Vol.7 No.2 (2024)

Journal of Applied Learning & Teaching

ISSN : **2591-801X**

Content Available at : **http://journals.sfu.ca/jalt/index.php/jalt/index**

Exploring the challenges and affordances of integrating ChatGPT into language classrooms from teachers' points of view: An ecological perspective

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Keywords

AI;
AIEd;
artificial intelligence;
ChatGPT;
educational ecology;
higher education;
teachers' perspectives.

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Article Info

Received 9 April 2024
Received in revised form 5 May 2024
Accepted 10 July 2024
Available online 12 July 2024

DOI: https://doi.org/10.37074/jalt.2024.7.2.8

Abstract

The present study explored teachers' perspectives on the challenges and benefits of using ChatGPT in language classrooms, adopting an ecological perspective. To do so, ten Iranian language teachers were selected using convenience sampling and completed narrative frames about the use of ChatGPT in language classrooms. Semi-structured interviews were used to explore their beliefs on the impact of integrating ChatGPT in their classes. Employing deductive thematic analysis, the findings were organized into three different layers of educational ecology: microsystem, mesosystem, and macrosystem. The findings revealed that there are challenges and benefits in different layers of the classroom ecosystem regarding using ChatGPT in language classrooms. Teachers and teacher educators can benefit from the findings of the present study by raising their awareness of the implications of ChatGPT in language classrooms and adapting their practices to integrate this AI tool in their teaching practice.

Introduction

Artificial intelligence (AI) technologies have developed and become more visible in various aspects of our daily lives. As AI increasingly infiltrates diverse aspects of society and culture, the need for critical perspectives on technology has never been more urgent (Lindgren, 2023). ChatGPT, a conversational agent developed by OpenAI, is one of the most advanced AI applications. It has attracted considerable public attention around the world (Adeshola & Adepoju, 2023; Biswas, 2023a, 2023b; Cheng et al., 2023; Kocoń et al., 2023; Meyer et al., 2023; Tlili et al., 2023).

Since the 1970s, Chatbots have been used in educational settings (Huang et al., 2022). While the latest Chatbots can be used to facilitate pedagogy, research, administration, and student support, there are significant concerns around academic integrity, labour displacement, embedded biases, environmental sustainability, increased commercialization, and regulatory gaps (Rudolph et al., 2024). ChatGPT's capability to realistically mimic human conversation opens a modern way of language learning. ChatGPT is developed by automated speech recognition, NLP (natural language processing), which "is a tract of Artificial Intelligence and Linguistics, devoted to making computers understand the statements or words written in human languages" (Khurana et al., 2023, p. 3714), and used by digital assistants, like Siri and Alexa, to manage and complete tasks.

For instance, Siri and Alexa use natural language to provide information and perform tasks upon request (e.g., turn on the radio and check the weather forecast). In contrast, ChatGPT was designed to have conversations with users. ChatGPT is a versatile and valuable tool with the potential to revolutionize language learning. Its interactive nature holds the key to unlocking engaging and personalized learning experiences. Fostering a dynamic learning environment and encouraging active participation and meaningful interactions are all conversational interfaces (Kohnke et al., 2023).

On the other hand, while some commentators focus on its capabilities to develop an education system (McMinn, 2023), others try to emphasize its limitations and risks (Kohnke et al., 2023). Although there is considerable research on the advantages and disadvantages of AI, such as ChatGPT, there has been little focus and attention on its negative impact on the human thinking process and decision-making abilities in an educational environment. Because of a noticeable increase in the use of AI and robots, it may be essential to have a better and more comprehensive understanding of the effects of these AI tools on human cognitive development and problem-solving skills. Having a heavy reliance on AI systems like ChatGPT can indirectly decrease human autonomy (Bin-Hady et al., 2023) to make different vital decisions in crucial situations and may reduce critical thinking as well. With AI providing fast and quick responses and support by AI, it may hurt human ability and capability to think deeply about different issues. People may also adapt to using ChatGPT's solutions instead of using their minds or thinking to solve their problems (Karthikeyan, 2023). While AI tools like ChatGPT have the potential to revolutionize the education system, it is crucial to strike a balance between utilizing its benefits and protecting human cognitive and thinking abilities (Bozkurt et al., 2023).

By doing a wide range of research on AI tools, we may have more conscious approaches to promulgate them. By understanding the potential disadvantages and adopting a balanced approach, we can ensure that AI technology, such as ChatGPT, becomes a valuable tool for learning and personal growth rather than an obstacle to intellectual development. This study aims to help teachers enhance and improve their teaching qualifications by incorporating ChatGPT into the classroom. It aims to explore Iranian teachers' beliefs and perspectives about ChatGPT and the positive or negative outlooks it may cause. In effect, the purpose of this study is to explore the benefits and challenges of using ChatGPT in classroom practice and to discover teacher's attitudes regarding ChatGPT.

Literature review

ChatGPT in education

ChatGPT has passed some of the most demanding and challenging tests in higher education, which has shattered expectations toward positive and extraordinary awareness of it (Choi et al., 2023). Excitement and anxiety among educators are two different feelings that ChatGPT causes all over the world. Although generating some features such as human-quality text, human-like answers, or responses presented a new opportunity or even opened modern possibilities for both teaching and learning, it has also increased worries about its potential to replace human teachers or interrupt the traditional classroom setting.

It is crucial to remember that AI has had an important role in education in various aspects. For instance, personalized student assessments (Zhao et al., 2023) and AI-powered teaching systems (Chaipidech et al., 2022) have already made their impact on K-12 schools and higher education settings. Providing personalized feedback and increasing the learning experiences are among other abilities one can call. Artificial intelligence is being used to generate learning analytic platforms (Chaipidech et al., 2022), grading tools, and tutoring systems (Chen et al., 2023), which help students and teachers in different ways. For instance, AI tutors may provide personalized instruction and even feedback to students, while AI graders can help teachers by saving their time and identifying areas where students need more support and guidance. (Tedre et al., 2021).

Besides traditional teaching methods, teachers and tutors are now integrating AI tools into their classrooms (Kim et al., 2020). Some AI tools can help students be more active participants in the learning process. For example, Grammarly, which is a grammar and sentence checker, can provide useful feedback on grammatical errors and sentence structures, translation tools like Google Translate can connect students to a global community of learners in multiple languages, or gamified exercises like Duolingo can be both fun and effective.

ChatGPT offers numerous valuable applications for educators. For example, it can help teachers in time-consuming tasks like providing lesson plans or any form of classroom needs, discussion and conversation prompts, useful scripts for different presentations, and classroom management points (van den Berg & du Plessis, 2023) or providing support and help with student's evaluation, designing grading rubrics, crafting test questions, generating students' progress report. (Zhai, 2022). Acting as versatile teaching assistants, providing practical and informative advice on improving lesson plans, expanding reading lists, presenting effective communication strategies for different age groups, and making a strong connection among teachers, students, and parents are all a wide range of benefits that ChatGPT can offer. It can also support students with tailored tutoring, informative research guidance, translation into multiple languages, and providing guidance for solving problems. (Trust et al., 2023).

ChatGPT's ability in natural language conversations opens new possibilities for creative thinking support in education. Students can use it to brainstorm ideas and find various perspectives. This approach encourages students to think critically and in a creative manner, promoting innovations and problem-solving skills and filters their thought processes through interactive text-based interactions, which improves all kinds of skills that students have, like reading and writing skills, research and language skills, as well (Kasneci et al., 2023). Anders and Sahakyan (2023) found that ChatGPT could extend its support from providing simple support to complex ones by helping students through the process of essay writing. From the initial step of selecting a topic, ChatGPT offered suggestions and relevant resources, ensuring students chose a topic that was connected to their interests. It also acted as an active participant, engaging students in discussions and prompting them to find diverse perspectives. It helped students create an outline and organize ideas into a cohesive narrative. In the drafting stage, suggestions were provided for improving grammar and sentence structure to refine the essay. Finally, ChatGPT proofread the essay and identified grammatical errors, typos, and consistencies in style and formatting (Anders & Sahakyan, 2023).

