

Review of Artificial Intelligence-Based Tools in EFL Classroom

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Abstract:

The burgeoning interest in the role of Artificial Intelligence (AI) in education underscores its potential to redefine EFL classroom dynamics. Yet, the comprehensive integration and efficacy of AI tools remain underexplored. This paper systematically analyzes the application and impact of AI-based tools in enhancing EFL writing instruction. This paper outlines the dynamics of EFL classrooms, highlighting the role of technology, video materials, and literature circles in facilitating language acquisition. These elements are pivotal in crafting an interactive and engaging learning environment. Consequently, this paper proposes the following suggestions related to integrating AI in educational settings: First, leveraging AI to enhance teaching practices offers a more personalized educational experience that adapts to the diverse needs of students while adhering to the foundational aspects of traditional pedagogy. Second, incorporating AI tools into course design fosters personalized learning environments, catering to students' varied preferences and requirements, thereby markedly boosting their engagement and academic achievements. Lastly, it is crucial to prioritize ethical considerations and data privacy in deploying AI technologies, necessitating comprehensive data protection measures and ethical guidelines to oversee AI's application in educational contexts.

Keywords: Artificial Intelligence; AI-based learning tools; English teaching; EFL classroom

1. Introduction

Artificial Intelligence (AI) has gradually penetrated all areas of society, leading to profound changes in the economic structure, social life, and work style. In education, artificial intelligence is also reshaping the shape of education. Artificial intelligence technology is applied in all kinds of educational scenarios, and when it begins to integrate into the English classroom, it brings profound changes to English teaching. Artificial intelligence provides unlimited possibilities for the optimization of the classroom. Also, it produces some drawbacks when combined with contemporary teaching, and the increasingly widespread use of computers does not seem to achieve the expected results. The use of Artificial Intelligence in the English classroom is a hot issue. This study focuses on the integrated impact of AI tools on students and teachers within the EFL writing landscape based on the current situation of English classroom teaching. By offering an in-depth analysis of AI's current state and potential future trajectories in EFL writing instruction, this paper aims to catalyze informed debates and drive forward technological innovations in pedagogical practices.

2. Characteristics and Current Situation of EFL

2.1 Characteristics of EFL Classroom

The EFL classroom is where English as a Foreign Language learners (EFL) engage in various activities to improve their language skills [1].

The EFL classroom is characterized by two things: first, student participation and autonomy play an important role in second language acquisition, and Corder argues that language output positively affects language acquisition. In language acquisition, learners constantly make assumptions about the target language and must revise them continuously as they use it [2]. The achievement of language learning depends on the student's participation. According to the Affective Filter Hypothesis in Krashen's Monitor Theory, learners who feel relaxed and happy when learning in their favorite environment will make language acquisition easier. When learners are given a certain degree of autonomy in the classroom, they may feel more enthusiastic and focused [3].

The second is the integration of information technology

and foreign language teaching. Over the past few years, the way language is taught has changed dramatically by introducing communicative methods and technological tools. In recent years, the use of technological aids, especially those related to information technology, has increasingly become a common classroom feature. Undoubtedly, IT-based teaching will play a more central role in the foreign language classroom in the future.

2.2 Current Situation of EFL Classroom

With the rapid development of modern information technology, the application of information technology, such as PPT and video materials, has become very common in the English classroom.

Technology, such as digital dictionaries and PowerPoint presentations, supports EFL teachers in their teaching practice, but it also presents challenges when teachers are not ready for its use [4]. Video materials are widely used in EFL teaching for non-English majors in Chinese universities and colleges, and they offer advantages such as facilitating EFL teaching for non-English majors [5].

Information technology in the EFL classroom boosts autonomous learning, maximizes targeted outcomes, motivates learners, and helps them improve their performance in the EFL classroom. However, using ICT without careful planning and well-defined objectives will more likely waste time and effort [4].

At the same time, teachers have been trying various new teaching modes, such as flipped classrooms, online and offline blended teaching, project-based teaching, and so on, but follow traditional patterns.

Research has shown that teacher talk in EFL classrooms often follows the IRF pattern [6]. R is the student's response, F is the instructor's feedback, and I refers to the teacher starting the conversation, usually with a question. IRF is frequently utilized in conjunction with L1 to clarify complicated structures, introduce cultural knowledge, and enhance the learning environment in the classroom[6]. Additionally, the favorable and unfavorable characteristics of EFL teachers perceived by students can affect attitudes and motivations toward language learning [7].

