

## ORIGINAL ARTICLE

# English Teachers' Attitudes and Opinions Towards Artificial Intelligence

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### Ethical Statement

Verbal consent was obtained from all the participants before the data collection procedure.

### Funding Information

No funding was received for the study.

### Conflict of Interest

No conflict of interest is present in the conduction or the reporting of this study.

### ABSTRACT

The field of Artificial Intelligence in Education (AIED) has undergone tremendous developments during the last decades and with its latest affordances, it has become popular topic of educators as in all walks of life. Diverse Artificial Intelligence (AI) technologies are being employed more and more often in a range of educational situations and domains, including language learning, in order to accomplish a number of learning goals. However, this intensive and rapid emergence has raised some uncertainties about the effective adoption of AI tools into their language classes by educators. In this respect, this study addresses the attitudes and opinions of English teachers in order to shed light on some uncertainties on this issue. In this study, case study design was employed to determine the general attitudes of English teachers towards AI. The research's findings indicated that instructors are generally optimistic about the acceptance and adoption of AI applications in language instruction and they believe that their usage could contribute to language learning, but they have some reservations though.

**Keywords:** Artificial intelligence, language learning, teachers' attitudes.

Received: 21/02/2023

Accepted: 12/08/2023

## INTRODUCTION

Although currently Artificial Intelligence (AI) has been experiencing its most popular period in its history, theories and concepts underlying AI date back to earlier times thanks to the combined efforts of many researchers and innovators, including Alan Turing, Warren McCulloch, Walter Pitts, Norbert Wiener, Arthur Samuel, Frank Rosenblatt, Allen Newell, and Herbert A. Simon. The term "artificial intelligence" was first used at a workshop hosted by John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon at Dartmouth College in 1956 (McCarthy et al., 2006). Due to their efforts to establish AI as a separate field of study, these significant individuals are frequently referred to as the "founding fathers" of the discipline today (Council of Europe, 2023). Researchers originally had high hopes for building intelligent machines. They concentrated on rule-based systems, symbolic logic, and early attempts at natural language processing. The development of AI, however, took longer than expected by the 1970s, which led to a decline in funding and interest in the subject. Known as the "AI Winter," this time is marked by scepticism and disappointment with the potential of AI (Nilsson, 2010). Expert systems, which employed rules and knowledge bases to emulate the decision-making of human specialists in certain fields, gave rise to a renaissance in AI research in the 1980s. Advances in machine learning algorithms, such as neural networks and statistical approaches, reenergized the discipline in the 1990s. Data mining and computer vision have become popular examples of practical AI applications. Finally, the 21st century witnessed significant breakthroughs in AI due to factors such as increased computational power and the availability of massive datasets. Machine learning methods, particularly deep learning, led to tremendous progress in natural language processing, image recognition, and robotics. This is also reflected in definitions related to AI: "Devices' or systems' ability to think as human beings, having the power and skills to learn, perceive, and decide rationally and intelligently" Wang, (2018), "computers which perform cognitive tasks, usually associated with human minds, particularly learning and problem-solving" (Baker & Smith, 2019; p. 10), "machines which emulate the behaviour of intelligent beings" (Borchardt & Page, 1994), "algorithmic models that carry out cognitive or perceptual functions in the world that were previously reserved for thinking, judging, and reasoning human beings" (Leslie et al. 2021: 8), "Machine-based systems that can, given a set of human-defined objectives, make predictions, recommendations, or decisions that influence real or virtual environments, interact with us and act on our environment, either directly or indirectly, appear to operate autonomously, and can adapt their behaviour by learning about the context (UNICEF 2021: 16).

Despite the diversity and multiplicity of definitions of AI in the literature, we can see that they all put emphasis on their ability to think and decide like human beings. Although the extent to which they have yet been able to do so is not clear, recent years have seen a significant improvement in their capacity and the opportunities they offer.