In another study, Kohnke et al. (2023) asserted that by simulating authentic interactions, ChatGPT supports language learning. They revealed that when learners encountered unfamiliar words in the context that their teachers sent them, ChatGPT could provide help to connect the comprehension gap. It also engaged students to ask follow-up questions and reinforced their understanding. Producing different genres or writing various dialogues were some other capabilities of ChatGPT. To illustrate, marketing materials, informative emails, and engaging dialogues could be provided for students. Additionally, ChatGPT could facilitate dialogues between two individuals over the topic of increasing electricity prices and discuss potential solutions. ChatGPT could also modify the complexity of the dialogue to make it more appropriate for different levels of students (van den Berg & du Plessis, 2023). This can make a great contribution to teachers in differentiating materials for their students and providing comprehensive vocabulary support that caters to their individual needs. It also offers detailed word definitions and examples in both the target language and the learner's primary language, enhancing their comprehension of complex texts like short stories.

The potential pitfalls of ChatGPT in education

Despite its undeniable benefits, ChatGPT also presents certain drawbacks. One major concern is the potential for users to blindly trust the accuracy and credibility of its output. As a language model, ChatGPT is capable of generating highly realistic text, even when the information it provides is fabricated. This risk is heightened when ChatGPT is used in educational settings, where students may be more inclined to accept its output as authoritative. Many individuals who use ChatGPT fail to comprehend that it differs from traditional information sources like web search engines, libraries, and encyclopedias. Unlike these resources, ChatGPT's primary function is to generate text, not to provide factual information. It relies on pattern recognition and language modelling to predict which words and phrases are likely to cohere, resulting in text that appears to be meaningful but not necessarily accurate.

While AI models like ChatGPT can produce creative and engaging text formats, they lack the depth of knowledge and critical thinking skills inherent in human communication. Blindly accepting AI-generated text as superior could undermine the value of human creativity, critical thinking, and the ability to discern fact from fiction (Trust et al., 2023). ChatGPT's training on a limited and homogeneous set of English-language texts has resulted in a monocultural perspective that reflects the cultural biases of its training data. When teachers employ ChatGPT to provide feedback or grade student writing, the model's monocultural viewpoint could lead to unfair assessments, silencing the diverse voices and cultural nuances of their student's writing (Ray, 2023). Educators should carefully consider ChatGPT's limitations and ensure that its monocultural biases (despite its multilingual ability) do not overshadow the rich tapestry of perspectives expressed in their student's writing (Farr, 2024).

A lot of information is collected by Open AI, such as how people use ChatGPT, what prompts their input, and what the AI provides in response. This kind of information is shared with other users, vendors, law enforcement, and affiliates. It means that OpenAI is aware of what you say to ChatGPT and everything about you, and they can possibly share the information that they received from people with whoever they want. In addition, people and countries that have a stable connection to ChatGPT have a considerable advantage over those with limited or no internet access. This difference can have an important effect on those who can use ChatGPT for learning, productivity, or creativity and those who are deprived of its benefits (Adarkwah et al., 2023; Fodouop Kouam & Muchowe, 2024).

It is essential to consider that AI tools, like any technology, need to be evaluated before their integration into educational settings. This careful assessment is crucial to identify and address potential risks. A wide range of research has focused on the advantages and disadvantages of using

AI, like ChatGPT, for both teachers and students. There is a lack of research on how AI, like ChatGPT, can remove the thinking process and disable both teachers and students to think and make decisions on their own. The opportunity to use different kinds of AI and robots is possibly increasing day by day. Having a deep understanding and attitude toward using these robots can have a positive effect not only on teachers and students but also on human beings. ChatGPT or other AI tools may cause people to feel unqualified to think about their issues or it may not improve their problem-solving skills. Research on this topic could inform people, users, students, or teachers about the final goals of these robots and make them more aware while using these tools. Therefore, this study aims to discover these threats and opportunities offered by ChatGPT in education by exploring it from teachers' perspectives. Employing an educational ecology lens, the questions guiding this study are as follows:

- What are the benefits and challenges of using ChatGPT for Iranian EFL teachers?
- How does educational ecology explain the benefits and challenges of using ChatGPT?

Theoretical framework

Bronfenbrenner (1979) emphasized how ecology is crucial in education, explaining it as a system with many layers. He posited four layers for it: microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1993). These layers showed how things are connected in schools and between students, teachers, and families. They also displayed how external factors, like the community or society, could affect what happens in school. Bronfenbrenner's theories helped us to see education as a big picture, understanding how everything worked together to shape learning and development.

A classification with three different layers: personal, interpersonal, and institutional, was described by Rogoff (1995). Zembylas (2002) considered teacher's feelings based on individual, social, and group perspectives, which were relevant to personal, cultural, and institutional dimensions. In the field of Teaching English as a Second Language (TESOL) and applied linguistics, there is a rich literature on the use of ecological frameworks. This literature demonstrates that using an ecological perspective can enhance our perception of the complexities, experiences, and meaning-making processes in teachers (Kamali, 2024a, 2024c; Nazari et al., 2023). These processes are deeply embedded in communities, which are influenced by broader ecological systems. Thus, raising awareness of teachers' perspectives on various concepts, entities, and tools, such as AI, within the microsystem (classroom), mesosystem (institution), and macrosystem (sociopolitical factors), is crucial for understanding how these elements influence their professional development as educators.

An ecological perspective has been selected as a theoretical underpinning of this study because it provides a holistic framework to understand the multifaceted nature of teaching environments. By analyzing the use of ChatGPT across the microsystem (classroom environment), mesosystem (institutional context), and macrosystem (sociopolitical factors), this study captures the complex interrelationship of influences that shape teachers' experiences and perceptions. This approach enables us to identify not only the immediate effects of integrating AI tools like ChatGPT but also the broader institutional and societal dynamics that impact their implementation.

Method

Context and participants

This research was carried out in Iran, where AI stands out as a highly relevant and popular subject among Iranian language instructors, despite facing obstacles such as limited internet access and restrictions on purchasing AI services (Meraji et al., 2023). Since AI is a new phenomenon in Iran, many Iranian teachers are interested in applying AI tools in different parts of their teaching process to get help from it in their lesson plans and in implementing their sessions. Despite facing international sanctions that resulted in Iran's limited access to new technologies, including AI, the educators' commitment to incorporating AI in education surpasses the challenges posed by these sanctions (Steckman, 2020). This study focuses on ChatGPT because, according to the researchers' observations, it is the most commonly used AI tool in Iran.

The participants of the study were ten Iranian EFL teachers (seven women and three men) who taught in various institutions in Iran. Both genders were selected since gender may have an impact on their beliefs (Estalkhi et al., 2011). There is a wide range of institutions in Iran in which teachers teach different foreign languages based on students' needs, such as English, German, Korean, Chinese, etc. The participants of the present study were all English teachers in different institutions and provinces of Iran. They had been teaching English for between two and twelve years (see Table 1).

Table 1. Participants' demographic information.

