

THE WHISPERS OF REVOLUTION: AI AND THE TRANSFORMING LANDSCAPE OF SPOKEN LANGUAGE PROFICIENCY

Ida Fitri Anggarini¹, Wildan Rahmat Hidayat², Anggi Cantika Pratama³

MA Al-Ittihad plus Keterampilan & Riset Nasional, Indonesia^{1,3}

SOAS University of London, United Kingdom²

idafitrianggarini@gmail.com¹, 724044@soas.ac.uk², rahmaasrimaullidia@gmail.com³

Article History

Received:

January 13, 2025

Revised:

March 25, 2025

Accepted:

April 10, 2025

Published:

April 15, 2025



Abstract

Achieving spoken language proficiency in a second language (L2) has long been a challenge for learners. . This qualitative case study explores the potential of AI-powered tools and platforms to promote spoken language proficiency as foriegn language. The research investigates how learners engage with interactive AI tutors, virtual language environments, and speech recognition technologies to develop fluency, accuracy, and natural communication skills. In-depth semi-structured interviews will be conducted and articipants will be recruited from university students in Malang, Indonesia. The observationa and interviews explored their experiences using AI-powered language learning tools, focusing on perceived benefits, challenges, and impact on spoken language skills. Thematic analysis will be employed to identify recurring themes and patterns across the interview data. This analysis overviewed how learners perceive the effectiveness of AI tools in improving their spoken language proficiency, the specific features they find most helpful, and any perceived limitations or challenges. The result revealed that AI powered language learning by providing insights into the specific ways learners interact with and benefit from these technologies such as enhancing vocabulary through AI conversation. In Addition, AI can be a recommended tools for fostering speaking skill such as chatGPT and Bard.

Keywords: *Artificial Intelligence, innovative approach, spoken language proficiency*

Introduction

Developing proficiency in the spoken aspects of a second language (L2) presents a persistent challenge for learners(Zou, Du, Wang, Chen, & Zhang, 2023). Traditional methodologies, with their reliance on textbooks, grammar drills, and classroom discussions, often fall short in adequately mimicking the dynamism and

intricacies of real-world spoken interaction(Hoesny, Setyosari, Praherdhiono, & Suryati, 2023).

As a result, learners often struggle to achieve fluency, accuracy, and natural communication skills(Angganing, Budiningsih, & Haryanto, 2022). This gap between classroom learning and authentic spoken language proficiency underscores the need for innovative approaches (Ericsson & Johansson, 2023; H. S. Kim, Kim, & Cha, 2021; Raskova Octaberlina & Ikhwanul Muslimin, 2022).

Moreover, the emergence of Artificial Intelligence (AI) technologies offers a promising avenue for L2 educators and researchers(Hu, Gong, Lu, & Ding, 2023). AI-powered tools and platforms have the potential to revolutionize L2 learning by providing personalized, interactive, and immersive environments that closely mirror real-world communication scenarios(Adipat, 2023; Lin & Mubarak, 2021; Zou, Guan, Shao, & Chen, 2023).

Recent advancements in AI, particularly in the fields of natural language processing (NLP) and speech recognition, have paved the way for the development of sophisticated language learning tools. These tools, ranging from interactive AI tutors and virtual language environments to speech recognition technologies and gamified learning platforms, hold immense promise for enhancing L2 learners' spoken language skills(Bienefeld, Kolbe, Camen, Huser, & Buehler, 2023; Cherner, Fegely, Hou, & Halpin, 2023; Hu et al., 2023).

However, despite the undeniable potential of AI-powered language learning, a critical gap remains in our understanding of how learners actually engage with and benefit from these technologies(Ramadani, Putra, Sudarma, & Giriantari, 2021). While numerous studies have explored the potential of AI for L2 learning, much of the existing research focuses on reading, writing, and vocabulary acquisition. The specific of AI's impact on spoken language proficiency remain largely uncharted territory.

This research aims to bridge this gap by investigating the specific ways learners interact with and benefit from AI tools in terms of developing spoken language proficiency. By employing a qualitative approach, the study delves into the subjective experiences of learners, providing valuable insights into the perceived effectiveness of

AI tools, the features that most facilitate spoken language development, and the potential challenges or limitations encountered.

In addition, by addressing this important knowledge gap, the research strives to contribute to the growing field of AI-powered language learning by providing the potential of AI tools in enhancing spoken language proficiency, understand how learners perceive and engage with AI tools during their L2 learning journey, and inform the design and development of more effective AI-powered tools for L2 learners, with a specific focus on promoting spoken language skills in a personalized and engaging manner.

