
CULTIVATING RESEARCH SKILLS IN THE AGE OF AI: INTEGRATING GENERATIVE AI FOR ENHANCED LEARNING AND ASSESSMENT

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SUBTHEME: Assessment

PROBLEM

Higher education faces significant challenges with the integration of Generative Artificial Intelligence (GAI) in assessments. Concerns include unauthorized use, potential misinformation, inherent biases, equity issues and the need for enhanced student and staff digital literacy. There is a critical need to harness the potential of GAI to improve educational outcomes while effectively mitigating associated risks.

PLAN & ACTIONS TAKEN

In response to these challenges, we implemented proactive strategies in two large Science and Biomedical Science units, DEV2011 and BMS1021, to integrate GAI into our assessments.

GAI-Focused Tasks: DEV2011 students utilized GAI to develop discussion topics for reports on specific cell types, while BMS1021 students incorporated GAI tools in team-based projects, researching biology and planetary health topics, and creating scientific communication videos. Both courses emphasized iterative prompt engineering, enabling students to refine their GAI queries for improved output quality. In BMS1021, GenAI was also used for project ideation, and script generation, illustrating the comprehensive integration of AI in academic tasks and promoting sophisticated engagement with cutting-edge technology.

Source Verification: In both DEV2011 and BMS1021 courses, students engage with AI tools to enhance their learning and research skills. In DEV2011, the focus is on verifying AI-generated outputs using reputable sources like PubMed to ensure the accuracy and validity of information. Meanwhile, in BMS1021, students compare AI-generated summaries with manually written ones to assess the reliability of the AI tools. This dual approach of verification and comparison underscores the critical role of human oversight in leveraging AI for academic purposes, promoting a deeper understanding of the technology's capabilities and limitations.

Workshops and Training: Both units introduced an introductory interactive workshop on effective GAI use.

REFLECTION

Students in both units reflected on their use of GAI. DEV2011 students used Word comments to note GAI output accuracy, recognizing its brainstorming benefits but highlighting issues with reliability and outdated sources. BMS1021 students wrote reflections on GAI's impact, appreciating its efficiency and collaboration enhancement but noting drawbacks like reduced creativity and bias. These reflections improved their understanding of GAI's capabilities and limitations, enhancing digital literacy and collaborative skills.

The integration of GAI into assessments in DEV2011 and BMS1021, supported by risk mitigation strategies and reflective practices, enhanced learning experiences and educational outcomes. This approach facilitated the development of essential digital literacy skills and a nuanced understanding of GAI's role in academic contexts, transforming its perception from a potential tool for cheating to one that can significantly enhance assessment processes.

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