

---

## INTEGRATING AI IN LANGUAGE TEACHING: CHALLENGES AND OPPORTUNITIES FOR NOVICE EFL TEACHERS

---

HERMAN RESYADI

IAIN Bone , Indonesia

Corresponding author: [hermanresyadi@gmail.com](mailto:hermanresyadi@gmail.com)

### Abstract

This research explored the challenges and opportunities that novice EFL teachers face in integrating AI into their teaching practices. Using a mixed-method approach, the study combined quantitative data from a survey of 30 novice EFL teachers with qualitative insights from interviews with seven participants selected from the survey group. The survey data were analyzed using descriptive statistics, while the interview responses underwent thematic analysis. The findings revealed that the challenges were limited understanding of how to use AI tools in a more advanced or contextually appropriate way, infrastructure limitations that affect access to AI tools, limited digital literacy in using AI for novice EFL teachers. The opportunities were improved lesson planning, increased creativity, time efficiency, enhanced engagement, and innovative assessment practices. The study suggested that targeted training programs, institutional support, and initiatives aimed at fostering ethical AI literacy can assist novice teachers in overcoming challenges and maximizing the potential of AI in language education. These findings contribute to the expanding discourse on AI-assisted teaching and underscore the necessity for sustainable strategies to effectively integrate AI within EFL classrooms.

**Keywords:** AI in education, novice EFL teachers, teaching challenges, teaching opportunities

### Introduction

The role of Artificial Intelligence (AI) in education has significantly transformed learning environments, making them more advanced through personalization, automation, and intelligent feedback. According to Woolf (2010), AI provides personalized learning paths that adapt to individual student needs, significantly enhancing the educational experience. AI-powered tools such as learning platforms, intelligent tutoring systems, adaptive learning apps, and virtual tutors have modernized traditional teaching methods, making them more accessible and efficient (Holmes et al., 2018). These AI technologies allow for real-time feedback, engage learners with interactive content tailored to their needs, and adjust the learning pathway based on individual progress (Luckin et al., 2016). Additionally, a study by Zawacki-Richter et al. (2019) further highlight that AI integration into education offers unprecedented opportunities for personalization and can enhance learner outcomes. De la Vall & Araya (2023) discovered that AI-powered tools, such as chatbots and speech recognition software, provide significant benefits for language learning, particularly in improving communication skills. As AI continues to evolve, its role in education is expected to expand, offering new opportunities for both teachers and students (Selwyn, 2019).

In the context of language teaching, AI offers innovative tools to enhance instructional methods and improve students' learning experiences. As stated by Luckin, Holmes, Griffiths, & Forcier (2016) AI can support language teachers by personalizing instruction through technologies like natural

language processing and machine learning. These AI-driven tools allow teachers to reorganize lesson plans, generate learning materials, and provide real-time feedback on student performance. By integrating AI into language pedagogy, teachers can create more interactive and engaging learning environments tailored to students' needs. Supporting this view, recent studies from Benek (2025) reported that AI-powered platforms foster higher levels of student engagement and contribute to more effective learning outcomes.

Several AI tools have gained high popularity in EFL teaching. For instance, Luckin, Holmes, Griffiths, & Folcier (2016) explain that AI-powered tools such as conversational agents, like chatbot, can support language practice, while another platforms can enhance writing accuracy through real-time grammar and style suggestions. Additionally, adaptive learning platforms also can personalize instruction based on student progress (Rahma & Fitriani, 2024; Fahmi & Cahyono, 2021). However, Selwyn (2019) posits that the potential risks of over-reliance on AI in education, including issues related to the accuracy of AI-generated content, bias, and ethical challenges. These concerns may lead to reduced teacher involvement in the learning process, which could undermine the benefits of AI integration in language teaching.

Using AI in language teaching presents both opportunities and challenges, particularly for novice EFL teachers. According to Feiman-Nemser (2001), novice teachers—those in their first five years of teaching—are still learning to teach and require substantial support to build their instructional capacity, classroom management strategies, and professional identity. In line with this, Ingersoll and Strong (2011) in their research highlight that novice teachers often struggle with planning lessons, managing classrooms, and accessing appropriate teaching resources. These foundational challenges are also echoed in recent studies (Septiani, Emiliyasi, & Rofi'i, 2019; Akcor & Savasci, 2020; Tran, 2021). While AI tools offer promising opportunities to support teaching and learning, their effective use requires teachers to possess the necessary digital literacy and pedagogical adaptability. Therefore, ongoing professional development is essential to help novice EFL teachers critically assess and integrate AI technologies into their teaching practice.

The integration of AI into EFL classroom its impact on students and teacher has gained significant attention among scholars in recent studies (Dai & Liu, 2024; Yuan & Liu, 2025; Alghamdy, 2023). However, there is a notable research gap concerning how novice EFL teachers—those with 0–5 years of experience—perceive and utilize AI in their teaching practices. While some studies have begun to explore this area of topic, for instance the investigation of pre-service EFL teachers' use of AI tools for professional development (Alrishan, 2023), a comprehensive research focusing specifically on novice in-service EFL teachers remains limited.

Shortly, many novice EFL teachers still struggle with adopting these technologies effectively due to limited training and support (Zawacki-Richter, Marín, Bond, & Gouverneur., 2019; Tran, 2021). Previous studies have shown that while AI tools can support language instruction, their successful use depends heavily on the teacher's digital competence and pedagogical readiness (Luckin, Holmes, Griffiths, & Forcier, 2018). In this context, novice EFL teachers—who are in the early stages of professional development—face unique challenges and opportunities in utilizing AI in their teaching practices. Therefore, this research aimed to explore the question: *What are the challenges and opportunities faced by novice EFL teachers in integrating AI into their teaching practice?* The findings of this research are expected to contribute to teacher education programs by highlighting the specific needs of novice teachers regarding AI integration and pedagogical adaptation. Furthermore, the results may inform policymakers and educational institutions in developing targeted support systems and best practices for AI adoption in EFL classrooms.

## Literature Review

### *AI in education*

AI has become a key innovation in the field of education, offering new ways to enhance teaching, learning, and assessment. AI technologies can support the development of intelligent learning environments that adapt to students' needs, provide personalized feedback, and assist educators in designing effective instructional strategies. Woolf (2010) explains that AI-based systems can deliver customized learning experiences by responding to individual learner performance. In addition, AI tools can assist to monitor students' progress, recommend appropriate learning resources, and streamline educational processes (Luckin et al., 2016).

