

A SYSTEMATIC REVIEW OF MOBILE APPLICATIONS IN ENHANCING ENGLISH FOREIGN LEARNERS' SPEAKING SKILLS

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ABSTRACT

This systematic review investigates the effects of mobile applications on improving the speaking skills of learners studying English as a foreign language. It emphasizes how technologies like DuoLingo and Spotify deliver instant feedback on grammar, punctuation, and style, which aids in effective revisions and encourages creativity through brainstorming and vocabulary suggestions. The review focuses on personalized learning experiences by examining speaking style patterns, enabling tailored resources that enhance student engagement and motivation. Utilizing the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2020 checklist, the study analyzes 22 peer-reviewed articles published in 2024, demonstrating that mobile application tools foster collaboration among students through peer feedback and collaborative projects, thereby strengthening critical thinking and communication skills. Moreover, mobile applications enhance accessibility for learners with disabilities by incorporating features like text-to-speech and speech recognition. The findings indicate that as mobile application technology advances, its integration into language education will significantly improve teaching methods and learning outcomes. This research highlights the necessity of adjusting pedagogical practices to fully harness the potential of mobile applications in facilitating effective language acquisition, particularly in speaking, and provides valuable insights for future investigations into the role of mobile applications in educational contexts.

Keywords: *Mobile Applications, EFL, Speaking Skills*

BACKGROUND

This paper explores the educational use of mobile applications to improve English speaking skills among foreign language learners. In essence, it provides an overview of how mobile applications can assist students in developing their speaking abilities. The paper begins with a definition of mobile applications, particularly in the context of enhancing English language skills. It further discusses how these applications are employed to support the advancement of students' speaking skills. Ardiansyah and Nana (2020) in (Shaqila et al., 2024) stated that mobile learning or learning with mobile devices, refers to the use of devices such as smartphones and tablets for educational purposes.

Setyadi and Kohar (2017) said that the use of interesting learning media such as mobile application can increase students' motivation and interest in learning, so that in the end it helps them understand the material better. Learning media also allows for variations in teaching methods, so that the learning process becomes more dynamic and reduces boredom. This can increase the active participation of students and give them the opportunity to learn independently outside the classroom, especially with the support of digital technology.

Efendi (2018) in (Sappaile et al., 2023) stated that Overall, the use of mobile applications in children's education has great potential to increase the participation and involvement of parents. With easy access to information, effective communication, progress monitoring, collaboration with schools, as well as

time and place flexibility, parents can play a more active and involved role in their children's education process. The application of communication between parents and teachers allows teachers to respond to parents' questions related to student development more easily

Some effective teaching strategies to improve students' speaking ability include creating a supportive environment, providing opportunities for speaking practice, (Holmes, 2013) encouraging students' involvement and active role, providing feedback, and utilizing technology in the learning process. According to (Herlina et al., 2021) using mobile Application such as Duolingo able to help students in improving their speaking students speaking skills. (Iryani, 2022) said that the use of the use of other mobile applications such as snack video can help students' confidence in learning.

Lastly, the purpose of this paper was to understand the opinions of different academics regarding the value of mobile applications in improving students' speaking abilities. As previously said, the effectiveness of mobile applications, specifically with regard to students' speaking abilities, will be emphasized in this study.

RESEARCH METHOD

To perform this systematic literature review, PRISMA 2020 (The Preferred Reporting Items for Systematic Review and Meta-Analyses). This systematic literature review employed the comparative research approach, specifically descriptive comparison. This paper serves as a systematic attempt to show how Mobile Application differs and stands out from other learning platforms, as it aims to describe and explain the use of mobile applications in enhancing the students' speaking skills in English.

This investigation theoretically the essential elements of how artificial intelligence enhances the effectiveness of teaching and learning the English language, with a specific focus on speaking skills. It evaluates selected papers related to the application of artificial intelligence. The objective of this systematic literature review is to provide readers with a clearer understanding of the role of artificial intelligence in the classroom, particularly in improving students' speaking abilities. The review was based on information obtained from electronic journals, specifically articles from the ERIC database published in 2024. The researchers conducted a systematic analysis through four phases: identification, screening, eligibility, and inclusion.

