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I-CReST 2025:060-031 – Mindful Machines, Mindful Teachers: The roles of Reflective Learning in AI-Driven Higher Education

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ABSTRACT

The rapid integration of generative artificial intelligence (GAI) tools such as ChatGPT into higher education brought significant shifts in teaching and learning practices. While these tools enhanced efficiency, personalization, and instructional innovation, they also presented pedagogical and ethical concerns related to academic integrity, cognitive overreliance, and digital equity. Building on the foundational work from the comparative analysis of Scopus, Academia, ResearchGate, Google Scholar and WOS (2021 to 2025), which highlighted educators' ambivalence toward AI adoption, this study expanded the discourse by embedding structured reflective learning as a pedagogical strategy in response to GAI use. Grounded in Reflective Practice Theory, Connectivism, and Transformative Learning Theory, the study employed a sequential mixed-methods design. Quantitative data were collected through surveys from 152 faculty members and 318 undergraduate students across three universities, capturing patterns of AI usage, self-efficacy, ethical perceptions, and reflective dispositions. Qualitative data were obtained from semi-structured interviews and reflective journals involving 30 purposively selected participants. A four-week structured intervention was implemented with experimental groups, incorporating reflective prompts, guided annotation of AI-generated outputs, and peer feedback sessions. Quantitative analysis revealed statistically significant improvements in participants' reflective thinking scores ($p < 0.01$), ethical awareness ($p < 0.05$), and confidence in pedagogical decision-making involving AI. Thematic analysis of qualitative data identified three core shifts: heightened critical awareness of AI's role, improved capacity to balance AI use with academic integrity, and increased collaboration around ethical teaching strategies. The study concluded that structured reflective learning provided a viable, scalable approach to cultivating responsible and pedagogically sound use of GAI tools in higher education. Findings offer practical recommendations for curriculum redesign, faculty development, and institutional policies. This research contributed meaningful insights to the ongoing efforts to integrate AI ethically and effectively in postsecondary education.

Keywords: Reflective learning; Generative AI; ChatGPT; Higher education; Teaching and learning