

Enhancing Student AI Literacy through an Integrated Generative AI Curriculum

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Abstract:

To prepare students for future AI-collaborative workplaces, higher education must cultivate AI literacy. This study evaluates a curriculum that integrated generative AI tools into a “Future Workforce” course to measure its impact on student AI literacy. Using a pre-test/post-test design, student AI literacy was measured before (week 8) and after (week 16) an intervention involving practical AI tasks, such as resume writing, with the Meta AI Literacy Scale (MAILS). Paired samples t-tests were used for analysis. Findings revealed a statistically significant improvement in overall AI literacy ($p < .05$), with mean scores increasing from $M=5.65$ to $M=6.50$. Significant post-test gains were observed in key sub-dimensions, including “AI Use/Application,” “AI Understanding,” “AI Creation,” and “AI Ethics”. Notably, constructs with low initial scores, such as “AI Creation” and “AI Learning,” showed marked improvement. This study confirms that integrating hands-on generative AI applications into curricula is an effective strategy for enhancing students’ AI literacy. This pedagogical model offers a practical approach for equipping students with essential skills for the future technology-driven workforce.

Keywords:

AI literacy, Generative AI, Higher education, Future workforce, Curriculum design.