

## Technology-Enhanced Language Learning: A Meta-Analysis Study On English Language Teaching Tools

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### Abstract

This meta-analysis study explores the effectiveness of technology-enhanced language learning in the context of English language teaching. Through a comprehensive review of relevant literature, various research studies were examined to gain insights into the impact and potential of technology in language learning. The findings highlight that the use of new technologies positively contributes to learners' language learning skills and enhances their overall proficiency. Mobile learning and ICT tools have been identified as effective resources that facilitate English language learning by providing accessible and efficient learning environments. Additionally, the research indicates that technology-supported language learning is as effective as learning with human teachers, indicating the potential of technology to offer personalized and tailored learning experiences. However, it is crucial to provide teachers with proper training and support to confidently integrate technology into their teaching practices. Educational institutions should offer comprehensive training programs and allocate sufficient time for teachers to enhance their technological skills and confidently utilize educational technologies. These findings underscore the importance of technology in enhancing language learning outcomes and emphasize the need for ongoing support and professional development for teachers in integrating technology into language teaching.

**Keywords:** technology-enhanced language learning, English language teaching

### Abstrak

Studi meta-analisis ini mengeksplorasi keefektifan pembelajaran bahasa yang didukung oleh teknologi dalam konteks pengajaran bahasa Inggris. Melalui tinjauan komprehensif terhadap literatur yang relevan, berbagai studi penelitian ditelaah untuk mendapatkan wawasan tentang dampak dan potensi teknologi dalam pembelajaran bahasa. Temuan-temuan tersebut menyoroti bahwa penggunaan teknologi baru secara positif berkontribusi pada keterampilan belajar bahasa peserta didik dan meningkatkan kemahiran mereka secara keseluruhan. Pembelajaran mobile dan perangkat TIK telah diidentifikasi sebagai sumber daya yang efektif yang memfasilitasi pembelajaran bahasa Inggris dengan menyediakan lingkungan belajar yang mudah diakses dan efisien. Selain itu, penelitian menunjukkan bahwa pembelajaran bahasa yang didukung oleh teknologi sama efektifnya dengan pembelajaran dengan guru, yang mengindikasikan potensi teknologi untuk menawarkan pengalaman belajar yang dipersonalisasi dan disesuaikan. Namun, sangat penting untuk memberikan pelatihan dan dukungan yang tepat kepada para guru agar mereka dapat mengintegrasikan teknologi ke dalam praktik pengajaran mereka dengan percaya diri. Institusi pendidikan harus menawarkan program pelatihan yang komprehensif dan mengalokasikan waktu yang cukup bagi para guru untuk meningkatkan keterampilan teknologi mereka dan dengan percaya diri memanfaatkan teknologi pendidikan. Temuan-temuan ini menggarisbawahi pentingnya teknologi dalam meningkatkan hasil pembelajaran bahasa dan menekankan perlunya dukungan berkelanjutan dan pengembangan profesional bagi para guru dalam mengintegrasikan teknologi ke dalam pengajaran bahasa.

**Kata Kunci:** pembelajaran bahasa yang ditingkatkan dengan teknologi, pengajaran bahasa Inggris

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## **INTRODUCTION**

In recent years, the integration of technology in education has brought significant changes to the field of language teaching and learning. With the advancements in technology and the increasing availability of digital resources, educators have started exploring innovative ways to enhance language learning experiences. One area that has gained considerable attention is technology-enhanced language learning, which refers to the use of digital tools and resources to support language instruction and practice. This meta-analysis study aims to systematically examine the effectiveness of various English language teaching tools in improving language proficiency and learner engagement. Ningsih & Sari (2021) said that Teachers need to demonstrate greater creativity and innovation in the way they present educational content. Therefore, integrating technology is one of the solutions to teaching problem. As English language learning holds important role in students' ability in communication as the language is used widely, not only for educational purpose only, but also for non-formal situation (Sari, 2023).

