



Integrating AI Tools into Teaching Practice: Unleash the Potential of Your AI Co-pilot

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Abstract

In the rapidly evolving landscape of education, the integration of artificial intelligence (AI) tools has become increasingly significant. The teacher, who resembles the captain, possesses expertise, experience, and strategies in guiding learners through their educational journey. Meanwhile, the AI, serving as the co-pilot, provides valuable support, assists in navigating through teaching practice, and enhances the overall efficiency and effectiveness of the teaching and learning process. Similar to how a captain and co-pilot work in tandem to ensure a swift and steady flight, the collaboration between teacher and AI enables a synergistic approach to education, ultimately propelling learning to new heights. By effectively utilizing AI tools, teachers can unlock new dimensions of teaching and learning, enabling a more flexible, interactive, and impactful educational experience for students, therefore enhancing learning outcomes. This study will delve into the possibilities and benefits of incorporating various AI tools (e.g. ERNIE Bot, ElevenLabs, ClassPoint) into classroom practice, assisting teachers in the journey of language teaching and learning in diverse and innovative ways. Through a combination of authentic examples and practical strategies, this study will provide insights into unleashing the potential of AI tools to optimize teaching practice, facilitate language acquisition, foster student interaction and collaboration, and empower education into the future.

Keywords: AI, learning and teaching, efficiency and effectiveness, interaction and collaboration

1. Introduction

With the continuing development of big data, algorithms evolution, and computer science, artificial intelligence (AI) has undergone remarkable progress in various industries worldwide, and the education landscape is no exception. It is almost impossible to stem the tide of the ever-evolving artificial intelligence technology. Therefore, the integration of AI into the classroom has become increasingly significant and has the potential to reshape the way students learn and teachers teach in various ways, including providing students with personalized and adaptive learning experiences, equipping teachers with effective tools for monitoring and assessing student progress, as well as refining their instruction approaches [1]. The transformative impact of AI on education is not just limited to the tools and technologies it brings into the classroom; it also redefines the roles and relationships within the educational ecosystem. As we embrace the integration of AI in teaching and learning settings, it is crucial to understand how these new dynamics may enhance traditional pedagogies and empower both teachers and students. The teacher, who resembles the captain, possesses expertise, experience, and strategies in guiding learners through their educational journey. Meanwhile, the AI, serving as the co-pilot, provides valuable support, assists in navigating through the teaching plan, and enhances the overall efficiency and effectiveness of the teaching and learning process. Similar to how a captain and co-pilot work in tandem to ensure a swift and steady flight, the collaboration between the teacher and AI enables a synergistic approach to education, ultimately propelling learning to new heights.

By effectively utilizing AI-enhanced technologies, teachers can unlock new dimensions of teaching and learning, enabling a more flexible, interactive, and impactful educational experience for students, therefore enhancing learning outcomes. This symbiotic relationship between human intuition and artificial intelligence is the cornerstone of modern education, where the teacher's deep understanding of pedagogy and the student's needs is complemented by the AI's capability to analyze data, predict outcomes, improve feedback mechanisms, and personalize the learning path.

2. The Role of AI Tools in Education

Teachers play a pivotal role in the academic trajectory of their students. Their daily responsibilities are multifaceted, encompassing lesson planning, crafting learning activities, selecting level-appropriate



resources, delivering onsite or online lessons, guiding students through various tasks, monitoring students' performance and progress, adjusting teaching methods flexibly, and offering feedback that is both constructive and diagnostic. With the advent of AI technology, teachers now have access to tools that can transform the dynamics of teaching and learning, offering significant support across a spectrum of educational tasks.

