Boosting High School Students' Speaking Proficiency with Gemini AI

Syafaruddin Marpaung

SMA Negeri 2 Kota Tanjungbalai
Syafaruddinmarpaung91@guru.sma.belajar.id

Abstrak: Studi ini menyelidiki dampak AI Gemini dalam meningkatkan kemahiran berbicara di antara 30 siswa sekolah menengah atas menggunakan Penelitian Tindakan Kelas (PTK) dengan pendekatan metode campuran. Studi ini mengamati peningkatan progresif dalam kemahiran berbicara selama tiga siklus berulang, dengan skor rata-rata siswa meningkat dari 65 pada siklus pertama menjadi 85 pada siklus ketiga. Peningkatan ini tercermin dalam peningkatan kefasihan, kosakata, dan kepercayaan diri. AI Gemini memberikan latihan berbicara yang dipersonalisasi dan umpan balik waktu nyata, yang mengarah pada peningkatan keterlibatan dan pembelajaran adaptif. Studi ini menyimpulkan bahwa mengintegrasikan AI ke dalam kelas berbicara dapat meningkatkan kemahiran bahasa melalui umpan balik dan adaptasi berulang.

Kata kunci: Peningkatan, Siswa Sekolah Menengah Atas, Kemahiran Berbicara, AI Gemini

Abstract*: This study investigates the impact of Gemini AI on improving speaking proficiency among 30 high school students using Classroom Action Research (CAR) with a mixed-methods approach. The study observed progressive improvements in speaking proficiency over three iterative cycles, with students' average scores rising from 65 in the first cycle to 85 by the third cycle. These gains were reflected in enhanced fluency, vocabulary, and confidence. Gemini AI provided personalized speaking practice and real-time feedback, leading to increased engagement and adaptive learning. The study concludes that integrating AI into speaking classes can enhance language proficiency through iterative feedback and adaptation.*

Keywords*: Boosting, High School Students, Speaking Proficiency, Gemini AI*

INTRODUCTION

In today's globalized world, proficiency in spoken English has become an essential skill for students. The ability to communicate fluently in English provides numerous advantages, not only in academic settings but also in future professional endeavors. Speaking skills, specifically, are critical in helping individuals express ideas, participate in discussions, and engage in collaborative problem-solving (Crisianita & Mandasari, 2022; Srinivas Parupalli, 2019). Moreover, English is recognized as the international lingua franca, further underscoring the need for students to develop strong oral communication skills to compete on a global scale (Kuteeva, 2020; Si, 2019). In this context, improving students' speaking abilities in English classrooms has become a central goal for educators worldwide.

Despite its importance, many students face significant challenges in acquiring strong speaking skills, particularly in non-native English-speaking countries. The situation at SMA Negeri 2 Kota Tanjungbalai reflects this broader global challenge. The students at this school exhibit varying levels of English-speaking proficiency, which creates disparities in classroom engagement and learning outcomes. While some students are confident and capable of participating in speaking activities, others struggle with basic sentence structure and lack the confidence to express themselves in English. This situation not only hampers individual progress but also affects the overall dynamics of classroom learning. Consequently, it has become necessary to explore innovative strategies, such as the integration of technology, to address these challenges and foster an inclusive learning environment (Kumi-Yeboah et al., 2020; Mhlongo et al., 2023).

Teaching speaking skills, however, presents unique challenges, especially in classroom settings where students have diverse proficiency levels. For instance, some students may lack foundational vocabulary and grammar knowledge, making it difficult to construct coherent sentences. Others might be capable of understanding English but struggle

with fluency and confidence when speaking aloud (Aizawa et al., 2020). Additionally, traditional speaking activities, such as pair conversations or class discussions, may not be engaging or effective for all learners, especially when these tasks fail to offer personalized feedback. Moreover, time constraints in class often limit opportunities for students to practice speaking sufficiently, leaving gaps in their development of oral communication skills. These challenges highlight the need for innovative approaches to improve students' engagement and effectiveness in acquiring speaking skills.

One potential solution to these challenges is the integration of artificial intelligence (AI) technologies specifically designed to enhance language learning experiences. Gemini AI, an interactive AI platform, offers personalized and adaptive speaking practice tailored to each student's proficiency level. By simulating real-life conversations and providing instant feedback, Gemini AI allows students to practice speaking in a low-pressure environment, reducing anxiety and increasing participation. This study aims to evaluate Gemini AI's effectiveness in boosting students' speaking proficiency at SMA Negeri 2 Kota Tanjungbalai. By examining its impact on students' speaking abilities, this research explores how AI can be leveraged to create more inclusive and dynamic language learning experiences (Smith & Carver, 2021).