Teacher	Gender	Age	Education	Years of teaching
T1	Female	32	B.A. Psychology	7 years
T2	Male	26	B.A. Sociology	3 years
T3	Female	38	M.A. TEFL	12 years
T4	Female	27	M.A. TEFL	12 years
T5	Female	19	B.A. Law	2 years
T6	Male	32	Ph.D. TEFL	12 years
T7	Male	38	Ph.D. candidate TEFL	8 years
T8	Female	24	M.A. TEFL	7 years
T9	Female	28	Ph.D. TEFL	10 years
T10	Female	23	M.A. TEFL	5 years

Data collection

In the present study, 12 teachers were selected based on convenience sampling who worked in private language institutions in Iran. First, these teachers filled out a narrative frame in which they completed some personal narratives about the use of ChatGPT in language classrooms e.g., "one of my typical challenges I experience using AI in my classes is ... because ..." (see Appendix 1). At the end of this

narrative frame, they declared their consent to participate in this study. The relevant ethical approval was obtained from the organization that the first researcher was working at. Then, a link to the Google form was sent to 12 teachers via Telegram, and they were asked to fill out the form and return it within five days. Out of the 12 teachers, ten teachers decided to participate in the project. The interviews were conducted on the Big Blue Button platform over a period of 14 days, each taking between 45 and 75 minutes. At the beginning of each session, the interviewer informed the participants that this session would be recorded, and they gave their consent. During the interview, the cameras of the interviewer and interviewee were turned on in order to have a better and more interactive session. The interviewer asked core questions in three different layers - microsystem, mesosystem, and macrosystem. The area of interest of the interviewer is AI and the second researcher's focus is CALL (computer-assisted language learning).

Data analysis

In analyzing the data, we followed the principles of thematic analysis (Braun & Clarke, 2006) to identify, analyze and report patterns or themes within the data. This approach ensures that the study thoroughly investigates and accurately represents the varied experiences and opinions of teachers regarding ChatGPT's role in language education. The second researcher collected all recordings and data and started to analyze them. All the data was transcribed and analyzed, and initial codes were released. The related codes were merged, and some subthemes emerged, which were then categorized. In order to enhance the trustworthiness of the analysis (Lincoln & Guba, 1985), a meeting was set with all three researchers to verify the subthemes. After verification, the thematic map was drawn, and a second meeting was arranged to check and get verification.

To comply with ethical standards, all ten teachers voluntarily consented to participate in the study after receiving comprehensive information about the research benefits and were given the right to withdraw at any stage. To ensure confidentiality, participant identities and recorded conference data were anonymized using pseudonyms (e.g., T1, T2, …) in the research report. Some gifts, such as books, were given to the participants as a token of appreciation.

Findings

In this section, the findings of our research are presented through the benefits and challenges shared by the participants to understand Iranian teachers' beliefs regarding ChatGPT. This study addresses these issues at three ecological levels, including micro, meso, and macro, from the teachers' viewpoints (Figure 1).

Microsystem ecology

In this part, the benefits of Iranian teachers using AI will be explained at three levels, starting with the micro-level. The first subtheme revealed through data analysis is "providing

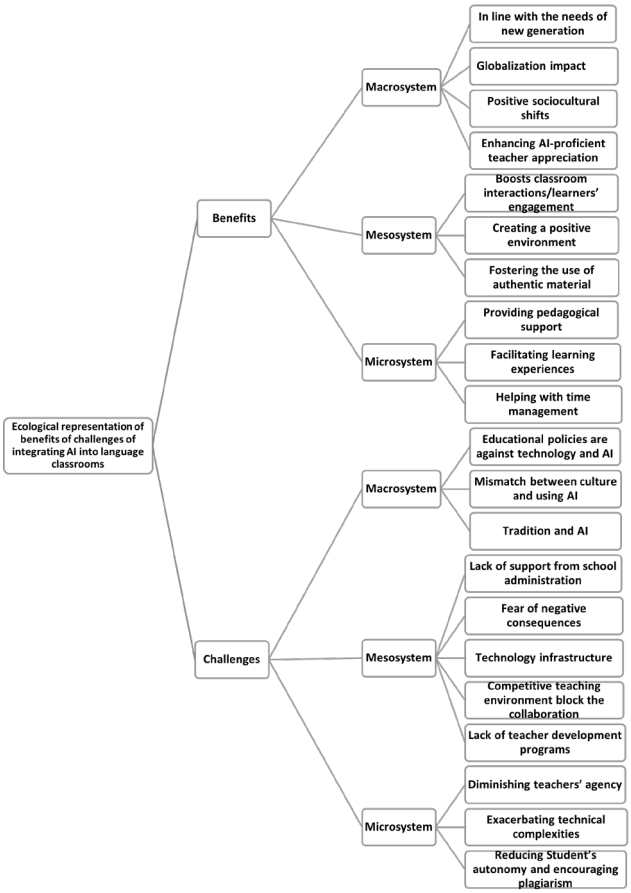

Figure 1. Ecological representation of benefits and challenges of integrating AI into language classrooms.

pedagogical support". Eight participants believed that ChatGPT can add variety and creativity to their teaching practices, leading to more effective classes. T8 mentioned in the interview that as AI is a quick and useful assistant, it can prevent or at least postpone teachers' burnout by allowing them to delegate time-consuming tasks to ChatGPT. Another valuable support is personalized feedback, noted by T2 in the narrative frame. According to her, "using AI can help me offer more personalized feedback on my students' tasks. Giving learners deeper feedback may enable them to understand their weaknesses better and strive to improve. It also saves me a lot of time" (T2, narrative frame). T2 and T7 mentioned that a common problem with Iranian learners is their difficulty in brainstorming for a topic or generating ideas. These two teachers, along with T3, believe that AI is an excellent tool for brainstorming and idea generation, helping learners produce better writing or enhance their speaking skills. Most of the participants assume that AI can help increase their autonomy, allowing them to solve problems easily with the help of AI and their own thinking. T6, in his narrative frame and interview, highlighted the option of dialogue as one of the unique features of AI. This feature benefits both teachers and learners through ongoing dialogue, enabling them to ask for simplified responses, more examples, or adjustments to the difficulty level of responses. The next subtheme is "facilitating learning experiences". T5, in her interview, stated, "as learners can search for themselves and correct their mistakes by AI, they become more independent, making it easier for teachers to work with such autonomous learners." Another participant added, "when I have online classes with my learners, I ask them to solve their problems

or ask some of their questions by AI. Little by little, it helps them become more autonomous" (T10, interview). Another crucial code in this subtheme is the satisfaction of learners. T9, for instance, mentioned that when she asks questions and informs her students that they are AI-generated, they become more eager to answer, expressing greater satisfaction in seeing their teacher using new sources. T1, in the interview, assumes that when she discusses her experience of using AI with her learners, they become happy to have a class that incorporates new technologies, moving away from traditional teaching methods.

The next code in this subtheme is about changing passive to active knowledge. T3 shared her experience with one of her learners, stating:

> I have a private student, and her vocabulary proficiency level has changed because she is using AI. She knew lots of good words but couldn't use them in writing or speaking and put them into practice. It was a kind of passive knowledge, and after practicing with AI and seeing various examples, she has changed a lot. From an A2 level, now she is at a B2 level (T3, interview).

The last subtheme of microsystem ecology is "helping with time management". Nine participants, in their narrative frame, considered this feature as one of the outstanding ones. They believe that ChatGPT provides the response spontaneously, and there is no need to wait and get the response. Consequently, there is no waste of time between giving the commands and getting the response, which is quite useful in saving time. All participants agreed in their interviews that AI makes teaching a time-saving practice. They do not have to spend lots of hours checking their learners' assignments and giving feedback; AI can do it in a few seconds. Other tasks, such as designing activities, preparing materials for class, and lesson planning, can also be done in a very short time due to the presence of AI.