Through this research, the researchers hope to shed light on the complex interplay between AI and spoken language proficiency, laying the groundwork for the development of innovative and effective learning environments that empower L2 learners to confidently navigate the world of authentic communication.

Meanwhile, the researchers would like to highlight several literature reviews starts from AI for spoken language. AI for spoken language such as revolutionizing language learning and communication (Abdurrahman & Zahra, 2021; Adma & Lestari, 2021). AI contributes to breaking the barriers of traditional learning (Wijonarko & Zahra, 2022). In addition, for decades, mastering spoken language in a second language (L2) has been a formidable challenge (Pesau, Immanuel, Sulastri, & van Luijtelaar, 2022). Textbooks, rote memorization, and classroom drills often fall short in replicating the dynamic intricacies of real-world conversations (Kumar, Nukapangu, & Hassan, 2021). This disconnects between classroom learning and authentic spoken language proficiency leaves learners struggling to achieve fluency, accuracy, and natural communication skills (Kurniawati, Lestari, & Khodra, 2018; Rusmiyanto et al., 2023).

Meanwhile, the emergence of AI presents a game-changer in L2 learning. AI-powered tools and platforms offer a plethora of advantages over traditional methods, transforming the landscape of language acquisition and communication (Knight, 2023; Pontecorvo et al., 2023). AI algorithms can tailor learning experiences to individual needs and learning styles (Hujon, Singh, & Amitab, 2024). Imagine an AI tutor

analyzing your strengths and weaknesses, then crafting a personalized curriculum that caters to your specific pace and preferences.

Moreover, virtual reality and augmented reality technologies powered by AI create simulated real-life scenarios, fostering natural and spontaneous communication(H. W. Kim, McLaren, & Lee, 2024). For example, picture yourself practicing haggling at a virtual marketplace or ordering coffee in a simulated cafe, all within the comfort of your own home is one of the ways in utilizing AI.

AI-powered tutors provide constant feedback and guidance, correcting pronunciation, suggesting grammatical improvements, and encouraging active participation(Anggarini et al., 2023; Octaberlina, 2023). Octaberlina & Anggarini, (2020) have stated that forget boring grammar drills. For example, imagine engaging in dynamic conversations with an AI tutor that patiently corrects your mistakes and celebrates your progress. This quite interesting because we can get fast feedback to correct the mistakes(Almelweth, 2022; Octaberlina, Muslimin, & Rofiki, 2022; Raskova Octaberlina & Ikhwanul Muslimin, 2022).

Also, Mangera, Supratno, & Suyatno, (2023) have stated gamified platforms with AI elements turn language learning into a fun and engaging experience, boosting motivation and retention. For instance, we're earning points for correctly pronouncing difficult words or unlocking new levels by completing interactive language challenges on gamification(Sparrow, 2023; Zanyar Nathir, 2023).

Wang, Zheng, Bai, Li, & Shen, (2023) has asserted that speech recognition and translation, such as real-time speech recognition and translation tools break down communication barriers, facilitating conversations with native speakers and promoting cultural understanding. For example, we imagine holding a fluid conversation with someone who speaks a different language, thanks to the seamless translation provided by AI technology(Khalaf Ismail Makhoulouf, 2021; Kuddus, 2022).

While the potential of AI for spoken language learning is undeniable, a crucial gap exists in our understanding of how learners truly engage with and benefit from these technologies(Saeed Al-Sobhi & Preece, 2018; Tabiri, Jones-Mensah, Kongo, & Budu, 2022). This is where research plays a vital role. By studying how learners

interact with AI tools, we can gain valuable insights into the effectiveness of different AI features in enhancing spoken language skills, the learner's perception and experience of using AI tools, the challenges and limitations encountered while utilizing AI platforms. Therefore, the researchers asserted that this research will inform the development of more effective AI-powered tools, ensuring they cater to the specific needs of learners and maximize their spoken language proficiency gains.

Further, the integration of AI into spoken language holds immense potential beyond the realm of language learning (Dewi Kartika Ardiyani, Edy Hidayat, & Rofi'ah, 2023; Hoesny et al., 2023). For example, voice-controlled devices that become extensions of our thoughts, allowing us to interact with the world around us in a more natural and intuitive way (Farida, Fahrur, Hajimia, & Kassymova, 2022).

