Bojan Prosenjak
University of Zagreb, Croatia
Eva Jakupčević
University of Split, Croatia

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Attitudes of Primary and Secondary EFL Teachers in Croatia Towards the Use of AI in Classroom Settings

ABSTRACT

The use of artificial intelligence (AI) in language learning has rapidly increased with the widespread popularity of generative AI tools such as ChatGPT. Research highlights the need for school-age learners to develop digital literacy skills to engage critically and responsibly with AI-based tools. Equally important is the role of (language) teachers, who must possess the skills necessary to guide students in navigating and leveraging this technology effectively. This exploratory study investigates the extent of EFL teachers' knowledge and their attitudes toward using AI tools for language learning. Focusing on primary and secondary school EFL teachers in Croatia, the study aims to shed light on their perspectives on and preparedness for integration of AI into the language classroom, addressing a critical aspect of modern education and contributing to a deeper understanding of what educators need to successfully incorporate AI into their teaching.

Keywords: artificial intelligence (AI), teacher attitudes, EFL, digital competence, teaching methods, primary school, secondary school

Pogled osnovno- in srednješolskih učiteljev in učiteljic angleščine kot tujega jezika na Hrvaškem na uporabo UI pri pouku

IZVLEČEK

Uporaba umetne inteligence (UI) pri učenju jezikov je močno narasla z razmahom generativnih orodij UI, kot je ChatGPT. Raziskave poudarjajo potrebo po digitalni pismenosti učencev in učenk za kritično in odgovorno uporabo orodij UI. Prav tako je pri tem ključna vloga učiteljev in učiteljic (jezikov), ki morajo imeti ustrezna znanja za učinkovito usmerjanje učečih se pri uporabi te tehnologije. Ta študija ugotavlja raven znanja in stališča učiteljev in učiteljic angleščine kot tujega jezika (EFL) do uporabe orodij UI pri jezikovnem pouku. Raziskava osvetljuje stališča in pripravljenost učiteljev in učiteljic osnovnih in srednjih šol na Hrvaškem za vključevanje UI v jezikovni pouk ter prispeva k razumevanju njihovih potreb za uspešno integracijo UI v učni proces.

Ključne besede: umetna inteligenca (UI), stališča učiteljev in učiteljic, angleščina kot tuji jezik, digitalne kompetence, učne metode, osnovna šola, srednja šola

1 Introduction

AI-based tools have gained traction in all areas of life in the last few years, with education and language learning being no exceptions. The ever-changing digital landscape of the 21st century has brought about a shift, necessitating a redefinition of both the roles of stakeholders as well as methodologies in education (Aghaziarati, Nejatifar, and Abedi 2023, 35). It has become crucial for teachers to possess knowledge and understanding to effectively assess and implement these tools in their classes (Luckin et al. 2022, 2). Research has highlighted the importance of developing digital literacy skills in school-age learners to ensure their critical and responsible use of AI-based tools, which means that teachers need to have skills adequate to support and guide students in their exploration of this technology (Gisbert Cervera and Caena 2023; Javier and Moorhouse 2023). However, studies have indicated that teachers might not possess these skills and may even harbour negative perceptions related to AI (Kohnke, Moorhouse, and Zou 2023b; Nazaretsky et al. 2022, 916).

AI-powered tools offer multiple opportunities for language learning and teaching, which may be particularly advantageous in EFL contexts, where students usually have limited access to authentic language use outside the classroom. Among other benefits, AI-based applications can provide learning feedback, help with translation, aid teachers in creating activities and scenarios for language learning, and support language assessment (Creely 2024, 158). However, despite the increasingly recognised potential of AI for language learning, its effective integration in education depends on teacher attitudes towards the technology, which influence both their methods and student outcomes (Yue, Jong, and Ng 2024, 19510). Therefore, investigating teachers' perceptions of AI tool integration in EFL education across diverse settings is both pertinent and timely. Notably, there is a lack of research on this topic in the context of Croatian primary and secondary schools, a gap that the present study seeks to address.

2 Theoretical Background

As AI becomes more widespread in education, there has been a growing body of research examining the advantages and potential drawbacks of using AI-driven tools in language learning (e.g., Chiu et al. 2023; Creely 2024; Javier and Moorhouse 2023; Kohnke, Moorhouse, and Zou 2023b; Rebolledo Font De la Vall and González Araya 2023). AI-powered resources for language learning may include language tutoring systems that give personalised feedback; generative AI tools that can generate text or activities adapted to specific levels or groups of students; text-to-speech software; image creation software, etc. (Rebolledo Font De la Vall and González Araya 2023, 7569). Studies indicate that there is potential in these tools for improving language learning results (Liang et al. 2023). For example, AI-powered tools can offer a space for interaction for EFL learners, who often have limited opportunities to use the target language in their everyday lives, and chatbots have been found effective in improving students' oral proficiency in English as well as their willingness to communicate in the L2 (Timpe-Laughlin, Sydorenko, and Daurio 2022; Yuan 2023). Personalisation has been seen as another benefit of AI for language education, with AI-based assessment and feedback tools potentially offering a more adaptive and

targeted learning experience (Yesilyurt 2023). In addition to these benefits for learners, AI can support teachers in enhancing their teaching capabilities, developing adaptive strategies, and advancing their professional development (Chiu et al. 2023).