Mesosystem ecology

The second type of benefits is explained at the meso-level, where three subthemes were developed. The first one is that "it boosts classroom interaction". T5 notes that "my classes are getting better and better, especially learners' interaction and engagement increased to a good extent, and this is the effect of AI" (T5, interview). T7, in his narrative frame, explained that as AI can add different types of varieties to teaching practices, it results in more classroom interactions. The next code is "peer influence". T9 and T10 believed that there is a positive effect and environment in this respect, in a way that colleagues use it and then share their positive experiences. This positive influence encourages others to embrace this valuable tool, contributing to a collaborative and innovative teaching environment. The next code is about "AI as a powerful assistant". Nine participants agree that AI serves as a fantastic assistant. Capable of performing various tasks for teachers, it is employed to enhance classroom interaction and learners' engagement. The next subtheme is about "creating a positive environment". T7, T2, and T1 explain that they are working with the new generation, which has its own needs. The new generation expects a technological English class equipped with various technologies and AI. By incorporating AI into the class, a positive environment is created, reflecting the expectations of the tech-savvy new generation. T6 and T7, who teach at online schools, mention a positive attitude toward using AI, while being encouraged by school administrators.

T8, teaching in a language school with a modern approach, highlights the importance of innovation, creativity, and interesting classes, which align with the school's vision and encourage the use of AI. The next code is about the "match between teachers' autonomy in using AI and institutional vision". While such language schools are limited and are in the minority, some schools allow teachers to freely use AI, aligning with their institutional vision. The last subtheme of mesosystem ecology is "access to authentic sources of information". For instance, T2 assumes that "authentic examples provided by AI in different contexts are very effective" (T2, narrative frame). T5 also explains that as learners chat with AI to get their responses, they have access to authentic material and responses, facilitating authentic learning experiences.

Macrosystem ecology

The last category of benefits is the macrosystem ecology, where four major subthemes were found. The first subtheme is that "using AI aligns with the needs of new generations". All the participants maintain that the new generation of learners welcomes technology and AI, making learners enthusiastic about incorporating AI into their classes. The second subtheme is "the globalization impact". T7 explains, "English teachers want their learners to know about Western culture" (T7, interview), and AI serves as a valuable tool for achieving this goal. Teachers appreciate using AI as it contributes to cultural exchange. T9 adds, "it can also provide a lot of information about Iranian culture, too. So, it is a good tool to familiarize people with different cultures of the world" (T9, interview). The next subtheme is "a positive sociocultural shift". Eight participants maintain that AI can enhance teaching practices. T2 believes that, as AI is user-friendly and practical, it can significantly assist teachers. T6 suggests that the effect will be substantial, as the new generation welcomes technology and its specific form, i.e., AI. This could lead to a transformation in the teaching profession, influencing both current and future teachers. Consequently, either current traditional teachers, with their negative views toward technology, and specifically AI, should start using this tool and equip themselves, or the new generation of teachers who use AI tools with positive views toward it will replace the former. Consequently, traditional teachers will lose their jobs.

> Helping with content creation, increasing creativity for generating ideas, organizing classes and plans, assisting in designing different tasks and activities, having access to a good source, and broadening teachers' minds to a global level are fascinating features. If teachers use AI, it can work wonders, bringing about significant change (T8, interview).

T3, T6, and T7 highlight the transformative potential of AI in standardizing and unifying teaching practices across diverse global contexts. This standardization promotes a consistent learning experience for learners globally, contributing positively to language learning and teaching on a global scale. The last subtheme in this part is "enhancing appreciation for AI-proficient teachers". Seven participants explained in the interview session or narrative frame that teachers who use AI are more appreciated by their learners. T4 also believes that "AI can change the role of teachers to be mentors. They aren't the main source of knowledge in class. It can bring about changes to the traditional role of teachers in our culture" (T4, narrative frame).

AI challenges in language classrooms from ecological perspectives

Microsystem ecology

This section addresses the challenges caused by AI, starting with the microsystem ecology with three subthemes. The first one is "diminishing teachers' agency". T3 argues that teachers are becoming over-reliant on AI, which is not ideal. Teachers should use AI as an assistant, standing on their own feet, but there is a trend of over-reliance that needs to be avoided. T7, from a different perspective, affirms, "AI lacks interaction and personalized learning, so I, as a teacher, should be present to compensate for such problems. It is a robot and isn't as interactive as it should be" (T7, interview). Some participants also noted that AI lacks visual aids, providing only text, which can become monotonous and needs improvement in interaction. T8 raised another concern, stating that while AI can help promote innovation and creativity, relying solely on AI may hinder teachers' own creative thinking, potentially leading to less creativity and innovation in the future. The next subtheme is "exacerbating technical complexities". T9, in her narrative frame, explained that not all AI responses can be trusted, providing examples of grammatical errors at the C1 level. Access to AI is also a common problem mentioned by all participants. T4 and T10 believed that the difficulty in connecting was demotivating, and about half of the participants resorted to using Telegram bots due to connection issues with the website. T1, T6, and T7 raised concerns about the lack of sources provided by AI, impacting the validity and reliability of responses. For this reason, T5, for instance, prefer recommendations from colleagues over unverified AI responses. Another difficulty highlighted is that AI responses are generated by a robot without human testing in real contexts. The next subtheme is "reducing students' autonomy and encouraging plagiarism". T3 and T5 affirm that students exploit AI by relying on it for every command, leading to over-reliance, laziness, and dependency. Almost all the participants believe that AI struggles to tailor responses for beginner levels, making it challenging to incorporate AI at this level. It cannot simplify responses for beginners, creating difficulties for teachers. T4 and T8, in their narrative frames, mentioned the limitations of AI in addressing listening skills, as it is not useful for this skill and cannot assist teachers in producing content.

Mesosystem ecology

The next set of challenges is explained in the mesosystem ecology, where several subthemes have been identified. The first subtheme is "the lack of support from school administration". The data indicates that eight participants face a mismatch between their opinions about AI and the institutional vision. This discrepancy results in a lack of support from language schools, where teachers often are not allowed to use AI for various reasons. The next subtheme is "the fear of negative consequences". T7, T10, and T1 express concerns that teachers and supervisors fear losing their authority. The presence of AI makes them feel anxious, as they compare themselves with AI, creating a fear of losing their roles as the main source of knowledge in the classroom. Additionally, T2 and T9 note that managers of language schools fear losing learners due to the presence of AI, impacting financial matters. This fear leads to discouraging teachers and learners from using AI. The following subtheme is "technology infrastructure". Nine participants explained that institutes often lack the resources and tools necessary to incorporate AI into classrooms as teaching assistants. This lack of technological support makes it challenging to seamlessly integrate AI into the teaching process.

The next subtheme is "the competitive teaching environment that hinders collaboration". T2 and T7 assert that in small towns, the competitive environment acts as a barrier for teachers to share their opinions about AI and improve together. In these settings, teachers often view AI as rivals and avoid challenging themselves to use it, preferring to stay within their comfort zones.

The last subtheme is "the lack of a teacher development program". All participants agree that there is a need to train teachers in incorporating AI, but such courses are currently unavailable. T5 emphasizes the importance of webinars and workshops, stating, "AI is changing the way of education. So definitely we need such webinars and workshops to better use them" (T5, interview). T3 adds:

> Teachers should be trained in how to introduce it to learners. Learners must be trained in using AI so that this experience would be positive and the negative effects wouldn't happen. Teachers are best to help and lead them. So, we should have such training for teachers to better cope with their learners (T3, interview).

Participants unanimously agree that increasing the availability of workshops and webinars on AI in education would be highly effective and beneficial for teachers, who would then be able to better utilize this assistant.

Macrosystem ecology

The last set of challenges is explained in the macrosystem ecology, with several subthemes identified. The first subtheme is "that educational policies are against technology and AI". The majority of participants state that Iran's educational policies are hostile towards technology, the internet, and AI. This negative stance at the national

level hampers the incorporation of AI into education. The next subtheme is about "the mismatch between culture and using AI". T2 believes that AI creates a cultural divide between the center and periphery, positioning AI at the center while teachers are relegated to a peripheral group. This, according to T2, is undesirable and places teachers in a secondary role.