### **AI in Language Education**

Following the widespread adoption of computers in daily life, efforts to incorporate computers into language learning have caught the interest of educators due to their promising potential to enhance learning outcomes, speed up learning, and support teachers' efforts. This interest soon led to the emergence of the Computer Assisted Language Learning (CALL) approach in language. Today, there is a shift from computer-assisted language learning to intelligent computer-assisted language learning, since big data processing and machine learning algorithms has brought a substantial change in student-computer interaction (Kannan & Munday, 2018; Pokrivčáková, 2019). Computer systems can now do activities that would typically need human intelligence thanks to AI, which yielded to numerous economic and societal areas, including education, to undergo considerable transformation as a result of devices and apps powered by AI Shang

et al. (2006). With a focus on AI in education, the affordances of AI have been defined as "computing systems that are able to engage in human-like processes such as learning, adapting, synthesizing, self-correction and use of data for complex processing tasks" (Popenici and Kerr, 2017; p. 2), "can enhance the way that people learn, remember, perceive, and make decisions", "help monitor the learning process to offer just-in-time support and facilitate personalized learning". AI may be a useful tool for educators and students alike, easing workloads and enhancing educational opportunities (Loeckx, 2016). When AI is used in AI-powered education, it provides the possibility for "more personalised, flexible, inclusive, and engaging" learning and a more sophisticated learning environment (Luckin et al., 2016; p. 11). AI-powered education technology can do some tasks, such as marking a large sample of students' work that cannot be done by one teacher alone and providing learner needed support such as instant machine feedback (Pokrivčáková, 2019). Dodigovic (2007) used "intelligent tutor" software to detect typical errors in the writing of university students who were learning English and found that AI is an efficient instrument of error remediation, reducing the error rate. Haristani (2019) tried to find out and analyze the types of AI in the form of chatbots and the possibility of their use as language learning medium. The results indicated that chatbots have a high potential to be used as a language learning medium, both as tutor in practicing language, and as independent learning medium. According to a different research by Kim et al. (2019), chatbots can enhance language inputs and provide chances for language learners to improve their communicative competence. Lin and Chang (2020); Wijekumar et al. (2013) found that AI may support language teaching and learning by offering personalised, interactive, and genuine language learning environments via web-based systems, virtual reality systems, or chatbots. A number of studies have shown that AI-based learning systems may enhance students' academic performance and aid teachers in understanding their students' learning difficulties (Deeva et al., 2020; Strobl et al., 2019; Woolf et al., 2013). Divekar et.al. (2021) used AI together with Extended Reality (XR) and created Cognitive Immersive Language Learning Environment (CILLE) to teach Chinese as a foreign language. Results displayed statistical significance and retained improvement in Chinese vocabulary, comprehension, and conversation skills.

Baker and Smith (2019) classify the use of AI in education AIED as follows: a) learner-oriented AIED which is used by students to learn; b) instructor-oriented AIED which is used by teachers to check plagiarism, reduce workload, marking; and c) institutional system-oriented AIED which is used by administrative purposes. Besides this, Pokrivčáková (2019) offers a customised classification to language learning: 1) Adaptive educational systems that create personalized materials based on students' needs and progress, continuously adjusting to their requirements using data input. 2) The utilization of Neural Machine Translation tools for machine translation tasks. 3) The development of Writing Assistants to support and improve writing skills. 4) The application of chatbots to enhance conversational skills. 5) The implementation of adaptive systems for collaborative learning support. 6) Intelligent tutoring systems that act as substitutes for one-on-one teaching. 7) The incorporation of intelligent virtual reality systems to create authentic learning contexts. 8) The integration of intelligent tutoring in online language learning applications and platforms.

Although the roots of AI date back to the middle of the last century, it has made its main progress in its capabilities with the increase in digital technologies today and has started to re-attract the attention of more practitioners from all fields, including language education. Whether and how a teacher believes that a specific technology like AI can be used effectively to support students learning is truly dependent on the initial attitudes and opinions of a teacher towards it.