On the other hand, numerous challenges associated with the use of AI, both in education broadly and in language learning specifically, have been identified, such as ethical concerns, for example, those related to authorship of content generated by AI, or the lack of transparency in its use (Creely 2024). Data privacy and bias have also frequently been mentioned in relation to the copious amounts of data analysed by AI-based systems (Kohnke, Moorhouse, and Zou 2023b). Other concerns include potential overreliance on technology in assessment, which could result in the loss of "nuanced, empathetic feedback and the vital interpersonal connection between educators and learners" (Yesilyurt 2023, 33). Moreover, relying on AI tools to track learning progress could influence students' capacity to build self-regulation skills, which are essential for lifelong learning (Molenaar 2022). The appropriate implementation of AI-based tools will therefore require language teachers to possess a specific set of skills and knowledge about both the potential advantages and limitations of AI (Kohnke, Moorhouse, and Zou 2023a), as the teachers' lack of knowledge can hinder students' development of digital competence (Nascimbeni and Vosloo 2019). The importance of the teachers' perspectives is further emphasised in a study by Polak, Schiavo and Zancanaro (2022), which involved teachers, school psychologists, and education managers from schools across four European countries. The study found that a strong willingness to learn about AI and incorporate digital tools into teaching is crucial for the effective integration of AI in education.

While some studies mention negative attitudes towards AI among teachers, with reports of anxiety and concerns about the future (Chiu et al. 2023, 12), the majority indicate that teachers recognise both the advantages and limitations of using AI in education. For instance, teachers (N = 28) from diverse backgrounds in a study by Aghaziarati, Nejatifar and Abedi (2023, 39), acknowledged AI's potential to improve individualised learning and encourage innovative teaching methods, but they also raised issues regarding ethics as well as the need for infrastructure and ongoing training for teachers. Similarly, a small-scale study of twelve university language instructors in Hong Kong by Kohnke, Moorhouse and Zou (2023b) found that while participants were overall optimistic about the potential of AI-powered tools in language education, they lacked confidence in teaching students to use these tools productively and responsibly. They also voiced concerns regarding the ethical and practical difficulties linked to the adoption of AI technologies. Comparable results have been reported in other studies, where teachers view AI positively but regularly acknowledge their limited knowledge of its practical applications (Chounta et al. 2022; Galindo-Domínguez et al. 2024b; Polak, Schiavo, and Zancanaro 2022; Sütçü and Sütçü 2023). These findings underscore the widespread need for systematic teacher training, which should start at the pre-service level. For instance, while expressing optimism about the effect of AI on education and teaching and learning EFL, Slovak pre-service English language teachers (N = 137) reported having no (61.31%) or limited (21.17%) knowledge of the fundamental principles of AI (Pokrivcakova 2023). Only 35.04% of the participants

believed their understanding of AI-based tools for EFL teaching was sufficient, whereas most (64.24%) supported the idea of including AI education in their university studies.

Research also reveals that an insufficient understanding of how AI technologies operate may limit the teachers' ability to fully integrate them into learning, teaching, and assessment (Chiu et al. 2023, 12). For example, a study by Chounta et al. (2022) validated the perceived knowledge of 131 Estonian primary and secondary teachers about AI, using a questionnaire with statements related to the technology. Most participants (57%) answered 60% of the questions correctly, and fewer correct answers were provided by teachers who considered themselves more knowledgeable, suggesting that misconceptions may be a hindrance to the implementation of AI. This is further supported by research conducted by Galindo-Domínguez et al. (2024b) on 445 Spanish teachers from diverse backgrounds, which found a positive relationship between teachers' digital competence and their perceptions of AI. According to this study, teachers with greater digital competence tend to experience fewer difficulties when using educational technology, which in turn fosters a more positive attitude towards its integration. These findings once again accentuate the importance of providing teachers with training in both general digital competences and AI-related issues to enhance their confidence and effectiveness in using these tools. However, it must be emphasised that a low level of digital competence can be offset by a high level of motivation to learn about AI tools, which has been found to be among the key factors for incorporating AI into education (Polak, Schiavo, and Zancanaro 2022).