This phase of the systematic review focused on identifying pertinent literature. It comprised two primary processes. The initial step involved gathering relevant articles and selecting appropriate ones based on established inclusion and exclusion criteria. Research of this nature may be subject to the limitation of publication bias. Additionally, this research process did not include the examination of literature from sources outside of journal databases, such as book chapters, white papers, or technical reports.

Consequently, the research concentrated on analyzing peer-reviewed journals as the primary sources. The main database utilized for this study was ERIC, as indicated in Table 1. Additionally, the papers included in this systematic review were published in 2024. Given the increasing volume of scientific publications, contemporary literature evaluations must consider not only the overall trends and advancements in a research field but also the latest findings to remain relevant. A variety of keywords were employed in this process, including Mobile Application, speaking skills in education, and the role of Mobile Application in enhancing students' speaking abilities.

Table 1. Source Journals

Journal Source	Quantity	Keywords
JEELL (JOURNAL OF ENGLISH EDUCATION, LINGUISTICS AND LITERATURE)	1	duolingo, technology-based instructional media, learning speaking.
EDUKATIF Jurnal Ilmu Pendidikan	1	Duolingo Application, Online Learning, Students' Perceptions
Edulitics (Education, Literature, and Linguistics) Journal	1	Hello Talk application, technology, speaking skills.
Journal on Education	1	Technology Integration, English proficiency, Senior High Students
Jurnal Intelek Insan Cendikia	1	media communication, Technology-enhanced learning, English Proficiency
Jurnal Karimah Tauhid (Kaya Ilmiah Mahasiswa Bertauhid)	3	bahasa, globalisasi, bahasa inggris, Aplikasi, Website, Bahasa Inggris, bahasa, strategi, listening, kosakata
Community Development Journal: Jurnal Pengabdian	1	Teknologi, Aplikasi ELSA Speak, Keterampilan Berbicara Bahasa Inggris
ADI Bisnis Digital Interdisiplin Jurnal	1	Contribution of Information Technology, Improvement, Training, English, Information Technology
Jurnal Pengabdian UNDIKMA	1	Training; Listening and Speaking Applications; Vocabulary; Learning Tool.
Jurnal Ummat	1	Mobile Learning, Apps, Speaking Skills, English, Systematic Review.
SAMBARA: Jurnal Pengabdian Kepada Masyarakat	1	Duolingo App, Literacy, Capcut App
Jurnal Pengabdian Masyarakat Intimas (Jurnal INTIMAS): Inovasi Teknologi	1	Public Speaking, Pelatihan, Penyiaran, Aplikasi Zarahadio
Wahana Jurnal Pengabdian kepada Masyarakat,	1	Duolingo Application, Vocabulary, English
Jurnal Pengabdian Masyarakat Bumi Rafflesia	1	Pelatihan, Bahasa Inggris, MALL

Jurnal Informatika dan Teknik Elektro Terapan	1	Public Speaking; Pembelajaran Adaptif; User Centered Design; Kecemasan Public Speaking
EJI (English Journal of Indragiri): Studies in Education	1	English Speaking Materials, PowToon Application, EFL Students
APPA: Jurnal Pengabdian Kepada Masyarakat	1	Augmented Reality, Ceramah, Ketrampilan Menulis, Ketrampilan Berbicara, Ketrampilan Berpikir Kritis
Pancasona: Pengabdian dalam Cakupan Ilmu Sosial dan Humaniora	1	Public Speaking; Adaptive Learning; User Centered Design; Public Speaking Anxiety
Pendas: Jurnal Ilmiah Pendidikan Dasar	1	mind mapping, tri-N, speaking skills
Indonesian Research Journal on Education	1	Foreign Language, Speaking
Explore IT: Jurnal Keilmuan dan Aplikasi Teknik Informatika	1	Bahasa Inggris, Game Edukasi, Android, Fisher Yates Shuffle
Jurnal Abdimas Adpi Sosial dan Humaniora	1	Training and Mentoring; Public Speaking; Kampung Hija Pesantren Students
Briliant: Jurnal Riset dan Konseptual	1	E-module, English, SIGIL
JOURNAL SAINS STUDENT RESEARCH	1	Interest in Learning, Quizizz Application
Journal of Sustainable Community Development	1	pronunciation skill aplikasi fonidiomslinking sounds speaking
Jurnal Darma Agung	1	Industrial Revolution 5.0, Learning Media, Artificial Intelligence (AI) Video, Contextual Oral Language Skills Learning
JISHUM: Jurnal Ilmu Sosial dan Humaniora	1	Duolingo Application, Vocabulary, english learning

Phase 2: screening phase

As the suitable papers in various journals were chosen, Duplicates were identified and eliminated within a week. The remaining papers were subsequently re-evaluated to confirm that they aligned with the researcher’s criteria.