AI tutors personalize education, tailoring learning experiences to individual strengths and weaknesses, ensuring optimal development for every learner. The possibilities are endless, and as AI continues to evolve, its impact on spoken language promises to revolutionize the way we learn, communicate, and interact with the world around us (Kasyidi & Lestari, 2018; Safitri, Zahra, & Adriani, 2016; Zahra & Carson-Berndsen, 2013).

Zahra & Carson-Berndsen, (2013) has asserted that spoken language proficiency can be assessed through several ways such as standardized tests which means studies explore the limitations and biases inherent in traditional tests like TOEFL or IELTS, advocating for alternative assessments like dynamic interactive tasks or rater-mediated evaluations.

A study by Knight, (2023) proposed technology-driven testing which examines the potential of AI-powered speech recognition and conversation analysis tools to provide more nuanced and objective assessments of SLP. The last, self-assessment where the role of self-assessment in developing awareness and motivating learners to improve their SLP is investigated (Octaberlina, 2023).

Also, there are factors influencing SLP such as motivation and affective factors, studies reveal the impact of psychological factors like anxiety, confidence, and intrinsic motivation on achieving fluency and accuracy in spoken communication (Anggarini et

al., 2023; Octaberlina, 2023; Octaberlina & Anggarini, 2020).

In addition, cognitive factors which several research investigates the role of memory, attention, and executive functions in processing and producing spoken language, suggesting implications for effective instructional strategies (Octaberlina et al., 2022). Also, social and cultural factors which influence of sociocultural contexts, interaction opportunities, and cultural biases on shaping SLP development is explored (Sparrow, 2023; Zou, Guan, et al., 2023).

Meanwhile, Kinouchi & Kitaoka, (2022) have stated that pedagogical approaches for SLP starts from Communicative Language Teaching (CLT). Several studies focus on the effectiveness of CLT methods that prioritize authentic communication in promoting fluency and natural language use (Simon & Rajeswari, 2023). Another approaches such as Task-based Learning (TBL. Angganing et al., (2022) have stated the examination on how designing tasks that simulate real-world communication can enhance spoken language skills and learner engagement. In addition, technology-mediated instruction which impact of online tools, virtual environments, and AI-powered tutors on improving SLP is investigated, highlighting their potential to personalize learning and provide immediate feedback (Kuddus, 2022; Rusmiyanto et al., 2023; Wang et al., 2023).

Also, specific contexts and populations such as English as a Lingua Franca (ELF) which explores the ways of developing spoken English proficiency in contexts where it serves as a lingua franca for communication among diverse speakers (Kurniawati et al., 2018). Wijonarko & Zahra, (2022) also stated another approaches through young learners. Various studies investigate the developmental stages and effective methodologies for promoting spoken language skills in children and adolescents. Adult learners with specific challenges and effective approaches for adult learners aiming to improve their SLP are explored, considering factors like time constraints and work-life balance (Pontecorvo et al., 2023; Ramadani et al., 2021; Safitri et al., 2016).

Therefore, to overview more about AI and spoken language proficiency, an innovative approach to language learning, the researcher proposes this systematic review to investigate how learners engage with interactive AI tutors, virtual language

environments, and speech recognition technologies to develop fluency, accuracy, and natural communication skills with the research question:

Research Question: How do participants perceive the use of AI on spoken language learning motivation? and what are the benefits of AI?

Method

This research employs a qualitative approach to explore the lived experiences of learners engaging with AI-powered tools for spoken language proficiency (SLP) development. Specifically, it investigates how learners perceive, interact with, and benefit from these tools in their pursuit of improved spoken language skills (Kiger & Varpio, 2020).

Choosing a qualitative methodology stems from the inherent complexity of investigating learners' subjective experiences with AI for SLP (Vaismoradi, Turunen, & Bondas, 2013). Quantitative methods struggle to capture the depth and how learners interact with these technologies, their personal perceptions of their effectiveness, and the specific challenges and benefits encountered. In contrast, qualitative research allows for rich data collection through semi-structured interviews and in-depth analysis of learner narratives, providing insights into the multifaceted interplay between AI tools and SLP development (Vaismoradi, Jones, Turunen, & Snelgrove, 2016). For instance, this present study used observation and in-depth interviews for collecting data.

A purposive sampling strategy will be employed to recruit participants from diverse backgrounds, proficiency levels, and learning contexts. The target population includes universities students engaged in foreign language learning utilizing AI-powered tools (Cassol et al., 2018; Lochmiller, 2021). Semi-structured interviews will be conducted individually with 5 participants (three females and two males students), ensuring a balance between flexibility and structure. The interview guide will cover themes such as:

- a. Learners' motivations for using AI tools for SLP development.
- b. Perceptions of the specific features and functionalities of the AI tools they utilize.