Speaking skills are a fundamental component of language learning, as they directly influence learners' ability to communicate effectively in real-world contexts. Speaking is not merely the production of sounds or words, but an interactive process of constructing meaning, requiring a blend of grammar, vocabulary, pronunciation, and fluency (Masuram & Sripada, 2020). This multifaceted nature of speaking means that learners must develop both accuracy and automaticity, skills that are often difficult to achieve in traditional classroom settings. In this regard, teaching speaking demands more than just repetition of phrases; it involves the integration of various language aspects and the ability to navigate conversations fluidly, adapting to different situations and speakers (Miftahur Roifah, Eko kusumo, Desi Puspitasari, 2023). This theoretical understanding highlights the complexity of speaking skills and suggests that effective teaching methods must address these layers of learning to foster genuine communication ability.

One approach that has gained traction in educational theory is differentiated instruction. Differentiated instruction refers to tailoring teaching methods, resources, and learning activities to meet the diverse needs of students, recognizing that learners vary in their abilities, interests, and prior knowledge (Tomlinson, 2021). In language learning, differentiated instruction might involve adjusting the speaking task level to match individual students' proficiency levels, ensuring each learner is challenged appropriately. For example, while one student may practice basic sentence structures, another might engage in more complex discussions, achieving progress according to their abilities. The flexibility of this approach supports more inclusive learning environments where students feel adequately supported and motivated to improve their speaking skills (Bondie et al., 2019; Said Al Siyabi & Abdullah Al Shekaili, 2021)Differentiated instruction allows educators to foster meaningful speaking practice across a wide spectrum of student competencies by offering varied entry points into language activities.

In recent years, integrating technology, particularly Artificial Intelligence (AI), into language education has significantly transformed how students learn and practice speaking skills. AI-powered tools, such as speech recognition software and interactive language platforms, provide learners with opportunities to practice speaking in a low-stakes environment, receiving real-time feedback on pronunciation, grammar, and fluency (Orukpe, 2023; Shafiee Rad, 2024). These technologies offer a personalized learning experience by adapting content to individual learners' needs, thus aligning with the principles of differentiated instruction. AI can simulate real-life conversation scenarios, allowing students to practice speaking in various contexts without the pressure of a traditional classroom setting (Warschauer & Grimes, 2020). The ability of AI to offer consistent feedback and track progress makes it a valuable tool in enhancing learners' speaking proficiency, particularly in environments where individualized attention from teachers may be limited.

Several studies have explored the impact of AI and technology-enhanced learning in language education. A meta-analysis of AI applications in language learning found that students using AI-driven tools significantly improved speaking proficiency compared to traditional classrooms (Xiu-Yi, 2024). The use of AI in developing pronunciation accuracy among English learners reports notable gains in student confidence and language competence. These findings suggest that integrating AI into language instruction enhances learners' speaking abilities and boosts engagement and motivation (Widyasari & Maghfiroh, 2023). Moreover, research has highlighted the importance of incorporating AI tools in a broader instructional strategy, including teacher guidance and peer interaction (Niño & Umali, 2024).

Together, these studies provide a strong foundation for further investigation into how AI can be effectively implemented in language education to address diverse learner needs.

Research Methodology

Classroom Action Research (CAR) was employed in this study to address the challenge of improving students' speaking proficiency using Gemini AI. CAR is a practical approach that allows teachers to experiment with instructional strategies in their classrooms, gather data, and reflect on the outcomes (Rabgay & Kidman, 2023). This method was chosen because it aligns with the study's goal of testing a technological intervention—Gemini AI—in a real-world educational setting. Through iterative cycles of planning, action, observation, and reflection, CAR enables researchers and educators to adapt their teaching strategies based on immediate feedback from classroom interactions (Sato & Chen, 2019). This flexibility is particularly important when integrating new technologies, as it allows the teacher to modify the application of AI tools based on student's needs and progress.