Many teachers across different educational contexts express uncertainty about how to handle AI-related issues in education, underscoring the need for further research to determine the specific support required to help them navigate these challenges. While numerous studies have explored teachers' attitudes towards AI in education in general, there is a scarcity of research focusing specifically on foreign language teachers working with primary and secondary school learners. As far as we are aware, no studies of this kind have been carried out in the Croatian context. This gap in the literature highlights the importance of the present study, which aims to explore the attitudes of primary and secondary school EFL teachers in Croatia towards AI use in education, as well as their perceptions of the potential benefits and challenges that this technology presents in the field of foreign language teaching and learning.

3 The Present Study

3.1 Aim and Research Questions

The aim of the present study was to investigate the attitudes of primary and secondary school EFL teachers in Croatia towards the use of AI in language teaching and learning, as well as to explore their perspectives on the possible advantages and disadvantages brought by the implementation of this technology in the EFL classroom. To this end, the following research questions have been formulated:

> RQ1: What are the attitudes of primary and secondary school EFL teachers in Croatia towards the use of AI in EFL teaching and learning?

RQ2: To what extent do the teachers' age, length of teaching experience, and type of school where they work influence their attitudes towards the use of AI in EFL teaching?

RQ3: What are the perspectives of EFL teachers in Croatia on the potential advantages and disadvantages of incorporating AI in their EFL teaching practice?

3.2 Study Context

Students in Croatian schools are required to begin studying a foreign language, typically English, from the first grade (pupils aged 6/7). EFL is taught through two weekly lessons in lower primary (1st to 4th grade, seventy lessons per year), three weekly lessons in upper primary (5th to 8th grade, 105 lessons per year), while the number of weekly lessons in secondary school depends on the type of school. To teach EFL in a Croatian school, teachers must hold an MA in EFL teaching or primary education with a specialisation in teaching English to primary-aged children.

In recent years, there has been a growing recognition of the importance of artificial intelligence (AI) in education in Croatia. Notably, a handbook on AI in education has been published by the Agency for Electronic Media and UNICEF (2024), and curricula for elective subjects on AI for both primary and secondary schools have been developed by CARNET – the Croatian Academic and Research Network (2024a; 2024b). Additionally, a variety of webinars and resources have been made available to support teachers in integrating AI into their classrooms. However, to our knowledge, there is currently no systematic education about AI in the context of English language teaching or teacher education programs in Croatia.

3.3 Participants

The participants in our study were sixty-three primary and secondary school EFL teachers from across Croatia, five of whom were male and the rest female. Most of the participants were between 41 and 50 years old (Figure 1), of whom almost half worked in primary and half in secondary school (Figure 2).

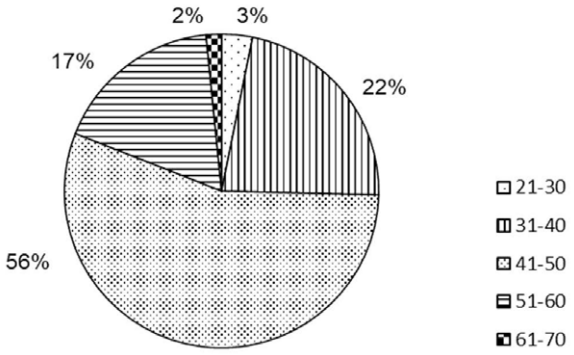


Figure 1. Participants by age group (N = 63).

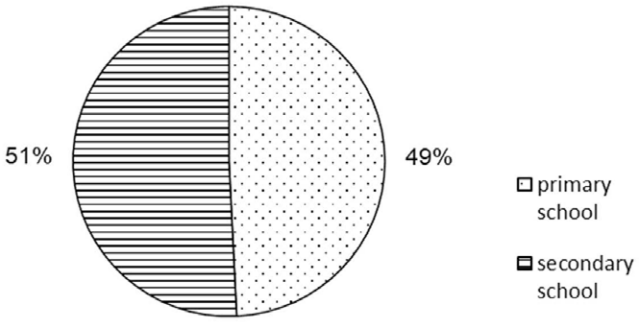


Figure 2. Participants by type of school of employment (N = 63).

Almost half the participants had been working in school for more than 20 years, and over a third for between 10 and 20 years (Figure 3).

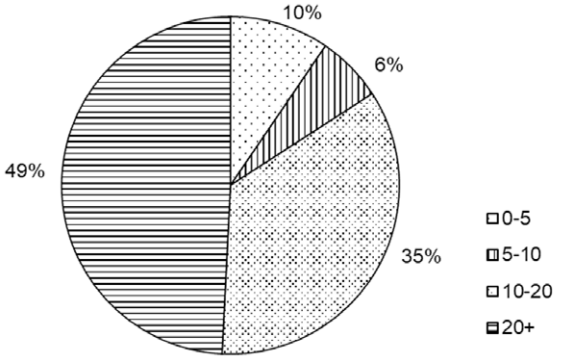


Figure 3. Participants by length of teaching experience (N = 63).

