



Improving the Quality of English Learning for Gen Z Through Digital Technology in the Golden Indonesia Era 2045

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ABSTRACT

In the era of globalization, English proficiency has become an essential skill, especially for Generation Z, who grow up in technology-rich environments. However, English learning in Indonesia still faces challenges, including moderate proficiency levels and the continued use of traditional, teacher-centered methods. These approaches are often not aligned with Generation Z's preference for interactive and technology-based learning. This study aims to analyze strategies to improve the quality of English learning for Generation Z through the integration of digital technology in support of the Golden Indonesia 2045 vision. The research applies a qualitative method using a literature review approach. Data were collected from scholarly journals, books, and academic publications related to digital technology and English learning, and analyzed descriptively. The findings show that digital technology enhances learning quality by increasing accessibility, engagement, and effectiveness. Tools such as digital platforms, artificial intelligence, and interactive media support more innovative and student-centered learning environments. Digital literacy also plays a crucial role, as students need the ability to critically access and use information. In addition, the effectiveness of technology integration depends on the balance between technological tools, user competence, and institutional support. In conclusion, digital technology is essential in transforming English learning into a more adaptive and effective process. A comprehensive approach that combines technology, digital literacy, and educational support is needed to prepare Generation Z for global challenges.

Generation Z, English Learning, Digital Technology.

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INTRODUCTION

In the current era of globalization, technological advances are developing rapidly. Everything has become more accessible with advanced technology now, and so has education. This shift has been accelerated by the rapid growth of online learning, which provides flexibility and accessibility for learners across different contexts (Dhawan, 2020). To learn a foreign language, with the

technology of the times it is very easy for everyone. In this age of rapidly evolving technology, English proficiency has become an essential competency for individuals to actively participate in the global community. This is in line with Generation Z in Indonesia, who are expected to navigate a world that is now connected to digital communities. Generation Z, defined as individuals born between 1997 and 2012, is widely recognized as a digital-native generation that has grown up surrounded by internet-based technologies and digital environments (Rylance-graham, 2026).

English proficiency in Indonesia is still a huge challenge. There are still many who think that English proficiency is not important, which is why English is very important in the current era of globalization. According to the EF English Proficiency Index (EPI, 2023), Indonesia is ranked in the "moderate proficiency" category, which shows that despite some progress has been made, there is still a substantial gap in achieving high-level English proficiency compared to other countries in the region. English proficiency plays a crucial role in accessing global opportunities in education, communication, and employment (Mohammad Rababa, 2021). And from the latest research shows that, many classrooms still rely heavily on teacher-centered instruction, textbook-based learning, and memorization, which are not aligned with the interactive and technology-based learning preferences of Generation Z learners (Fajarwati, 2025). Approaches to traditional English learning in Indonesia often fail to effectively embrace Generation Z learners. This causes low student motivation and confidence when speaking.

Recent studies indicate that Indonesian youth frequently encounter English in informal digital contexts, particularly through social media, online platforms, and digital communication environments (Febriani & Afriani, 2025). This is supported by research showing that informal digital learning activities significantly influence English language exposure and learning outcomes (Lee et al., 2024). Digital environments provide authentic exposure to language use and support informal language acquisition through real-life communication contexts (Zawacki-richter et al., 2019). Generation Z not only uses English for academics, but also in everyday digital interactions, such as online games, vlogs, and content creation.

The integration of digital technology in language learning is categorized in 3 ways. The shift toward online and digital learning environments has significantly transformed English language teaching practices and classroom interaction (Po, 2023). First, Digital learning refers to the integration of technology in the teaching and learning process, including the use of online platforms, multimedia resources, and interactive tools to enhance student

engagement and learning outcomes (Alruthaya, 2021). This learning that emphasizes flexibility, accessibility and a student-focused approach, this will be very effective for Generation Z Lessons. Second, Computer-Assisted Language Learning (CALL) and Technology-Enhanced Language Learning (TELL) provide a framework for understanding how digital tools can facilitate language acquisition. Computer-Assisted Language Learning (CALL) and Technology-Enhanced Language Learning (TELL) provide a framework for understanding how digital tools facilitate language acquisition, particularly through interactive, adaptive, and technology-supported environments (Alruthaya, 2021). The CALL and TELL approaches emphasize three key aspects in language learning. First, *interaction*, which provides opportunities for students to actively use language. Second, *feedback*, where technology can provide a direct response to student mistakes or performance, thus helping the improvement process quickly and continuously. Third, *exposure to authentic language*, namely access to real language use in authentic contexts, such as everyday conversations, digital content, and global communication. The last concept, *Generation Z Learning Characteristics*, has an important role in shaping educational strategies. Generation Z learners are characterized by their ability to multitask, shorter attention spans, and preference for instant access to information, which requires educators to design more engaging and adaptive learning environments (Lopez & Abadiano, 2023). Generation Z prefers learning that has visuals, interactives, and experiences at the same time. In addition, independent learning is also the key in digital education. Students often rely on knowledge from YouTube videos, apps and other social media. This is in line with the concept of learner autonomy, where students take responsibility for their own learning process in digital environments (Febriani & Afriani, 2025).