Technology-enhanced language learning offers numerous benefits and opportunities for both teachers and learners. It provides access to a wide range of authentic language materials, interactive activities, and multimedia resources, which can facilitate language acquisition and foster learners' engagement and motivation. Moreover, technology offers the flexibility of anytime, anywhere learning, enabling learners to engage with language learning materials at their own pace and convenience. As the use of technology becomes increasingly prevalent in educational settings, it is crucial to evaluate its impact on language learning outcomes to inform instructional practices and promote effective pedagogical approaches. As Rusmiyanto et al (2023) state that technology such as AI (Artificial Intelligence) has the capacity to greatly improve the communication abilities of individuals learning the English language through the provision of customized and engaging learning experiences.

To conduct this meta-analysis study, a comprehensive review of relevant literature was conducted, encompassing studies published in peer-reviewed journals and conference proceedings. Studies that investigated the effects of technology-enhanced language learning tools on English language proficiency, learner engagement, and other related outcomes were included. The selected studies employed various types of technology-based interventions, such as computer-assisted language learning (CALL) software, online language learning platforms, mobile applications, and virtual reality simulations.

The findings of this meta-analysis study aim to provide insights into the overall effectiveness of technology-enhanced language learning tools in English language teaching. Additionally, it seeks to identify specific features and characteristics of these tools that contribute to their effectiveness. Understanding the strengths and limitations of different technology-based interventions will enable

educators and practitioners to make informed decisions regarding the integration of technology into language instruction.

In conclusion, technology-enhanced language learning has the potential to transform the way English language teaching is approached. This meta-analysis study aims to contribute to the existing body of knowledge by systematically examining the effectiveness of various technology-based tools in enhancing language proficiency and learner engagement. By synthesizing the findings from multiple studies, this research aims to provide valuable insights and recommendations for educators, curriculum developers, and policymakers in their efforts to optimize technology integration in language education.

## **METHOD**

This meta-analysis study on technology-enhanced language learning utilizes a systematic and comprehensive approach to analyze existing research studies in the field of English language teaching. The research method involves conducting an extensive literature review to identify relevant articles and research studies that examine the impact of technology on language learning outcomes. A thorough search of databases, academic journals, and other reliable sources is conducted to gather a diverse range of studies. The inclusion criteria for the selection of studies are based on their relevance to technology-enhanced language learning, English language teaching, and the use of digital tools and resources. The selected studies are critically analyzed and synthesized to identify common themes, trends, and findings related to the effectiveness of technology in language learning. The research method involves a systematic evaluation of the research design, sample size, data collection methods, and statistical analysis employed in each study. By aggregating and synthesizing the findings of multiple studies, this meta-analysis aims to provide a comprehensive overview of the impact of technology on English language teaching and learning outcomes.

By employing a meta-analysis approach, this research provides a rigorous and comprehensive analysis of the existing literature on technology-enhanced language learning tools. It offers valuable insights into the overall effectiveness of these tools, identifies potential variations across different interventions, and informs instructional practices and decision-making in English language teaching.

## **RESULT AND DISCUSSION**

To analyze the technology-enhanced language learning in English, the meta-analysis method can be seen in the following table:

Table 1. the result of meta-analysis

<b>No</b>	<b>Source</b>	<b>Journal</b>	<b>Research Method</b>	<b>Research Results</b>
1	Ahmadi, D. M. R. (2018)	Journal of research in English	literature review	the effective use of new technologies improves learners' language learning skills