3.4 Instruments

For the purposes of this study, two questionnaires were used. Questionnaire 1 was developed and validated in a study by Galindo-Domínguez et al. (2024b) with the aim of analysing teachers' attitudes towards the use of AI in education (Appendix 1): the final scale consisted of 25 items divided into four factors or dimensions: willingness to use AI (items 1-3), attitude towards AI (items 4-10), professional expectations towards AI (items 11-20), and personal experiences with AI (items 21-25). Questionnaire 1 required the participants to select one of the five values on a Likert scale for each of the twenty-five items, indicating the degree to which they agreed with the given statement. The higher the value for each item, the stronger the participants' agreement with the statement, reflecting a more positive attitude of EFL teachers towards AI use in education. For items Q11 and Q21, the values were recoded before the analysis.

Questionnaire 2 was designed by the authors of the present study, drawing on relevant literature and prior studies in the domain of teacher attitudes towards AI (Aghaziarati, Nejatifar, and Abedi 2023; Chounta et al. 2022; Kohnke, Moorhouse, and Zou 2023b). Its

purpose was to gather responses that would support the qualitative analysis of the results and answer the research questions posed in this study. It included eight open-ended questions which the participants were invited to answer but that remained optional (Appendix 2).

3.5 Data Collection and Analysis

The data for this study was collected in the winter semester of the school year 2024/2025. The questionnaires were sent to teachers across Croatia by email and were posted on Facebook groups for primary and secondary school EFL teachers in Croatia. The introductory section outlined the goal of the study and made it clear that their responses would help in achieving this goal. Next, it was stated that they would be taking part in the study on a voluntary basis and anonymously, and they had the option to withdraw from participation at any moment. Apart from the two questionnaires, the participants' demographic data was also collected – their profession, gender, age, type of school where employed, and the length of their teaching experience.

To address RQ1, the participants' responses from Questionnaire 1 were analysed quantitatively using descriptive statistics. The responses were also grouped into four factors, as identified by Galindo-Domínguez et al. (2024b), and the mean values for each factor were calculated. Next, a multiple linear regression analysis was performed to answer RQ2. This analysis examined the relationship between the participants' average questionnaire scores and the three predictors: age, type of school, and length of teaching experience.

Questionnaire 2 was analysed qualitatively, using a thematic analysis approach. The two authors independently reviewed the teachers' responses and identified recurring themes based on frequency and relevance. This was followed by a collaborative process in which findings were compared and discussed, reaching a consensus on the key themes that became evident from the data. This iterative process ensured that the analysis was thorough and reflective of the teachers' perspectives. Focusing on the themes most frequently mentioned ensured that the key insights were captured while maintaining the richness of the data.

3.6 Results and Discussion

To determine the attitudes of EFL teachers in Croatia towards the use of AI in EFL teaching and learning (RQ1), the participants' responses in Questionnaire 1 were analysed. After categorizing the responses into four factors as identified by Galindo-Domínguez et al. (2024b), we found all four mean values to be above average, although varying across the factors (Table 1). The findings indicate that most participants in the present study are willing to use AI in their classes (Factor 1) and have a positive attitude towards it (Factor 2). However, fewer teachers have positive professional expectations regarding AI (Factor 3), and an even smaller number have had positive firsthand experiences with it (Factor 4).

This pattern mirrors the results obtained by Galindo-Domínguez et al. (2024b) for the four factors, with Factor 1 rated the highest, and Factor 4 the lowest by the Spanish teachers in their study. However, unlike our participants, teachers in Spain exhibited only moderately high or neutral values for Factors 1, 2 and 3 (3.73, 3.60, and 3.33 respectively) and a

Table 1. Mean values of participants' answers to Questionnaire 1 per factor averages (N = 63).

Factor	Minimum	Maximum	M	SD
1	1.00	5.00	4.17	1.028
2	1.71	5.00	4.09	0.895
3	1.60	5.00	3.71	0.831
4	1.00	4.80	3.27	1.030

moderately low value for Factor 4 (2.24). In other words, the participants in our study expressed greater willingness to use AI in their classes and more positive attitudes towards the technology compared to the Spanish teachers. While they reported lower values regarding their professional expectations of the technology, these values were still higher than those of their counterparts in Galindo-Domínguez's study. Despite this difference, the results highlight the need for providing teachers with training and examples of effective practices for using AI in EFL classrooms, which will be discussed in more detail at a later point.

