



Lorestan University

Qualitative Inquiry as Praxis in L2 Studies

Journal homepage: <https://quipls.lu.ac.ir/>



Research Paper

AI-Powered Tools and Language Learners' Speaking Performance: Probing into Language Teachers' Narratives

Hamidreza Hashemi Moghadam^{*, a}

^aDepartment of English Language and Literature, Hakim Sabzevari University, Sabzevar, Iran.
E-mail: H.hashemimoghadam@gmail.com

ARTICLE INFO

Article Type

Original Article

Article History

Received: 2025-06-29

Received in Revised

Form: 2025-07-01

Accepted: 2025-07-03

Available Online: 2025-07-13

Keywords:

AI speaking program,

EFL teachers' stories,

Emotional self-

Regulation, Informal

ABSTRACT

The present qualitative study, using activity theory proposed by Engeström (1987) and elaborated by Artemova (2024) as the conceptual framework, explored the English language teachers' experiences with regard to the role AI speaking programs could play in fostering their language learners' speaking performance. The main conceptions of the conceptual framework entailed subject, object, outcome, instruments, labor division, community, and rules. The participating teachers narrated their own stories through semi-structured interviews, which were analyzed using thematic analysis. Their stories focused on three noteworthy themes: emotional self-regulation, the opportunity of informal learning through the digital world, and the decrease in learners' autonomy in the case of overreliance. Generally, the participating teachers, focusing on the factors of subject, outcome, and rules, highlighted the transition from other-regulation towards self-regulation. They also acknowledge the value of informal digital learning process, developing language learners' competence, enhancing their sense of relatedness, and strengthening the process of engagement.

*Corresponding Author

Email address: H.hashemimoghadam@gmail.com

How to cite this article: Hashemi Moghadam, H. (2025). AI-powered tools and language learners' speaking performance: Probing into language teachers' narratives. *Qualitative Inquiry as Praxis in L2 Studies*, 1(1), 188-205

DOI: [10.22034/QUIPLS.2025.2064416.1011](https://doi.org/10.22034/QUIPLS.2025.2064416.1011)

learning, Speaking
performance

1. Introduction

Artificial intelligence (AI) have recently played a key role in education in general and in language education in particular. Dodigovic (2007) believes that AI in language classrooms can be used a tool to improve language learners' performance since it helps them become aware of their errors and engage in self-correction process. Hockly (2023) indicated that AI fosters language learners' digital well-being, especially in post-pandemic era, where the meaning of the learning and teaching process has dramatically changes and all educational contexts recognized the dire need for a new mode of education. In addition, Hockly asserted that "AI-powered tools that can help us focus on our uses of technology, such as screen-time notifications and nudges to switch off our mobile devices, have been available for some time (p. 448). Accordingly, researchers in the field of language education and applied linguistics investigated the role and foci of various AI tools from various perspectives in the process of English language teaching and learning. While a group of scholars in language education have deeply examined the challenges and possibilities of AI in the language learning and teaching process (Huang et al., 2023; Liang et al., 2023; Son et al., 2025), another group of scholars have empirically investigated the effectiveness of using AI tools in the reality of the language classrooms.

The empirical investigation mainly drew the attention of the readers to the way AI tools could positively affect language learners' literacy skills. In general, reading and writing skills were of primary importance (Pan et al., 2024; Song & Song, 2023; Yilmaz & Aydin, 2025). Some scholars have also studied the role played by AI in improving language learners' speaking or communication skills (El Shazly, 2021; Zou et al., 2023; Zou et al., 2024). Zhang and Huang (2024) explored the effect of the using chatbots in language classroom on the acquisition of second language vocabulary items. English language learners' grammatical knowledge was also addressed by a group of scholars in language education (Mudhsh et al., 2025). As the categorization and evaluation of the reviewed studies revealed, the majority of the studies sought to explore the impact of AI-powered tools on language learners' literacy skills and the learning process was examined from the language learners' perspectives. Generally, Son et al. (2025) believed that "language

learners show positive attitudes towards AI tools for language learning. AI can provide instant feedback and flexibility in learning environments” (p. 105).