		education, 3(2), 115-125.		
2	Elaish, M. M., Shuib, L., Ghani, N. A., & Yadegaridehkordi, E. (2019)	Educational Review, 71(2), 257-276	literature review	1.Studying mobile learning helps us understand its impact and potential for learning English. 2.Vocabulary is the most frequently practiced skill, and motivation is often identified as a common challenge in English language learning.
3	Alkamel, M. A. A., & Chouthaiwale, S. S. (2018)	Veda's journal of english language and literature- JOELL, 5(2), 29-33	literature review	ICT tools have the potential to facilitate the advancement of English language learning. Technology has a significant impact on the field of second or foreign language education and can be effectively employed in secondary English as a Foreign Language (EFL) classrooms.
4	Zhao, Y. (2003)	<i>CALICO journal</i> , 7-27	literature review	Language learning with the support of technology is equally effective as learning with human teachers.
5	Hashemi, A., & Kew, S. N. (2021)	<i>Bilgi ve İletişim Teknolojileri Dergisi</i> , 3(1), 77-88.	literature review	The administrations offer comprehensive training programs and allocate adequate time to enable teachers to confidently utilize ICTs in English language instruction
6	Shahrol, S. J. M., Sulaiman, S., Samingan, M. R., & Mohamed, H. (2020)	<i>International Journal of Information and Education Technology</i> , 10(9), 709-714	literature review	The provision of appropriate educational technology is a crucial factor in enhancing the effectiveness of English language teaching and learning.
7	Seraj, P. M. I., Klimova, B., & Habil, H. (2021)	<i>Sustainability</i> , 13(10), 5674	literature review	The use of mobile phones proves to be beneficial in English language teaching (ELT) by creating accessible, widespread, and efficient learning environments, despite certain limitations such as charging concerns, small screen size, distractions, and teacher confidence issues.
8	Dashtestani, R., & Stojkovic, N. (2016)	<i>Journal of Teaching English for Specific and Academic Purposes</i> , 3(3), 435-456	literature review	There is positive impact of using course/learning management systems, corpora, and wikis in ESP instruction. Course/learning management systems enhance the quality of ESP instruction and improve students' listening comprehension. Corpora aid in developing students' academic vocabulary, word combinations, and communication skills. Wikis support ESP students in more efficient academic writing. Although there are reports of the benefits of using chatting and blogs in ESP instruction, their effectiveness and learning outcomes lack clear support

				from experimental studies. Lastly, there is a lack of research and empirical evidence regarding the use of various technologies in ESP instruction.
9	Erbas, İ., Çipuri, R., & Joni, A. (2021)	<i>Linguistics and Culture Review</i> , 5(S3), 1316-1336	Mix method	Technology acts as a facilitator in the instruction and learning of English, providing teachers with improved opportunities for teaching.
10	Nawaila, M. B., Kanbul, S., & Alhamroni, R. (2020)	<i>Journal of Learning and Teaching in Digital Age</i> , 5(1), 16-23.	literature review	The utilization of technology in English language teaching and learning has witnessed a significant rise over the past three years. This reflects the global inclination towards integrating technology in educational institutions worldwide. Furthermore, the adoption of technology for learning purposes is progressively advancing in the modern world.

The table presents a collection of sources that contribute to the discussion on technology-enhanced language learning and its impact on English language teaching. These studies utilize various research methods, including literature reviews and mixed methods approaches, to investigate the effectiveness and potential of technology in language learning. Here, we will discuss the key findings and implications of these studies.

1. Ahmadi (2018) conducted a literature review and found that the effective use of new technologies improves learners' language learning skills.
2. Elaish et al. (2019) conducted a literature review and highlighted two important findings. Firstly, studying mobile learning helps us understand its impact and potential for learning English. Secondly, vocabulary is the most frequently practiced skill, while motivation is commonly identified as a challenge in English language learning.
3. Alkamel and Chouthaiwale (2018) conducted a literature review and emphasized the potential of ICT tools in facilitating English language learning. They also noted the significant impact of technology on second or foreign language education and its effective use in secondary EFL classrooms.
4. Zhao (2003) conducted a literature review and found that language learning with technology support is equally effective as learning with human teachers.
5. Hashemi and Kew (2021) conducted a literature review and highlighted the importance of comprehensive training programs and sufficient time allocation for teachers to confidently utilize ICTs in English language instruction.
6. Shahrol et al. (2020) conducted a literature review and emphasized that the provision of appropriate educational technology is crucial for enhancing the effectiveness of English language teaching and learning.