The results for individual questionnaire items (Table 2) provide more detailed insight into the teachers' attitudes. The highest mean value was recorded for statement 4 ("*I am interested in learning about artificial intelligence in education.*"), followed by statement 5 ("*I am interested in exploring the use of artificial intelligence as a complementary tool for my teaching practice.*") and statement 3 ("*I would love to be able to use artificial intelligence in my work as a teacher.*"). These results indicate that most teachers in our study are eager to learn about how AI can be implemented in their lessons and how they can use it in class. On the other hand, statement 23 showed the lowest mean value ("*I have extensive experience with the use of artificial intelligence in education.*"), followed by statements 24 ("*I can share my knowledge and skills about artificial intelligence with other teachers.*"), and 13 ("*Artificial intelligence will positively revolutionise education.*"). These findings suggest that many teachers lack sufficient experience with AI in their classrooms, limiting their ability to share their expertise with colleagues. Additionally, a sizeable number of participants expressed scepticism about AI's potential to revolutionise education.

The results of our quantitative analysis are largely in line with previous studies, where teachers reported generally positive attitudes towards the use of AI in education but also noted a lack of the skills necessary to implement AI tools successfully in their teaching (e.g., Chounta et al. 2022; Galindo-Domínguez et al. 2024a, 20204b; Pokrivcakova 2023; Polak, Schiavo, and Zancanaro 2022; Sütçü and Sütçü 2023). However, as opposed to teachers in some studies, for example, the pre-service teachers in Pokrivcakova (2023), these participants were not entirely optimistic about AI's potential to revolutionise education. Their cautiously positive stance is further elaborated on in their responses to Questionnaire 2 and reflected in other studies, such as Sütçü and Sütçü (2023), where Turkish EFL teachers of university preparatory classes also showed awareness of the advantages of AI along with concerns regarding its potential adverse effects on education. The teachers in the study by Kohnke, Moorhouse and Zou (2023b) also expressed caution and emphasised the overall lack of structured training and consistent information from their institution. These results further underscore the importance of teacher training, not only in AI-based tools but also in general

Table 2. Mean values of participants' answers to Questionnaire 1 (N = 63).

Question	Minimum	Maximum	M	SD
Q1	1	5	4.11	1.049
Q2	1	5	4.13	1.114
Q3	1	5	4.27	1.050
Q4	1	5	4.44	0.894
Q5	1	5	4.35	1.003
Q6	1	5	3.65	1.246
Q7	1	5	4.02	1.085
Q8	2	5	4.17	0.959
Q9	1	5	3.87	1.085
Q10	1	5	4.10	0.979
Q11	1	5	4.03	1.047
Q12	1	5	3.17	1.100
Q13	1	5	3.11	1.094
Q14	1	5	3.67	1.092
Q15	1	5	3.86	0.913
Q16	1	5	4.00	1.000
Q17	1	5	3.87	0.959
Q18	2	5	4.13	0.852
Q19	1	5	3.37	1.005
Q20	1	5	3.87	0.924
Q21	1	5	4.06	1.268
Q22	1	5	3.52	1.105
Q23	1	5	2.54	1.162
Q24	1	5	2.70	1.328
Q25	1	5	3.54	1.330

digital competences, as highlighted by Kohnke, Moorhouse and Zou (2023a), since studies have shown that attitudes towards and implementation of AI in the classroom depend on the teachers' confidence in using such tools (Galindo-Domínguez 2024a).

The results of the regression analysis conducted to examine the extent to which the teachers' age, length of teaching experience, and type of school where they work influence their attitudes towards AI use in EFL teaching (RQ2) indicate that the overall model was not statistically significant ($F(3,59) = 1.229$, $p < .307$). This suggests that the type of school, teachers' age, and the length of their teaching experience do not significantly explain the variance in the average teacher score. Therefore, the answers given in the questionnaires by all teachers who took part in the present study could be treated equally, regardless of how old they were or how long they had been working in either a primary or secondary school. These results reflect those from other studies. For example, in Galindo-Domínguez et al.

(2024a, 2024b), teachers' attitudes towards AI did not differ based on the educational stage in which they were employed. However, when it comes to technology acceptance in general, results were more varied. Some studies have pointed out that younger teachers are more open to incorporating technology in their practice (e. g., O'Bannon and Thomas 2014; Joseph, Thomas, and Nero 2021), but this trend was not observed in our sample. Joseph, Thomas and Nero (2021) also found that more experienced teachers tended to use less technology in the classroom, a finding that contrasts with other studies, such as that conducted by Gu, Zhu and Guo (2013), who found novice teachers to be less reliant on technology. In other words, it appears that studies to date have found few consistent patterns regarding the influence of personal and sociodemographic factors on teachers' attitudes towards technology, which is confirmed by our results.

Following the presentation of the quantitative findings, the teachers' answers to the open questions in Questionnaire 2 (Appendix 2) were analysed thematically to provide more insight into the perspectives of EFL teachers in Croatia on the potential advantages and disadvantages of incorporating AI in their EFL teaching practice (RQ3). The thematic analysis of responses from Questionnaire 2 revealed three main categories of benefits: those associated with lesson planning and material design, those primarily benefiting students, and those related to assessment.