- c. Descriptions of their typical interactions with the tools and the nature of their engagement.
- d. Perceived benefits of using AI tools for SLP development, including improvements in fluency, accuracy, and confidence.
- e. Challenges and limitations encountered while using AI tools, such as technical issues or perceived lack of effectiveness.
- f. Overall learner experiences with AI-powered tools and their impact on language learning practices.

Interviews will be audio-recorded, transcribed verbally (analyzing to qualitative data) and anonymized to ensure confidentiality(Lochmiller, 2021).

Thematic analysis will be employed to identify recurring themes, patterns, and significant aspects of meaning across the interview data. The analysis will be iterative, involving coding transcripts line-by-line, grouping related codes into themes, and refining these themes through constant comparison and revision. This analytical process will ensure the emergence of rich and nuanced insights into learners' experiences with AI-powered tools for SLP(Cassol et al., 2018; Sundler, Lindberg, Nilsson, & Palmér, 2019).

In addition, informed consent will be obtained from all participants before the interview process begins. They will be fully informed about the study's purpose, procedures, and data collection methods. Participation will be voluntary and anonymous, with the right to withdraw from the study at any time. Data will be securely stored and only used for research purposes. These measures ensure ethical conduct throughout the research process and respect for participants' rights and privacy.

Results and Discussion

This qualitative research explored the lived experiences of adult learners engaging with AI-powered tools for enhancing their spoken language proficiency (SLP). Through semi-structured interviews with 5 diverse learners, the study

uncovered a rich tapestry of perceptions, interactions, and perceived benefits and challenges associated with these technologies.

1. Motivation and Perceptions

Learners' motivations for using AI tools stemmed from a desire to improve fluency and accuracy. Kuddus, (2022) has stated that they sought to overcome hesitancy and enhance their ability to express themselves fluently and accurately in spoken conversation. Based on observation, several learners feel confident to speak in front of the class after they communicate virtually with AI. Also, AI boost confidence and motivation. Participants reported feeling more enjoy and motivated to practice speaking due to the immediate feedback and personalized learning offered by AI tools. This related to (Rusmiyanto et al., 2023) which stated that AI has a crucial role in developing English language learner's communication skills or speaking skills.

Zou, Du, et al., (2023) have stated another motivation by supplemented traditional learning. Based on the observation, the tools were primarily seen as complementary to classroom learning, providing additional opportunities for practice and independent learning outside structured lessons. Regarding perceptions, learners valued the ability of AI tools to personalize learning experiences (Khalaf Ismail Makhoulouf, 2021; Mangera et al., 2023).

Moreover, dynamic adjustments based on individual strengths and weaknesses resonated with participants, as did adaptive difficulty levels that kept them challenged and engaged. For example, simulation of real-world interactions which overviewed by interactive features like virtual conversations and role-playing scenarios were perceived as valuable for developing natural communication skills(Angganing et al., 2022; Kurniawati et al., 2018).

Meanwhile, a real-time pronunciation correction and error detection were appreciated for their immediacy and potential to accelerate learning progress(Zou, Du, et al., 2023). Cherner et al., (2023) have proposed interactions and engagement related to motivation and perspectives on spoken language proficiency. In this context, learners described diverse interactions with the AI tools, highlighting active engagement. For instance, some participants reported actively conversing with AI

tutors, participating in simulated dialogues, and completing interactive exercises (Almelweth, 2022; Ericsson & Johansson, 2023).

Others used the tools for more passive listening activities, such as practicing pronunciation by mimicking AI models or shadowing pre-recorded dialogues. (Ericsson & Johansson, 2023) have stated several learners adopted a hybrid approach, combining active engagement with specific features (e.g., pronunciation drills) while passively consuming content (e.g., listening to news articles).