However, to deeply analyze the reality of language classrooms, the teachers’ perspectives and experiences should also be taken into account. In this regard, the present study aimed at delving into English language teachers’ experiences of using AI-powered language learning tools in their classes. Furthermore, the study mainly focused on the way such technology-enhanced facilities could improve language learners’ speaking performance, which involves the two factors of fluency and accuracy. As Dewi and Wilany (2022) indicated, “speaking performance is the most visible evaluation of foreign language skills since students display language use right away in their speaking performance” (p. 113). Furthermore, the large number of language learners in the atmosphere of the language classrooms and the limited time devoted to the speaking and listening skills with regard to the educational curriculum mainly focusing on the reading skill show the value and significance of carrying our research projects on such communicative skills. It is highly important to assist Iranian English language learners to enhance their speaking skill and help them to be empowered to convey their meanings more effectively, leading to the successful process of communication. In this regard, to address the above-mentioned gap, considering the activity theory, conceptualizing the learning process in terms of various factors of subject, object, outcome, instruments, labor division, community, and rules as the conceptual framework of the present study, I sought to answer the research questions presented below:

1. What are Iranian EFL teachers’ experiences of using AI-powered speaking assistance technologies in their speaking classrooms?
2. How are their experiences interpreted and discussed through the lens of activity theory?

2. Literature Review and Conceptual Framework

2.1. Literature Review

In this section, the relevant studies exploring the role of AI in improving the variable of speaking performance or the communication skills are deeply reviewed. The first study was carried out by Rusmiyanto et al. (2023) and comprehensively reviewed the existing literature by analyzing the objective, publication date, methodologies, and theoretical framework of the peer-reviewed research articles. Based on the analysis of the reviewed studies, Rusmiyanto et al. (2023) argued

that the AI-powered programs could positively affect learners' speaking skill and pronunciation. They also reported that the majority of the studies talked about the positive role of AI-powered programs in improving learners' fluency. They explained that learners could be deeply engaged and could receive real-time feedback as well as the opportunity to practice using the target language. In general, in their review study, they maintained that "adaptive learning technologies incorporating AI algorithms were shown to personalize language instruction, facilitating individualized learning experiences and addressing learners' specific needs" (p. 753). It should be mentioned that they take the challenges and ethical issues of using AI-powered tools into account and indicated that the value of social interactions as observed in human-human interactions should not be underestimated.

In the second study, Qiao and Zhao (2023) studied the effect of AI-powered language learning program on language learners' speaking skills and self-regulation. They selected a group of 93 English language learners who were at the intermediate level and studied in the context of China. The chosen participants were assigned to different intervention groups at five educational contexts. In each educational context, a control group similar to the experimental group of learners was selected. While all control and intervention groups participated in speaking courses, only the intervention groups received instructions through AI-powered speaking program. Indeed, the Duolingo application was utilized. Elaborating on the reason of using the Duolingo application, Qiao and Zhao (2023) argued that "a standout feature within Duolingo's speaking component is its real-time feedback mechanism. As learners respond to prompts, an AI-powered chatbot diligently evaluates various facets of their spoken language, encompassing pronunciation, fluency, vocabulary usage, and grammatical accuracy" (p. 6). To collect the data, they used the IELTS speaking skill test in order to evaluate various components of language learners' speaking skill such as fluency, knowledge of vocabulary items, accuracy, and pronunciation. This test was administered before and after the treatment. Moreover, to assess the participating learners' skill in self-regulation, the Self-Regulated Language Learning Questionnaire (SRLQ) prepared by Seker (2016) was utilized before and after the treatment as pre-tests and post-tests. To analyze the collected data, the researchers calculated multiple linear regression. The result of the analysis of the data revealed that in the intervention groups, the speaking skill of the participants was dramatically improved. Furthermore, the results of the study reported a higher level of self-

regulation in the intervention groups receiving speaking course through AI-powered programs. As learners were highly engaged in the AI-powered learning process due to the new atmosphere of learning, which was highly interactive, their speaking skill was improved. In addition, being engaged in the novel atmosphere of speaking course, they could regulate their own speaking skill since they found the opportunity of independent speaking practice. As Qiao and Zhao (2023) asserted:

In relation to Vygotsky's sociocultural theory (1986), the idea of scaffolding emphasizes the importance of external support in aiding learners' cognitive and linguistic growth. AI systems can serve as valuable scaffolds by offering learners customized prompts, reminders, and feedback that address their specific needs. (p. 9)

In a similar vein, Fathi et al. (2025) investigated the role of AI-powered tools in enhancing English language learners' speaking skill through a survey study. They studied a group of 358 undergraduate and postgraduate students. These students completed an open-ended questionnaire and the results were analyzed using factor analysis. The results revealed that the use of AI-powered learning tools can improve the process of learning language skills, especially the speaking skill because of the opportunity of personalized learning. They believed that technologies in language learning can be used in a constructive way and asserted that technologies "including virtual language tutors and language learning apps, provide personalized feedback, support pronunciation practice, and enhance speaking skills in a learner-centered environment" (p. 213). Likewise, Fathi et al. (2024) underscored the positive role of AI speaking program in enhancing Iranian EFL learners' speaking skills and willingness to communicate.

Similar to the studies reviewed above, the current study aimed at exploring the role of AI-powered speaking programs on EFL learners' speaking performance. However, the present study aimed to explore Iranian EFL teachers' perspectives, while the existing studies mainly investigated Iranian EFL learners' perspectives. Then, teachers' perspectives are analyzed and discussed through the lens of activity theory as the conceptual framework of the study to reevaluate the possibilities and challenges of novel and innovative technologies in fostering English language learners' speaking performance. The findings of the study can redound to the benefits of the

material developers and language teachers interested in using novel technologies in the process of language teaching and learning.

2.2. Activity Theory

Activity theory proposed by Engeström (1987) was utilized as the conceptual framework of this study. Based on activity theory, three factors play a role in the process of learning through AI-powered programs. These three factors consist of subject, object, and outcome. While subject involves the learners receiving instructions through AI-powered tools, object refers to the tasks or assignment students carry out through the AI-generated learning process. In addition, outcome refers to the effect of using AI on learners' emotions, cognitive process, behaviors, or even agency. However, Artemova (2024) believed that activity theory “allows the examination of AI implementation in education as a globally occurring activity in a systemic way across six categories: Subject, Object, Instruments, Labour Division, Community, and Rules” (p. 59). Community involves the group of learners who are regarded as the actors in the process of learning. Furthermore, labour division is mainly about the distribution of obligations among members of actors forming a community. Moreover, as Artemova asserted rules refer “to the explicit or implicit guidelines that govern the actions” (p. 60). As Scanlon and Issroff (2005) indicated, the innovative technological program is regarded as a tool in the higher education context, which is assumed as a community. Students play the role of subjects, fulfilling the educational tasks or assignments defined as object. In general, Scanlon and Issroff (2005) maintained that activity theory, in a profound way, can examine the realities of a classroom in a higher education context in which the novel technological tools are used for the purpose of learning.

3. Methodology

3.1. Research Design

As the main goal of the present study was delving into the teaching experiences of the English language teachers who used AI-powered programs and tools in their language classes, and specifically the language classes aiming at the improvement of the language learners' speaking performance, in the present study, narrative inquiry was employed as the method of the study. Ghanbar et al. (2024) highlighted the significance of narrative inquiry in applied linguistics and

introduced this qualitative research design as “a complementary approach to positivistic research, focusing on the subjectivities of individuals’ lived experiences and using stories as data, analytical tools, and reporting practice” (p. 1629). Similar points were mentioned by other researchers (Bahrami et al., 2022; Barkhuizien, 2019; Benson, 2014) underscoring the significance of narrative inquiry as a qualitative research design deeply analyzing teachers’ and learners’ experiences narrated in their stories.

3.2. Participants and Setting

The participating teachers of the present study consisted of six Iranian English language teachers, who were selected using purposeful sampling. This group of participants included four female and two male teachers, who used AI-powered tools in their classes held for the improvement of the speaking performance of their learners. Also, they were in the age group 35-45. They had experiences in teaching English at various educational contexts in Iran, including universities and private language institutes. Analyzing the Iranian national agenda as well as the realities of using AI in the context of Iran, Atwood (2025) stated that AI is regarded as “as a tool for counteracting economic sanctions and asserting technological sovereignty. However, this official discourse, which portrays AI as a vehicle for national empowerment often overlooks the complex and less triumphant realities of AI’s implementation within the country” (p. 1). Indeed, Atwood (2025) argued that from a practical perspective, Iran faces many problems in implementing AI-powered tools in various contexts.