The following subtheme is about "tradition and AI". T4 and T9 express the belief that AI can bring about rapid changes in education globally. However, in Iran, where the culture is resistant to technology and its tools, acceptance is time-consuming. T2 and T7 note that the old-fashioned nature of schools, books, and the education system in Iran acts as a significant barrier to incorporating AI into education, especially in English language learning. This outdated system is not equipped to integrate AI into the language learning process seamlessly. Many learners share the sentiment that traditional teachers are not interested in using AI, considering it useless. This reluctance among teachers becomes an obstacle to the adoption of AI. For instance, T1 mentions in her narrative frame, "our culture considers technology and AI as something useless, and it is very difficult or even impossible to learn by technology. This view is widespread among traditional teachers and families". The last subtheme is "AI tools accessibility". All participants affirm that there are challenges regarding accessing the internet and using AI. T5 discussed, "access to technologies and AI is difficult in Iran due to limitations posed by the developers of these programs and also due to the situation in Iran" (T5, interview). T4, in the interview, also mentioned that "lack of access to technology demotivates teachers, and they aren't eager to use it because they face different problems and difficulties for connection" (T4, interview).

Discussion

The exploration of Iranian teachers' beliefs regarding the benefits and challenges of ChatGPT was revealed at three levels: micro, meso, and macro. At the micro-level, three subthemes emerged, the first of which was "ChatGPT provides pedagogical support". The findings regarding interactive learning, giving feedback and scoring on learners' essays, and personalized learning and tutoring align with Baidoo-Anu and Ansah (2023). They discussed the same capabilities of ChatGPT for learners and teachers. Ausat et al. (2023) found similar findings and discussed that ChatGPT can make teaching practice easier than before, enhance pedagogical practice, and help brainstorm ideas (Sok & Heng, 2023). Our study revealed that one of the major problems of Iranian learners is the lack of ideas for brainstorming a topic for writing and speaking skills, and ChatGPT can resolve this problem. The next subtheme was facilitating the learning experience. It is achieved, for instance, by promoting learners' autonomy or increasing the feeling of satisfaction on the side of the learners. Limna et al. (2023) noted the same concept by arguing that learners are satisfied with using ChatGPT because it is convenient and user-friendly by which learners can get immediate feedback and response to their questions. The last subtheme was helping with time management. Due to its speed and efficiency, ChatGPT minimizes response time, making the teaching process more time-effective. It aids teachers in designing lesson plans, preparing materials, creating activities, and helping various aspects of the teaching practice. Limna et al. (2023) argued that incorporating ChatGPT can result in a reduced workload. As this tool adeptly handles routine questions, it liberates teachers to focus on more advanced tasks such as designing lesson plans, providing feedback to learners, and enhancing classroom discussions. This is in line with Kamali's (2014, 2021, 2023) concept of teacher metamorphosis, asserting that a teacher should transform into a package of different roles, such as examiner, and material developer, and add a dimension to it, which is AI literacy.

Regarding the challenges of incorporating ChatGPT at the micro-level, the first subtheme –diminishing teachers' agency – lends support to the previous study by Ulla et al. (2023), acknowledging that learners may become overdependent on ChatGPT and it leads to a lack of critical thinking and innovation by learners. The next subtheme is "exacerbating technical complexities". One of the important issues is the accuracy of the responses. The findings revealed that not every response provided by ChatGPT is trustworthy, considering the fact that inaccurate responses are frequent (Sok & Heng, 2023; Trust et al., 2023; Limna et al., 2023).

Another challenge this study could add to the literature due to its context (Iran) is "difficulty with connection to ChatGPT". This research was done in the context of Iran, and the developers of ChatGPT banned Iran's IP. Therefore, it is difficult for Iranian teachers and learners to access this tool easily. The source of ChatGPT-generated responses can also pose another challenge by decreasing the reliability and validity of responses (Ulla et al., 2023; Gordijn & Have, 2023; van Dis et al., 2023).

The last subtheme in this section - "reducing learners' autonomy and encouraging plagiarism" - suggested that learners can easily use this Chatbot to do their assignments, and this increases plagiarism among them, which is in line with a few studies (e.g., Cotton et al., 2023; Mohammadkarimi, 2023; Ulla et al., 2023; Sullivan et al., 2023; Kohnke et al., 2023).

In the meso-level ecology, the benefits and challenges of AI could add to the body of knowledge in the literature. The finding for the first benefit - ChatGPT boosts classroom interaction and learners' engagement – was consistent with a number of previous studies (Jeon & Lee, 2023; Lo, 2023; Rahman & Watanobe, 2023; Ulla et al., 2023) in a sense that it assists teachers with a versatile assistant. The study reveals a variety of tasks ChatGPT can assist teachers in, such as designing different tasks and activities, creating lesson plans, producing reading text and comprehension questions, and designing a test for classroom quizzes. Moreover, it was found that since ChatGPT can design different group activities, games, and tasks, it enhances classroom interactions and engagement. This enhanced interaction helps the quality of teaching practice and more fruitful classes. It is in line with researchers who argued that a game-based learning environment has positive impacts on language teaching and learning contexts (Demirkan, 2019; Balbay & Erkan, 2018).

The next subtheme is "creating a positive environment". It helps teachers design different activities and games which help them in creating a positive atmosphere in their classes. In the same vein, Salim et al. (2023) found that through the application of digital games in an English language class, the motivation and learning of learners are improved. This enhanced motivation can help to create a positive atmosphere in the classroom. The last subtheme is "fostering the use of authentic material". Koraishi (2023) considered ChatGPT as a powerful tool for material development for different purposes. ChatGPT can provide teachers with different types of material for their classes. These materials, according to our study, are authentic and reliable. Therefore, the finding of this is consistent with the findings of Koraishi (2023) and Baskara (2023).

In the challenges of ChatGPT at meso-level ecology, one of the subthemes is "fear of negative consequences". As discussed earlier, those teachers and supervisors who show resistance toward using ChatGPT are afraid of losing their authority and power in classes and institutes. They see themselves at stake and are afraid of being replaced by new forms of technology, especially AI. Kiryakova and Angelova (2023) explained that the rise of new tools, specifically those based on AI, increases concerns that technology may replace the teacher in the classroom. However, Ausat et al. (2023) arrived at the conclusion that in the context of learning, ChatGPT can only be a tool and cannot replace the role of the teacher thoroughly. The next subtheme is "lack of teacher development program". Based on what Kohnke et al. (2023) argued, ChatGPT is a new powerful tool that will remain for a long time. Therefore, it is suggested to learn its uses and capabilities rather than escape from it or ban its use by teachers or learners. Some of the best solutions, as shown by our study, are to have teacher training courses and professional development programs in the field of AI specifically for teachers to better use this tool. These are in line with Kamali (2024c), who recommended critical teacher education, and Kamali and Javahery (2024), who proposed peer coaching programs.

The last section deals with the benefits and challenges at the macro-level. The first subtheme is "globalization impact". One of the important aspects of language learning is about learning the culture of the target language. Our study recommends that ChatGPT is an effective tool for transferring cultures. Since it can give valuable pieces of information about different cultures, it helps the process of transferring cultures. Accordingly, Warner (2023), discussed how teachers can use the material driven by ChatGPT about culture inside the classroom. This can help learners engage more inside the class, and get familiar with English-speaking cultures. Moreover, Kostka and Toncelli (2023) discussed a ChatGPT response regarding its abilities in language learning and teaching in which one of the ChatGPT responses was about providing information about English-speaking countries that can lead to enhancing learners' communicative competence. The next subtheme is about "positive sociocultural shifts". Our study argued that ChatGPT is capable of changing education, especially English language learning, positively at the macro-level. For instance, Rudolph et al. (2023) suggest that ChatGPT can offer experiential learning by providing students with various problem-solving scenarios. Moreover, learners can enjoy personal tutoring from ChatGPT. Drawing upon various valuable functions of ChatGPT which were discussed earlier in this section, this chatbot could be capable of changing education positively if teachers and learners incorporate it in the process of learning and teaching.

