HOW STUDENTS USE THE SCIENTIFIC WRITING ASSISTANT CHATBOT TO SUPPORT SCIENTIFIC WRITING

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SUB-THEME: Technology Enhanced Learning

BACKGROUND

This study explores how students engage with the Scientific Writing Assessment (SWA) Assistant—an AI-guided feedback tool designed to support scientific writing—in the context of BIOL1007, a large first-year biology unit with over 1500 students. The SWA Assistant was developed as part of a shift from take-home to in-class scientific report assessments, aiming to help students refine core skills such as hypothesis testing, experimental design, and data analysis. This development is grounded in a conceptual framework that emphasises ongoing engagement with the scientific process (Krest & Carle, 1999; Lilje et al., 2008a,b).

AIMS

The main research aims addressed in this article are to investigate how the SWA Assistant supports student learning outcomes in scientific writing and to explore its potential in enhancing scientific literacy across diverse student cohorts.

DESCRIPTION OF INTERVENTION

The SWA Assistant is an AI-guided feedback tool that enables low-stakes, iterative feedback, allowing students to identify whether their writing meets assessment criteria and where improvements are needed (Jerde & Taper, 2004).

DESIGN AND METHODS

Between 2023 and 2025, we analysed over 4500 student records and 1543 SWA Assistant conversations involving 721 unique users. Student queries were categorised into themes such as feedback interpretation, writing clarity, concept application, and integration of evidence.

RESULTS

Results indicate that the assistant encouraged autonomy, fostered deeper engagement with scientific writing, and may have contributed to academic integrity by reducing reliance on external content generators.

CONCLUSIONS

These findings offer insights into how AI can enhance scientific literacy equitably and effectively across diverse student cohorts.

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