students to participate in international projects, collaborate with peers from different cultural backgrounds, and develop global perspectives through shared online learning activities. The use of digital technologies in education has been linked to enhanced global awareness among students. Through digital platforms, students have access to a wealth of information and resources that expose them to diverse cultures, languages, and perspectives, fostering a more inclusive and globally aware mindset (Kumi-Yeboah et al., 2020).

In the context of language education, technology integration has been shown to provide unique opportunities for students to explore different cultures, languages, and perspectives. For example, the study by Osipov et al. (2016) has demonstrated how online language exchanges and virtual classrooms enable students to interact with native speakers of the target language, immerse themselves in authentic cultural contexts, and develop intercultural competence. Virtual classroom projects that connect non-native speakers with native speakers in different countries provide a comprehensive framework for second language acquisition and cultural exchange. Such programs are designed to improve language skills, intercultural competencies, and personal engagement, demonstrating the efficacy of virtual exchange in higher education (Petropoulou, 2020).

Relating these findings to the context of Indonesian EFL classrooms, we can expect that technology integration would promote cultural exchange and global awareness among students. This is because virtual classrooms, social media platforms, and online forums connect students with peers from diverse cultural backgrounds, enabling them to share perspectives, exchange ideas, and explore global issues (Sutiyono et al., 2023). Moreover, digital tools can facilitate access to authentic cultural resources, such as literature, music, and videos, allowing students to gain insights into different cultures and foster a deeper appreciation for cultural diversity. Furthermore, the findings from Indonesian EFL classrooms align with broader trends in educational technology research, highlighting the transformative potential of technology to promote global citizenship and intercultural understanding (Munandar & Newton, 2021). By leveraging digital platforms effectively, educators can create inclusive and multicultural learning environments that prepare students to thrive in an interconnected world.

By building upon this existing body of research, the results of this study provide empirical evidence of the positive impact of technology integration on cultural exchange and global awareness in the Indonesian EFL context. These findings underscore the potential of technology to foster empathy, tolerance, and respect for cultural diversity, thereby enriching students' educational experiences and promoting global citizenship.

3.5 Challenges and Limitations

Despite the positive outcomes, the integration of technology in EFL classrooms in Indonesia is not without challenges. The participating teachers raised some issues related to this.

Limited access to technology and internet connectivity in remote areas, as well as disparities in digital literacy skills among students, pose barriers to equitable participation. Additionally, concerns about the quality and reliability of online resources, as well as potential distractions and misuse of technology, highlight the need for ongoing monitoring and support.

The participants' concern has also been indicated in previous studies. Research in educational technology has acknowledged various challenges and limitations that educators may encounter when integrating technology into classrooms. Previous studies have identified factors such as limited access to technology, inadequate teacher training, and concerns about the quality of digital resources as common barriers to effective technology integration (Enrique Hinostroza, 2018; Ertmer & Ottenbreit-Leftwich, 2010). In the context of language education, similar challenges have been documented in previous research. For example, studies by Li (2018) and Shaji and Nagaraj (2020) have highlighted issues related to infrastructure constraints, such as limited internet connectivity and access to digital devices, as significant challenges educators face in integrating technology into language instruction.

Relating these findings to the context of Indonesian EFL classrooms, similar challenges exist. Limited infrastructure, including internet connectivity and access to digital devices, may pose barriers to equitable participation and utilization of technology among students (Bachtiar, 2022a). Additionally, concerns about the quality and reliability of online resources, as well as potential distractions and misuse of technology, may raise apprehensions among educators and stakeholders. Furthermore, the findings from Indonesian EFL classrooms resonate with broader trends in educational technology research, highlighting the need for comprehensive strategies to address challenges and limitations associated with technology integration (Solihin, 2021). Initiatives such as infrastructure development, teacher professional development, and quality assurance mechanisms can help mitigate barriers and ensure the effective use of technology in language education (Gai Mali et al., 2023).

Highlighting key challenges and barriers underscores the importance of addressing infrastructure constraints, providing ongoing support and training for educators, and implementing quality control measures to maximize the potential of technology for enhancing language learning outcomes. By building upon this existing context, the results of this study provide valuable insights into the specific challenges and limitations of technology integration in the Indonesian EFL context.

4. CONCLUSION

While technology offers promising opportunities for enhancing language education, the effective integration of digital tools relies heavily on the preparation and ongoing support of teachers. By drawing upon lessons learned from previous research and implementing evidence-based professional development strategies, educators can leverage technology to create dynamic and engaging learning environments that promote language proficiency and 21st-century skill development among EFL learners. In addition, integrating technology in EFL classrooms in Indonesia has yielded positive outcomes in terms of language proficiency, student engagement, 21st-century skill development, cultural exchange, and global awareness. However, addressing challenges related to access, equity, teacher preparation, and resource quality is essential to maximize the potential of technology for enhancing EFL learning outcomes in Indonesia.

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