Celik et al. (2022) suggest that the integration of AI into educational systems could alleviate the pressures faced by teachers and streamline their workload [2]. Chen et al. (2020) explore the beneficial effects of AI on educational processes, highlighting improvements in administrative efficiency, the quality of instruction, and the overall student learning experience [3]. AI-enabled tools have the substantial potential to allow teachers to craft effective plans, automate mundane tasks associated with teaching, support classroom management, gain insights into student behavior and preferences, bring innovativeness to pedagogical approaches, provide engaging learning experiences, increase flexibility in instructional delivery, as well as improve learning outcomes and academic performance by providing students with tailored feedback. By assuming some of the burdensome aspects of teaching, AI allows teachers to focus more on creative and interactive aspects of their profession. This includes developing engaging lesson plans, implementing dynamic teaching strategies, orchestrating student-centered activities, and fostering meaningful interactions with students. Ultimately, this allows an elevated quality of education and a more nurturing learning environment.

From the perspective of students, AI serves not only as an aid in their educational journey but also as a catalyst for self-directed learning. It promotes an inclusive and accessible learning environment that adapts to the individual needs of each student. Studies have shown that AI can facilitate personalized learning experiences and adaptive learning, lead to better academic performance, improve teacher-student rapport, as well as foster student engagement and collaboration [3-7]. The integration of AI tools is a game-changer in education, as it shifts the paradigm from a one-size-fits-all approach to one that is customized to the unique learning trajectories of individual students. Students are encouraged to take an active role in their learning process, becoming more than passive recipients of knowledge. Personalized education empowers students to drive their learning at their own pace and to explore their interests and passions more deeply.

3. Challenges and Solutions

AI technology, while presenting numerous possibilities in education by automating mundane tasks associated with teaching, personalizing student learning experiences, and enhancing the educational process, also poses several challenges. These challenges necessitate a deliberate and strategic approach to integrating AI within teaching and learning scenarios.

One of the foremost challenges is the digital disparity, where unequal access to technology can exacerbate existing educational disparities. Addressing this requires the widespread availability and robust functionality of essential utilities, such as the Internet, and the informed stewardship of relevant stakeholders to guarantee equitable access to technological resources for all students [8].

Another key concern is the proficiency of teachers in digital literacy, with a specific focus on AI literacy, which is fundamental for the successful implementation of AI in education. As highlighted by Kartal (2023) and Ng et al. (2023), teachers need comprehensive knowledge and a diverse skill set to adeptly employ AI-driven technologies [9-10]. Those who are not well-versed in AI may find it challenging to incorporate this technology into their teaching practices, thus underscoring the importance of targeted support and professional development initiatives. It is imperative for teachers to have a comprehensive understanding of the AI systems they utilize, as well as to be keenly aware of the strengths and weaknesses that these technologies bring to the educational setting. The effective deployment of AI should also align with educational objectives and be adapted to meet the distinct needs of learners. To facilitate this, professional growth opportunities should be established to furnish teachers with adequate digital competencies in an AI-enriched educational landscape.

Additionally, there is a risk of students misusing AI and falling prey to disinformation, especially in terms of dishonesty during assessments and astray with inaccurate information [7]. An over-reliance on AI might impede the development of critical, creative, and complex problem-solving skills that are indispensable for learning [11]. It may also result in students gaining a superficial understanding of subjects, devoid of the desired depth of knowledge and long-term retention of information that are essential for academic growth. To avoid these pitfalls, it is vital to establish and enforce a set of ethical guidelines for the use of AI in academia. Students should be motivated to gain a fundamental understanding of the topic and develop their higher-order thinking skills when assessing AI-generated



materials. With proper practice and guidance, students can learn to interact with AI systems effectively, which can contribute to greater academic success and better readiness for a future where AI plays an increasingly significant role in professional and personal endeavors.

4. Integrating AI Tools into Teaching Practice

The integration of AI into education represents more than a technological leap but heralds a paradigm shift in teaching and learning. These tools have revolutionized the teaching process, extending their utility across the spectrum of educational tasks. From the initial planning and organization of curriculum to the delivery of instruction and subsequent assessment of student performance, AI has become an indispensable asset in the modern classroom. To harness the full potential of AI tools, teachers should comprehend their functionalities, identify their meaningfulness, match them with learning objectives, grasp pedagogical framework, as well as analyze and learn from the AI outputs [12]. The subsequent sections will explore three scenarios for AI integration in the classroom, offering insights into innovative strategies for leveraging AI's capabilities.