Based on the phenomena and theoretical foundations discussed above, this study argues that the integration of digital technology into English language learning is not just an optional improvement but a necessity in today's educational environment. The mismatch between traditional teaching methods and the learning characteristics of Generation Z is highly influential in showing that conventional approaches are not enough to meet the demands of modern learners. Along with the increasing globalization, English language proficiency is also an important factor in determining a nation's competitiveness in areas such as education, economics, and international collaboration. English language proficiency is no longer just an additional skill, but has become a fundamental necessity in facing challenges and opportunities in the era of globalization.

This research aims to explore and analyze strategies to improve the quality of English learning for Generation Z through the integration of digital technology. In particular, this research focuses on identifying the characteristics and learning needs of Generation Z in the context of English language learning, examining various forms of digital technology and its application in the continuous learning process, and analyzing effective strategies to integrate digital technology into English language education.

RESEARCH METHODE

This research utilized a qualitative method, specifically a literature review, to explore how digital technology enhances English language learning for Generation Z within the framework of the Golden Indonesia 2045 vision. The focus of this study is on academic literature that discusses the incorporation of digital technology, digital literacy, and creative approaches in teaching English. Instead of limiting the investigation to a particular organization, location, or occurrence, the study examines a broad spectrum of academic viewpoints and recorded research outcomes that illustrate the latest trends in education driven by technology.

The information utilized in this research comes from secondary sources gathered from a range of academic materials, including peer-reviewed journals, books, conference papers, and reputable academic documents. These resources offer an extensive understanding of how digital technology is applied in English language education. This study, being a literature review, does not engage any direct human subjects like participants or interviewees. Rather, the data is derived from a carefully chosen group of scholarly works identified through intentional selection. The criteria for choosing these sources include their relevance to the subject of study, the reliability of the publication, and their timeliness, focusing on materials published in the last five years to ensure the information is current and trustworthy (Snyder, 2024).

Instead of limiting the investigation to a particular organization, location, or occurrence, the study examines a broad spectrum of academic viewpoints and recorded research outcomes that illustrate the latest trends in education driven by technology. This approach enables the researcher to integrate diverse perspectives and identify patterns, gaps, and emerging issues in the field of digital-based English learning (Zawacki-richter et al., 2024). Furthermore, focusing on recent and relevant literature ensures that the analysis reflects current developments in educational technology and aligns with the learning characteristics of Generation Z in a rapidly evolving digital era (Weng & Seemiller, 2024)

The process of gathering data occurred in multiple organized steps. Initially, the researcher pinpointed important terms like digital technology in education, English language learning, digital literacy, and Generation Z to navigate the literature search. Next, pertinent studies were gathered from academic resources including Google Scholar and various scholarly sites. Subsequently, the gathered materials were reviewed and assessed for their significance, trustworthiness, and date of publication. After that, the chosen literature was sorted and grouped into thematic categories to facilitate detailed analysis. In the end, the researcher integrated the results from different sources to create a well-rounded comprehension of the research subject (Lolang et al., 2023).

The analysis of data in this research was performed through descriptive qualitative methods. The investigator examined the data by recognizing trends, contrasting results from different studies, and organizing them into significant themes such as the influence of digital technology, innovative learning, the advancement of digital literacy, and strategies for learning English. In addition, the researcher interpreted the outcomes to formulate insightful conclusions that were in line with the research goals. To guarantee the accuracy and dependability of the findings, verification was carried out with several sources, placing emphasis on reputable and high-quality publications. This analytical methodology allows the study to generate thorough and reliable conclusions about the use of digital technology in English language learning for Generation Z.

Overall, this research method allows the scholar to effectively compile pertinent literature and draw trustworthy conclusions about how digital technology is incorporated into English language education for Generation Z. By systematically identifying, selecting, and synthesizing relevant academic sources, this approach enables a comprehensive understanding of current trends, challenges, and innovations in technology-based learning. Moreover, the use of a structured literature review process ensures that the findings are grounded in established theories and empirical evidence, thereby strengthening the credibility and academic rigor of the study.

In addition, this method facilitates the integration of diverse perspectives from previous studies, allowing the researcher to compare findings, identify patterns, and highlight research gaps that may not be visible in a single study. This is particularly important in the context of rapidly evolving digital technology, where continuous updates and multiple viewpoints are necessary to obtain a holistic understanding (Snyder, 2024). Furthermore, the emphasis on credible and recent publications enhances the validity and relevance of the

conclusions, ensuring that the study reflects current developments in English language learning and digital literacy.