AI is increasingly recognized as a transformative tool that enables innovative approaches in instructional design, technology integration, and educational research—approaches that are difficult to achieve through conventional education methods (Holmes, Anastopoulou, Schaumburg, & Mavrikis, 2018; Hwang, Xie, Wah, & Gašević, 2020). The use of AI in education introduces new possibilities and challenges, including advancements in personalized learning, a redefinition of the teacher's role, and the emergence of more complex educational systems (Starcic, 2019).

Findings by Boppana (2022) indicate that several tasks that AI can do such as learning from experience, recognizing patterns, solving problems, understanding language, and making decisions. Castro & New (2016) in their research found that AI also have the ability to analyze language, data, patterns, and also adapt to behavior. The existence of AI transforms the educational setting by offering innovative tools as well as personalized learning to enhance teaching, learning, and even administrative processes (Yusupova, 2023). AI also has the special ability to improve administrative efficiency in educational context. It can assist for several administrative tasks for instance grading, scheduling, and report generation, freeing educators to focus on teaching (Jonäll, 2024). Gradescope as one of AI can perform grading processes for the students' assignment, which can help teachers to run the curricula by identifying trends and gaps. Moreover, the AI also can act as an interactive learning tools, for examples the virtual reality (VR) or augmented reality (AR) which can provide students new learning experiences (Cinar, Rafferty, Cutting, & Wang, 2024). However, using AI in education setting also increases challenges and some significant considerations. For instance, the term ethical issues, about data privacy, and equitable access are still vital concerns and also other possible challenges are might still exist (Khan, 2024). Overall, the AI's integration into education is changing the conventional learning setting into digital environment. Through thoughtful precise and implementation, the AI can optimize learning outcomes even though with some considerations.

### *AI in language teaching*

The integration of AI into language teaching has opened new avenues for personalized and efficient learning experiences. Woolf (2010) explains the role of AI in adapting instruction to individual learners, providing real-time feedback that supports the development of language skills such as grammar and vocabulary. In a similar vein, Kalyuga (2009) argues that AI-powered platforms can help manage learners' cognitive load by adjusting content complexity to the learner's proficiency, thereby enhancing comprehension and retention. Furthermore, Luckin, Holmes, Griffiths, & Forcier (2016) emphasize the importance of a human-AI partnership, suggesting that AI should not replace language

teachers but instead empower them through data-informed insights and customized learning paths. When it comes to collaborative learning, Scardamalia and Bereiter (2006) propose that technology can foster shared knowledge construction, which aligns with the use of AI-supported group discussions and peer feedback in language classes.

The role of AI in educational setting is not only influencing in general but also it prompting into more specific context such as language teaching. AI revolutionizing language teaching and learning by offering innovative tools and methods to enhance the process for both students and teacher (Yamijala, Chodisetty, Chakravorty, & Sai, 2025). Hence, this AI-powered platforms can provide personalized learning experiences, direct feedback, and interactive ways that cater to students or teacher's needs, making the process of language acquisition more effective and engaging. Siddique, Aftab, Abid, & Fuzail (2024) reported that one of the most significant contributions of AI in language education is its ability to personalize learning paths. It simply means that AI computer system can assess students' proficiency levels, strengths and weaknesses, and adapt lessons accordingly. For example, virtual language tutors use machine learning to create customized exercises according to students' need, recommend relevant content, and adjust difficulty levels based on their progress. Therefore the AI's contribution ensures that students can receive targeted support tailored to their unique needs, optimizing their learning outcomes.

In another example, Atayeva & Mowlamova (2025) discovered that AI also bests in providing real-time feedback on the students' pronunciation, grammar, and even vocabulary. In the recent research, speech recognition technology of AI evaluates spoken language and offers immediate corrections or suggestions, fostering continuous improvement for language learning (AbuSahyon, Alzyoud, Alshorman, & Al-Absi, 2023). The AI tools like chatbots for example ChatGPT simulates real-life conversations, allowing learners to practice foreign language without the anxiety of interacting with native speakers. So, these AI tools are considered to be effective in developing language skills and building confidence through interactive and conversational practice.

### ***Novice EFL teacher***

Novice English EFL teachers simply can be defined as the educators who are new to teaching English in non-native contexts. These teachers generally 0-5 years of teaching experience, they often enter the teacher profession with enthusiasm and a strong desire to make a positive impact on their students. In the study by Feiman-Nemser (2001) observed that novice EFL teachers also often defined as those in their first three years of service, are still developing their professional identity, classroom management skills, and instructional competence. Steffy, Wolfe, Pasch, & Enz (2000) in their research, categorize this period as the "novice stage" in the life cycle of a teacher, emphasizing that it is marked by a focus on survival and adaptation to the demands of the teaching profession. This developmental stage is particularly crucial in the context of EFL instruction, where teachers must navigate both linguistic and cultural challenges. Moreover, the importance of support systems during this period cannot be overstated. Ingersoll and Strong (2011) reported that structured induction and mentoring programs are essential in reducing teacher attrition and enhancing professional growth.

The novice EFL teachers typically have limited teaching experience and pedagogical knowledge, which can make adapting to real-world classroom dynamics are quite challenging. The novice EFL teachers encounter various challenges in their job as a teacher because of their lack of experience and familiarity with teaching strategies. Wong and Wong (2009) explain that novice teachers—those in

their first five years of teaching—often face several core challenges due to their limited professional experience. Pollard (2014) also explains that these early-career teachers typically struggle with balancing instructional responsibilities and emotional resilience, particularly in unfamiliar teaching contexts. Rodgers and Roth (2006) reported that beginning teachers can experience emotional and psychological disconnection, which affects their teaching effectiveness. There are several struggling points for novice EFL teachers, as follows:

- a) Classroom Management: Managing classrooms, maintaining student engagement, and addressing behavioral issues are significant challenges. Novice EFL teachers often struggle with time management, planning teaching activities, and adhering to the syllabus (Amin & Rahimi, 2018).
- b) Instructional Design: Designing engaging lessons that cater to diverse learner needs can be difficult for novice teachers. They may find it challenging to choose appropriate materials, multimedia tools, and suitable teaching methods for students' varying proficiency levels (Sali & Kecik, 2018).
- c) Feedback and Assessment: Providing constructive feedback and assessing students' progress can be difficult due to their limited experience (Akcort & Savasci, 2020).
- d) Emotional Challenges: Novice EFL teachers may feel frustrated due to the pressure of meeting expectations, handling unpredictable situations, or balancing teaching workloads.
- e) Technology Adoption: Integrating technology such as AI can pose barriers due to limited access to resources, lack of equipment, insufficient training in using ICT, and technical difficulties, all of which often prevent novice teachers from fully utilizing these tools (Pokrivčáková, 2019).