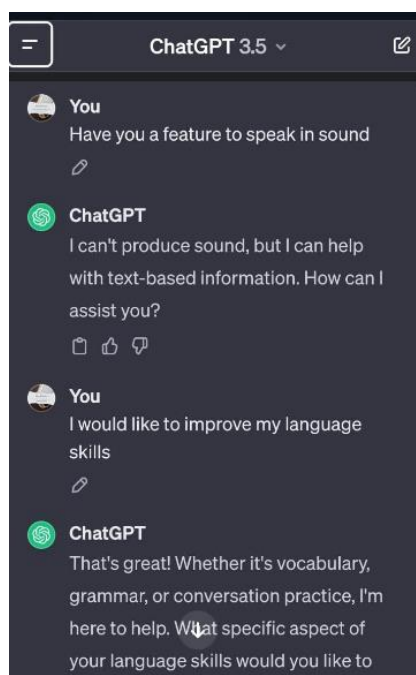


Figure 1. AI Conversation in Speaking English Tips

Based on the observation, the level of engagement was influenced by factors such as learners' learning styles, in here, those who preferred active learning found the interactive features most beneficial, while those who favored passive learning used the tools for listening practice. Also, occasional technical glitches or user interface challenges hindered some learners' engagement and enjoyment. Mangera et al., (2023) have stated that learners with clear goals and strong intrinsic motivation tended to engage more actively and consistently with the tools.

2. Benefits and Challenges

Participants identified several benefits of using AI tools for SLP development such as improved fluency and accuracy. Four of them reported increased fluency and fewer grammatical errors after using the tools for an extended period. Additionally, several participants felt more confident speaking in real-world situations thanks to the practice and encouragement provided by the AI tools. This is related to (Adipat, 2023) which stated that artificial intelligence enhanced the understanding and speaking skills.

Moreover, the flexibility and accessibility of the tools empowered learners to take control of their learning and practice at their own pace. However, some challenges also emerged such as limited context and authenticity. In this case, learners expressed concerns about the lack of real-world context and human interaction in AI-based conversations, limiting their ability to fully prepare for authentic communication situations(Almelweth, 2022; Ericsson & Johansson, 2023).

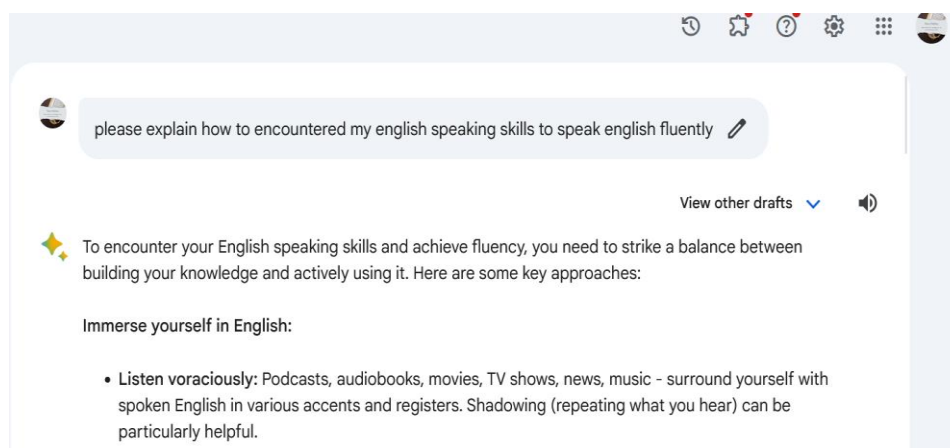


Figure 2. AI to overcome language challenges

Zou, Guan, et al., (2023) have stated overreliance on technology. In here, some participants worried about becoming overly reliant on AI tools and neglecting traditional learning methods or opportunities for face-to-face communication. In addition, Zou, Du, et al., (2023) have stated the occasional technical glitches and limitations in speech recognition capabilities frustrated some learners and hindered their progress.

Meanwhile, the findings highlight the potential of AI-powered tools to complement and enhance language learning, particularly in the development of

spoken language skills. However, they also reveal the need for continued research and development to address identified limitations and ensure these technologies are integrated effectively into language learning environments (Khalaf Ismail Makhoul, 2021; Mangera et al., 2023).

Therefore, the researchers stated that by understanding learner experiences and addressing these challenges, AI-powered tools can pave the way for a future where learners of all backgrounds can confidently embrace the world of spoken communication

Conclusion

This research explored students' motivations and perceptions of AI, highlighting its benefits in enhancing learning experiences. While AI offers significant advantages, such as personalized learning and efficiency, future challenges remain, including ethical concerns and the need for proper integration in education. Addressing these challenges will be crucial for maximizing AI's potential in student learning.