The last part is about AI challenges at the macro-level. The first subtheme is about "tradition and AI". Different issues (such as a lack of tendency to move toward technology, resistance by traditional teachers, the time-consuming process of AI acceptance, the old system which is not capable of adding AI to it, and the old-fashioned style of teaching and materials) emerged from this study. All these issues were discussed earlier in this section. The last subtheme is "AI tools' accessibility". Since Iran is an AI-deprived country, connecting to ChatGPT and working with it is an important problem for teachers. Iranians do not have access to ChatGPT freely due to the developers' policies, and this is a demotivating issue for both teachers and learners.

All in all, the research questions were addressed by exploring the benefits and challenges of using ChatGPT for Iranian EFL teachers at the micro, meso, and macro levels of educational ecology. At the micro-level, benefits such as pedagogical support, facilitating learning experiences, and time management were identified, along with challenges like diminishing teachers' agency and technical complexities. At the meso-level, benefits included enhanced classroom interaction and a positive learning environment, while challenges involved resistance to technology and a lack of teacher development programs. At the macro-level, ChatGPT's impact on globalization and sociocultural shifts were noted, alongside challenges related to traditional educational practices and AI accessibility. These findings contribute to the literature by providing a multifaceted understanding of ChatGPT's integration into language classrooms and offering practical insights for teachers and educators to adapt AI tools in their specific contexts.

Conclusion and implications

The present study tried to explore teachers' beliefs about the challenges and benefits of integrating ChatGPT into language classrooms from an ecological perspective. The findings revealed that the challenges and benefits emerged in three levels of educational ecology, namely micro, meso, and macro (see Figure 1). This study reveals an innovative approach to delve into the affordances and challenges of ChatGPT use in language classrooms from teachers' perspectives. The study's originality also comes from its theoretical underpinning, i.e., educational ecology, which represents the complex relationship among dynamic and multifaceted variables and its insights on ChatGPT's integration into language education offer actionable guidance for academic policy. At the micro-level, policies could advocate for AI incorporation into curriculum frameworks, with an emphasis on fostering critical thinking alongside AI usage. At the meso-level, initiatives might prioritize teacher training to optimize ChatGPT's benefits while addressing resistance to technology. Finally, at the macro-level, policies could advocate for equitable access

to AI tools and promote research on culturally relevant AI applications. These recommendations aim to ensure effective and responsible integration of AI in language education, aligning with evolving pedagogical needs and technological advancements.

The findings of the study can help teachers see these challenges and benefits from other teachers and compare them with their own beliefs to take advantage of the benefits and minimize the challenges. Teacher educators can also design training sessions informed by these affordances and challenges as a point of departure and seek possible remedies and solutions for them. However, there are several limitations in this study that must be acknowledged despite the valuable insights it provides. First, the study relied on self-reported data through narrative frames and semi-structured interviews, which can be subject to biases and inaccuracies (Muncey, 2005; Kamali, 2024b). Second, the specific sociopolitical and technological constraints in Iran, such as restricted access to ChatGPT, may limit the generalizability of the findings to other regions where such constraints do not exist. Third, the study focused exclusively on the perspectives of teachers, potentially overlooking the experiences and viewpoints of students, administrators, and other stakeholders in the educational ecosystem. Fourth, the rapid evolution of AI technologies means that findings related to ChatGPT may quickly become outdated, necessitating ongoing research to keep pace with technological advancements and their implications for education. Finally, the impact of other forms of AI tools, such as Claude 3 and Gemini 1.5, will also need further investigation.

References

Adarkwah, M. A., Amponsah, S., van Wyk, M. M., Huang, R., Tlili, A., Shehata, B., ... & Wang, H. (2023). Awareness and acceptance of ChatGPT as a generative conversational AI for transforming education by Ghanaian academics: A two-phase study. *Journal of Applied Learning and Teaching, 6*(2), 79-93. https://doi.org/10.37074/jalt.2023.6.2.26

Adeshola, I., & Adepoju, A. P. (2023). The opportunities and challenges of ChatGPT in education. *Interactive Learning Environments*, 1-14. https://doi.org/10.1080/10494820.2023.2253858

Anders, B. A., & Sahakyan, S. (2023). Low stress peer observation protocols to enhance instructor awareness and capabilities. In K. Katsampoxaki-Hodgetts (Ed.), *Developing academics' pedagogical acuity. Proceedings of 1st international conference on higher education pedagogy and faculty development*. University of Crete, Rethymnon. https://tott.uoc.gr/conference/proceedings-2023/

Ausat, A., Massang, B., Efendi, M., Nofirman, N., & Riady, Y. (2023). Can ChatGPT replace the role of the teacher in the classroom: A fundamental analysis. *Journal on Education, 5*(4), 16100-16106. https://doi.org/10.31004/joe.v5i4.2745

Baidoo-Anu, D., & Ansah, L. O. (2023). Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *Journal of AI, 7*(1), 52-62. http://dx.doi.org/10.2139/ssrn.4337484

Balbay, S., & Erkan, G. (2018). Perceptions of instructors on using Web 2.0 tools in academic English courses. *International Journal of Curriculum and Instruction, 10*(2), 45–60. https://files.eric.ed.gov/fulltext/EJ1207281.pdf

Baskara, R. (2023). Exploring the implications of ChatGPT for language learning in higher education. *Indonesian Journal of English Language Teaching and Applied Linguistics, 7*(2), 343-358. https://ijeltal.org/index.php/ijeltal/article/view/1387

Bin-Hady, W. R. A., Al-Kadi, A., Hazaea, A., & Ali, J. K. M. (2023). Exploring the dimensions of ChatGPT in English language learning: A global perspective. *Library Hi Tech*. https://doi.org/10.1108/LHT-05-2023-0200

Biswas, S. S. (2023a). Potential use of ChatGPT in global warming. *Annals of Biomedical Engineering, 51*(6), 1126-1127. https://doi.org/10.1007/s10439-023-03171-8

Biswas, S. S. (2023b). Role of ChatGPT in public health. *Annals of Biomedical Engineering, 51*(5), 868-869. https://doi.org/10.1007/s10439-023-03172-7

Bozkurt, A., Junhong, X., Lambert, S., Pazurek, A., Crompton, H., Koseoglu, S., ... & Romero-Hall, E. (2023). Speculative futures on ChatGPT and generative artificial intelligence (AI): A collective reflection from the educational landscape. *Asian Journal of Distance Education, 18*(1), 53-130. https://doi.org/10.5281/zenodo.7636568

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101. http://dx.doi.org/10.1191/1478088706qp063oa

Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard University Press.

Bronfenbrenner, U. (1993). The ecology of cognitive development: Research models and fugitive findings. In R. H. Wozniak & K. W. Fischer (Eds.), *Development in context: Acting and thinking in specific environments* (pp. 3 – 44). Erlbaum.