In second language acquisition, the teacher's discourse is a model for using the target language and organizing and guiding the EFL classroom. Adopting technology in the EFL classroom allows the transformation from a teacher-centered instructional environment to a learner-centered, communicative-based instructional environment [8]. The interactional patterns and speech acts that emerge in EFL classrooms can potentially influence the interactional behavior of both teachers and students [9].

3. The Impact of AI on English Classroom Teaching

3.1 The Reform of Teaching Methods

The application of Artificial Intelligence in teaching methodologies is undergoing a student-centered transformation, greatly improving the quality of teaching and learning through personalized experiences, instantaneous feedback, and interactive environments.

AI's ability to analyze vast amounts of data enables the creation of personalized learning experiences tailored to each student's needs, preferences, and proficiency levels. Jiang elucidates how AI technologies, such as intelligent tutoring systems and adaptive learning platforms, are instrumental in customizing the learning content and pace to match the learner's unique profile. By continuously monitoring the learner's progress, AI systems identify strengths and areas for improvement, thereby facilitating a more targeted and efficient learning process [10].

The role of AI in boosting language learning efficiency is evident through immediate feedback, personalized practice tasks, and interactive language learning environments. As the study on automated writing assistance tools highlights, AI-driven platforms significantly improve students' writing skills by offering real-time corrective feedback on grammar, punctuation, and style [11]. This accelerates the language learning curve and enables educators to dedicate more time to addressing complex learning needs, optimizing the overall teaching and learning experience.

3.2 Evolution of Teacher Responsibilities

As AI permeates the educational sector, teachers' responsibilities have evolved to emphasize strategic advisory and facilitating learning. Teachers should empower students to leverage technology for self-directed learning and critical thinking.

The advent of Artificial Intelligence (AI) in the English as a Foreign Language (EFL) classroom has revolutionized the instructional design and classroom management. AI tools, such as automatic evaluation and intelligent tutoring systems, have enhanced learners' writing and speaking skills. These technologies leverage big data and natural language processing to provide real-time feedback and suggestions for improvement, thereby helping students refine their language abilities. For instance, AI-driven English writing evaluation tools like Criterion and Pigai have been demonstrated to significantly enhance students' writing accuracy and motivation. This transformation underscores the potential of AI to augment the educational

process, enabling educators to design more effective lessons and manage classrooms with greater efficiency. The findings of Jiang highlight how AI applications in EFL teaching have facilitated a shift towards more personalized and effective educational practices [10].

The adoption of AI in education has led to a pivotal change in the role of teachers. By integrating AI tools into the learning environment, teachers have evolved from traditional knowledge transmitters to facilitators of learning and strategic advisors. This new role emphasizes guiding students in leveraging AI tools for autonomous learning, fostering their critical thinking ability, and enhancing their problem-solving skills. Such a shift is crucial for developing independent learning capabilities among students, with teachers focusing on personalized needs and encouraging self-motivated learning. Liu et al. support this view, illustrating how AI can assist in deepening the educational experience by promoting active learning and critical thinking, thereby transforming the conventional teacher-student dynamic [12].

3.3 Improvement of Student Learning Experience

Recent advancements in AI tools have profoundly enriched the student learning experience in EFL teaching, notably through enhancing language skills and improving learner motivation and engagement.

Recent research indicates that AI tools significantly enhance language skills within EFL teaching environments. According to Abu Ghali and colleagues, Intelligent Tutoring Systems improve grammar and reading comprehension by offering instant feedback and personalized materials [13]. Similarly, Adolphs and his team highlighted the role of AI chatbots in boosting speaking, listening, and writing skills [14]. These studies emphasize the importance of personalized guidance based on the learner's progress and English proficiency, showcasing the effectiveness of continual learning models in teaching.

The role of AI tools in fostering student motivation and engagement has also been positively evaluated. Ahn and Lee, in their study published in the *British Journal of Educational Technology*, Ahn and Lee demonstrated how AI chatbots improve the learning experience by offering a seamless user interaction and enhancing the learners' confidence and motivation through an updated knowledge base [15]. Furthermore, Abu Ghali and colleagues found that AI tools significantly increase EFL learners' motivation by recognizing and categorizing learners' emotional states and providing appropriate emotional support [13]. These findings affirm the significant role of AI tools and

systems in enriching the English learning experience, particularly through personalized instruction and motivation enhancement. Integrating AI technology in EFL teaching is crucial for future educational advancements.