3.3. Methods of Data Collection

In order to gather the data, I as a researcher used semi-structured interviews and field notes. Semi-structured interviews were audio-recorded and transcribed verbatim. Each interview lasted about 30 to 40 minutes. Through the interviews, the participating teachers were permitted to share their own experiences and stories with regard to the use of AI-powered programs and applications for the improvement of language learners’ speaking performance. In addition to semi-structured interviews, I used field notes to record my impressions and reflections on the method of the study as well as the points I recorded when analyzing the data, that is, the transcription of interviews.

3.4. Data Analysis Procedure

The data gathered through semi-structured interviews and field notes was analyzed using the inductive thematic analysis. Clarke and Braun (2017) defined inductive thematic analysis as “a process of coding the data without trying to fit it into a pre-existing coding frame, or the researcher’s analytic preconceptions” (p. 89). That is, at the first stage, I have read the transcriptions of interviews and filed note texts several times to understand the whole message of each story. Then, I have underlined the sentences that were relevant to the research questions as parts of the data to be coded. In order to code the data, I used some phrases that represented the core meaning of the underlined parts of the data set. At the next stage, the main themes were extracted. Indeed, after identifying the initial list of codes, I re-checked the list with regard to the similarities and differences among various codes. Those codes that were similar regarding their core meaning were replaced by themes. Themes were more abstract concepts or phrases that were used to represent the core meaning of a group of codes. The result of the intra-coder agreement (70%) across various coding session was also sufficient.

4. Findings

The participating teachers mainly referred to AI-powered speaking programs like chatGPT and Duolingo. The main themes extracted from their comments and interviews involved the development of EFL learners’ emotional self-regulation, the opportunity of informal learning through the digital world, and the decrease in learners’ autonomy in the case of overreliance. In fact, it seems that the key themes identified show the attention given by the participating teachers to both the possibilities and challenges caused by such AI-powered speaking programmes. These three themes are described in detail in the following section.

4.1. The Development of EFL Learners’ Emotional Self-Regulation

The participating teachers, in their interviews, mostly referred to the role AI-powered speaking program played in assisting EFL language learners to become aware of, reflect on, and manage their emotions. It seems that they mostly paid attention to the opportunity of emotional self-regulation, which was offered by the AI-powered speaking programs for their learners. It should be explicated that their focus on emotional self-regulation through the lens of activity theory

showed the value of the factor of outcome. That is, they referred to the processes and behaviors affected by using AI-powered tools. Sima in her interview stated that:

As a teacher, I think, the positive atmosphere of working with such tools, helped learners raise their awareness of their emotional challenges in speaking and learn to manage their emotions in a more effective way.

As the extract mentioned above shows, Sima insisted on the opportunity of self-regulative practices provided by using such tools as learners had enough time and space to acknowledge, reflect on, and navigate their positive and negative emotions. Likewise, Amir Hossein considered the self-regulative practice as one of the most important opportunities offered for his learners when they used AI-powered tools to practice speaking in the English language. He believed that:

They could concentrate on what they are doing. One important factor affecting learners' speaking skill is their ability to manage their emotions such as anxiety and fear. Such tools are used like a peer or a friend. Thus, the learners as users could emotionally be secure and could get knowledge of their emotions.

In line with Sima, Amir Hossein explained that practicing speaking in the English language using AI-powered speaking programs assisted his learners to manage their emotions since they could enjoy leaning in a secure and safe learning atmosphere and could reflect on their own emotional challenges and experiences. Other participating teachers had similar perspectives. For example, Negar argued that her learners found a new learning atmosphere to get aware of their emotional challenges that can be obstacle to their speaking performance:

Speaking is a productive skill through which learners' emotions play a key role in conveying the meaning. Such novel learning tools make learners aware of their emotions and helped them control and manage the negative emotions.