Chaipidech, P., Srisawasdi, N., Kajornmanee, T., & Chaipah, K. (2022). A personalized learning system-supported professional training model for teachers' TPACK development. *Computers and Education: Artificial Intelligence, 3,* 100064. https://doi.org/10.1016/j.caeai.2022.100064

Chen, T. C., Kaminski, E., Koduri, L., Singer, A., Singer, J., Couldwell, M., ... & Wang, A. (2023). Chat GPT as a neuro-score calculator: Analysis of a large language model's performance on various neurological exam grading scales. *World Neurosurgery, 179*, e342-e347. https://doi.org/10.1016/j.wneu.2023.08.088

Cheng, S. W., Chang, C. W., Chang, W. J., Wang, H. W., Liang, C. S., Kishimoto, T., ... & Su, K. P. (2023). The now and future of ChatGPT and GPT in psychiatry. *Psychiatry and Clinical*

Neurosciences, 77(11), 592-596. https://doi.org/10.1111/pcn.13588

Choi, J. H., Hickman, K. E., Monahan, A., & Schwarcz, D. B. (2023). ChatGPT goes to law school. 71 Journal of Legal Education, 387 (2022). https://doi.org/10.2139/ssrn.4335905

Cotton, D. R., Cotton, P. A., & Shipway, J. R. (2024). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International, 61*(2), 228-239. https://doi.org/10.1080/14703297.2023.2190148

Demirkan, O. (2019). Pre-service teachers' views about digital teaching materials. *Educational Policy Analysis and Strategic Research, 14*(1), 40–60. https://doi.org/10.29329/epasr.2019.186.3

Estalkhi, N. N., Mohammadi, M., Bakshiri, N., & Kamali, J. (2011). Gender differences among EFL teachers' belief and their classroom practices in Iranian context. *Proceedings of INTED2011* (pp. 6060-6068). IATED. https://www.researchgate.net/publication/359787953_Gender_Differences_among_EFL_Teachers'_Beliefs_and_Their_Classroom_Practices_in_the_Iranian_Context_GENDER_DIFFERENCES_AMONG_EFL_TEACHERS'_BELIEFS_AND_THEIR_CLASSROOM_PRACTICE_IN_IRANIAN_CONTEXT

Farr, C. (2024). *Unmasking ChatGPT: The challenges of using artificial intelligence for learning vocabulary in English as an additional language* (Doctoral dissertation). http://hdl.handle.net/1828/15835

Fodouop Kouam, A. W., & Muchowe, R. M. (2024). Exploring graduate students' perception and adoption of AI chatbots in Zimbabwe: Balancing pedagogical innovation and development of higher-order cognitive skills. *Journal of Applied Learning and Teaching, 7*(1), 65-75. https://doi.org/10.37074/jalt.2024.7.1.12

Gordijn, B., & Have, H. T. (2023). ChatGPT: Evolution or revolution? *Medicine, Health Care, and Philosophy, 26*, 1-2. https://doi.org/10.1007/s11019-023-10136-0

Huang, W., Hew, K. F., & Fryer, L. K. (2022). Chatbots for language learning—are they really useful? A systematic review of chatbot-supported language learning. *Journal of Computer Assisted Learning, 38*(1), 237-257. http://dx.doi.org/10.1111/jcal.12610

Jeon, J., & Lee, S. (2023). Large language models in education: A focus on the complementary relationship between human teachers and ChatGPT. *Education and Information Technologies, 28*(12), 15873-15892. https://doi.org/10.1007/s10639-023-11834-1

Kamali, J. (2014). Post method survival. *Procedia-Social and Behavioral Sciences, 98*, 824-829. https://doi.org/10.1016/j.sbspro.2014.03.487

Kamali, J. (2021). Teachers' beliefs about teacher metamorphosis. *MEXTESOL Journal, 45*(1), n1. https://eric.ed.gov/?id=EJ1289123

Kamali, J. (2023). Metamorphosis of a teacher educator: A journey towards a more critical self. *Journal of Applied Learning and Teaching, 6*(2), 252-259. https://doi.org/10.37074/jalt.2023.6.2.8

Kamali, J. (2024a). A cross-cultural investigation of effective language pedagogy in teachers' personal practical knowledge narratives: A cultural-ecological perspective. *Pedagogy, Culture & Society*, 1-21. https://doi.org/10.1080/14681366.2024.2361455

Kamali, J. (2024b). An ecological inquiry into the identity formation of a novice TESOL research mentor: Critical autoethnographic narratives in focus. *Language Teaching Research*. https://doi.org/10.1177/13621688241251953

Kamali, J. (2024c). Revisiting an anti-Machiavellian model for teacher education: A critical perspective. *Power and Education*. https://doi.org/10.1177/17577438231225157

Kamali, J., & Javahery, P. (2024). Applying Galperin model to teacher professional development: A qualitative case study of a peer coaching program. *International Journal of Training and Development*. https://doi.org/10.1111/ijtd.12323

Karthikeyan, C. (2023). Literature review on pros and cons of ChatGPT implications in education. *International Journal of Science and Research, 12*(3), 283-291. http://dx.doi.org/10.21275/SR23219122412

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., Stadler, M., Weller, J., Kuhn, J., & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences, 103*, 102274. https://doi.org/10.1016/j.lindif.2023.102274.

Khurana, D., Koli, A., Khatter, K., & Singh, S. (2023). Natural language processing: State of the art, current trends and challenges. *Multimedia Tools and Applications, 82*(3), 3713-3744. https://doi.org/10.1007/s11042-022-13428-4

Kim, J., Merrill, K., Xu, K., & Sellnow, D. D. (2020). My teacher is a machine: Understanding students' perceptions of AI teaching assistants in online education. *International Journal of Human–Computer Interaction, 36*(20), 1902-1911. https://doi.org/10.1080/10447318.2020.1801227

Kiryakova, G., & Angelova, N. (2023). ChatGPT—A challenging tool for the university professors in their teaching practice. *Education Sciences, 13*(10), 1056. https://doi.org/10.3390/educsci13101056

Kocoń, J., Cichecki, I., Kaszyca, O., Kochanek, M., Szydło, D., Baran, J., ... & Kazienko, P. (2023). ChatGPT: Jack of all trades, master of none. *Information Fusion, 99*, 101861. https://doi.org/10.1016/j.inffus.2023.101861

Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. *RELC Journal, 54*(2), 537-

550. https://doi.org/10.1177/00336882231162868

Koraishi, O. (2023). Teaching English in the age of AI: Embracing ChatGPT to optimize EFL materials and assessment. *Language Education and Technology, 3*(1). https://langedutech.com/letjournal/index.php/let/article/view/48

Kostka, I., & Toncelli, R. (2023). Exploring applications of ChatGPT to English language teaching: Opportunities, challenges, and recommendations. *The Electronic Journal for English as a Second Language, 27*(3), 1-19. https://doi.org/10.55593/ej.27107int

Limna, P., Kraiwanit, T., Jangjarat, K., Klayklung, P., & Chocksathaporn, P. (2023). The use of ChatGPT in the digital era: Perspectives on chatbot implementation. *Journal of Applied Learning and Teaching, 6*(1), 64-74. https://doi.org/10.37074/jalt.2023.6.1.32

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Newbury Park, CA: Sage Publications.

Lindgren, S. (2023). Introducing critical studies of artificial intelligence. In S. Lindgren (Ed.), *Handbook of critical studies of artificial intelligence* (pp. 1-19). Edward Elgar Publishing.