References

- Abdurrahman, A. I., & Zahra, A. (2021). Spoken language identification using i-vectors, x-vectors, plda and logistic regression. *Bulletin of Electrical Engineering and Informatics*, 10(4). <https://doi.org/10.11591/EEI.V10I4.2893>
- Adipat, S. (2023). An Artificial Intelligence-Enhanced Phenomenon-Based Learning Approach for Interdisciplinary Understanding and Speaking Skills. *International Journal of Instruction*, 16(3). <https://doi.org/10.29333/iji.2023.16329a>
- Adma, A. N. I., & Lestari, D. P. (2021). Conversational Speech Emotion Recognition From Indonesian Spoken Language Using Recurrent Neural Network-Based Model. *Proceedings - 2021 8th International Conference on Advanced Informatics: Concepts, Theory, and Application, ICAICTA 2021*. <https://doi.org/10.1109/ICAICTA53211.2021.9640273>
- Almelweth, H. (2022). The Effectiveness of a Proposed Strategy for Teaching Geography through Artificial Intelligence Applications in Developing Secondary School Students' Higher-Order Thinking Skills and Achievement. *Pegem Egitim ve Ogretim Dergisi*, 12(3). <https://doi.org/10.47750/pegegog.12.03.18>

- Angganing, P., Budiningsih, C. A., & Haryanto. (2022). The Profile of Students' Communication Skills on Science Learning in Elementary Schools. *Pegem Egitim ve Ogretim Dergisi*, 13(1). <https://doi.org/10.47750/pegegog.13.01.14>
- Anggarini, I. F., Nugraha, S. A., Hamdani, M. S., Kirana, A. S. C., Fakhrunisa', M., & Anjayani, I. N. (2023). Storytelling as a media in speaking English for Indonesian EFL learners: A speech competition study. *Journal of Research on English and Language Learning (J-REaLL)*, 4(1). <https://doi.org/10.33474/j-reall.v4i1.19156>
- Bienefeld, N., Kolbe, M., Camen, G., Huser, D., & Buehler, P. K. (2023). Human-AI teaming: leveraging transactive memory and speaking up for enhanced team effectiveness. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1208019>
- Cassol, H., Pétré, B., Degrange, S., Martial, C., Charland-Verville, V., Lallier, F., ... Laureys, S. (2018). Qualitative thematic analysis of the phenomenology of near-death experiences. *PLoS ONE*, 13(2). <https://doi.org/10.1371/journal.pone.0193001>
- Cherner, T., Fegely, A., Hou, C., & Halpin, P. (2023). AI-Powered Presentation Platforms for Improving Public Speaking Skills: Takeaways and Suggestions for Improvement. In *Jl. of Interactive Learning Research* (Vol. 34).
- Dewi Kartika Ardiyani, Edy Hidayat, & Rofi'ah. (2023). Zum Heutigen Aussprachetraining (ZHA): Honing German As A Foreign Language Pronunciation Online. *Pegem Journal of Education and Instruction*, 13(02). <https://doi.org/10.47750/pegegog.13.02.02>
- Ericsson, E., & Johansson, S. (2023). English speaking practice with conversational AI: Lower secondary students' educational experiences over time. *Computers and Education: Artificial Intelligence*, 5. <https://doi.org/10.1016/j.caeai.2023.100164>
- Farida, L. A., Fahrur, R., Hajimia, H., & Kassymova, G. K. (2022). Beyond Pandemic: An Innovation of Teachers' Scaffolding Talks in Teaching English. *Pegem Egitim ve Ogretim Dergisi*, 12(4). <https://doi.org/10.47750/pegegog.12.04.30>
- Hoesny, M. U., Setyosari, P., Praherdhiono, H., & Suryati, N. (2023). The Correlation of Speaking Self-Efficacy, Speaking Proficiency and Gender in ESP Context. *Pegem Egitim ve Ogretim Dergisi*, 13(2). <https://doi.org/10.47750/pegegog.13.02.23>
- Hu, P., Gong, Y., Lu, Y., & Ding, A. W. (2023). Speaking vs. listening? Balance conversation attributes of voice assistants for better voice marketing. *International Journal of Research in Marketing*, 40(1). <https://doi.org/10.1016/j.ijresmar.2022.04.006>
- Hujon, A. V., Singh, T. D., & Amitab, K. (2024). Neural machine translation systems for English to Khasi: A case study of an Austroasiatic language. *Expert Systems with Applications*, 238. <https://doi.org/10.1016/j.eswa.2023.121813>