Phase 3: Eligibility Phase

The collected papers were assessed for eligibility in the third phase, where they needed to meet the criteria specified in the inclusion section of Table A. This step is crucial for ensuring that the data gathered in this study are of high quality and reliability.

Table 2. Inclusion Criteria

Inclusion
Artificial Intelligence in speaking proficiency Research methods: quantitative, qualitative, and mixed methods Participants or respondents from different educational levels Assessing the role of Artificial Intelligence in improving speaking skills Journal articles published in 2024

The selected papers concentrate on researchers who employ Artificial Intelligence to improve students' speaking abilities. These papers were evaluated based on the criteria presented in Figure 1.

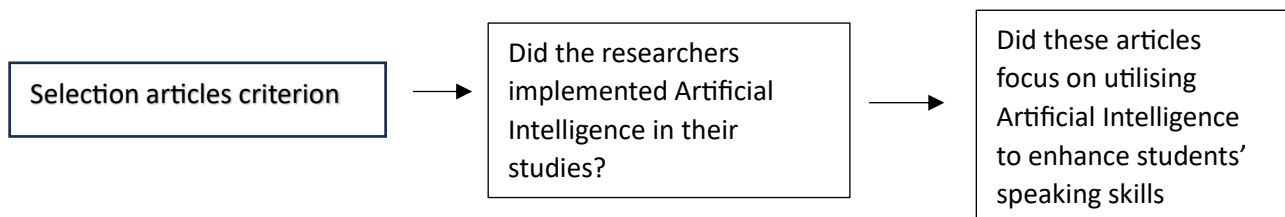


Figure 1. Assessment criterion in choosing articles

Phase 4: Exclusion Phase

Following the assessment of the articles for eligibility in the third phase, the remaining articles were excluded from this systematic literature review. The criteria for the excluded articles are outlined in Table 3. Similar to the eligibility phase, the exclusion step was essential for ensuring that the researchers gathered high-quality data.

Table 3. Exclusion Criteria

Exclusion
Artificial Intelligence was not applied to speaking skills. The studies did not examine or assess the role of artificial intelligence. Teaching and learning methods that did not incorporate artificial intelligence. Articles that were not published in 2024.

A total of 30 articles discussed the role of artificial intelligence in improving students' speaking skills. The majority of the analyzed articles featured a combination of quantitative, qualitative, and mixed-

method studies, as illustrated in Table 4. The participants in all of these studies spanned various educational levels, from primary school to university.

Table 4. Quantity of journals based on research design

Research Design	Quantity
Quantitative Design	10
Qualitative Design	6
Mixed-Method Design	9
Review of Literature	4

Figure 2 provides a detailed overview of the entire process from Phase 1 to Phase 4, following the guidelines outlined in The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 checklist for conducting this systematic literature review.