Lo, C. K. (2023). What is the impact of ChatGPT on education? A rapid review of the literature. *Education Sciences, 4*(13), 410-419. https://doi.org10.3390/educsci13040410

McMinn, S. (2023). ChatGPT killed the classroom star: AI's rise means it's time to rethink teaching and testing. *South China Morning Post*. https://www.scmp.com/comment/opinion/article/3206436/chatgpt-killed-classroom-star-ais-rise-means-its-time-rethink-teaching-and-testing

Meraji Oskuie, S., Mohamadkhani, K., Delavar, A., & Farhangi, A. A. (2023). A mixed methods approach to social control of cybercultural transgressions: An Iranian perspective. *International Journal of Digital Content Management, 4*(6). https://dcm.atu.ac.ir/article_14416.html

Meyer, J. G., Urbanowicz, R. J., Martin, P. C., O'Connor, K., Li, R., Peng, P. C., ... & Moore, J. H. (2023). ChatGPT and large language models in academia: Opportunities and challenges. *BioData Mining, 16*(1), 20. https://doi.org/10.1186/s13040-023-00339-9

Mohammadkarimi, E. (2023). Teachers' reflections on academic dishonesty in EFL students' writings in the era of artificial intelligence. *Journal of Applied Learning and Teaching, 6*(2), 105-113. https://doi.org/10.37074/jalt.2023.6.2.10

Muncey, T. (2005). Doing autoethnography. *International Journal of Qualitative Methods, 4*(1). 69-86. https://doi.org/10.1177/160940690500400105

Nazari, M., Karimi, M. N., & De Costa, P. I. (2023). Emotion and identity construction in teachers of young learners of English: An ecological perspective. *System, 112,* 102972. https://doi.org/10.1016/j.system.2022.102972

Rahman, M. M., & Watanobe, Y. (2023). ChatGPT for education and research: Opportunities, threats, and strategies. *Applied Sciences, 13*(9), 5783. https://doi.org/10.3390/app13095783

Ray, P. P. (2023). ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope. *Internet of Things and Cyber-Physical Systems, 3,* 121-154. https://doi.org/10.1016/j.iotcps.2023.04.003

Rogoff, B. (1995). Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship. In J. V. Wertsch, P. del Rio, & A. Alvarez (Eds.), *Sociocultural studies of mind. Learning in doing: Social, cognitive and computational perspectives* (pp. 139-164). Cambridge University Press.

Rudolph, J., Ismail, F., & Popenici, S. (2024). Higher education's generative artificial intelligence paradox: The meaning of chatbot mania. *Journal of University Teaching and Learning Practice, 21*(6). https://doi.org/10.53761/54fs5e77

Rudolph, J., Tan, S., & Tan, S. (2023). ChatGPT: Bullshit spewer or the end of traditional assessments in higher education?. *Journal of Applied Learning and Teaching, 6*(1), 342-363. https://doi.org/10.37074/jalt.2023.6.1.9

Salim, R. B. S. M., Chen, J. S., Chen, H. L., & Rai, B. (2023). Design and development of MemoryTrail virtual reality game to study brain and memory processes in a fun and interactive manner. *Journal of Applied Learning and Teaching, 6*(Sp. Iss. 1), 8-16. https://doi.org/10.37074/jalt.2023.6.S1.3

Sok, S., & Heng, K. (2023). *ChatGPT for education and research: A review of benefits and risks.* http://dx.doi.org/10.2139/ssrn.4378735

Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning and Teaching, 6*(1), 31-40. https://doi.org/10.37074/jalt.2023.6.1.17

Tedre, M., Toivonen, T., Kahila, J., Vartiainen, H., Valtonen, T., Jormanainen, I., & Pears, A. (2021). Teaching machine learning in K–12 classroom: Pedagogical and technological trajectories for artificial intelligence education. *IEEE Access, 9*, 110558–110572. https://doi.org/10.1109/access.2021.3097962

Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments, 10*(15), 1-24. https://doi.org/10.1186/s40561-023-00237-x

Trust, T., Whalen, J., & Mouza, C. (2023). Editorial: ChatGPT: Challenges, opportunities, and implications for teacher education. *Contemporary Issues in Technology and Teacher Education, 23*(1). 1-23. https://www.learntechlib.org/p/222408/

Ulla, M. B., Perales, W. F., & Busbus, S. O. (2023). 'To generate or stop generating response': Exploring EFL teachers'

perspectives on ChatGPT in English language teaching in Thailand. *Learning: Research and Practice, 9*(2), 168-182. https://doi.org/10.1080/23735082.2023.2257252

van den Berg, G., & du Plessis, E. (2023). ChatGPT and generative AI: Possibilities for its contribution to lesson planning, critical thinking and openness in teacher education. *Education Sciences, 13*(10), 998. https://doi.org/10.3390/educsci13100998

van Dis, E. A. M., Bollen, J., Zuidema, W., van Rooij, R., & Bockting, C. L. (2023). ChatGPT: Five priorities for research. *Nature, 614*(7947), 224-226. https://doi.org/10.1038/d41586-023-00288-7

Warner, B. (2023, 22 February). 4 ways to use AI to build laser-focused custom content for your students. *TESOL International Association*. https://www.tesol.org/blog/posts/4-ways-to-use-ai-to-build-laser-focused-custom-content-for-your-students/

Zembylas, M. (2002). Structures of feeling in curriculum and teaching: Theorizing the emotional rules. *Educational Theory, 52*(2), 187–208. https://doi.org/10.1111/j.1741-5446.2002.00187.x

Zhai, X. (2022). ChatGPT user experience: Implications for education. *SSRN Electronic Journal*. https://dx.doi.org/10.2139/ssrn.4312418

Zhao, W. X., Zhou, K., Li, J., Tang, T., Wang, X., Hou, Y., Min, Y., Zhang, B., Zhang, J., Dong, Z., Du, Y., Yang, C., Chen, Y., Chen, Z., Jiang, J., Ren, R., Li, Y., Tang, X., Liu, Z., . . . Wen, J. (2023). *A survey of large language models.* ArXiv. https://doi.org/10.48550/arXiv.2303.18223

Appendices

Appendix 1: Narrative frames about the use of ChatGPT in the classroom.

One of the typical challenges I experience using AI in my classes is ... because ...

One of the typical benefits I experience using AI in my classes is ... because ...

One of the typical challenges using AI has brought to me among my colleagues is ... because ...

One of the typical benefits using AI has brought to me among my colleagues is ... because ...

One of the typical challenges of using AI in my society is ... because ...

One of the typical benefits of using AI in my society is ... because ...

Appendix 2: Interview core questions.

Micro system (Individual Level):

1. Do you use ChatGPT more in your private classes or at the institute level? Why?
2. Do you think it is more useful for online or in person classes? Why?
3. What aspects or prompts of ChatGPT do you mostly use? (Which skills or sub-skills) Why?
4. What are the challenges that you face to use ChatGPT in your teaching? (E.g., language proficiency)
5. What are the benefits of using ChatGPT in your teaching? and what motivated you to use it?
6. What is the contribution of ChatGPT to your creativity/autonomy? Why and how?
7. How do you evaluate your teaching practice before and after using ChatGPT?
8. How does it affect the quality of your teaching?

Mesosystem (Interactions):

1. In your opinion, do your learners are engaged more in your classes after using ChatGPT? How?
2. Do you have any difficulties or challenges with school's supervisor or manager in using ChatGPT?
3. Do you recommend your colleagues to incorporate ChatGPT? Why? How have these interactions influenced your experience?
4. Is there any need to add ChatGPT literacy to TTCs? Why?
5. Do you compare your classes with other colleagues who do not use ChatGPT in their classes? What are the results in your point of view?
6. Have you ever discussed your experiences with ChatGPT with friends, colleagues, or family members? How did their perceptions or experiences compare to yours?

Macrosystem (societal level):

1. What are the views and attitudes toward using ChatGPT among teachers in your country?
2. How does the limited access to ChatGPT in Iran affects the use of it for English teachers?
3. What are the views and attitudes toward using ChatGPT among policymakers in your country?
4. Does the use of ChatGPT need cultural considerations? Why?
5. How can ChatGPT bring about changes in teaching practice of English teachers in your country?
6. In your view, how do cultural attitudes toward technology and language influence the general perception of AI chatbots in your society or community?
7. How do you think the widespread adoption of AI chatbots like ChatGPT could potentially impact the way languages are learned and used globally?