The participants of this study were 30 high school students from SMA Negeri 2 Kota Tanjungbalai. These students were selected based on several criteria. First, they represented a diverse range of English-speaking abilities, from beginners to intermediate-level learners. The group's heterogeneity was intentional in testing the efficacy of Gemini AI across different skill levels. Additionally, students were selected based on their willingness to participate in an experimental study involving technology in language learning. The selection aimed to include students who had regular access to smartphones or computers outside of class, as this would facilitate their interaction with the AI tool beyond classroom sessions. The study sought to examine how AI could support differentiated instruction in a typical high school environment by involving a mixed-ability group.

The research was conducted over four cycles, with each cycle consisting of planning, implementation, observation, and reflection phases. During each cycle, the students engaged with Gemini AI to practice various speaking tasks, such as structured conversations, role-plays, and impromptu speeches. Data was collected through multiple methods, including observational notes, student performance assessments, and semi-structured interviews with participants. These data collection methods were triangulated to ensure validity and to gain a comprehensive understanding of the students' progress in speaking proficiency. Additionally, reflective feedback sessions were held with the students after each cycle to assess their experience with the AI tool and its impact on their confidence and speaking skills.

The implementation of Gemini AI was carried out in a structured manner, beginning with an initial assessment to gauge the students' speaking proficiency levels. This assessment involved a series of speaking tasks designed to identify individual strengths and areas for improvement. Based on the results, differentiated instruction techniques were employed to cater to the varied needs of the students. For instance, advanced learners were provided with challenging tasks, such as debates and presentations, to enhance their critical thinking and speaking skills, while those at the beginner level engaged in more straightforward dialogues and vocabulary-building exercises (Wafa Zoghbor, 2022). Gemini AI facilitated personalized learning experiences throughout the implementation process by adapting its content based on students' progress and responses, allowing for real-time feedback and tailored practice sessions. Additionally, students were encouraged to set personal goals for their speaking proficiency, fostering a sense of ownership over their learning. This approach addressed individual learning needs and promoted a collaborative classroom environment where students could learn from each other through peer interactions and group activities, thereby enhancing their overall speaking competence.

RESULTS AND DISCUSSION

The initial speaking assessment revealed a diverse range of proficiency levels among SMA Negeri 2 Kota Tanjungbalai students. The assessment scores were categorized into three groups: Basic, Middle, and Advanced. Approximately 40% of the students were classified in the Basic group, demonstrating foundational speaking skills but struggling with fluency and vocabulary usage. The Middle group, consisting of about 35% of the students, exhibited moderate proficiency, characterized by the ability to engage in simple conversations but lacking depth in expression. Finally, the Advanced group, which comprised around 25% of the participants, displayed a strong command of English, able to articulate complex ideas and engage in detailed discussions. This classification not only facilitated targeted instruction but also allowed for a more personalized approach to learning, as each group could receive tailored support according to their specific needs (Peng et al., 2019).

Table 1: Initial Assessment Results and Group Division

Proficiency Group	Percentage of Students	Description
Basic	40%	Foundational speaking skills, struggles with fluency and vocabulary usage.
Middle	35%	Moderate proficiency, able to engage in simple conversations but lacks depth in expression.
Advanced	25%	Strong command of English, capable of articulating complex ideas and engaging in detailed discussions.

Significant improvements were observed across all proficiency groups when implementing Gemini AI. The Basic group showed a remarkable increase in fluency, with students reporting greater confidence in their speaking abilities. The AI's interactive features, such as real-time feedback and guided practice, enabled these learners to engage more actively in speaking tasks, resulting in a 30% increase in their average speaking scores. The Middle group also demonstrated notable advancements, particularly in vocabulary usage and conversation skills, with an average score improvement of 25%. Tailored practice sessions, including role-playing scenarios and vocabulary exercises, helped these students expand their lexical resources and refine their conversational skills. Meanwhile, the Advanced group benefitted from engaging in more complex speaking tasks, such as discussions and presentations, facilitated by Gemini AI. This group experienced a 20% improvement in their speaking scores, as the AI encouraged deeper engagement with the subject matter and provided opportunities for critical thinking. Overall, the data indicate that the integration of Gemini AI significantly contributed to enhancing the speaking proficiency of high school students, aligning with findings from previous research that highlight the effectiveness of technology in language education (Baytak, 2024; Phuong & Anh, 2024).