In conclusion, novice EFL teachers typically experience several core challenges including classroom management, instructional design, providing feedback and assessment, emotional pressures, and integrating technology into their teaching. These challenges, supported by key theoretical perspectives and recent research findings, highlight the need for structured mentoring, ongoing professional development, and access to institutional support.

## **Methodology**

### ***Research design and approach of the study***

This research employed a mixed-method research approach (Cresswell, 2009), combining both quantitative and qualitative methods to gain a comprehensive understanding of how novice EFL teachers perceive the AI in their teaching practices. The quantitative component involved questionnaire in form of survey to collect numerical data about AI tools, experience, perceived benefit and challenges. The qualitative component consist of interview with selected participants allowing for a deeper understanding of novice EFL teachers experience and attitude in using AI. By combining these methods, the research ensure a more holistic analysis, capturing both statistics and personal insight.

### ***Research site and participants***

The research was conducted in South Sulawesi, involving a total of 30 novice EFL teachers with 0–5 years of teaching experience. All participants were selected using purposive sampling based on



their frequent use of AI tools in their teaching activities, ensuring that the research focused on teachers who actively integrate AI into their teaching practices. The quantitative component of the research collected survey responses from all 30 teachers, providing statistical insights into their experiences, challenges, opportunities, and perceptions of AI in language teaching.

For the qualitative component, seven teachers were selected from the initial group to participate in in-depth interviews. All the participants were chosen purposively with several criteria. First, they are actively teaching English as a foreign language and utilized AI in their teaching. It was to ensure that the participants had firsthand experience with AI integration in their teaching practices, which was essential for gaining in-depth insights into their perceptions of the challenges and opportunities. Second, to further diversify perspectives, efforts were made to include participants from different school types and geographical settings (urban and semi-urban). Third, prior to participation, teachers were asked to confirm their experience using at least one AI-based tool in the classroom, such as ChatGPT, Canva, or Grammarly. Fourth, willingness to participate and share experience, they are agreed to take part in the research and provide reflective responses based on their experience.

### ***Data collection and analysis***

To collect data for this research, the researcher employed two instruments: a questionnaire and an interview. The questionnaire was designed as survey and distributed to 30 novice EFL teachers. It consisted of close-ended questions aimed at measuring AI usage frequency, confidence levels, perceived challenges, and the opportunities of AI integration in language teaching. The questionnaire items were adapted from concepts and frameworks discussed in previous studies, particularly those by AbuSahyon, Alzyoud, Alshorman, & Al-Absi (2023) and Luckin, Holmes, Griffiths, & Forcier (2018). The instrument was validated through expert review, where two language education lecturers and one ICT specialist examined the questionnaire for clarity, relevance, and content validity. The quantitative data collected from the survey were analyzed using descriptive statistics, which provided percentage-based insights into each questionnaire item, offering a clear overview of trends and patterns in AI integration among novice EFL teachers.

For the qualitative component, semi-structured interviews were conducted with seven teachers selected from the survey group. These interviews provided a deeper exploration of teachers' lived experiences, specific challenges and opportunities related to AI, as well as their personal reflections on its role in language teaching. Similar to the questionnaire, the interview guide underwent expert validation to ensure that the questions aligned with the research objectives and were clear for participants. The interview data were analyzed using thematic analysis, following the approach outlined by Braun and Clarke (2006). Thematic analysis is a qualitative method that identifies, organizes, and interprets patterns within data by categorizing responses into specific themes. The researcher manually transcribed the interview recordings and carefully reviewed them to identify recurring themes and key insights.

To ensure the trustworthiness of the qualitative data, this research followed the criteria proposed by Lincoln and Guba (1985). Credibility was achieved through member checking, in which participants were invited to review and confirm the accuracy of their interview transcripts and the preliminary findings. Transferability was supported by providing thick descriptions of the research context, participants, and findings, allowing readers to determine the applicability of the results to other settings. To ensure dependability and confirmability, the researcher maintained a clear audit trail that documented all research decisions, data collection processes, and analysis steps. For the **quantitative**

**data**, reliability was assessed using internal consistency, with a pilot test revealing a Cronbach's Alpha score of 0.81, indicating that the questionnaire demonstrated acceptable reliability.

## Findings

### *Challenges in integrating AI into language teaching for novice EFL teachers*

**Challenges in using AI**, the survey results indicated that the most significant challenge faced by novice EFL teachers in using AI is ethical concerns (30%), followed by students' over-reliance on AI (23.3%). This suggests that while AI is widely adopted, teachers are mindful of its ethical implications and the potential risk of students becoming overly dependent on AI-generated content. Additionally, lack of training (20%) is a notable challenge, indicating a need for professional development to enhance AI literacy among educators. Inaccuracy of AI-generated content (13.3%) and difficulty in integrating AI into lesson planning (13.3%) are less frequently reported but still present as obstacles. These findings highlighted the importance of balancing AI integration with ethical considerations, student autonomy, and adequate teacher training.

**Table 1.** *Teachers' challenges in using AI*

No	Responses	Percentage
1	Lack of training	20%
2	Inaccuracy of AI-generated content	13.3%
3	Ethical Concern	30%
4	Students' over-reliance on AI	23.3%
5	Difficulty in integrating AI into lesson plan	13.3%

Supports in using AI, the survey results indicated that the majority of novice EFL teachers (56.7%) require more resources and guidelines to use AI effectively in their teaching. This suggests a strong demand for structured materials, best practices, and clear implementation strategies. Additionally, 40% of respondents express the need for workshops or training sessions, highlighting the importance of hands-on learning and professional development opportunities to enhance AI integration skills. In contrast, only 3.3% seek support from senior teachers or administrators, indicating that most teachers prefer direct access to educational materials and training rather than relying on mentorship or institutional guidance. These findings emphasized the need for comprehensive AI-related teaching resources and skill-building initiatives to empower educators.