3.4 Innovative Approaches to Educational Assessment

The introduction of AI into educational settings has revolutionized the assessment process, making real-time feedback and personalized assessment feasible and highly efficient, enhancing both the precision and effectiveness of language learning evaluations.

The advent of AI in educational settings has made real-time feedback and personalized assessment possible and increasingly effective. According to research by Jiang R., AI technologies, by leveraging algorithms that adapt to individual learning paces and styles, offer students personalized feedback on their language learning progress [10]. This is made feasible through integrating natural language processing (NLP) and machine learning (ML), which analyze students' inputs and provide immediate, tailored feedback.

For instance, AI applications in language learning platforms can assess a student's written or spoken response in real-time, offering corrections, suggestions, and even adaptive learning paths based on the individual's performance. This personalized approach is instrumental in fostering an engaging learning environment that caters to the unique needs of each student, significantly enhancing the learning experience.

As AI facilitates, the shift towards data-driven assessments offers profound insights into students' learning processes, enabling educators to refine their teaching strategies for improved outcomes. A study by Qiao et al. in the Chinese EFL context illustrates how AI-based language learning platforms augment students' speaking skills and promote self-regulation [16]. Through the detailed analysis of student data, teachers can identify areas of weakness across the classroom or in individual students, allowing for more targeted instruction.

Moreover, incorporating AI in educational assessment provides a scalable solution for evaluating student performance, especially in large or online classes. Efficiently managing and analyzing vast amounts of data can lead to a more objective and comprehensive understanding of student learning, facilitating personalized education at scale.

4. Suggestion

4.1 Teaching Practice

Integrating AI into teaching practices enhances the educational experience, offering customized learning paths that address students' diverse needs. At the same time, it preserves the core principles of traditional pedagogy.

Combining AI tools and traditional teaching methodologies can lead to a more dynamic and effective educational experience. AI tools can offer personalized learning paths and instant feedback, while traditional methods provide essential human interaction and context-based learning [17]. This integrated approach can help in catering to diverse learning styles and needs. Schools should encourage teachers to blend these approaches, facilitating a more engaging and comprehensive learning environment.

Educators must stay abreast of the latest advancements in AI tools and teaching strategies. These programs should cover the technical aspects of AI tools and pedagogical strategies for their optimal use. By investing in teacher training, educational institutions can ensure that their staff is equipped to leverage AI tools to enhance learning outcomes.

4.2 Course Design

Using AI tools in course design allows for a personalized learning environment. This approach meets students' varied needs and preferences, significantly improving their engagement and learning outcomes.

Adopting a student-centered approach in course design is recommended, leveraging AI tools to support personalized learning paths. Educators can cater to individual learning styles and needs by doing so, making learning more engaging and effective. AI tools, such as adaptive learning systems, can analyze students' learning behaviors and tailor the educational content accordingly. This personalized approach enhances learning outcomes and fosters a sense of autonomy and motivation among students.

Emphasizing interdisciplinary teaching methods that integrate language learning with technological skills is also crucial. This approach encourages applying language skills in real-world scenarios, enhancing the relevance and utility of language education. Educators can provide a more holistic and practical education by bridging the gap between language learning and technology.

4.3 Ethical Considerations and Data Privacy

Ethical considerations and data privacy are paramount in integrating AI into educational processes, requiring the development of robust protections for student data and clear

ethical frameworks to guide AI's application in learning environments.

When integrating AI tools into the educational process, it's paramount to ensure the privacy and security of student data. Using AI in classrooms can significantly enhance learning experiences but also raises concerns regarding data protection. Educators and technology providers should prioritize data encryption, anonymization, and secure storage to safeguard student information against unauthorized access. Additionally, clear guidelines on data usage and consent must be established and communicated to all stakeholders, ensuring that the exploitation of personal data is strictly for educational purposes [18].

The development and enforcement of ethical guidelines in the application of AI in EFL classrooms is critical for fostering an environment of trust and integrity. These guidelines should address bias, fairness, transparency, and accountability in AI algorithms and data handling. By establishing ethical principles, educational institutions can navigate the complexities of using AI tools responsibly. Educators, developers, and policymakers must work collaboratively to create these guidelines, ensuring that AI technology enhances the learning experience without compromising ethical standards [19].