4.1 Scenario One: ERNIE Bot–Streamlining Educational Tasks with Large Language Models

Teachers typically devote considerable time and effort to essential, yet labor-intensive tasks such as curriculum design, ideas generation, class activity crafting, etc. These endeavors, while vital for effective teaching, can be a drain on teachers' limited resources. However, the advent of Large Language Models (LLMs) presents an opportunity to revolutionize this aspect of teaching.

LLMs, exemplified by ERNIE Bot, have the potential to greatly benefit education by assisting teachers and students alike. Through the strategic integration of any LLM into teaching and learning settings, tasks traditionally characterized by complexity and time intensity can be rendered more straightforward, thereby enhancing the efficiency and productivity of teaching endeavors [13]. For instance, crossword puzzles, often utilized by teachers for session recaps and knowledge consolidation, serve to broaden students' vocabulary, refine spelling proficiency, and foster social cohesion. Nonetheless, the manual creation of word lists for such activities can be tedious and laborious. Fortunately, AI tools have come to the rescue, significantly improving work efficiency by automating these tasks. Teachers are no longer constrained to manually extract parts of speech or definitions from online dictionaries when preparing worksheets. The integration of ERNIE Bot or similar chatbots (e.g. ChatGPT) could streamline the creation of quizzes and other educational materials, facilitated by prompt-engineering, and exemplify the collaborative potential between teachers and AI in innovating and enhancing teaching methodologies. With the assistance of ERNIE Bot, teachers can automate and streamline their routine tasks, thereby allocating extra time for direct student engagement and enrichment activities. This opens avenues for teachers to move beyond conventional practices by experimenting, collaborating, and exploring the full potential of AI tools, thus fostering innovation within the classroom. Simultaneously, students may employ ERNIE Bot to support their learning, especially in the absence of immediate teacher availability. Within moments, students can access a selection of high-quality responses to their inquiries and utilize the AI model to assist them in the analysis and generation of examples in the target language or receive real-time feedback on their language output, thereby accelerating their learning progress. For instance, by providing relevant and contextually appropriate examples, AI can help students better understand language structures, vocabulary, and usage. The integration of LLMs, such as ERNIE Bot, thus boosts accessibility and inclusivity in education, creates personalized learning experiences, and offers more diverse and tailored learning opportunities for students. Overall, the adoption of LLMs represents a significant step forward in leveraging technology to streamline educational tasks and enhance the educational process for both teachers and learners.

4.2 Scenario Two: ElevenLabs–Facilitating Language Immersion by Text-to-Speech Innovation

Immersive language learning is widely recognized for its effectiveness in achieving fluency, as it provides learners with a natural and contextually rich environment for language acquisition. Studies, such as those by Cummins (2009), Kinginger (2011), and Wilkinson (1998), have shown a correlation between exposure to the target language and increased proficiency [14-16]. While learning the target language in its native country is highly effective, it may not always be financially feasible. To address this, the focus can shift towards enhancing the target language's presence in learners' lives and



amplifying meaningful language input. This leads us to the innovative solution offered by ElevenLabs, an advanced voice synthesis AI that simplifies the conversion of text into live speech. ElevenLabs is a user-friendly tool that eliminates the necessity for sophisticated recording equipment, professional vocal talent, or extensive time investment. To use Eleven Labs, users simply copy and paste their written text into the designated input box, and within seconds, the AI synthesizes the voice and saves the spoken audio as an MP3 file [17]. This feature is particularly beneficial for educational purposes, such as creating voiceovers for educational videos and podcasts, developing virtual assistants, and enriching digital learning resources. ElevenLabs plays a crucial role in making information more accessible, as it empowers language teachers with a robust auditory tool to facilitate authentic and comprehensive language input, particularly in listening skills. This helps students bolster information retention and improve language comprehension, benefiting students in the long term [18]. The high-quality speech synthesis from ElevenLabs is instrumental in mastering the nuances of pronunciation, intonation, and rhythm of languages, presenting a reliable and consistent model for learners to emulate [19]. ElevenLabs also presents a unique opportunity for language learners, particularly those who have the auditory learning style, to immerse themselves in the target language. By leveraging this text-to-speech (TTS) technology, students can access and listen to any textual materials, which significantly amplifies their language exposure [19]. The effectiveness of language learning is influenced not only by the quantity of input but also by the quality, diversity, and complexity of the language input they receive. To facilitate this, teachers can strategically use ElevenLabs to curate a variety of engaging activities by balancing a mix of comprehensible input and meaningful output. These activities can range from listening exercises that focus on specific language structures, to more open-ended tasks that encourage creative use of the language. By doing so, teachers can tailor to learners' evolving needs, optimize language immersive experiences, provide rich linguistic input, and unlock their learning potential.