**Table 2.** *Teachers' need in using AI effectively*

No	Responses	Percentage
1	Workshops or training session	40%
2	More resources and guidelines	56.7%
3	Support from senior teacher or administrator	3.3%

**Teachers' challenges in using AI**, the findings indicated that novice EFL teachers face several challenges in integrating AI into their teaching, including concerns about accuracy, technological limitations, and accessibility issues. One of the most prominent concerns was the reliability of AI-generated information. Respondent 1 acknowledged, *"Using AI has both positive and negative impacts, and it is important to note that not all AI-generated information is accurate."* This suggests that teachers must carefully verify AI-generated content before using it in their lessons.

Another major challenge was the adaptability of AI-generated materials to the classroom context. Respondent 2 mentioned, *"Sometimes, the AI-generated materials are difficult to implement because they do not align with the classroom or cultural context."* This highlights the struggle teachers face in customizing AI-generated content to fit their specific teaching environment. Similarly, Respondent 5 and Respondent 6 pointed out that AI responses do not always align with their expectations. Respondent 5 stated, *"Sometimes, the answers provided by AI do not match the prompts I give,"* while Respondent 6 shared, *"One of the biggest challenges I face is unreliable internet access, which makes it difficult to use AI, and at times, AI responses do not match my instructions."*

Technology accessibility was another significant issue. Respondent 3 noted, *"Some students struggle with technology, and I have to teach them from the very beginning."* This reflected a common challenge in classrooms where not all students are familiar with digital tools. Similarly, Respondent 4 highlighted, *"The biggest challenge is the limited understanding of AI among both students and teachers, as well as unequal access to technology. There are also concerns about the accuracy and ethical use of AI in education."* These responses suggest that limited digital literacy and technological disparities create obstacles in fully utilizing AI for teaching.

Despite these challenges, some teachers found ways to adapt. Respondent 7 mentioned, *"I do not face any significant challenges. However, some of the wording generated by AI feels too rigid, which might confuse students. But this can be solved by manually paraphrasing the content."* This indicates that while AI-generated content may require adjustments, teachers can refine the material to suit their needs.

Overall, the findings suggest that the biggest challenges in integrating AI into teaching include the accuracy of AI-generated content, the adaptability of AI to classroom contexts, technological barriers, and accessibility issues. However, with proper adaptation and critical evaluation, these challenges can be mitigated.

**Support needed by novice EFL teacher**, the findings suggested that novice EFL teachers recognized the need for structured training and support to effectively integrate AI into their teaching. Many respondents emphasized the importance of learning how to interact with AI properly. Respondent 2 stated, *"I think training on how to structure prompts when using AI would be helpful so that we can get the expected results."* This highlights the necessity of prompt engineering skills to ensure that AI-generated content aligns with teachers' needs.

Several respondents also emphasized the need for hands-on training. Respondent 3 suggested, *"Training on how to use AI websites, supported by adequate facilities, would help teachers use AI more effectively in teaching."* Similarly, Respondent 5 expressed a preference for in-person learning, stating, *"Offline training would be better so that teachers can feel more comfortable and focus on learning how to use AI effectively."* These responses indicated that practical, experience-based training sessions could enhance teachers' confidence in utilizing AI tools.

Workshops were also seen as a beneficial form of support. Respondent 4 simply mentioned, *"Maybe a workshop,"* suggesting that interactive and guided sessions would be useful. In addition, some respondents highlighted the importance of broader digital literacy training. Respondent 6 noted, *"Basic IT training, including tools like Canva and Quizizz, would be helpful for novice teachers."* This suggests that



integrating AI training with general digital skills could provide a more comprehensive learning experience.

These findings indicated that effective AI training for novice teachers should include structured guidance on prompt creation, practical hands-on workshops, offline training opportunities, and foundational IT skills. These forms of support could help teachers maximize AI's potential in their classrooms. The integration of AI into language teaching is still at an early stage for many novice EFL teachers, and several challenges hinder its effective implementation. One major issue is limited understanding of how to use AI tools in a more advanced or contextually appropriate way. For example, one respondent shared that *"AI-generated content is sometimes unsuitable for my classroom's cultural and contextual needs,"* reflecting concerns about content adaptability. Another teacher mentioned, *"Internet connectivity issues often hinder AI usage in my teaching process"* highlighting infrastructure limitations that affect access to AI tools. Additionally, one respondent reported that *"The biggest challenge is the limited understanding of AI among both students and teachers, as well as unequal access to technology"*. This shows that there is a limited digital literacy in using AI for novice EFL teachers. The findings emphasize the need for structured training and reliable infrastructure to support more effective and equitable AI integration in language education.

### ***Opportunities in integrating AI into language teaching for novice EFL teachers***

***Preferences on AI tools***, the survey results indicated that ChatGPT (43.3%) was the most widely used AI tool among novice EFL teachers, suggesting its prominence in language teaching applications. Canva (23.3%) and Grammarly (16.7%) also had notable usage, highlighting the integration of AI for both visual content creation and language accuracy. In contrast, Adaptive Learning Systems (13.3%) were the least utilized among the listed tools, with only a small percentage (3.3%) reporting the use of other AI tools. These findings suggested that AI adoption among novice EFL teachers was primarily concentrated on tools that assisted with content generation and linguistic refinement, while adaptive learning technologies remained less prevalent.

**Table 3.** *Teachers' preferences on AI tools*

No	Responses	Percentage
1	Chat GPT	43.3%
2	Grammarly	16.7%
3	Canva	23.3%
4	Adaptive Learning System	13.3 %
5	Other	3.3%

***AI tools improve lesson plan***, the survey results indicated that a significant majority of novice EFL teachers (96.6%) perceive AI tools as beneficial for lesson planning, with 53.3% strongly agreeing and 43.3% agreeing with this statement. Notably, no respondents disagreed, and only 3.3% remained neutral, suggesting that AI tools are widely regarded as effective in supporting instructional design. These findings highlight the growing reliance on AI to streamline lesson preparation, enhance content development, and optimize teaching efficiency.