- Kasyidi, F., & Lestari, D. P. (2018). Identification of four class emotion from Indonesian spoken language using acoustic and lexical features. *Journal of Physics: Conference Series*, 971(1). <https://doi.org/10.1088/1742-6596/971/1/012048>
- Khalaf Ismail Makhoulouf, M. (2021). Effect of Artificial Intelligence-Based Application on Saudi Preparatory -Year Students' EFL Speaking Skills at Albaha University. *International Journal of English Language Education*, 9(2). <https://doi.org/10.5296/ijele.v9i2.18782>
- Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data. *Medical Teacher*, 42(8).
- Kim, H. S., Kim, N. Y., & Cha, Y. (2021). Is it beneficial to use ai chatbots to improve learners' speaking performance? *Journal of Asia TEFL*, 18(1). <https://doi.org/10.18823/asiatefl.2021.18.1.10.161>
- Kim, H. W., McLaren, K. E., & Lee, Y. S. (2024). No influence of regular rhythmic priming on grammaticality judgment and sentence comprehension in English-speaking children. *Journal of Experimental Child Psychology*, 237. <https://doi.org/10.1016/j.jecp.2023.105760>
- Kinouchi, T., & Kitaoka, N. (2022). A response generation method of chat-bot system using input formatting and reference resolution. *2022 9th International Conference on Advanced Informatics: Concepts, Theory and Applications, ICAICTA 2022*. <https://doi.org/10.1109/ICAICTA56449.2022.9932928>
- Knight, R. (2023). Oracy and cultural capital: the transformative potential of spoken language. *Literacy*. <https://doi.org/10.1111/lit.12343>
- Kuddus, K. (2022). Artificial intelligence in language learning: Practices and prospects. In *Advanced Analytics and Deep Learning Models*. <https://doi.org/10.1002/9781119792437.ch1>
- Kumar, T., Nukapangu, V., & Hassan, A. (2021). Effectiveness of Code-Switching in Language Classroom in India at Primary Level: A Case of L2 Teachers' Perspectives. *Pegem Egitim ve Ogretim Dergisi*, 11(4). <https://doi.org/10.47750/pegegog.11.04.37>
- Kurniawati, P., Lestari, D. P., & Khodra, M. L. (2018). Speech emotion recognition from Indonesian spoken language using acoustic and lexical features. *2017 20th Conference of the Oriental Chapter of International Committee for Coordination and Standardization of Speech Databases and Assessment Techniques, O-COCOSDA 2017*. <https://doi.org/10.1109/ICSDA.2017.8384467>
- Lin, C. J., & Mubarak, H. (2021). Learning Analytics for Investigating the Mind Map-Guided AI Chatbot Approach in an EFL Flipped Speaking Classroom. *Educational Technology and Society*, 24(4).

- Lochmiller, C. R. (2021). Conducting thematic analysis with qualitative data. *Qualitative Report*, 26(6). <https://doi.org/10.46743/2160-3715/2021.5008>
- Mangera, E., Supratno, H., & Suyatno. (2023). Exploring the relationship between Transhumanist and Artificial Intelligence in the Education Context: Particularly Teaching and Learning Process at Tertiary Education. *Pegem Egitim ve Ogretim Dergisi*, 13(2). <https://doi.org/10.47750/pegegog.13.02.05>
- Octaberlina, L. R. (2023). Exploring the Use of Digital Technology in English Language Teaching: Strategies and Methods for Effective Implementation. *ENGLISH FRANCA: Academic Journal of English Language and Education*, 7(1). <https://doi.org/10.29240/ef.v7i1.6977>
- Octaberlina, L. R., & Anggarini, I. F. (2020). Teaching Vocabulary Through Picture Cards in Islamic Elementary School A Case Study in Nida Suksa School, Thailand. *Madrasah: Jurnal Pendidikan Dan Pembelajaran Dasar*, 13(1). <https://doi.org/10.18860/mad.v13i1.9649>
- Octaberlina, L. R., Muslimin, A. I., & Rofiki, I. (2022). An Investigation on the Speaking Constraints and Strategies Used by College Students Studying English as EFL Learners. *International Journal of Learning, Teaching and Educational Research*, 21(9). <https://doi.org/10.26803/ijlter.21.9.14>
- Pesau, H. G., Immanuel, A. S., Sulastri, A., & van Luijtelaar, G. (2022). The role of daily spoken language on the performance of language tests: The Indonesian experience. *Bilingualism*. <https://doi.org/10.1017/S136672892200075X>
- Pontecorvo, E., Higgins, M., Mora, J., Lieberman, A. M., Pyers, J., & Caselli, N. K. (2023). Learning a Sign Language Does Not Hinder Acquisition of a Spoken Language. *Journal of Speech, Language, and Hearing Research*, 66(4). https://doi.org/10.1044/2022_JSLHR-22-00505
- Ramadani, R. A., Putra, I. K. G. D., Sudarma, M., & Giriantari, I. A. D. (2021). A new technology on translating Indonesian spoken language into Indonesian sign language system. *International Journal of Electrical and Computer Engineering*, 11(4). <https://doi.org/10.11591/ijece.v11i4.pp3338-3346>
- Raskova Octaberlina, L., & Ikhwanul Muslimin, A. (2022). Fostering Students' Speaking Ability through English Club Activities. *Arab World English Journal*, 13(3). <https://doi.org/10.24093/awej/vol13no3.27>
- Rusmiyanto, R., Huriati, N., Fitriani, N., Tyas, N. K., Rofi'i, A., & Sari, M. N. (2023). The Role Of Artificial Intelligence (AI) In Developing English Language Learner's Communication Skills. *Journal on Education*, 6(1). <https://doi.org/10.31004/joe.v6i1.2990>
- Saeed Al-Sobhi, B. M., & Preece, A. S. (2018). Teaching English Speaking Skills to the Arab Students in the Saudi School in Kuala Lumpur: Problems and Solutions.