Negar also referred to the awareness of one's own emotions. She believed the AI-empowered learning process helps learners increase their awareness of emotions they feel when they start speaking in the target language because learners find such a novel atmosphere of learning a safe, secure, and innovative atmosphere. As the data extract examined above show the participating teachers argued that learners are the subject or the main actors who can improve their speaking skill and enhance their fluency for the purpose of effective and meaningful communications, when they learn to regulate their speaking by navigating their emotion

4.2. The Opportunity of Informal Learning through the Digital World

The second theme indicated that, based on the comments of the majority of the participating teachers, the AI-powered speaking tools were highly helpful in assisting language learners to improve their speaking skills because learners who used such tools could practice speaking outside the formal atmosphere of learning. That is, they found an extra learning atmosphere. Moreover, since they were interacting with bots or machines, they experienced an informal learning atmosphere in which a new relationship was defined. This human-bot relationship was not as formal as the relationship between teachers and learners that is established in the formal nature of the regular language classroom. As Borzou, one of the male participating teacher stated:

Learners require new contexts of learning. Using such new technologies, they can practice speaking in the English outside the formal classroom. I want to say that they can move on based on their needs and problems in such a context that is not based on the rule “one size fits all”.

The analysis of Borzou’s comment shows that for his learners the use of AI-powered speaking programs was helpful because they could have access to the new context of learning, which is considered as an informal context of learning outside the regular classrooms. He explained that this informal context could foster language learners’ speaking skill because they could receive instructions based on their own level of language proficiency. In agreement with Borzou, Amir Hossein stated that:

The limited time of the class and the large numbers of students are the main problems we faced with in classes that aim at improving EFL learners’ productive skills such as the speaking skill. However, the new technologies such as AI create a new opportunity for learners to practice speaking or writing outside the class, in a way that is completely informal but individualized.

Borzou indicated that the learning atmosphere created through AI was informal and individualized. The individualized learning experience refers to the rule in activity theory or the guideline for actions. Borzou regarded this informal learning atmosphere highly useful since it could be an extra practice for learners, who were not permitted to speak in the regular class due

the large number of the students or the limited time of the regular classrooms. Indeed, this atmosphere resulted in a more effective distribution of obligation among learners. They could start practice speaking outside the regular class. Even for shy learners or the silent ones, this atmosphere could be interpreted as an opportunity for becoming actors.

4.3. The Decrease in Learners' Autonomy in the Case of Overreliance

In addition to the positive points addressed in the two main themes described above, the participating teachers believed that using such technologies, including generative AI-powered learning tools could weaken learners' autonomy when they are highly dependent on the machine. Mahboubeh explained that:

While using AI in English language classrooms has many advantages and is mainly considered by teachers and learners as a positive learning process, I observed a negative point as a teacher. Some learners lose their autonomy and it seems that they use bots to solve all problems.

Mahboubeh indicated that the use of AI tools should not result in the overreliance on the effectiveness of such tools because learners will lose their own autonomy. That is the overreliance on the use of AI-powered learning tools negatively affect learners' performance because they lose the important role as actors or agents. Similar point was mentioned by Anahita:

When learners forget their role as subjects and use these tools to work for them, they lose their ability for self-learning. We should guide learners to learn how to use such tools to increase their ability as autonomous learners.

In fact, Anahita explained that the overreliance on the use of AI-powered speaking programs can decrease EFL learners' level of autonomy since they cannot be empowered enough to control their own process of learning. In fact, the participants of the current study maintained that the use of AI-powered speaking programs in their classes affected their language learners' performance in both positive and negative way. Considering the positive way, they referred to the process of self-regulation and informal digital learning. That is, they largely referred to the factors such as individualized and personalized learning experience or the opportunity of the extra activity outside the classroom, where all learners, including the shy learners can start practice speaking with a partner, although their partner is a bot.

5. Discussion

The research findings showed that the participating teachers believed in the positive role of AI in improving language learners' speaking skill. This point was also mentioned by other researchers (Fathi et al., 2024, 2025; Rusmiyanto et al., 2023). Particularly, the result of the present study showed that the AI-powered speaking programs promote self-regulative practices, which result in the improvement of speaking skills in Iranian EFL learners. This result corresponds well with the result of the study that was carried out by Qiao and Zhao (2023). They also explained that the novel learning tools such as the Duolingo application dramatically improve language learners' speaking. While their study was carried out in the context of China, they also referred to the value of self-regulation and argued that the interactive and communicative nature of the Duolingo application helped their participants move from the state of being regulated by others towards a new learning experience in which they are empowered to independently regulate their own speaking performance.