Of thirty-six participants who answered the question about the potential of implementing AI in EFL teaching and learning, twenty mentioned its role in lesson planning and/or designing materials, with six highlighting timesaving as a key benefit. The terms 'personalisation' and 'adaptation' frequently appeared, referring to tailoring tasks, content, and programs to individual learners' needs and interests, including those in mixed-ability classes and learners with special educational needs. This type of differentiation was also linked to increased student motivation and engagement, which corresponds to findings by Brinegar (2023). Six participants specifically discussed adapting materials in relation to the existing EFL curriculum, noting that AI enables the creation of multiple curriculum versions that can be improved, tailored, or individualised for specific students. In addition, AI was considered a fast way to generate creative ideas and a useful tool for generating tasks such as reading comprehension exercises (e.g., using ChatGPT), materials accompanying videos or audio recordings, interactive and visually engaging presentations (e.g., Canva), generating images and flashcards (e.g., from YouTube), creating dialogue scenarios, discussion questions, grammar tasks, quizzes, and gamified activities. These benefits of AI for lesson planning and creativity have also been recognised in previous studies (e.g., Chounta et al. 2022; Sütçü and Sütçü 2023).

Regarding the second category of benefits, fifteen participants highlighted the advantages of AI primarily for students, particularly in providing additional help or guidance in learning. They noted that engaging, interactive, up-to-date, and diverse activities created with the help of AI can foster active student participation, resulting in more dynamic classes where students can develop unexpected solutions, which in turn enables exchanging experiences and networking among students. Some examples included AI facilitating faster and easier access to information, encouraging independent learning, boosting motivation, and offering instant feedback. Participants also highlighted AI's potential to support speaking

and pronunciation practice through voice recognition software, to develop critical thinking by enabling students to create their own content, and to teach them to craft written and spoken prompts. Finally, a participant mentioned AI's potential for creating chatbots to tutor students, support students with learning difficulties, and provide additional assistance through assistive technology features.

The final category of benefits identified by participants was assessment, with six participants highlighting it as having the greatest potential for AI integration in their lessons. They provided examples such as using AI to create adapted tasks, to design reading and listening comprehension tests for specific topics or vocations, and to develop formative and summative assessment rubrics (e.g., by using tools such as MagicSchool). AI was also seen as a way to make test correction faster, easier, and more precise (e.g., uploading existing rubrics). Additionally, participants mentioned using AI to generate revision quizzes (e.g., via Kahoot and Quizlet), and two participants specifically highlighted its utility for writing descriptive grades and providing feedback for parents.

The three groups of benefits identified in the participants' answers align closely with those discussed in the current research on AI in education. For instance, in a recent systematic literature review of ninety-two articles, Chiu et al. (2023) identified four key domains where AI is beneficial: AI in student learning, AI in teaching, AI in administration, and AI for assessment. These domains mirror the categories found in our participants' responses, suggesting that teachers are familiar with the major advantages AI can offer. The parallels between the findings in this study and the broader literature indicate that educators are not only aware of AI's potential but also able to recognise its relevance across various aspects of their professional practice. However, it must be noted that most teachers focused on a limited set of benefits, primarily those relating to lesson planning and designing learning materials. This is unsurprising, since such time-saving methods are likely to resonate with teachers who juggle multiple tasks, including administrative duties. Additionally, these uses of generative AI are likely the most accessible and straightforward, while fewer teachers might recognise the more specific benefits, possibly those who have had additional training.

Analysis of the participants' responses also highlighted several concerns and challenges, which can be grouped into four categories, the first of which encompasses concerns about misuse and ethical issues. Unsurprisingly, many of the participants (21/41) focused on issues of plagiarism and cheating, mentioning the example of ChatGPT being used by students to draft essays and create presentations. Teachers also noted students' misuse of AI for schoolwork, homework, and tests. Two participants even pointed out that teachers could be complicit in plagiarism by presenting AI-generated materials as their own.

The second category centres on the potential dangers of overreliance on AI, or of using AI tools "without thinking," particularly regarding its impact on critical thinking and creativity (7 participants). Three participants expressed concern that students' need to invest little effort and time in some tasks nowadays could erode key skills, for example, research skills, problem-solving, critical thinking, summarising, writing essays, creating presentations, spelling, and translating. Some teachers noted that the ease of AI-generated tasks might create a false sense of achievement, further diminishing motivation and creativity. In this context, several of the

teachers commented that AI should be applied "in the right measure." While many teachers acknowledged AI as a potential tool for improving motivation, several expressed concern that overreliance on AI tools would reduce students' overall motivation and creativity. One teacher even stated that reliance on AI would bring about a reduction in people's intelligence because "we will not bother to do things anymore," and another participant said the following: "I do not like the direction we're heading in. We are losing our humanity."