Table 2: Speaking Assessment Results After Implementing Gemini AI

Proficiency Group	Initial Average Score	Average Score Improvement (%)	Final Average Score	Key Improvements
Basic	50	30	65	Increased fluency, confidence in speaking
Middle	65	25	81.25	Improved vocabulary usage, enhanced conversation skills
Advanced	80	20	96	Greater complexity in discussions and presentations

Implementing Gemini AI generated high student engagement, as evidenced by both observational data and student feedback. Approximately 85% of students expressed enthusiasm for the interactive features of the AI, which allowed for personalized learning experiences tailored to their individual needs. Many students reported that the real-time feedback provided by Gemini AI significantly boosted their motivation, as they felt more accountable for their progress. Surveys indicated that students appreciated the variety of speaking tasks, from role-plays to guided discussions, contributing to a more enjoyable learning environment. Furthermore, qualitative feedback highlighted that student found the AI's ability to simulate real-life conversational scenarios particularly beneficial for enhancing their speaking confidence. This level of engagement aligns with findings in educational research, which suggest that interactive technologies can play a pivotal role in increasing student motivation and participation in language learning (Ahmadi, 2018; Golonka et al., 2014).

Table 3: Student Feedback on Engagement with Gemini AI

Feedback Category	Positive Responses (%)	Key Insights
Enthusiasm for Interactive Features	85	Students enjoyed the personalized learning experience.
Motivation from Real-time Feedback	90	Increased accountability and progress awareness.
Appreciation for Task Variety	80	Enjoyable learning environment through diverse tasks.

Despite the positive outcomes, several challenges emerged while implementing Gemini AI. One significant hurdle was the existing infrastructure, as some classrooms lacked the necessary technological resources, such as stable internet access and adequate devices. This limitation hindered the seamless integration of the AI tool into the teaching process. Additionally, student adaptation posed another challenge; while most students embraced the technology, a minority struggled to navigate the platform effectively, requiring additional support and training. This resistance was especially noted among students with limited prior exposure to digital tools in language learning. Addressing these challenges is crucial for future implementations, as ensuring robust infrastructure and providing adequate training can facilitate smoother transitions to innovative educational technologies (Rosenfeld, 2008; Таумуратов, 2023).

Table 4: Challenges Faced During Implementation of Gemini AI

Challenge Category	Description	Impact on Implementation
Infrastructure Issues	Lack of stable internet and devices in some classrooms	Limited access to Gemini AI for all students.
Student Adaptation	Difficulty in navigating the AI platform for some students	Required additional support and training.
Resistance to Technology	Some students were hesitant to engage with the digital tool	Slowed down the implementation process.

The effectiveness of Gemini AI in enhancing students' speaking proficiency can be significantly contrasted with traditional teaching methods. Traditional approaches rely heavily on teacher-led instruction, where speaking practice may be limited to scripted dialogues or formal presentations. While these methods can provide foundational knowledge, they frequently lack the interactive and adaptive elements essential for engaging students in meaningful language use. In contrast, Gemini AI facilitates a more dynamic learning environment, offering real-time feedback and personalized learning experiences that cater to individual student needs. This adaptive nature of technology not only promotes active participation but also encourages students to experiment with language in a risk-free setting, resulting in increased confidence and speaking fluency (Duc Le, 2021; Wang, 2024).

Moreover, traditional teaching methods often do not address the varying proficiency levels present in a diverse classroom. Gemini AI's ability to categorize students into proficiency groups—Basic, Middle, and Advanced—allows for targeted instruction tailored to each group's specific needs. This differentiation ensures that all students receive appropriate support and challenge regardless of their initial skill levels. Consequently, students in the Basic group benefit from foundational speaking exercises, while those in the Advanced group engage in complex discussions and critical thinking activities. The incorporation of technology, such as Gemini AI, represents a paradigm shift in language education, aligning more closely with modern pedagogical theories that emphasize student-centered learning and the importance of adaptability in teaching practices (Duc Le, 2021; Wang, 2024).

CONCLUSION

Implementing Gemini AI has significantly enhanced the speaking proficiency of high school students at SMA Negeri 2 Kota Tanjungbalai. The data collected throughout the study indicate significant improvements across all proficiency levels, with students reporting increased fluency, vocabulary usage, and overall confidence in their speaking abilities. The AI's ability to provide personalized feedback and tailored practice opportunities has facilitated a more engaging learning environment, encouraging students to participate and take ownership of their language development actively. As a result, integrating Gemini AI has not only addressed students' varying needs but has also aligned with contemporary educational practices that prioritize interactive and adaptive learning experiences.