Similar point was mentioned by Mohebi (2025), indicating that learners using such tools move from other-regulation towards self-regulation because they are enabled to correct their own errors and mistakes independently. In general, Wei (2023) considered artificial intelligence in the English language classrooms as a new and innovative opportunity to foster the English language learners' self-regulated learning due to the nature of the personalized learning and the chance of immediate feedback. However, the result of the current study specifically showed that AI-powered speaking programmes in English language classrooms can improve the opportunity of emotional self-regulation. That is, through speaking with chatGPT or the Duolingo application, the English language learners, as the participating teachers of the current study experienced, could become aware of their emotional challenges and trajectories, could reflect on their positive and negative emotions, and could navigate their emotions in an effective way.

Moreover, the result of the study revealed that learners could find the opportunity of informal language learning through digital tools. In their study on the role of AI-powered learning tools in the English language classrooms on establishing the informal digital learning, Lee and Cho (2025) stated that these tools foster language learners' willingness to communicate (WTC)

and decrease their anxiety. In fact, they believed that “informal digital learning reduces L2 anxiety by allowing unmonitored English practice. Positive emotions like enjoyment in digital environments enhance engagement and WTC” (p. 145). In general, Anggraini et al. (2022) believed that learning through the informal atmosphere enhances language performance in the English language learners because it increases their confidence and helps them set goals based on their own level. However, the participating teachers in the current study acknowledged that the use of AI speaking programs may reduce language learners’ autonomy due to their overreliance on such tools. Overreliance on AI tools was also mentioned by other researchers such as Younus Jasim et al. (2024), who stated that overreliance on AI tools is an obstacle to the development of an original and authentic voice in language learners. The value of self-regulation and informal digital learning in the context of English language learning was highlighted by several scholars (Lee, 2021; Lee & Dressman, 2018; Rose et al., 2013; Tsuda & Nakata, 2013)

6. Conclusion

The present study delving into the Iranian English language teachers’ narrations of the way AI speaking programs in their classes influenced their learners’ speaking skill showed that the use of AI-powered learning tools entails both positive and negative points. While the majority of the relevant studies explored the English language learners’ experiences and perspectives, this study sought to hear the EFL teachers’ voices. The findings revealed that teachers’ experiences correspond with the EFL learners’ experiences. The possibility for individualized and personalized learning experience leading to the emotional self-regulation was highlighted. It was revealed that one of the factors that positively affects learners’ speaking skill through the use of applications like Duolingo is the creation of the informal learning through the digital context. According to Chiu (2022), informal learning process offered by the digital tools improves EFL learners’ competence and cultivates a sense of relatedness. Furthermore, as Hidayat-ur-Rehman (2024) indicated, through such tools, learners’ engagement is fostered. As the present study took a qualitative approach, further studies are required to re-examine the findings of this study at a larger scale. This study specifically studied English language teachers in Iran. Further studies exploring teachers from various socio-cultural contexts are suggested.

Bio-data

Hamidreza Hashemi Moghadam is a Ph.D. holder in TEFL from Hakim Sabzevari University and his fields of interest involve psycholinguistics and digital literacy.

Declarations

Funding: The author received no grant or funding for this manuscript

Acknowledgements: The author sincerely expresses his sense of gratitude to the teachers participated in the present study.

Competing interests: The corresponding author indicated that there was no potential of interest relating to the manuscript

Availability of data and materials: Data is available through email upon request.

Authors' contributions: Writing-original draft-review and editing-methodology

Declaration of generative AI-powered tools in the process of writing: The author declares that he has not used such tools in writing the current research study.