The third category addresses the limitations and risks of AI tools, as well as concerns about digital literacy. Five participants mentioned the limitations of AI, such as age restrictions, bias, and the inability to always interpret context or provide accurate feedback, which can result in student frustration and even data privacy infringement. Several teachers (5/41) emphasised the need to use reliable AI tools, especially when doing online tasks and tests, and to educate students on what happens to their data online. A few participants noted that the materials generated by AI needed adaptation, as they can be an excellent starting point but still require careful review before use in class. Furthermore, four participants raised concerns about low digital literacy among both students and teachers, stressing the necessity for better education and preparation to use AI effectively in the classroom. They also highlighted the considerable time needed to teach students how to learn using AI tools, with teachers often lacking training themselves. Additionally, two participants underscored the absence of instruction on the ethical considerations regarding the use of AI.

The final category involves the broader social and professional implications of AI in education. Concerns were raised about the impact of AI on the teaching profession, with four participants expressing fear that AI could diminish the teacher's role, particularly in assessment, where overreliance on AI could reduce insight into students' individual needs. One participant also mentioned the reduction of the role of the teacher due to overreliance on AI tools, and ultimately teachers' fear of losing work. Two participants pointed out the potential social alienation that could result from increased automation, stressing that AI cannot replace the vital emotional and social support provided by teachers. Additionally, the digital divide was identified as an issue, with some schools lacking the technology necessary to integrate AI effectively, leading to unequal educational opportunities. Luckin (2017, 3) also notes that "[t]he less able and poorer students in society are generally least well served by education." This disparity could further marginalise some students or even entire schools, as one participant in the present study mentioned. Finally, two participants made notable comments, with one stating, "I really don't want to solve problems that could be prevented simply by not using AI," and another remarking, "I think less damage would be done by getting rid of AI than working with it. But I do understand that what's done is done, it's here now, and the role of the teacher with time will be not to make humanity smarter through teaching, but to do their best to slow down the process of getting stupider."

The results of the qualitative analysis reveal that, in discussing the challenges presented by the integration of AI into their practice, most teachers in our study focused on ethical issues, particularly cheating. This is not surprising, as we can assume it is a concern they face daily. For example, secondary school teachers mentioned the issue of preparing students for the *matura* (school-leaving) exam, which includes an essay-writing task in its EFL component.

Some teachers reported that students used generative AI to write their essays, leaving them unprepared for the exam. To address such issues, assessment practices will need to be 'AI-proofed' and better aligned with current trends and the needs of students in the 21st century. However, these changes need to start at the top. It is not enough for teachers to have the necessary skills; they also need support through curricula and more appropriate school-leaving exams.

In terms of other challenges related to AI, which are frequently discussed in the literature, only a few teachers in our sample mentioned any. Examples include the widening digital divide (Luckin 2017; Chiu et al. 2023) and data privacy issues (Luckin 2017; Kohnke, Moorhouse, and Zou 2023b). This suggests that some teachers may lack in-depth knowledge of these critical issues, which should be addressed through appropriate professional development programs. Indeed, many teachers stressed the need for training, both for themselves and for their students, a concern that is frequently highlighted in other studies (Chiu et al. 2023).

4 Conclusion

The results of our study reveal an overall positive outlook on the use of AI in EFL teaching and learning, with teachers expressing their readiness to integrate AI into their classes. However, their professional expectation and firsthand experiences with AI were less positive. This is not unexpected, as educational technology has often sparked controversy among educators (Wegerif and Major 2023), especially when seen as a threat to students' learning agency (Han et al. 2024). These concerns underscore the importance of integrating AI thoughtfully, in ways that support, rather than diminish the vital role of teachers in promoting student autonomy and engagement.

Further analysis revealed that these teachers lack experience with AI in education and are unable to share their skills with peers. This finding is in line with previous studies (e.g., Chounta et al. 2022; Pokrivcakova 2023; Polak, Schiavo, and Zancanaro 2022; Sütçü and Sütçü 2023), where teachers reported having limited knowledge of how to implement AI in their teaching. Given that AI-based tools have only recently become more widely recognised, this lack of familiarity is not surprising. While the teachers were generally positive about AI, they remained cautious about its potential to revolutionise education. This caution was echoed in the qualitative part of the study, where several teachers emphasised the importance of exercising restraint in integrating AI, ensuring it does not overwhelm the educational process.

Additionally, no significant connection was found between teachers' attitudes and the type of school, their age, and the length of experience in our sample, suggesting that AI training should be accessible to all teachers, regardless of their background. Both primary and secondary school teachers, as well as those with varying levels of experience, displayed similar attitudes and concerns.