### **Teachers' Attitudes Towards ICT**

According to Allport (1967), attitude is defined as "a mental and neural state of readiness, organized through

experience, exerting directive or dynamic influence upon the individual's response to all objects and situations with which it is related". Attitude affects a person's intention and behaviour and how a person processes information (Vögel & Wänke, 2016). A person's attitude can influence a person's intention to engage in a specific behaviour, which is assumed to impact actual behaviour (Ajzen, 1991). The importance of attitude has been emphasized in many studies (e.g., Howe & Krosnick, 2017; Vögel & Wänke, 2016), and studies have demonstrated that instructors' attitudes significantly affect students' academic achievement, personalities, attitudes, and behaviours (Barros & Elia, 1998; (Vögel & Wänke, 2016, Blazar, 2018; Jones, 2018; Ulug et al., 2011). According to Debreli (2012) and Sharma et al. (2006), teachers may have prejudices, convictions, and views that might work as filters, influence their judgement, and so serve as a further obstacle to overcoming inclusion issues. In the literature, as a powerful predictor of ICT use, there is empirical evidence that these views about a medium do really influence the teachers' incorporation of technology in the classroom (Knezek & Christensen, 2016; Pozas & Letzel, 2021). More specifically, research shows that teachers' attitudes towards using technology in teaching impacts teachers' technology use (e.g., Bowman et al. 2020; Farjon et al. 2019).

Many facets of social life, including employment, education, management, and daily living, have undergone quick and significant transformation as a result of the industrial revolution (Blinder, 2006, p. 116). One of the most important skills for educators and other educational professionals to possess is the capacity to use contemporary technology into their instruction. In order to utilise this capacity effectively, it is essential to find out what the attitudes and opinions of teachers are towards AI and related technologies. Despite the enormous potential of AI-enabled learning, widespread adoption of technology in education does not ensure teachers' capacity to implement technology in the classrooms or the quality of teaching (Mercader and Gairn, 2020), as teachers are not yet fully prepared to implement AI-based education (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2019). According to scholars, the attitudes of the teachers have a significant impact on the adoption of new instructional technology (Fernández-Batanero et al., 2021).

In this context, there is a need to understand the attitudes and opinions of teachers, specifically English teachers, towards AI. The attitudes of educators are determinant in fully harnessing the potentials of applications based on rapidly emerging technologies like AI and achieving an effective integration into education.

## **Purpose of the Research**

In this study, which aims to determine the general attitudes and opinions of language teachers towards AI, answers to the following research questions were tried to be sought:

- What are the general attitudes of language teachers towards AI?
- What are the opinions of language teachers on the use of AI in language teaching?
- What are the possible contributions and/or drawbacks of the use of AI in language teaching according to language teachers?
- What are the opinions and expectations of language teachers' about the future use of AI in language teaching?
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## METHOD

### Research Design

In this study, case study design was employed to determine the general attitudes of English language teachers towards AI. Thus, the opinions of the research participants were determined with the descriptive data collection technique in natural settings and the current situation was analysed comprehensively and solution suggestions were developed (Bogdan, & Biklen, 2006; Yin, 2014). In the study, in which data were diversified with qualitative and quantitative questions, the current situation was tried to analyse with different question types.

### Setting and Participants

The study group of the research consisted of teachers who actively teach English as a foreign language in university preparatory classes. The study was carried out with 35 participants who volunteered and expressed their consent verbally to participate in the study and were reached by convenience sampling method. Study group consisted of 22 (62.9%) female and 13 (37.14%) male participants.

### Instruments

In the study, The General Attitudes toward Artificial Intelligence Scale which was developed by Schepman and Rodway (2020) and adapted into Turkish by Kaya et al. (2022) was used. In the scale, a total of 20 items, 12 of which are positive and 8 of which are negative, are scored with a five-point Likert-type rating scale (from 1=strongly disagree to 5=strongly agree). In the original form of the scale, it was determined that it had a high internal consistency reliability with  $\alpha = 0.88$  for general positive statements towards artificial intelligence and  $\alpha = 0.83$  for negative attitude statements (Schepman & Rodway, 2020). Similarly, as a result of the analyses performed on the Turkish form, it was found that  $\alpha = 0.82$  for positive attitude and  $\alpha = 0.84$  for negative attitude and that the current scale has sufficient internal consistency (Kaya et al., 2022).