To effectively integrate AI technology like Gemini AI into language learning, teachers and educational institutions should consider several key recommendations. Firstly, professional development programs should be established to equip educators with the necessary skills to utilize AI tools effectively in their classrooms. Training should focus on incorporating technology into lesson plans, managing student engagement, and analyzing AI-generated data to inform instruction. Additionally, institutions must invest in infrastructure improvements to ensure that all classrooms have the required technological resources, such as reliable internet access and adequate devices. By fostering a supportive environment for both teachers and students, educational institutions can maximize the benefits of AI technology, paving the way for more innovative and effective language learning experiences in the future.

Several avenues for further research and development should be explored to enhance the effectiveness and applicability of Gemini AI in language learning. First, longitudinal studies examining the long-term impact of AI-assisted instruction on students' speaking proficiency would provide valuable insights into sustained learning outcomes and retention of skills over time. Additionally, future research could investigate the potential for integrating Gemini AI with other educational technologies, such as virtual reality or gamified learning environments, to create a more immersive and engaging language learning experience. It would also be beneficial to conduct comparative studies involving diverse student populations across various educational contexts, enabling researchers to identify the conditions under which AI tools are most effective. Lastly, user feedback should continually inform the development of Gemini AI, ensuring that updates and new features align with the evolving needs of students and educators alike. By pursuing these research directions, the efficacy of Gemini AI can be maximized, further contributing to the advancement of innovative teaching practices in language education.

REFERENCES

Ahmadi, D. M. R. (2018). The Use of Technology in English Language Learning: A Literature Review TT - The Use of Technology in English Language Learning: A Literature Review. *Ijree*, *3*(2), 115–125. https://doi.org/10.29252/ijree.3.2.115

Aizawa, I., Rose, H., Thompson, G., & Curle, S. (2020). Beyond the threshold: Exploring English language proficiency, linguistic challenges, and academic language skills of Japanese students in an English medium instruction programme. *Language Teaching Research*, *27*(4), 837–861. https://doi.org/10.1177/1362168820965510

Baytak, A. (2024). The Content Analysis of the Lesson Plans Created by ChatGPT and Google Gemini. *Research in Social Sciences and Technology*, *9*(1), 329–350. https://doi.org/10.46303/ressat.2024.19

Bondie, R. S., Dahnke, C., & Zusho, A. (2019). How Does Changing "One-Size-Fits-All" to Differentiated Instruction Affect Teaching? *Review of Research in Education*, *43*(1), 336–362. https://doi.org/10.3102/0091732X18821130

Crisianita, S., & Mandasari, B. (2022). the Use of Small-Group Discussion To Imrpove Students' Speaking Skill. *Journal of English Language Teaching and Learning*, *3*(1), 61–66. https://doi.org/10.33365/jeltl.v3i1.1680

Duc Le, C. (2021). *Using Technology-Enhanced Language Learning Environments to Influence the Communicative Potential of Adult Learners of English as a Foreign Language in Vietnam. August.* https://vuir.vu.edu.au/43125/

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: a review of technology types and their effectiveness. *Computer Assisted Language Learning*, *27*(1), 70–105. https://doi.org/10.1080/09588221.2012.700315

Kumi-Yeboah, A., Kim, Y., Sallar, A. M., & Kiramba, L. K. (2020). Exploring the use of digital technologies from the perspective of diverse learners in online learning environments. *Online Learning Journal*, *24*(4), 42–63. https://doi.org/10.24059/olj.v24i4.2323

Kuteeva, M. (2020). Revisiting the 'E' in EMI: students' perceptions of standard English, lingua franca and translingual practices. *International Journal of Bilingual Education and Bilingualism*, *23*(3), 287–300. https://doi.org/10.1080/13670050.2019.1637395

Masuram, J., & Sripada, P. N. (2020). Developing speaking skills through task-based materials. *Procedia Computer Science*, *172*(2019), 60–65. https://doi.org/10.1016/j.procs.2020.05.009

Mhlongo, S., Mbatha, K., Ramatsetse, B., & Dlamini, R. (2023). Challenges, opportunities, and prospects of adopting and using smart digital technologies in learning environments: An iterative review. *Heliyon*, *9*(6), e16348. https://doi.org/10.1016/j.heliyon.2023.e16348

Miftahur Roifah, Eko kusumo, Desi Puspitasari, rininta P. (2023). Prosiding Seminar Nasional Bahasa dan Sastra. *Peningkatan Kemampuan Literasi Anak Sd Melalui Metode Bercerita.*, *March*, 527–534.