4.3 Scenario Three: ClassPoint–Enhancing Interaction via Classroom Response Systems

Language teachers are often confronted with the ongoing challenges of aligning the curriculum taught to ESL/EFL learners with the language skills they acquire and the proficiency they can demonstrate. This discrepancy can be addressed through a learner-centered approach, which involves actively engaging students, closely monitoring their process, and scaffolding them when required. Despite language teachers' best efforts to foster participation, some learners may remain reluctant to practice and engage with the target language. This situation may happen due to many reasons, including limited language proficiency, lack of confidence, absence of motivation, anxiety, introversion and timidity, fear of embarrassment, and apprehension of committing errors, among others [20-25].

To enhance student engagement and shift the classroom paradigm from teacher-centered to learner-centered, Classroom Response Systems (CRSs) offer a promising solution. These systems stimulate interaction and collaboration among students and with the instructor, thereby enhancing the efficiency of the learning process [26]. CRSs enable teachers to adapt their teaching methods, improve classroom dynamics and participation, assess students' understanding and development, respond to students' demands and interests, and provide 'live' feedback accordingly [27].

ClassPoint is a cloud-based CRS tool and one of the most interactive learning technology applications. It serves as an add-on for Microsoft PowerPoint, allowing teachers to create and deliver interactive presentations in class that include questions, polls, quizzes, and collaborative activities. In addition, the platform also streamlines the assignment of homework, real-time collection of student responses, and online monitoring of student progress. With ClassPoint, students are encouraged to be more active and involved in the learning process, increasing the effectiveness of teaching and learning in class [28]. The application allows teachers to seamlessly embed various interactive activities in their slides without juggling between applications during instruction [29]. Features such as on-the-spot quizzes, quick polls, trivia games, and leaderboards are designed to keep learners engaged and motivated with their learning, thereby enriching the learning experience. These features are especially beneficial for creating a more dynamic classroom, building rapport with students, elevating collaborative exchange, and accommodating students with specialized instructional needs.

5. Conclusion

The integration of AI into educational practices is not just a technological innovation but a transformative change in redefining the education landscape. As we venture further into this new era, it is crucial to adopt a discerning and strategic approach to AI's role in education. AI is not envisioned



to replace the traditional methods or diminish the importance of human educators but to act as a potent ally, enhancing the teaching and learning experience [30]. In this paradigm, AI assumes the supportive role of a co-pilot, designed to complement the expertise, experience, and strategies of teachers, who continue to steer the educational journey with the qualities of dedication, creativity, and inspiration. The irreplaceable human touch in teaching remains the cornerstone of education, with teachers motivating and guiding students through their academic journey [31]. AI, with its ability to provide tailored, engaging educational experiences and round-the-clock support, can significantly augment the efforts of teachers. It can offer individualized learning paths, facilitate interaction with the target language, and bolster language proficiency, while fostering fundamental 21st-century competencies, including critical thinking and problem-solving abilities. By integrating AI in a manner that respects and amplifies the role of human educators, we can forge a future where technology and human expertise converge. This synergy holds the potential to not only enrich the educational experience but also to unlock unprecedented opportunities for learners, propelling them towards new horizons of knowledge and understanding.

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