In the scale, open-ended questions were also asked to the participants. In general, with these questions, it was aimed to determine the teachers' opinions about AI and its use in foreign language education. The questions were prepared by the researcher by taking expert opinions and given to be answered in writing in an online environment in order to allow teachers to express their thoughts freely and in detail.

### Data Analysis

In the study, Kruskal-Wallis H test, one of the non-parametric tests, was used to analyse the measurement tool developed by Schepman and Rodway (2020) and adapted into Turkish by Kaya et al. (2022). In the interpretation of the teachers' general attitudes towards artificial intelligence; 1.00-1.80 very low, 1.81-2.60 low, 2.61-3.40 average, 3.41-4.20 high, and 4.21-5.00 very high lower-upper limits were taken into consideration. The data obtained from the open-ended questions were analysed with the frequency analysis technique, which determines the frequency, intensity and importance of the units in the text quantitatively (Ryan, & Bernard, 2000). In addition, some of the data obtained in the study were given as they were and coded as "Knumber", without specifying the identity within the framework of research ethics.

## RESULTS AND DISCUSSION

### Findings Related to Teachers' General Attitudes towards AI

The analysis of the data obtained from the teachers showed that their general attitudes towards AI were positive and this positive attitude was at a high level ( $M=3,62$   $Sd=,49$ ).

Mann-Whitney U test was performed to find out whether there was a difference in teachers' general attitudes towards AI in terms of gender (Table 1).

**Table 1.** U Test results of teachers' general attitudes towards artificial intelligence according to their gender

Gender	N	Mean Rank	Sum of Ranks	U	p
Female	22	17,82	392,00	139,000	.891
Male	13	18,31	238,00		

According to the statistics obtained as a result of the Mann-Whitney U Test between the female and male groups in line with the average scores obtained in the measurement tool for the general attitudes of teachers towards AI; while the average ranking for women is 17.82, this value is 18.31 for men. The test statistics show that the Mann-Whitney U value is 139,000 and the Z statistic is -0,137. The asymptotic two-way significance value (p-value) is 0.891. Since this p-value is greater than 0,05, which is accepted as alpha level, it is concluded that there is no statistically significant difference between male and female groups in terms of teachers' general attitudes towards AI. Therefore, it can be stated that there is no significant difference in teachers' general attitudes towards AI in terms of gender.

### Results Related to Teachers' Opinions on the Use of AI in Language Teaching

28 out of 35 teachers expressed their opinions about the use of AI in language teaching (80%,  $n=28$ ). It is seen that only 1 of the teachers (3.7%,  $n=1$ ) expressed a negative opinion about the use of AI in language teaching with the statement "Although I state that my technical knowledge is not sufficient on this subject, I have some concerns about it based on my observations..." (K4). Some of these teachers stated that AI can offer different teaching strategies to students (K7) and help teachers in lesson preparation and content creation (K22). For example, K2 stated, "I am not familiar with AI programmes for language teaching yet. However, I definitely want to use it while teaching English" shows that even teachers who are not yet familiar with this technology have a positive attitude. K30's statement "It cannot replace the teacher, but it can be functional." supports the view that AI can be used functionally in language teaching even if it cannot replace the teacher. In general, it is seen that most of the teachers (15/28, 53.57%) have a positive approach to the use of AI in language teaching and some of them adopt this technology with reservations (10/28, 35.71%). This result shows that teachers have largely positive opinions on the acceptance and adoption of AI applications in language teaching.

### Results Related to Teachers' Opinions on the Possible Contributions and/or Drawbacks of the Use of AI in Language Teaching

Regarding the possible contributions and/or drawbacks of using AI in language teaching, 28 out of 35 teachers expressed their opinions (80%, n=28). Most of the teachers think that AI can make positive contributions such as lesson preparation, student motivation, individual learning and development of language skills. K2's statement "I think it will make the teacher's job much easier in the process of preparing for the lessons..." and K22's mention of AI's contributions such as creating course content and motivating students represent these positive views. However, some of the teachers also mentioned the negative effects of AI. Especially students' cheating (K2, K11, K13) and becoming dependent on AI (K22) can be counted among these negative effects. Other negative views include the atrophy of students' research skills (K26) and that AI may be inadequate in evaluating human factors (K28). K9 and K35 expressed their general concerns about AI, which include devaluing human power and reducing job opportunities. To summarize, it can be concluded that although the teachers have stated that the use of AI in language teaching can have positive effects, they also drew attention to some drawbacks.

