

Using Artificial Intelligence as a Learner-Centered Teaching Tool

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Need for the Study

In recent years, artificial intelligence (AI) has emerged not just as a technological innovation but as a pedagogical approach. As AI systems increasingly enter the daily lives of students, from search engines and recommendation systems to facial recognition and predictive analytics, the education system is challenged to shift from merely teaching about AI to engaging students in thinking with and through AI in meaningful ways (Hutson & Ceballos, 2023; Komasaawa & Yokohira, 2023). Yet, traditional teacher-centered instruction often fails to reflect the active, ethical, and critical thinking dispositions that AI integration demands. This calls for a paradigm shift toward learner-centered teaching, one that equips students with the agency, voice, and collaborative skills needed to navigate and shape AI-driven societies (Ahmed & Bilal, 2025; Hutson & Ceballos, 2023). Learner-centered teaching emphasizes active participation, co-construction of knowledge, and relevance to learners' lives (Weimer, 2013; Knobloch, n.d.; Komasaawa & Yokohira, 2023). When this philosophy intersects with AI, the result is a dynamic space where students not only learn how to function but also critically examine the implications for societal impact (Payne, 2019; Zawacki-Richter et al., 2019). The need for such approaches is not abstract. AI systems are not neutral tools; they reflect and amplify human intentions and data biases (Crawford & Paglen, 2021).

Connection to Literature

In exploring learner-centered teaching (LCT), AI can offer practical tools that can empower teachers to be more responsive, reflective, and inclusive in their teaching. At the core of LCT is a commitment to student agency, differentiated learning, and real-world relevance (Weimer, 2013; McCombs & Whisler, 1997). When thoughtfully integrated, AI enhances these dimensions by supporting personalization, facilitating timely feedback, and freeing up instructional time for deeper learning (Holmes et al., 2019; Ahmed & Bilal, 2025; Hutson & Ceballos, 2023). Effective use of AI in education should promote intelligence amplification, enabling educators to design environments where students better understand themselves as learners. AI must align with educational values such as curiosity, critical thinking, and autonomy (Holmes et al., 2021; Zawacki-Richter et al., 2019).

Implementation Strategy/How it Works

The authors have been involved in professional experiences related to the use of AI in education and have provided faculty with guidance on incorporating AI into their classrooms. These strategies are shared based on the authors' reflections and experiences for those who intend to implement AI in their classrooms. The following four-phase strategy provides a structured pathway for empowering educators to utilize AI in ways that enhance learner-centered assessment, support personalization, and uphold principles of equity and transparency. Phase 1 focuses on cultivating a shared understanding of AI's role in contemporary assessment practices.

Educators are invited to critically examine traditional assessment paradigms and consider how AI can support formative, authentic, and learner-centered assessment strategies. Ethical concerns, including algorithmic bias, privacy, and data misuse, are explored to foster a reflective stance on AI use.

In Phase 2, teachers embark on a transformative journey as they engage in guided training sessions focused on AI-powered assessment tools. These sessions are designed to be hands-on and collaborative, allowing educators to explore platforms such as Gradescope, Century Tech, Conker.ai, and Turnitin's AI-enhanced feedback in a supportive environment. As teachers interact with these AI systems, they gain experience interpreting the outputs, such as automated grades, personalized feedback, and data visualizations.

Phase 3 is achieved through intentional, collaborative curriculum design, student partnership, and the ethical, transparent use of AI, ensuring that assessment remains learner-centered, adaptive, and responsive to the needs of all students. In this phase, the integration of AI tools moves beyond experimentation to become a seamless part of student-centered assessment practices. This is achieved through collaborative curriculum co-design sessions, where educators work together to redesign units and assessments, incorporating AI-supported feedback and data visualization throughout the learning cycle.

In Phase 4, the focus shifts to ensuring the long-term sustainability and community building around AI-based assessment practices. In real-world educational settings, this is achieved by establishing structured professional learning communities and inquiry groups where educators regularly reflect on and evaluate the impact of AI-driven assessment on student learning and equity.

Results/Implications/Impact

Educators progress from initial awareness to skillful and ethical integration of AI into formative and summative practices. They develop increased confidence in using tools like Gradescope and Turnitin, enabling real-time feedback and instructional responsiveness. Notably, there is a shift toward learner-centered assessment, with AI supporting personalized feedback, self-assessment, and student goal-setting. Teachers become more critically reflective, addressing issues of algorithmic bias and student data privacy. As a result, assessment practices become more adaptive, inclusive, and ethically grounded. This strategy not only empowers educators to use AI meaningfully but also enhances students' learning experiences through transparency, equity, and active engagement.

Advice to Others

For others considering similar work, the advice is to teach first, then focus on technology. Starting with solid pedagogical foundations helps ensure educators first understand why AI is valuable within a learner-centered framework before exploring its practical applications. Create safe spaces for critical dialogue, experimentation, and reflection. Emphasize ethical literacy alongside technical skills, and center student voice in both assessment and tool design. Finally, build a supportive community where teachers can learn from one another.

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