References

- Anggraini, M. P., Anugerahwati, M., Sari, R. N., & Miranty, D. (2022). The ICT use of informal digital learning in enhancing EFL university students' English performance. *Computer-Assisted Language Learning Electronic Journal*, 23(3), 94-114. <https://callej.org/index.php/journal/article/view/414>
- Artemova, I. (2024). Bridging motivation and AI in education: An activity theory perspective. *Digital Education Review*, 45 (2024), 59-69. <https://doi.org/10.1344/der.2024.45.59-67>
- Atwood, B. (2025). Artificial intelligence in Iran: National narratives and material realities. *Iranian Studies*, 1-18. <https://doi.org/10.1017/im.2024.63>.
- Bahrami, V., Hosseini, M., & Atai, M. R. (2022). Narrative inquiry in applied linguistics: A storied account of its procedures, potentials, and challenges in an empirical project. In K. Dikilitas & K. Reynolds (Eds.), *Research methods in language teaching and learning: A practical guide* (pp. 59-72). Wiley Online Library.
- Barkhuizen, G. (2019). Core dimensions of narrative inquiry. In J. Mckinley & H. Rose (Eds.), *The Routledge handbook of research methods in applied linguistics* (pp. 188-198). Routledge.
- Benson, P. (2014). Narrative inquiry in applied linguistics research. *Annual Review of Applied Linguistics*, 34, 154-170. <https://doi.org/10.1017/S0267190514000099>.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Chiu, T.K.F., Sun, J.C.Y. and Ismailov, M. (2022). Investigating the relationship of technology learning support to digital literacy from the perspective of self-determination theory. *Educational Psychology*, 42(10), 1263-1282. <https://doi.org/10.1080/01443410.2022.2074966>
- Dewi, D. S., & Wilany, E. (2022). Factors affecting speaking performance. *Lingua: Journal of Linguistics, Literature, and Language Education*, 5(2), 112-122. <https://doi.org/10.5281/zenodo.7145570>

- Dodigovic, M. (2007). Artificial intelligence and second language learning: An efficient approach to error remediation. *Language Awareness*, 16(2), 99-113. <https://doi.org/10.2167/la416.0>
- El Shazly, R. (2021). Effects of artificial intelligence on English speaking anxiety and speaking performance: A case study. *Expert Systems*, 38(3), <https://doi.org/10.1111/exsy.12667>
- Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Orienta-Konsultit.
- Fathi, J., Rahimi, M., & Derakhshan, A. (2024). Improving EFL learners' speaking skills and willingness to communicate via artificial intelligence-mediated interactions. *System*, 121, <https://doi.org/10.1016/j.system.2024.103254>.
- Fathi, H., Sharifi, A., & Ahmadi, H. (2025). Empowering students with innovative AI-language learning tools and pedagogy to master speaking skills. *Iranian Journal of Applied Language Studies*, 17(1), 197-221. [10.22111/IJALS.2024.48157.2432](https://doi.org/10.22111/IJALS.2024.48157.2432)
- Ghanbar, H., Cinaglia, C., Randez, R. A., & De Costa, P. I. (2024). A methodological synthesis of narrative inquiry research in applied linguistics: What's the story?. *International Journal of Applied Linguistics*, 34(4), 1629-1655. <https://doi.org/10.1111/ijal.12591>
- Hidayat-ur-Rehman, I. (2024). Examining AI competence, chatbot use and perceived autonomy as drivers of students' engagement in informal digital learning. *Journal of Research in Innovative Teaching & Learning*, 17(2), 196-212. <https://doi.org/10.1108/JRIT-05-2024-0136>
- Hockly, N. (2023). Artificial intelligence in English language teaching: The good, the bad and the ugly. *RELC Journal*, 54(2), 445-451. <https://doi.org/10.1177/00336882231168504>
- Huang, X., Zou, D., Cheng, G., Chen, X., & Xie, H. (2023). Trends, research issues and applications of artificial intelligence in language education. *Educational Technology & Society*, 26(1), 112-131. [https://doi.org/10.30191/ETS.202301_26\(1\).0009](https://doi.org/10.30191/ETS.202301_26(1).0009)
- Lee, J. S. (2021). *Informal digital learning of English: Research to practice*. Routledge.
- Lee, T., & Cho, V. (2025). Enhancing language learning through generative artificial intelligence in blended learning: An empirical study on productive and receptive of informal digital learning English. *Journal of Educational Technology Systems*, 53(3), 143-169. <https://doi.org/10.1177/00472395241266454>