### **Results Related to Teachers' Opinions and Expectations about the Future Use of AI in Language Teaching**

Regarding the future use of AI in language teaching, 27 out of 35 teachers expressed their opinions (77.14% n=27). K25 expressed a negative opinion about the use of these technologies in language teaching in the future with the statement "Unfortunately, it will take many people's jobs". Most of the teachers stated that AI would make positive contributions to language teaching. Some of these teachers stated that AI could support teachers in areas such as student assessment, preparing course materials and giving feedback (K11, K18, K23). For example, K13's statement "I think AI will be used intensively in the future, but I don't think it will take our jobs away from us." shows that there are teachers who see the potential advantages of this technology and believe that it cannot completely replace teachers. K30's statement "I am very supportive, but I am also worried about its negative effects." indicates that there are teachers with mixed feelings about the potential effects of AI. In general, it is seen that most of the teachers (74.07%, n=20) have positive attitude towards the future use of AI in language teaching, but they also have some concerns. This result suggests that teachers generally have a positive, but cautious perspective about the future role of AI applications in language teaching. The majority of teachers (74.07%, n=20) are generally optimistic about the potential application of AI in language instruction, but they do have some reservations. This finding implies that teachers usually have a favourable, although reserved, opinions on the future role of AI technologies in language learning.

## **CONCLUSION AND RECOMMENDATIONS**

The results of the study suggested that the general attitudes of preparatory class teachers towards AI are highly positive. Most of the teachers have a positive approach to the use of AI in language teaching and embrace this technology with a few reservations. Even though they state that they are not familiar with AI tools yet, they definitely want to use it in their classes. While acknowledging that they have limited understanding of AI, they have great expectations for AI tools and wish to incorporate them into their lectures.

Regarding the possible contributions and/or drawbacks of using AI in language teaching, most of the teachers believe that AI cannot replace the teacher but decrease workload and be helpful in lesson preparation, increase student motivation, encourage autonomous learning and contribute to the development of language skills. Moreover, they stated that AI could be helpful to diversify their teaching strategies and hence address to different learning needs. However, teachers also mentioned some concerns about AI, such as it might encourage students to choose the easy

path and hence undermine their research abilities, become too dependent on AI and increase cheating. There are also a few teachers who fear that AI could devalue manpower and reduce job opportunities. These concerns could be only natural since they are not fully accepted (Zhang et.al., 2023) as many teachers still have negative attitudes towards it and reluctant to use it (Istemic et al., 2021; Kaban & Boy Ergul, 2020). In order to address these concerns the opinions of teachers, decision-makers, parents, and students on the benefits and pitfalls of AI integration into education, should all be considered (Shum and Luckin, 2019).

Regarding the future use of AI in language teaching, most of the teachers stated that AI would make positive contributions to language teaching. There are teachers who see the potential advantages of this technology such as student assessment, preparing course materials, giving feedback and believe that it cannot completely replace teachers. Some teachers believe that AI will be used intensively in the future. There are also teachers who have mixed feelings towards AI, though they support the use of AI in language teaching, they have reservations as mentioned before.

In summary, these findings show that English teachers are quite enthusiastic about the implementation of AI tools in language learning, while they do have some concerns. The current situation may be linked to the fact that as with the other facets of society they have been astonished by the recent advancements in AI technologies but that they do not yet have sufficient knowledge and expertise in its use. Therefore, professional development programs could be organized to train and prepare teachers to AI integration (Lee & Perret, 2022). Also, with these programs ways to maximize the benefits and overcome the pitfalls of AI use in language classes could be taught.

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