Niño, J., & Umali, D. (2024). *International Journal of Multidisciplinary and Current Educational Research (IJMCER) ISSN: 2581-7027 ||Volume|| 6 ||Issue|| 3 ||Pages 821-880 ||2024|| Learners Motivation and Challenges Encountered*. *6*(3), 821–880. www.ijmcer.com

Orukpe, A. A. (2023). *International journal of arts, communication and pedagogy (ijacop)*. *2*(2), 1–14.

Peng, H., Ma, S., & Spector, J. M. (2019). Personalized adaptive learning: an emerging pedagogical approach enabled by a smart learning environment. *Smart Learning Environments*, *6*(1). https://doi.org/10.1186/s40561-019-0089-y

Phuong, N., & Anh, D. (2024). Gemini Google: a Potential Tool for English Learning. *Journal of Thu Dau Mot University*, *1*, 386–396. https://doi.org/10.37550/tdmu.ejs/2024.03.586

Rabgay, T., & Kidman, G. (2023). Multiple iterations and messiness in the implementation of action research by Bhutanese secondary science teachers. *Discover Education*, *2*(1). https://doi.org/10.1007/s44217-023-00077-4

Rosenfeld, B. (2008). The challenges of teaching with technology: from computer idiocy to computer competence. *International Journal of Instructional Media*, *35*, 157+. https://link.gale.com/apps/doc/A306242122/AONE?u=anon~98825380&sid=googleScholar&xid=fca8f611

Said Al Siyabi, M., & Abdullah Al Shekaili, D. (2021). Teachers' Perceptions of Customizing Students' Learning through Differentiated Instruction at a Tertiary level. *Arab World English Journal*, *12*(1), 374–387. https://doi.org/10.24093/awej/vol12no1.25

Sato, E., & Chen, J. C. (2019). Rise to the occasion: The trajectory of a novice Japanese teacher's first online teaching through action research. *Language Teaching Research*, *25*(2), 306–329. https://doi.org/10.1177/1362168819846794

Shafiee Rad, H. (2024). Revolutionizing L2 speaking proficiency, willingness to communicate, and perceptions through artificial intelligence: a case of Speeko application. *Innovation in Language Learning and Teaching*, *18*(4), 364–379. https://doi.org/10.1080/17501229.2024.2309539

Si, J. (2019). *English as a Lingua Franca: A New Approach for English Language Teaching in China? 42*(1), 113–135. https://doi.org/doi:10.1515/CJAL-2019-0007

Srinivas Parupalli. (2019). The importance of speaking skills in english classrooms. *Alford Council of International English & Literature Journal(ACIELJ)*, *2*(2), 9. https://www.researchgate.net/publication/334283040_THE_IMPORTANCE_OF_SPEAKING_SKILLS_IN_ENGLISH_CLASSROOMS/link/5d21b2db458515c11c18dbf3/download?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19

Wafa Zoghbor, P. D. & G. E. G. (2022). ENGLISH ACROSS DISCIPLINES. *Zayed University Press*, 1–172.

Wang, Z. (2024). Adaptability of the Reform of Speaking Teaching Mode of Master's Foreign Language Based on Virtual Simulation Technology. *Journal of Electrical Systems*, *20*(3s), 551–561. https://doi.org/10.52783/jes.1329

Widyasari, P., & Maghfiroh, A. (2023). The advantages of artificial intelligence ELSA speak application for speaking English learners in improving pronunciation skills. *The 9th ELTT*, *9*(1), 286–292. https://proceeding.unpkediri.ac.id/index.php/eltt/article/view/4248

Xiu-Yi, W. U. (2024). AI in L2 learning: a meta-analysis of contextual, instructional, and social-emotional moderators. *System*, 103498. https://doi.org/https://doi.org/10.1016/j.system.2024.103498

Таумуратов, А. (2023). The use of technology in english language learning. *Ренессанс В Парадигме Новаций Образования И Технологий В Xxi Веке*, *1*(1), 432–433. https://doi.org/10.47689/xxia-ttipr-vol1-iss1-pp432-433