Ultimately, this methodological approach not only produces reliable and well-founded conclusions but also provides a solid theoretical basis for future research and practical implementation in educational settings. It supports educators, researchers, and policymakers in designing more effective, technology-integrated English learning strategies that align with the needs of Generation Z and the goals of the Golden Indonesia 2045 vision (Irawan et al., 2026).

RESULT AND DISCUSSION

Result

The integration of digital technology into English language learning for Generation Z represents not merely a trend, but a necessary transformation aligned with the broader vision of Indonesia's Golden 2045 aspirations. As the nation prepares to enter a period marked by demographic advantage and global competitiveness, education—particularly English language proficiency—plays a critical role in shaping a capable and adaptive generation. This study underscores that digital technology serves as a powerful catalyst in enhancing the quality of English learning by addressing key educational challenges while simultaneously aligning with the learning preferences and characteristics of Generation Z learners.

The results of this study indicate that technological developments will have a significant impact on the education sector in preparing a quality, independent, and modern Indonesian society to face the year 2045. Based on the reviewed literature, educational technology has manifested itself in various forms, such as digital learning platforms, artificial intelligence, digital libraries, cloud computing systems, and interactive learning media. This technology is used to organize, develop, use, manage, and evaluate educational resources effectively. Furthermore, digital literacy and digital learning media are recognized as important factors in supporting students' ability to access and process information efficiently.

The explanation of the data shows that digital technology has become an integral part of educational development, especially for Generation Z.

Further data analysis explains that educational technology has several important roles in improving the quality of education. It acts as a provider of educational facilities by offering access to diverse learning resources, supporting infrastructure development, and facilitating distance learning through the integration of information and communication technology (ICT). It

also addresses educational challenges by promoting inclusive and equitable education through increased access, continuous teacher training, and curriculum innovation.

Furthermore, technology increases productivity and work efficiency in the educational process, enabling both teachers and students to optimize time and resources. Educational technology also provides alternative learning solutions through online learning platforms, adaptive learning systems, simulations, and interactive learning environments. Additionally, innovative approaches such as project-based learning and technology-enhanced learning are introduced to foster critical thinking, collaboration, creativity, and problem-solving skills among students (Maritsa et al., 2021).

Moreover, digital literacy is not merely a technical skill but is defined as the ability to understand, evaluate, and use various forms of information through critical thinking. Digital libraries contribute significantly by providing structured and organized access to reliable learning resources while supporting students' independent learning and literacy development. Digital learning media further expands access to educational content, facilitates knowledge acquisition from multiple global sources, and enhances students' technological competencies. These tools enable learners to engage more deeply with content and develop analytical skills necessary for academic and real-world contexts.

The correlation between the data shows that the effectiveness of education, particularly English language learning for Generation Z, is closely linked to the integration of digital technology and the development of digital skills. The availability of digital devices must be supported by students' ability to use them critically, responsibly, and effectively. This interconnectedness demonstrates that digital technology, digital literacy, and learning innovation are mutually reinforcing factors. Effective integration of these components will contribute to improving the quality of learning, increasing student engagement, and developing essential skills needed to face future global challenges.

In addition, the integration of digital technology encourages lifelong learning habits among students, enabling them to continuously update their knowledge and skills in a rapidly changing world. It also promotes global connectivity, allowing learners to interact with diverse cultures and perspectives through English as an international language.

Therefore, structured implementation through policy support, teacher readiness, and equal access to technology is essential to ensure that all learners benefit from digital transformation in education.

In conclusion, the integration of digital technology into English language learning is a strategic and essential step toward preparing Generation Z for

global competition and achieving the Golden Indonesia 2045 vision. By enhancing access, interactivity, problem-solving, and productivity, digital technology significantly improves the quality of education. With proper implementation and continuous development, it has the potential to empower learners, foster innovation, and build a generation that is not only proficient in English but also adaptive, critical, and globally competitive.

Discussion

The results of this study confirm that digital technology plays an important role in improving the quality of English learning among Generation Z. These results are consistent with previous research highlighting that technology improves learning effectiveness, accessibility, and student engagement (Snyder, 2019). Similar to previous studies, this study highlights that digital tools provide flexible learning opportunities and support a more interactive learning environment. However, this study provides a more specific perspective by focusing on learners in the digital era, particularly in the context of English language learning.

Compared to previous studies, this study places more emphasis on digital literacy as a key factor for successful technology integration. While previous research has primarily focused on the availability and use of technology, the results of this study suggest that students' ability to critically access, evaluate, and use digital information plays a more important role in determining learning outcomes (Falloon, 2020). This suggests that the effectiveness of digital technologies in education depends not only on the tools themselves, but also on the competencies of the users.