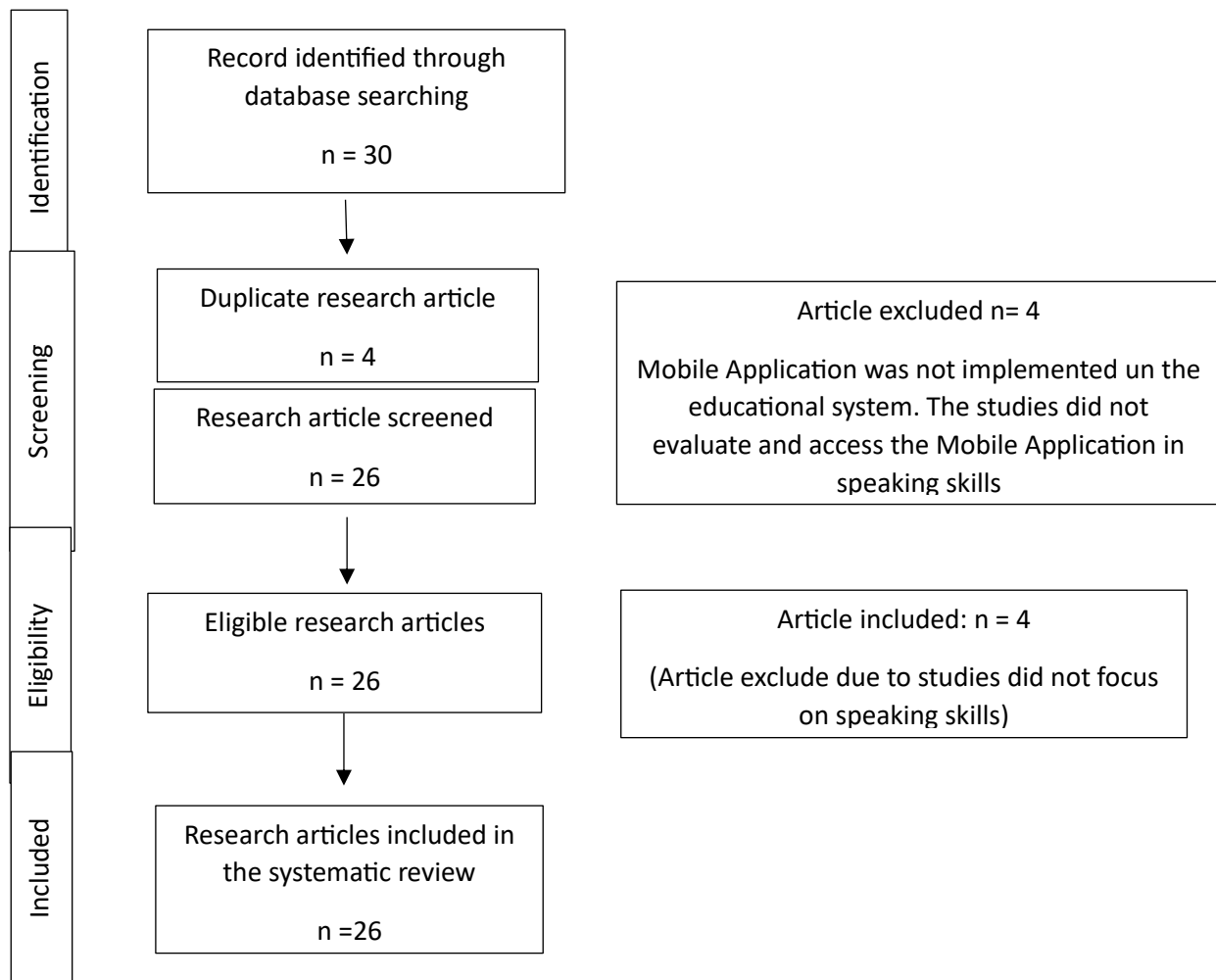


Figure 2. Stream chart of the research article selection process

RESEARCH FINDINGS

In this section, we will thoroughly examine the findings of the research papers. After a four-phase selection process, 10 articles were deemed suitable for this systematic review due to their relevance to the investigations. Various researchers have explored the impact of mobile application on improving

students' speaking skills. The most significant and pioneering studies on this topic are summarized in Table 5 below.

Table 5. Main Characteristics, Perspectives and perception of using Artificial Intelligence in enhancing students' speaking skills