Our qualitative analysis also revealed that while some teachers demonstrated a nuanced awareness of the advantages and disadvantages presented by AI, the majority focused on its potential for lesson planning, material generation, and the risk of cheating and plagiarism. These results highlight the importance of developing training programs that encompass both

the technical and ethical considerations related to AI, as pointed out by Kohnke, Moorhouse and Zou (2023a). Such training should not only empower teachers to use AI effectively but also equip them to instruct students about the responsible use of these technologies. These results are particularly relevant for university educators and pre-service teachers, since incorporating AI-related topics into teacher education programs is key to preparing future teachers to make effective use of AI in their practice and adapt to an evolving educational landscape.

While the present study offers valuable insights, several limitations should be acknowledged. First, the limited sample size and its composition may affect the generalisability of the findings, especially as the volunteer participants may not accurately reflect the wider teacher population in Croatia. The sample included a disproportionate number of female participants, reflecting the general gender trend in the teaching profession, but this imbalance may still limit the generalisability of the findings. Furthermore, participants were partially recruited via Facebook and other social media platforms, which may have led to a bias towards individuals already inclined to use technology. Another limitation is that participants were primarily drawn from urban and semi-urban areas, and specific data on their regional background was not systematically collected. This prevented an in-depth exploration of potential regional differences (e.g., centre vs. periphery). These issues could be addressed in future research by including a larger and more diverse sample, with a focus on regional variation and exploring alternative recruitment methods to reach a broader range of participants.

Additionally, since the data was based on self-reporting, there is further potential for bias. The study also focused on a limited set of variables, while other factors, such as prior exposure to AI or specific training, might have influenced attitudes. Finally, the study may not have fully accounted for variations in access to resources or institutional support, which could influence teachers' willingness to adopt AI in their classrooms. Further studies could build on the findings by exploring additional variables, such as available training opportunities, and institutional support, which could also have a considerable impact on shaping attitudes. Examining how access to technological resources influences teachers' adoption of AI could provide an important context for understanding the barriers to and opportunities for AI implementation in schools.

In conclusion, our study underscores the need for practical, consistent teacher training to translate the positive attitudes of EFL teachers towards AI into effective classroom practices. By addressing the advantages and disadvantages of AI, we can better prepare students with the resources and knowledge needed to engage with AI in the 21st century.

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Appendix 1

Questionnaire 1 (adapted from Galindo-Domínguez et al. 2024a)

1 I am willing to use artificial intelligence in my teaching practice.
2 I am willing to explore new opportunities for integrating AI into teaching and learning processes.
3 I would love to be able to use artificial intelligence in my work as a teacher.
4 I am interested in learning about artificial intelligence in education.
5 I am interested in exploring the use of artificial intelligence as a complementary tool for my teaching practice.
6 The growing development of artificial intelligence in education is exciting to me.
7 Artificial intelligence should be introduced as part of teacher training.
8 There are many potential benefits to applying artificial intelligence in education.
9 I will stay up to date with the latest utilities and applications of artificial intelligence.
10 I will continue learning about artificial intelligence.
11 I don't see how artificial intelligence could be relevant to my teaching practice.
12 I am convinced that artificial intelligence will have a positive impact on education.
13 Artificial intelligence will positively revolutionise education.
14 I hope that artificial intelligence can help me engage my students more.
15 Artificial intelligence can be used to assist students.
16 Artificial intelligence can be used to support students with specific educational needs (special educational needs students, gifted students, etc.).
17 Artificial intelligence can promote more personalised teaching.
18 Artificial intelligence can be used to create more personalised teaching materials.
19 Artificial intelligence can help my students perform better on school assignments.
20 Artificial intelligence can facilitate assessment and provide feedback to my students.
21 I have never interacted with artificial intelligence in an educational or general context.
22 I have had positive experiences with the use of artificial intelligence in education.
23 I have extensive experience with the use of artificial intelligence in education.
24 I can share my knowledge and skills about artificial intelligence with other teachers.
25 I have had some experiences with the use of artificial intelligence in education.

Appendix 2

Questionnaire 2

1 What is your perspective on the potential of using AI in EFL lessons?
2 What problems do you see with using AI in EFL lessons?
3 What AI tools have you used or would like to use in class, if such tools exist?
4 Can you describe your experiences with using AI tools or materials in EFL lessons? Please describe the content and purpose of their use.
5 How does AI affect EFL curriculum/syllabus design and lesson planning? Can you name some examples?
6 How do you think AI influences EFL teaching strategies and student motivation? Can you describe some examples?
7 In your opinion, what are some ethical and social problems of using AI in (EFL) lessons? How should they be dealt with by the teachers and institutions?
8 How do you envisage the future of using AI in EFL lessons? How can teachers prepare themselves and their students?