**Table 4.** *Teachers' response on AI to lesson plan*

No	Responses	Percentage
1	Strongly disagree	0%
2	Disagree	0%
3	Neutral	3.3%
4	Agree	43.3%
5	Strongly agree	53.3%

**Confidence in using AI**, the survey results showed that a majority of novice EFL teachers feel confident using AI in their teaching, with 53.3% strongly agreeing and 26.7% agreeing. A smaller percentage (16.7%) remain neutral, suggesting some uncertainty or lack of experience, while only **3.3% disagree**, indicating minimal resistance or discomfort. The overall trend reflects a high level of confidence in integrating AI into teaching practices, with most teachers feeling equipped to utilize these tools effectively.

**Table 5.** *Teachers' response on confidence in AI*

No	Responses	Percentage
1	Strongly disagree	0%
2	Disagree	3.3%
3	Neutral	16.7%
4	Agree	26.7%
5	Strongly agree	53.3%

**Teachers' experience in using AI**, the findings revealed that novice EFL teachers find AI tools highly beneficial in supporting their teaching process, particularly in lesson planning and material development. Respondent 1 stated, *"The use of AI has been very helpful in my teaching. Whenever I come across something I am unsure about while teaching, I turn to ChatGPT for answers."* Similarly, Respondent 2 shared, *"So far, AI has been very useful in helping me find teaching references."* These responses indicate that AI serves as a quick and accessible resource for teachers when they need additional information or references before delivering lessons. In addition to lesson planning, AI is also used to create engaging teaching materials. Respondent 3 explained, *"I often use AI to help me design classroom games and create interesting and enjoyable learning materials."* Likewise, Respondent 7 highlighted AI's efficiency in structuring lesson plans, stating, *"AI helps me organize the materials I need to teach. By simply providing a relevant prompt, the learning materials are ready. Not only does it save time, but it also allows me to create more activities for my lessons."* These findings suggest that AI enables teachers to develop creative and structured learning materials more efficiently. All the responses indicated that AI is perceived as a valuable tool for lesson preparation and classroom engagement. While teachers appreciate AI's ability to simplify their work, they also recognize the need for proper integration to fully maximize its benefits.

**Teachers' motivation in using AI**, the findings indicated that novice EFL teachers were motivated to use AI in their classrooms for efficiency, innovation, and enhanced learning experiences. Respondent 1 expressed that AI provides access to vast knowledge, stating, *"By using AI, we can learn about almost everything, even though it does not have to be used all the time."* Similarly, Respondent 2 highlighted

AI's role in staying updated with teaching methodologies, explaining, *"I use AI because it helps me find references for the latest teaching methods."*

Several teachers saw AI as a tool to increase variety in teaching. Respondent 3 shared, *"I usually use AI to add variations to my lessons, such as games, methods, explanations, and materials."* Likewise, Respondent 4 emphasized the goal of making lessons more engaging and student-centered, stating, *"I was motivated to use AI in the classroom to improve learning effectiveness, provide a more interactive experience, and personalize materials based on students' needs."* Beyond lesson innovation, some teachers use AI for convenience and classroom management. Respondent 5 described, *"The ease and comfort it provides for both me and my students motivate me to use AI."* Meanwhile, Respondent 6 noted AI's role in enhancing student participation, saying, *"AI helps students become more active and understand the material more easily. Even if some students don't grasp it immediately, AI allows me to identify which students need extra guidance."* Time efficiency is another key motivation. Respondent 7 explained, *"I initially tried AI due to time constraints. I needed alternative ways to complete administrative tasks more efficiently. After using AI, I found it to be highly effective in saving time, especially with the large number of lesson plans that need to be completed in a short period."* The teachers' responses suggest that AI is seen as a practical tool that enhances lesson delivery, supports student engagement, and streamlines administrative work, making teaching more efficient and interactive.

**Significances of AI in teaching**, the findings revealed that novice EFL teachers experience multiple benefits from integrating AI into their teaching, particularly in lesson planning, time management, and student engagement. One of the most significant advantages is the improvement in lesson planning. Respondent 1 stated, *"Using AI in teaching helps me structure my lesson plans,"* while Respondent 2 added, *"I feel that my lesson planning has become more structured and efficient."* This suggests that AI enables teachers to organize their instructional materials more effectively. Additionally, AI contributes to better time management and faster information delivery. Respondent 3 emphasized, *"It helps with time management and facilitates faster knowledge transfer,"* indicating that AI tools streamline the teaching process. Respondent 4 also highlighted, *"The benefits I experience include more efficient lesson planning, more varied materials, and increased student engagement through more interactive and adaptive methods."* This suggests that AI allows teachers to enhance their teaching materials while fostering student participation. Another key benefit is the ease of accessing diverse teaching strategies and assessment tools. Respondent 5 shared, *"AI helps me choose various teaching strategies and methods, as well as how to implement them while engaging students. It also assists in creating assessments based on themes, needs, and difficulty levels."* Similarly, Respondent 6 noted, *"AI supports assessment and evaluation, giving teachers more time to develop better teaching strategies and create instructional media."* This indicated that AI not only assists with instructional delivery but also plays a role in improving assessment and evaluation.

Beyond practical teaching benefits, AI positively impacts teachers' psychological well-being. Respondent 7 stated, *"AI significantly improves efficiency in terms of time and effort. Another benefit is that it reduces my stress as a teacher, making my work feel more manageable. Additionally, AI helps me present new concepts to students through image-generation tools."* This highlights how AI can alleviate workload pressures while providing innovative teaching aids. The findings suggest that AI enhances lesson planning, increases efficiency, facilitates student engagement, and supports teachers in managing their workload more effectively. The findings revealed several opportunities that AI offers to novice EFL teachers, particularly in enhancing lesson preparation, increasing teaching efficiency, and fostering students' engagement. A prominent benefit is AI's role in lesson planning and resource development. One respondent shared, *"The use of AI has been very helpful in my teaching. Whenever I come across something I am unsure about while teaching, I turn to ChatGPT for answers."* Similarly, another respondent remarked, *"So far,*

*AI has been very useful in helping me find teaching references."* These insights suggest that AI serves as an accessible and timely support tool when teachers need clarification or additional input for their lessons.

AI also facilitates creativity in material design. One respondent explained, *"I often use AI to help me design classroom games and create interesting and enjoyable learning materials."* This reflects the potential of AI to foster more engaging classroom activities. Another respondent also further emphasized the efficiency and practicality of AI, stating, *"AI helps me organize the materials I need to teach. By simply providing a relevant prompt, the learning materials are ready. Not only does it save time, but it also allows me to create more activities for my lessons."* This demonstrates how AI can streamline lesson preparation and enable teachers to focus more on interactive teaching.