Authors	Territory	Study purpose	Participants	Discussion
(Kusuma et al., 2024)	Universitas PGRI Jombang	to determine the effectiveness of the Duolingo application as a technology-based learning medium in learning to speak English, especially in four aspects of speaking	25 students in eleventh grade	The research results show that there is a significant difference in students' speaking skills before and after learning using Duolingo as a technology-based learning media. Furthermore, this study also revealed that using Duolingo in learning to speak is effective in all aspects – fluency, accuracy, pronunciation, and vocabulary
(Raahayu et al., 2024)	Institut Pariwisata dan Bisnis Internasional, Bali, Indonesia	To collect research data using written text from interview transcripts and documentation, there are three steps in analyzing this research data; The first step is the process of selection, concentration, attention, simplification, abstraction, and transformation of raw data arising from interview results, and documentation of student learning processes using Duolingo	mahasiswa di IPB International	Mobile language learning applications have the potential to significantly increase English language proficiency among hospitality management students. Learners evaluate Duolingo effectively in terms of accessibility, context, control, connectivity, accessibility, mixing, content, technical support, and cost. Duolingo is an effective tool for learning English because it offers many advantages to facilitate the learning process. The program is easy to use and encourages users to improve their English. They do too feel comfortable and appreciate learning English
(Samuel Juliardi Sinaga et al., 2024)	Fakultas Keguruan Dan Ilmu Pendidikan, Universitas HKBP Nommensen, Indonesia	to see the use of the Duolingo application in increasing literacy with the help of the Capcut application	SMA 37 PGRI BATANGKUIS students	The implementation method that we have developed involves active collaboration between the PkM team and the school, especially SMA 37 PGRI Batangkuis students (Prapbowati, 2022). In an effort to increase digital literacy with the Duolingo application assisted by CapCut, we will contribute significantly to increasing students' digital literacy. -students of SMA 37 PGRI Batangkuis through the use of the Duolingo application in learning
(Purnaningsih et al., 2024)	Universitas Pamulang Tangerang	To increase student motivation, teachers need to use creative methods, such as learning	10-30 YPUI Parung Vocational	The method used by the PKM team includes presentation of material followed by practice and questions and answers related to training in using the Duolingo application. The PKM

			applications that can make the classroom atmosphere more enjoyable. One application that supports English learning is Duolingo	School students		team, through PKM funds, provides assistance for the implementation of the fulfillment of facilities and infrastructure that can support the implementation of this PKM, so that the expected program outcomes can be implemented well.
(Lela 2016)	Rahmawati,	Universitas Bumigora, Indonesia	to improve your English skills, especially English vocabulary, by using the Duolingo application. This application is a gamification application, meaning users can learn English like playing games because this application uses audio-visual methods in learning	class VII student at SMPN 19 Mataram		This research method is quantitative research in the form of a pre-experimental design involving one group pre-test and post-test which aims to determine the effect of implementing the Duolingo application as a medium for increasing students' vocabulary knowledge in class VII at SMPN 19 Mataram. The population in this study was all students from class VII A to E, totaling 150 students, and each class consisted of students.

The table above offers a detailed overview of various aspects concerning the effectiveness of mobile learning applications in enhancing English speaking skills. The primary focus of the study includes the effectiveness of the apps in the context of language learning, specific components or features that enhance speaking skills, as well as student motivation and engagement. The research encompasses the analysis of interactive features such as speaking activities and conversation simulations, the roles of teachers and parents in supporting learning, and the use of gamification to create an engaging learning environment. Additionally, the study highlights challenges such as teacher readiness and parental involvement. Overall, the findings underscore the importance of integrating technology with effective pedagogical approaches to maximize the benefits of mobile learning applications in English education.

DISCUSSION

The aim of this research is to explore the influence of using Duolingo in teaching English vocabulary on students' vocabulary understanding and their views regarding this application. It is hoped that students will be more motivated to learn vocabulary and gain better understanding thanks to this media. They can learn while playing and apply English in daily interactions. Based on the implementation that has been carried out, the Duolingo application functions as a language learning tool. Some of the benefits include: first, this application is free and easily accessed by anyone with a device connected to the internet. Apart from being able to be accessed from various devices, users can easily use this application anywhere as long as there is a supporting network. Second, context-based lessons. Each lesson is based on real conversations, allowing users to understand vocabulary and grammar in a more relevant context. Third, voice recognition. Duolingo utilizes speech recognition technology to help users improve pronunciation and improve listening skills. Fourth, personalized learning. Duolingo adapts its lessons to each user's needs and abilities. If the user already has basic knowledge, this application will prepare more challenging material. The app's AI technology tracks user progress and adjusts the order and difficulty of workouts, so users always get a balance between familiar and more challenging content. Fifth, gamification. Duolingo integrates game and challenge elements in the language learning process, such as collecting points, leveling up, and competition with friends or other users. Sixth, adaptive learning. This application uses adaptive learning technology that allows users to learn according to their ability level. Seventh, multilingual support. Duolingo is available in multiple languages and allows users to learn more than one language simultaneously. Lastly, flexibility. Duolingo allows users to learn anytime and anywhere via mobile or web applications.