The results of this study also indicate that digital technology should not only be viewed as a supporting tool but also as a core component in transforming the learning process into a more student-centered, flexible, and adaptive model. This transformation encourages learners to become more active participants, promoting independent learning, creativity, and critical thinking skills.

The implications of these findings are important for educational practice and policy. Educational institutions need to design technology-integrated curricula that align with students' learning needs in the digital era. In addition, teachers must develop adequate digital competencies to effectively implement technology-based learning strategies (Redecker, 2017). Without proper teacher readiness and institutional support, the potential of digital technology cannot be optimally utilized.

The effectiveness of integrating digital technology in English learning can be explained by the compatibility between modern learners' characteristics and

digital-based learning approaches. Students who are familiar with digital environments tend to prefer flexible and interactive learning methods, which in turn increase engagement, motivation, and learning outcomes. Furthermore, access to digital resources allows students to practice English independently beyond the classroom environment.

Based on these findings, several actions are necessary to maximize the effectiveness of digital technology in English language learning. These include strengthening students' digital literacy, improving teachers' competence in integrating technology into instruction, expanding access to digital learning resources, and ensuring the availability of adequate technological infrastructure (Redecker, 2017). These steps are essential to support sustainable and effective digital learning implementation.

Overall, this study emphasizes that the successful integration of digital technology in English learning requires a comprehensive approach that combines technology, user competence, and institutional support. Without the integration of these elements, the potential of digital technology to improve learning quality cannot be fully achieved.

CONCLUSION

The integration of digital technology into English language learning for Generation Z represents not merely a trend, but a necessary transformation aligned with the broader vision of Indonesia's Golden 2045 aspirations. As the nation prepares to enter a period marked by demographic advantage and global competitiveness, education—particularly English language proficiency—plays a critical role in shaping a capable and adaptive generation. This study underscores that digital technology serves as a powerful catalyst in enhancing the quality of English learning by addressing key educational challenges while simultaneously aligning with the learning preferences and characteristics of Generation Z learners.

One of the most significant contributions of digital technology lies in its ability to expand access to learning resources. Through various digital platforms, learners are no longer confined to traditional classroom settings or limited textbooks. Instead, they can access a wide range of materials such as interactive videos, online courses, language learning applications, and authentic English content from global sources. This accessibility allows learners to engage with the language in more meaningful and contextualized ways, ultimately improving their comprehension and communication skills. Furthermore, digital tools support personalized learning experiences, enabling students to learn at their own pace and according to their individual needs.

In addition to improving access, digital technology fosters more interactive and engaging learning environments. Generation Z, known for being technologically savvy and highly visual, benefits greatly from multimedia-based instruction. Features such as gamification, virtual simulations, and collaborative online platforms transform the learning process into a more dynamic and participatory experience. These methods not only increase student motivation but also encourage active learning, critical thinking, and creativity – skills that are essential in mastering a foreign language.

Moreover, digital technology plays a crucial role in addressing common challenges in English learning. Issues such as limited exposure to native speakers, lack of confidence in speaking, and monotonous teaching methods can be mitigated through the use of digital tools. For instance, language learning applications and communication platforms provide opportunities for real-time interaction and practice, helping students build confidence and fluency. Additionally, technology enables teachers to implement innovative teaching strategies that cater to diverse learning styles, thereby improving overall learning outcomes.

Another important aspect highlighted in this study is the role of digital technology in enhancing productivity and efficiency in the learning process. Both teachers and students benefit from streamlined communication, easy access to materials, and efficient assessment methods. Teachers can utilize digital platforms to design structured lessons, monitor student progress, and provide timely feedback. Meanwhile, students can manage their learning more effectively, track their improvement, and engage in continuous practice beyond the classroom.

However, the successful integration of digital technology into English learning requires careful planning and support. This study strongly recommends the development of structured strategies that include the creation of innovative digital learning materials, comprehensive teacher training programs, and the provision of adequate technological infrastructure. Without these elements, the potential of digital technology may not be fully realized. Teachers must be equipped with the necessary digital competencies to effectively integrate technology into their teaching practices, while institutions must ensure that students have equal access to the required tools and resources.

In conclusion, the integration of digital technology into English language learning is a strategic and essential step toward preparing Generation Z for the challenges of a globalized world and achieving the Golden Indonesia 2045 vision. By enhancing access, interactivity, problem-solving, and productivity, digital technology significantly improves the quality of English education. With

proper implementation and support, it has the potential to empower learners, foster innovation, and build a generation that is not only proficient in English but also competitive on a global scale.

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