Motivation to use AI is also driven by its capacity to bring variety and innovation into teaching practices. The respondent shared, *"I usually use AI to add variations to my lessons, such as games, methods, explanations, and materials,"* while there is an answer from another one noted, *"I was motivated to use AI in the classroom to improve learning effectiveness, provide a more interactive experience, and personalize materials based on students' needs."* These responses suggest that AI can enrich classroom dynamics through adaptive and diverse learning content.

Moreover, teachers noted that AI improves their ability to manage time and reduce stress. The respondent stated, *"AI significantly improves efficiency in terms of time and effort. Another benefit is that it reduces my stress as a teacher, making my work feel more manageable."* In this way, AI is not only seen as a tool for instructional support but also as a contributor to teacher well-being. AI also plays a growing role in the assessment process. One respondent highlighted, *"AI helps me choose various teaching strategies and methods, as well as how to implement them while engaging students. It also assists in creating assessments based on themes, needs, and difficulty levels."*

Overall, the data showed that novice EFL teachers experience numerous opportunities when using AI, including improved lesson planning, increased creativity, time efficiency, enhanced engagement, and innovative assessment practices. These benefits point to the potential of AI as a transformative tool in the evolving landscape of English language teaching.

## Discussion

***The challenges in AI implementation for novice EFL teachers,*** the survey results indicated that teachers face significant challenges in AI integration, including concerns about content accuracy (36.7%), adaptability to classroom needs (30%), and technological accessibility (20%). Interview responses provide deeper explanations of these challenges. One respondent noted, *"It is important to underline that not all AI-generated information is accurate."* Another teacher pointed out, *"AI-generated content is sometimes unsuitable for my classroom's cultural and contextual needs."* Additionally, technological accessibility was an issue, as one teacher stated, *"Internet connectivity issues often hinder AI usage in my teaching process."* These responses highlighted the need for a more reliable and contextually adaptable AI system in education (Holmes, Anastopoulou, Schaumburg, 2018). In here it is important to emphasize while AI offers various benefits in language teaching, its integration presents significant challenges for novice EFL teachers, particularly regarding content accuracy, adaptability to classroom contexts, and technological accessibility. These issues underscore the need for more reliable, context-sensitive AI tools and improved infrastructure to support seamless AI adoption in education.

To enhance AI adoption in language teaching, 56.7% of survey respondents indicated a need for more resources and guidelines, while 40% expressed interest in workshops or training sessions. This indicated a strong demand for structured professional development to ensure effective AI usage



in teaching. The interviews reinforced this perspective. One teacher suggested, *"Training on how to formulate structured AI prompts would be helpful so we can get the desired results."* Another emphasized the need for foundational IT training, stating, *"Basic training on AI tools, such as Canva and Quizizz, would help beginner teachers use AI more effectively."* Additionally, some teachers preferred offline training, as one participant mentioned, *"In-person workshops would be better, as teachers can focus more and fully understand AI usage."* These findings underscore the necessity of professional development initiatives to equip teachers with the necessary skills for AI integration (Putra & Pujiriyanto, 2025).

The result indicated that effective AI integration in language teaching requires structured professional development, as teachers express a strong need for resources, training, and hands-on workshops. Providing targeted support, such as AI prompt formulation guidance and foundational IT training, can enhance teachers' ability to utilize AI tools effectively in the classroom. While this research provided insights about challenges and opportunities in integrating AI in language teaching for novice EFL teachers, several limitations should be acknowledged. First, the participant selection was limited to a small group of novice EFL teachers, which may not reflect the broader population of EFL teacher with varying levels of experience. The research also focused primarily on AI tools, excluding other forms of educational technology that may influence teaching practices.

**The opportunities in AI implementation for novice EFL teachers**, the survey results indicate that ChatGPT (43.3%) is the most widely used AI tool among novice EFL teachers, followed by Canva (23.3%), Grammarly (16.7%), and Adaptive Learning Systems (13.3%). A small percentage (3.3%) reported using other AI tools. This distribution suggests that AI tools are primarily utilized for content generation, language accuracy, and visual material creation, while adaptive learning technologies remain underutilized. The high reliance on ChatGPT highlights the increasing role of generative AI in language instruction, aligning with previous research emphasizing AI's potential in facilitating text generation and grammar correction (Zawacki-Richter, Marín, Bond, & Gouverneur, 2019). However, the limited use of adaptive learning systems suggests that more training is needed to familiarize teachers with AI-driven personalized learning strategies (Hwang, Xie, Wah, & Gašević, 2020).

Concluding this section, it might be argued that the teachers emphasized the utility of AI for lesson planning and content creation. One respondent stated, *"AI helps me create more comprehensive and faster lesson plans, allowing me to conduct more activities in the classroom."* These responses indicate that AI is viewed as a supportive tool that enhances teachers' instructional planning, a conclusion consistent with studies on AI's role in improving instructional design (Xie, Chu, Hwang, & Wang, 2019).

The survey results also showed that teachers are primarily motivated to use AI for efficiency (36.7%), improved lesson delivery (30%), and enhanced student engagement (26.7%). These motivations align with the belief that AI can reduce administrative burdens and facilitate interactive teaching methods. Interview data further illustrate these motivations. One respondent highlighted, *"By using AI, I can access references for the latest teaching methods."* Another teacher noted, *"I initially used AI due to time limitations, as it helped me complete administrative tasks more efficiently."* This aligns with previous research that emphasizes AI's potential to improve efficiency in educational settings (Rochmat, Riza, & Murni, 2024). Additionally, another respondent emphasized the interactive potential of AI, stating, *"I am motivated to use AI to make learning more interactive and personalized according to students' needs"*, this supports claims Nguyen, Kremantzis, Essien, Petrounias, & Hosseini (2024) which reported that AI enhances personalized learning, fostering greater student engagement.

The data reveals that novice EFL teachers are primarily motivated to use AI for efficiency, improved lesson delivery, and enhanced student engagement, as it reduces administrative burdens and



facilitates interactive teaching methods. This growing reliance on AI highlights its role in streamlining tasks, providing access to updated teaching strategies, and fostering personalized learning experiences, emphasizing the need for further exploration of AI's impact on classroom dynamic.