The research by (Shaqila et al., 2024) shows that the findings demonstrate that mobile learning applications significantly improve English speaking skills, offering valuable insights for the development of more effective learning strategies. Based on existing studies, mobile learning applications demonstrate significant potential in improving English speaking skills. These apps offer flexible and interactive learning materials that motivate students. However, their effectiveness is highly dependent on their integration into the learning process. Moreover, the roles of teachers and effective communication are critical to the success of using mobile applications in education. Challenges such as access to technology and students' proficiency with the apps also need to be addressed.

Another finding in (Raj & Baisel, 2022) revealed that mobile-assisted language learning is becoming a significant medium for teaching and studying second languages, though there is still considerable potential for further development in this field. The findings indicate that mobile apps enhance English-speaking skills in a moderate yet consistent manner, irrespective of socioeconomic background. Self-motivation plays a crucial role in this process. The study underscores the potential benefits of mobile apps for improving English proficiency, providing valuable insights for educators and policymakers.

Kusmaryani et al., (2019) also stated that the statistical analysis indicated a significance value of $.000 < 0.05$, suggesting that mobile applications significantly enhanced both students' English speaking skills and critical thinking abilities. Interviews revealed that students were highly enthusiastic about exploring and practicing with mobile learning applications, despite facing issues with unstable internet connections. Mobile learning technology presents opportunities for both teachers and students to enhance the quality of education. It can be applied to any subject by selecting suitable mobile learning applications. This proved the enthusiasm and good result using mobile application in enhancing students' speaking ability,

CONCLUSION

In summary, mobile language learning applications have significant potential to improve English proficiency among students in hospitality management. Learners assess Duolingo positively regarding its accessibility, contextual relevance, user control, connectivity, content blending, technical support, and cost-effectiveness. Duolingo is recognized as an effective tool for learning English, offering

numerous benefits that facilitate the learning process. Users find the program user-friendly and motivating, leading to a comfortable and enjoyable experience while learning English. Additionally, most learners believe that Duolingo effectively aids in mastering basic English. However, there are some drawbacks to using Duolingo, such as challenging expressions, insufficient grammar explanations, and limitations in its application within certain learning environments. Duolingo has demonstrated its value as a mobile learning resource that teaches English from the basics, presenting information in engaging and varied ways that promote self-directed learning. Nevertheless, it should not be relied upon as the sole instrument for language acquisition. Learners may need to seek out and incorporate appropriate supplementary resources to enhance their language learning experience. The researcher encourages future studies to implement Duolingo in teaching and learning activities due to its many advantages. Its flexibility, accessibility, and engaging features make it a valuable resource for language acquisition in specialized educational contexts. However, it is crucial to address challenges such as technical difficulties and content quality to maximize its effectiveness. This study offers important insights for educators, developers, and stakeholders in the hospitality sector to optimize the integration of mobile language learning applications into language curricula, ultimately aiding in the professional growth and success of hospitality management students in an increasingly globalized environment.

The main aim of this research is to spread the use of the Duolingo application as a means to increase students' knowledge, as well as to identify the influence of Duolingo on students. For beginner learners, Duolingo is an effective tool in basic teaching and learning. Students are very interested in this application as they show a positive response; easy to understand, provides a fair opportunity for all students to practice the material, and helps reduce learning frustration and motivates them to learn new concepts. This study has proven that mobile applications have a good and significant influence in helping students improve their English speaking skills. This is also supported by all the articles that were also studied.

Based on various articles, mobile learning applications have great potential to develop students' English speaking skills. Interactive features such as conversation exercises, direct communication with teachers, and gamification can increase students' motivation and engagement in learning. However, to get the best results, support from external factors such as teacher readiness and skills, as well as active involvement of parents in supporting their children's learning process is needed. Other challenges that need to be considered are the potential dependence on technology and limited internet access. Based on an evaluation of various existing studies, it can be concluded that mobile learning applications have significant potential in improving students' English speaking skills. The integration of interactive features such as speaking activities, direct communication with teachers, and gamification elements can increase student motivation and involvement in the learning process. However, to achieve maximum results, support is needed from external factors such as teacher readiness and ability, as well as the active role of parents in supporting children's learning. Additionally, it is important to address various challenges, including over-reliance on technology and the problem of inadequate internet connection

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