5. Conclusions

The emphasis on student participation and autonomy in EFL classrooms is key to effective language learning. This environment encourages learners to actively engage with the language, constantly revising their understanding. A positive and autonomous learning atmosphere is crucial for easier language acquisition, highlighting the importance of learner engagement and comfort. Additionally, integrating information technology into language teaching has revolutionized teaching methods, making digital tools integral to the modern EFL classroom. These technologies support autonomous learning and enhance student engagement, though their impact is maximized when used with clear objectives and careful planning. Teaching methodologies continue to evolve, with innovations like flipped classrooms and blended learning, yet they often remain grounded in traditional practices. The use of interactive patterns such as the IRF pattern and strategies for clarifying complex ideas and enriching the learning environment underscores the shift towards a more learner-centered, communicative approach in EFL education. This transition is facilitated by the thoughtful integration of technology and a focus on interactive classroom dynamics. These advancements underscore AI's significant role in enhanc-

ing the quality of English language education, fostering a more interactive, personalized, and effective learning experience that prepares students for future challenges. Future research should focus on the seamless integration of AI within teaching practices and course design, championing a student-centered pedagogy that fosters personalized and engaging learning experiences. These researches promise to refine educational methodologies, bolster inclusivity and flexibility, and equip stakeholders for the digital era's challenges, prioritizing ethical standards and data security.

Author Contribution

All the authors contribute equally, and their names are listed alphabetically.

References

- [1]Al-Issa A S, Al-Qubtan R. Taking the floor: Oral presentations in EFL classrooms. *Tesol Journal*, 2010, 1(2): 227-246.
- [2]Diane L. A general study on second language acquisition. Beijing: Foreign Language Teaching and Research Press, 2000.
- [3]Corder S. Error analysis and interlanguage. Oxford: Oxford University Press, 1991.
- [4]Azmi N. The benefits of using ICT in the EFL classroom: From perceived utility to potential challenges. *Journal of Educational and Social Research*, 2017, 7(1): 111-118.
- [5]Hermagustiana I, Rusmawaty D. The use of technology for vocabulary instruction in EFL classrooms: Support and challenges. 2017 International Conference on Education and Technology (2017 ICEduTech). Atlantis Press, 2017: 137-143.
- [6]Jing N, Jing J. Teacher talk in an EFL classroom: A pilot study. *Theory and Practice in Language Studies*, 2018, 8(3): 320-324.
- [7]Chen J. Favorable and unfavorable characteristics of EFL teachers perceived by university students of Thailand. *International Journal of English Linguistics*, 2012, 2(1): 213.
- [8]Mehring J. Present research on the flipped classroom and potential tools for the EFL classroom. *Computers in the Schools*, 2016, 33(1): 1-10.
- [9]Lucero Babativa E. Asking about content and adding content: Two classroom interaction patterns. *Colombian Applied Linguistics Journal*, 2012, 14(1): 28-44.
- [10]Jiang R. How does artificial intelligence empower EFL teaching and learning nowadays? A review of artificial intelligence in the EFL context. *Frontiers in Psychology*, 2022, 13: 1049401.
- [11]Alharbi W. AI in the foreign language classroom: A pedagogical overview of automated writing assistance tools. *Education Research International*, 2023, 2023: 1-15.
- [12]Liu Y, Chen L, Yao Z. The application of artificial intelligence assistant to deep learning in teachers' teaching and students' learning processes. *Frontiers in Psychology*, 2022, 13: 929175.
- [13]Abu Ghali M J, Abu Ayyad A, Abu-Naser S S, et al. An intelligent tutoring system for teaching English grammar. 2018.
- [14]Adolphs S, Clark L, Dörnyei Z, et al. Digital innovations in L2 motivation: Harnessing the power of the Ideal L2 Self. *System*, 2018, 78: 173-185.
- [15]Ahn T Y, Lee S M. User experience of a mobile speaking application with automatic speech recognition for EFL learning. *British Journal of Educational Technology*, 2016, 47(4): 778-786.
- [16]Qiao H, Zhao A. Artificial intelligence-based language learning: illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, 2023, 14: 1255594.
- [17]Seo K, Tang J, Roll I, et al. The impact of artificial intelligence on learner-instructor interaction in online learning. *International Journal of Educational Technology in Higher Education*, 2021, 18: 1-23.
- [18]Stahl BC, Wright D. Ethics and privacy in AI and big data: Implementing responsible research and innovation. *IEEE Security & Privacy*, 2018, 16(3): 26-33.
- [19]Nguyen A, Ngo H N, Hong Y, et al. Ethical principles for artificial intelligence in education. *Education and Information Technologies*, 2023, 28(4): 4221-4241.