7. Seraj et al. (2021) conducted a literature review and highlighted the benefits of using mobile phones in English language teaching, creating accessible and efficient learning environments. However, they also mentioned certain limitations such as charging concerns, small screen size, distractions, and teacher confidence issues.
8. Dashtestani and Stojkovic (2016) conducted a literature review and identified the positive impact of using course/learning management systems, corpora, and wikis in ESP (English for Specific Purposes) instruction. They found that these tools enhance the quality of ESP instruction and improve specific language skills. However, the effectiveness of other tools like chatting and blogs in ESP instruction lacks clear support from experimental studies.
9. Erbas et al. (2021) employed a mixed methods approach and found that technology serves as a facilitator in English language instruction, providing teachers with improved opportunities for teaching.
10. Nawaila et al. (2020) conducted a literature review and observed a significant rise in the utilization of technology in English language teaching and learning. This reflects the global trend of integrating technology in educational institutions and the progressive advancement of technology adoption for learning purposes.

Overall, these studies highlight the positive impact and potential of technology in English language teaching and learning. They emphasize the importance of effective training, suitable technological resources, and supportive organizational structures to maximize the benefits of technology integration in language education. However, certain limitations and challenges such as motivation, teacher confidence, and the need for further research in specific areas remain noteworthy in this field.

### ***Discussion***

Based on the provided sources, there is a general agreement among the research studies regarding the topic of technology-enhanced language learning. The studies collectively suggest that technology can have a positive impact on English language teaching and learning. Here are the key points of agreement:

1. The effective use of new technologies improves learners' language learning skills (Ahmadi, 2018).
2. Studying mobile learning helps understand its impact and potential for learning English (Elaiash et al., 2019).
3. ICT tools have the potential to facilitate the advancement of English language learning (Alkamel & Chouthaiwale, 2018).
4. Language learning with technology support is equally effective as learning with human teachers (Zhao, 2003).

5. Comprehensive training programs and sufficient time allocation enable teachers to confidently utilize ICTs in English language instruction (Hashemi & Kew, 2021).
6. The provision of appropriate educational technology enhances the effectiveness of English language teaching and learning (Shahrol et al., 2020).
7. Mobile phones prove to be beneficial in English language teaching, creating accessible and efficient learning environments (Seraj et al., 2021).
8. Using course/learning management systems, corpora, and wikis in ESP instruction has a positive impact on specific language skills (Dashtestani & Stojkovic, 2016).
9. Technology serves as a facilitator in the instruction and learning of English (Erbaş et al., 2021).
10. The utilization of technology in English language teaching and learning has witnessed a significant rise globally (Nawaila et al., 2020).

These research studies collectively support the idea that technology can enhance language learning outcomes, improve teaching methodologies, and create more engaging and effective learning environments. They provide evidence for the potential of technology in improving various language skills, such as vocabulary development, listening comprehension, academic writing, and communication abilities. The studies also emphasize the importance of providing proper training and support for teachers to effectively integrate technology into their language teaching practices.

## **CONCLUSIONS**

In conclusion, the reviewed research studies provide valuable insights into technology-enhanced language learning in the field of English language teaching. The findings collectively support the idea that technology plays a significant role in improving language learning skills. The effective use of new technologies has been shown to enhance learners' language proficiency and offer new possibilities for language acquisition. Mobile learning and ICT tools have emerged as valuable resources that facilitate English language learning, providing accessible and efficient learning environments. Importantly, the research also indicates that technology-supported language learning is as effective as learning with human teachers, suggesting that technology can offer personalized learning experiences and cater to individual needs. However, to ensure successful integration, it is crucial to provide proper training and support for teachers, enabling them to confidently utilize educational technologies. By offering comprehensive training programs and allocating sufficient time for teachers, educational institutions can empower educators to effectively employ technology in language teaching. These conclusions highlight the importance of technology in enhancing language learning outcomes and underscore the need for continuous support and professional development for teachers in adopting and implementing technology-enhanced language learning approaches.

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