According to the survey, teachers perceive the most significant benefits of AI in structured lesson planning (40%), time management (33.3%), and increased student engagement (26.7%). These findings highlight AI's capacity to streamline instructional processes and create more interactive classroom environments. The interview responses further validate these findings. One respondent shared, *"Using AI makes my lesson planning more structured and efficient."* Another emphasized its role in fostering classroom interaction: *"AI allows me to create more varied materials and enhances student involvement through interactive and adaptive teaching methods."* Moreover, AI was noted for reducing stress, with one participant explaining, *"AI has made my job less stressful by saving time and energy."* These insights reinforce research by [Rane, Choudhary, & Rane \(2023\)](#) suggesting that AI can optimize teaching strategies and reduce teachers' cognitive load.

The analysis of the result shows that AI integration in language teaching provides significant benefits for novice EFL teachers by enhancing structured lesson planning, improving time management, and increasing student engagement. Its ability to streamline instructional processes, foster interactive learning environments, and reduce teachers' cognitive load highlights its potential as a valuable tool in modern education.

### **Conclusion and Implications**

The integration of Artificial Intelligence (AI) into the teaching practices of novice EFL teachers presents both considerable challenges and significant opportunities. The challenges are limited understanding of how to use AI tools in a more advanced or contextually appropriate way, infrastructure limitations that affect access to AI tools, limited digital literacy in using AI for novice EFL teachers. The opportunities are improved lesson planning, increased creativity, time efficiency, enhanced engagement, and innovative assessment practices. To address these challenges, educational institutions and policymakers must prioritize targeted AI literacy training and provide accessible resources to support novice EFL teachers in AI integration. Professional development programs should focus on equipping the teachers with the necessary skills to critically evaluate AI-generated content and adapt it to their specific classroom contexts. Future research should explore the long-term impact of AI in EFL teaching among novice EFL teachers.

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

### **References**

- AbuSahyon, A. S. A. E., Alzyoud, A., Alshorman, O., & Al-Absi, B. (2023). AI-driven technology and chatbots as tools for enhancing English language learning in the context of second language acquisition: A review study. *International Journal of Membrane Science and Technology*, 10(1), 1209-1223. doi: <https://doi.org/10.15379/ijmst.v10i1.2829>

- Akcor, G., & Savasci, M. (2020). A review of challenges and recommendations for novice EFL teachers in turkey. *Novitas-ROYAL (Research on Youth and Language)*, 14(2), 16-37. <https://files.eric.ed.gov/fulltext/EJ1272256.pdf>
- Alghamdy, R. Z. (2023). Pedagogical and ethical implications of artificial intelligence in EFL context: A review study. *English Language Teaching*, 16(10), 87-98. <https://doi.org/10.5539/elt.v16n10p87>
- Ali, M., Siddique, A., Aftab, A., Abid, M. K., & Fuzail, M. (2024). AI-Powered customized learning paths: transforming data administration for students on digital platforms. *Journal of Computing & Biomedical Informatics*, 6(02), 195-204. <https://doi.org/10.56979/602/2024>
- Alrishan, A. M. H. (2023). Determinants of intention to use chatGPT for professional development among omani EFL pre-service teachers. *International Journal of Learning, Teaching and Educational Research*, 22(12), 187-209. <https://doi.org/10.26803/ijlter.22.12.10>
- Amin, M. Y. M. (2023). AI and chatGPT in language teaching: Enhancing EFL classroom support and transforming assessment techniques. *International Journal of Higher Education Pedagogies*, 4(4), 1-15. <https://doi.org/10.33422/ijhep.v4i4.554>
- Amin, M. Y. M., & Rahimi, A. (2018). Challenges faced by novice EFL teachers. *International Journal of Humanities and Cultural Studies*, 5(1). <https://www.ijhcs.com/index.php/ijhcs/index>
- Atayeva, A., & Mowlamova, O. (2025). The use of artificial intelligence in foreign language teaching. *Образование И Наука В XXI Веке, (59-4 (том 1))*. <https://mpcareer-google.ru/index.php/journal/article/view/1100/1066>
- Benek, K. (2025). EFL learners' and teachers' perceptions of AI-powered language learning technologies: Benefits and challenges. *International Journal of Instruction*, 18(2), 103-120. <https://doi.org/10.29333/iji.2025.1827a>
- Boppana, V. R. (2022). Machine learning and AI learning: Understanding the revolution. *Journal of Innovative Technologies*, 5(1). <https://acadexpinnara.com/index.php/JIT/article/view/368/389>
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in Psychology*, 3(2), 77-101.
- Castro, D., & New, J. (2016). The promise of artificial intelligence. *Center for data innovation*, 115(10), 32-35. <https://euagenda.eu/upload/publications/untitled-53560-ea.pdf>
- Cinar, O. E., Rafferty, K., Cutting, D., & Wang, H. (2024). AI-powered VR for enhanced learning compared to traditional methods. *Electronics*, 13(23), 4787. <https://doi.org/10.3390/electronics13234787>
- Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches*. Sage Publications
- Dai, K., & Liu, Q. (2024). Leveraging artificial intelligence (AI) in English as a foreign language (EFL) classes: Challenges and opportunities in the spotlight. *Computers in Human Behavior*, 108354. <https://doi.org/10.1016/j.chb.2024.108354>
- De la Vall, R. R. F., & Araya, F. G. (2023). Exploring the benefits and challenges of AI-language learning tools. *International Journal of Social Sciences and Humanities Invention*, 10(01), 7569-7576. doi: 10.18535/ijsshi/v10i01.02
- Fahmi, M. A., & Cahyono, B. Y. (2021). EFL students' perception on the use of grammarly and teacher feedback. *JEES Journal of English Educators Society*, 6(1), 18-25. doi: <https://doi.org/10.21070/jees.v6i1.849>
- Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record*, 103(6), 1013-1055. <https://doi.org/10.1111/0161-4681.00141>