- Lee, J. S., & Dressman, M. (2018). When IDLE hands make an English workshop: Informal digital learning of English and language proficiency. *TESOL Quarterly*, 52(2), 435-445. <https://www.jstor.org/stable/44986999>
- Liang, J. C., Hwang, G. J., Chen, M. R. A., & Darmawansah, D. (2023). Roles and research foci of artificial intelligence in language education: An integrated bibliographic analysis and systematic review approach. *Interactive Learning Environments*, 31(7), 4270-4296. <https://doi.org/10.1080/10494820.2021.1958348>
- Mohebbi, A. (2025). Enabling learner independence and self-regulation in language education using AI tools: A systematic review. *Cogent Education*, 12(1), <https://doi.org/10.1080/2331186X.2024.2433814>
- Mudshh, B. A., Muqaibal, M. H., Al-Maashani, S., & Al-Raimi, M. (2025). Utilization of artificial intelligence tools in fostering English grammar and vocabulary among Omani EFL learners. *World*, 15(5). <https://doi.org/10.5430/wjel.v15n5p51>.
- Pan, M., Guo, K., & Lai, C. (2024). Using artificial intelligence chatbots to support English-as-a-foreign language students' self-regulated reading. *RELC Journal*, <https://doi.org/10.1177/00336882241264030>
- Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: Illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, 14, <https://doi.org/10.3389/fpsyg.2023.1255594>
- Rose, H., Briggs, J. G., Boggs, J. A., Sergio, L., & Ivanova-Slavianskaia, N. (2018). A systematic review of language learner strategy research in the face of self-regulation. *System*, 72, 151-163. <https://doi.org/10.1016/j.system.2017.12.002>
- Scanlon, E., & Issroff, K. (2005). Activity theory and higher education: Evaluating learning technologies. *Journal of Computer Assisted Learning*, 21(6), 430-439. <https://doi.org/10.1111/j.1365-2729.2005.00153.x>
- Seker, M. (2016). The use of self-regulation strategies by foreign language learners and its role in language achievement. *Language Teaching Research*, 20(5), 600-618. <https://doi.org/10.1177/1362168815578550>

- Son, J. B., Ružić, N. K., & Philpott, A. (2025). Artificial intelligence technologies and applications for language learning and teaching. *Journal of China Computer-Assisted Language Learning*, 5(1), 94-112. <https://doi.org/10.1515/jccall-2023-0015>
- Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: Assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology*, 14, <https://doi.org/10.3389/fpsyg.2023.1260843>
- 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 learners' communication skills. *Journal on Education*, 6(1), 750-757. <https://doi.org/10.31004/joe.v6i1.2990>
- Tsuda, A., & Nakata, Y. (2013). Exploring self-regulation in language learning: A study of Japanese high school EFL students. *Innovation in Language Learning and Teaching*, 7(1), 72-88. <https://doi.org/10.1080/17501229.2012.686500>
- Wei, L. (2023). Artificial intelligence in language instruction: Impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14, <https://doi.org/10.3389/fpsyg.2023.1261955>
- Yılmaz, Ö. K., & Aydın, S. (2025). The impact of the use of artificial intelligence-generated materials on reading motivation among EFL learners. *Reading Research Quarterly*, 60(3), <https://doi.org/10.1002/rrq.70016>
- Younus Jasim, M., Hakim Musa, Z., Abood Asim, Z., & Rawdhan Salman, A. (2024). Developing EFL writing with AI: Balancing benefits and challenges. *Technology Assisted Language Education*, 2(2), 80-93. [10.22126/TALE.2024.10953.1052](https://doi.org/10.22126/TALE.2024.10953.1052)
- Zhang, Z., & Huang, X. (2024). The impact of chatbots based on large language models on second language vocabulary acquisition. *Heliyon*, 10(3), <https://doi.org/10.1016/j.heliyon.2024.e25370>
- 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., Liviero, S., Ma, Q., Zhang, W., Du, Y., & Xing, P. (2024). Exploring EFL learners' perceived promise and limitations of using an artificial intelligence speech evaluation system for speaking practice. *System*, 126, <https://doi.org/10.1016/j.system.2024.103497>

