

Enhancing College Student Learning: Leveraging Ai-Powered Tutoring Through Interdisciplinary Collaboration

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Abstract

With the rapid development and widespread accessibility of Artificial Intelligence (AI), it is crucial for college students to explore AI with appropriate guidance in order to better understand its ethical use, develop information literacy skills, and prepare for career readiness. Background of this case report: State University of New York (SUNY) is the largest and most comprehensive public university system in the United States. SUNY General Education Framework (2025) includes AI in Information Literacy as a required core competency that “students will demonstrate an understanding of the ethical dimensions of information use, creation, and dissemination, whether from traditional sources or emerging technologies, such as artificial intelligence” and “Students need to acquire information literacy appropriate to the demands of the 21st century, which includes applying all three learning outcomes of this core competency to various sources of information, including emerging technologies, such as artificial intelligence.” Meanwhile, at SUNY Brockport, despite the rapid growth and easy accessibility of AI tools, there is no policy regulating their use. However, the university librarians have developed a library site offering AI-related resources. Faculty have the autonomy to decide the extent to which their students are allowed to use AI, ranging from encouraging its use with reflection and appropriate citations, to imposing restrictions, and prohibiting its use entirely. It is urgent to provide students with opportunities to use AI, under appropriate guidance. Case presentation: This presentation will showcase an interdisciplinary collaborative project conducted by professors and students in Computer Science and Education at the State University of New York (SUNY) Brockport, the United States, aligned with the Technological Pedagogical Content Knowledge (TPACK) Framework. The project integrates an AI-powered tutoring application to enhance learning for college students. We will share the workflow, collaboration process, and implementation protocol for developing and using an AI application. In addition, student feedback, professor reflections, future study plans, and the project’s impacts and contributions to the field will be discussed, demonstrating AI’s potential to enrich educational experiences without replacing human instructors. Conclusion: Participants of the presentation will achieve the following learning outcomes: 1. Learn about an interdisciplinary collaborative project conducted by professors and students in Computer Science and Education on the use of AI in teaching. 2. Discuss the protocol and strategies for implementing an accessible and user-friendly AI-powered application to assist and improve college student learning. 3. Explore ways of using the AI-powered application to enhance student learning.

Keywords

Artificial Intelligence (AI), College Student, Learning, AI-powered Tutoring, Interdisciplinary Collaboration