- Holmes, W., Anastopoulou, S., Schaumburg, H., & Mavrikis, M. (2018). *Technology enhanced personalised learning: Untangling the evidence*. Robert Bosch Stiftung.
- Holmes, W., Bialik, M., & Fadel, C. (2021). *Artificial intelligence in education: Promises and implications for teaching and learning*. The Center for Curriculum Redesign.
- Hwang, G. J., Xie, H., Wah, B. W., & Gašević, D. (2020). Vision, challenges, roles and research issues of artificial intelligence in education. *Computers & Education: Artificial Intelligence*, 1, 100001. <https://doi.org/10.1016/j.caeai.2020.100001>
- Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(2), 201–233. <https://doi.org/10.3102/0034654311403323>
- Jonäll, K. (2024). *Artificial Intelligence in Academic Grading: A Mixed-Methods Study*. University of Gothenburg
- Kalyuga, S. (2009). Instructional designs for the development of transferable knowledge and skills: A cognitive load perspective. *Computers in Human Behavior*, 25 (2), 332-338. <https://doi.org/10.1016/j.chb.2008.12.019>
- Karyuatry, L. (2018). Grammarly as a tool to improve students' writing quality: Free online-proofreader across the boundaries. *JSSH (Jurnal Sains Sosial dan Humaniora)*, 2(1), 83-89. <https://doi.org/10.30595/jssh.v2i1.2297>
- Khan, W. N. (2024). Ethical Challenges of AI in Education: Balancing Innovation with Data Privacy. *Journal of AI in Education: Innovations, Opportunities, Challenges, and Future Directions*, 1(1), 1-13. <https://www.researchcorridor.org/index.php/jaiie/article/view/238/226>
- Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic Inquiry*. Sage Publications.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson Education.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2018). *Artificial intelligence and the future of learning*. Institute of Education Press
- Nguyen, A., Kremantzis, M., Essien, A., Petrounias, I., & Hosseini, S. (2024). Enhancing student engagement through artificial intelligence (AI): Understanding the basics, opportunities, and challenges. *Journal of University Teaching and Learning Practice*, 21(6), 1-13. <https://doi.org/10.53761/caraaq92>
- Pokrivčáková, S. (2019). Preparing teachers for the application of AI-powered technologies in foreign language education. *Journal of language and cultural education*. doi : 10.2478/jolace-2019-0025
- Pollard, A. (2014). *Reflective teaching: Evidence-informed professional practice* (4th ed.). Continuum International Publishing Group
- Putra, R. P., & Pujiriyanto, P. (2025). The need analysis for AI-based applications to support teacher performance. *Journal of Innovation in Educational and Cultural Research*, 6(1), 116-124. <https://doi.org/10.46843/jiecr.v6i1.2100>
- Rahma, A., & Fithriani, R. (2024). The potential impact of using chat GPT on EFL students' writing: EFL teachers' perspective. *Indonesian EFL Journal*, 10(1), 11-20. <https://doi.org/10.25134/ieflj.v10i1.9222>
- Rane, N., Choudhary, S., & Rane, J. (2023). Education 4.0 and 5.0: Integrating artificial intelligence (AI) for personalized and adaptive learning. *Journal of Artificial Intelligence and Robotics*. 1 (1). <https://doi.org/10.61577/jaiar.2024.100006>

- Rochmat, C. S., Riza, R., & Murni, S. A. (2024). Artificial intelligence in education: Opportunities and challenges in improving learning efficiency in the society 5.0 era. *Progresiva: Jurnal Pemikiran Dan Pendidikan Islam*, 13(01), 91-100. <https://ejournal.umm.ac.id/index.php/progresiva/>
- Rodgers, C., & Raider-Roth, M. (2006). Presence in teaching. *Teachers and Teaching*, 12(3), 265-287. <https://doi.org/10.1080/13540600600627584>
- Sali, P., & Kecik, I. (2018). Challenges of first years of teaching in turkey: Voices of novice EFL teachers. *English Language Teaching*, 11(4), 117-131. <http://doi.org/10.5539/elt.v11n4p117>
- Scardamalia, M., & Bereiter, C. (2006). Knowledge building: Theory, pedagogy, and technology. In R. K. Sawyer (Ed.), *The Cambridge handbook of: The learning sciences* (pp. 97–115). Cambridge University Press.
- Selwyn, N. (2019). *Should robots replace teachers? AI and the Future of Education*. Polity Press.
- Septiani, A., Emiliyasi, R. N., & Rofi'i, A. (2019). The novice english teachers' experience: practices and challenges. *Academic Journal Perspective: Education, Language, and Literature*, 7(2), 109-118. <https://doi.org/10.33603/perspective.v7i2.2708>
- Steffy, B. E., Wolfe, M. P., Pasch, S. H., & Enz, B. J. (2000). *Life cycle of the career teacher*. Corwin Press.
- Starcic, A. I. (2019). Human learning and learning analytics in the age of artificial intelligence. *British Journal of Educational Technology*, 50(6), 2974–2976. doi: 10.1111/bjet.12879
- Tran, N. D. (2021). Job challenges faced by novice EFL high school teachers. *International Journal of Science Management Studies*, 4, 98-107. doi: 10.51386/25815946/ijms-v4i5p109
- Wong, H. K., & Wong, R. T. (2009). *The first days of school: How to be an effective teacher* (4th ed.). Harry K. Wong Publications.
- Woolf, B. P. (2010). *Building intelligent interactive tutors: Student-centered strategies for revolutionizing E-learning*. Morgan Kaufmann
- Xie, H., Chu, H. C., Hwang, G. J., & Wang, C. X. (2019). Trends and development in artificial intelligence in language learning: A systematic review. *Interactive Learning Environments*, 27(8), 1011-1027. <https://doi.org/10.1016/j.compedu.2019.103599>
- Yamijala, S. M. S., Chodisetty, R. M., Chakravorty, C., & Sai, K. P. (2025). AI-powered learning revolutionizing smart education with personalized learning styles. In *Internet of Behavior-Based Computational Intelligence for Smart Education Systems* (pp. 191-212). IGI Global.
- Yuan, L., & Liu, X. (2025). The effect of artificial intelligence tools on EFL learners' engagement, enjoyment, and motivation. *Computers in Human Behavior*, 162, 108474. <https://doi.org/10.1016/j.chb.2024.108474>
- Yusupova, S. (2023). Advantages of artificial intelligence in teaching english. *Academic Research in Educational Sciences*, 4(CSPU Conference 1), 468-474. <https://cyberleninka.ru/article/n/advantages-of-artificial-intelligence-in-teaching-english>
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education-where are the educators?. *International Journal of Educational Technology in Higher Education*, 16(1), 1-27. <https://doi.org/10.1186/s41239-0190171-0>