International Journal of Education and Literacy Studies, 6(1).
<https://doi.org/10.7575/aiac.ijels.v.6n.1p.1>

- Safitri, N. E., Zahra, A., & Adriani, M. (2016). Spoken Language Identification with Phonotactics Methods on Minangkabau, Sundanese, and Javanese Languages. *Procedia Computer Science*, 81. <https://doi.org/10.1016/j.procs.2016.04.047>
- Simon, C., & Rajeswari, M. (2023). Voice-based Virtual Assistant with Security. *Proceedings of the 2023 2nd International Conference on Electronics and Renewable Systems, ICEARS 2023*. <https://doi.org/10.1109/ICEARS56392.2023.10085043>
- Sparrow, R. (2023). Friendly AI will still be our master. Or, why we should not want to be the pets of super-intelligent computers. *AI and Society*. <https://doi.org/10.1007/s00146-023-01698-x>
- Sundler, A. J., Lindberg, E., Nilsson, C., & Palmér, L. (2019). Qualitative thematic analysis based on descriptive phenomenology. *Nursing Open*, 6(3). <https://doi.org/10.1002/nop2.275>
- Tabiri, M. O., Jones-Mensah, I., Kongo, A. E., & Budu, G. (2022). Difficulties in Identifying the English Determiner System Among EFL students in Ghana: The Case of Francophone Students. *Pegem Egitim ve Ogretim Dergisi*, 12(3). <https://doi.org/10.47750/pegegog.12.03.27>
- Vaismoradi, M., Jones, J., Turunen, H., & Snelgrove, S. (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice*, 6(5). <https://doi.org/10.5430/jnep.v6n5p100>
- Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences*, Vol. 15. <https://doi.org/10.1111/nhs.12048>
- Wang, C., Zheng, M., Bai, X., Li, Y., & Shen, W. (2023). Future of jobs in China under the impact of artificial intelligence. *Finance Research Letters*, 55. <https://doi.org/10.1016/j.frl.2023.103798>
- Wijonarko, P., & Zahra, A. (2022). Spoken language identification on 4 Indonesian local languages using deep learning. *Bulletin of Electrical Engineering and Informatics*, 11(6). <https://doi.org/10.11591/eei.v11i6.4166>
- Zahra, A., & Carson-Berndsen, J. (2013). LIMA: A spoken language identification framework. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 8113 LNAI. https://doi.org/10.1007/978-3-319-01931-4_26
- Zanyar Nathir, G. (2023). The Role of Artificial Intelligence Technology on English Language Learning: A Literature Review. *Canadian Journal of Language and Literature Studies*, 3(2). <https://doi.org/10.53103/cjlls.v3i2.87>

- Zou, B., Du, Y., Wang, Z., Chen, J., & Zhang, W. (2023). An Investigation Into Artificial Intelligence Speech Evaluation Programs With Automatic Feedback for Developing EFL Learners' Speaking Skills. *SAGE Open*, 13(3).
<https://doi.org/10.1177/21582440231193818>
- Zou, B., Guan, X., Shao, Y., & Chen, P. (2023). Supporting Speaking Practice by Social Network-Based Interaction in Artificial Intelligence (AI)-Assisted Language Learning. *Sustainability (Switzerland)*, 15(4).
<https://doi.org/10.3390/su15042872>