Integrating AI in Teaching:
An Action Research Study on Intelligent Evaluation in D Major at S Open University

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ABSTRACT

Since 2024, Chinese higher education has rapidly adopted smart education practices, integrating AI-enabled solutions in classrooms, tutoring, assessments, and support systems to foster adaptive learning environments. While elite institutions like Beijing Normal University and Huazhong University of Science and Technology have advanced intelligent classroom evaluations and academic early warning mechanisms, addressing the needs of over two million educators in non-elite institutions remains a challenge. This article explores "micro-empowerment" in AI-enhanced teaching through a case study of D majors at S Open University, focusing on practical applications like AI-assisted writing and automated grading. A pilot project for AI-empowered capstone assignments demonstrated the success of teaching reforms, showing high consistency between AI and human evaluations while reducing workloads. It highlights the need for scalable AI tools, robust training data, and educator-developer collaboration to advance inclusive and efficient teaching practices.

INTRODUCTION

In 2024, China higher education sector has rapidly embraced intelligent education practices, driven by advancements in generative Artificial Intelligence (AI) that gained traction in late 2022. This progress enabled institutions to integrate AI across classrooms, assessments, tutoring, and intelligent support systems, fostering more adaptive and efficient learning environments. A global comparison highlights

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that China's leadership in AI-driven education infrastructure, while other regions have taken different approaches. The European Union (UNESCO, 2020) prioritizes AI ethics and regulatory frameworks, exemplified by the EU AI Act, which ensures AI deployment in education. In the United States, AI is extensively used in personalized learning platforms, emphasizing adaptive learning models that cater to individual student needs. Meanwhile, developing countries face challenges in AI adoption due to infrastructural limitations, underscoring the digital divide in AI-enhanced education. These global perspectives emphasize the importance of localized AI strategies that balance technological advancement with ethical considerations.

For instance, Beijing Normal University has introduced an AI+ classroom, where AI+ signifies the deep integration of artificial intelligence across various industries. In education, this concept represents the seamless incorporation of AI to enhance teaching, learning, and evaluation. Similarly, Huazhong University of Science and Technology has developed intelligent academic early warning mechanisms. However, with over two million university educators – many working in non-elite institutions—scalable AI teaching applications are crucial to meeting diverse educational needs.

Guided by the philosophy of "micro-enablement" and the practical approach of "empowerment", earlier AI-enhanced teaching initiatives focused on practical applications, such as AI-assisted writing support and automated grading for the draft writing. However, AI's limitations—including misinformation risk, lack of clear understanding, and potential displacement of human judgment—must be addressed. One effective strategy is the adoption of human-in-the-loop (HITL) (Ray & Ray, 2024), where educators oversee and refine AI-generated content. Additionally, improving AI transparency and explainability can enhance trust and usability in educational settings. This chapter examines these applications within real teaching scenarios, offering educators practical insights for improving teaching evaluation practices. The objective is to provide accessible and effective strategies that empower educators to integrate AI while maintain ethical integrity and addressing AI's inherent challenges.

While AI offers significant opportunities, its integration in education also raises ethical concerns, such as bias in AI-generated content, data privacy, and the risk of diminishing human agency in teaching (Shank et al., 2019). Ensuring fairness and equity in AI-driven solutions is crucial, particularly in diverse educational settings. Biases in large language models can disproportionately impact students from underrepresented backgrounds, necessitating continuous oversight and refinement of AI algorithms. To mitigate these risks, institutions must establish robust ethical guidelines and transparent AI governance frameworks. Additional, educators should be trained in AI literacy to critically evaluate AI outputs and prevent over-reliance on automation in pedagogical decision-making.

As artificial intelligence (AI) becomes increasingly integrated into educational frameworks worldwide, ethical considerations—particularly regarding data privacy, algorithmic bias, and educational equity—must be paramount. The design of AI-driven tools needs to prioritize fairness and transparency to mitigate the risk of exacerbating existing inequalities in educational access, especially in varied global contexts where technological infrastructure differs significantly (Agarwal et al., 2024).

Formulation of the Problem

Since 2024, Chinese higher education has increasingly explored smart education practices, spurred by generative AI' emergence in late 2022. Applications include intelligent learning partners, smart classrooms, AI tutoring, and AI-driven assessments (Deeva et al., 2021; Dixson & Worrell, 2016; Zhang et al., 2024). Prominent examples are Beijing Normal University's intelligent evaluation system and