

DO QUESTIONS INTERSPERSED IN SHORT ONLINE INSTRUCTIONAL VIDEOS IMPROVE SHORT- AND LONG-TERM STUDENT RECALL?

Adrian Hunter^a, Olivier Fahy^a, Michelle Coulson^a

Presenting Author: Adrian Hunter (adrian.hunter@adelaide.edu.au)

^aSchool of Biological Sciences, The University of Adelaide, SA 5005, Australia

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SUBTHEME: Technology Enhanced Learning

BACKGROUND

Low attendance at traditional face-to-face lectures and growing recognition of limitations inherent in the didactic lecture format have led educators toward alternative content delivery methods. Short online instructional videos offer greater flexibility and are better aligned with the learning habits and attention spans of Generation Z students. Integrating interspersed questions—brief pauses in the video requiring students to answer content-related questions before proceeding—is theoretically supported by constructivist and cognitive information processing frameworks, and experimental studies indicate improved learning outcomes. However, it remains unclear whether these benefits apply in authentic educational settings, and whether they persist to influence end-of-semester examination performance.

AIMS

This study investigates whether embedding interspersed questions within short online educational videos enhances student performance in both low-stakes, open-book quizzes within three weeks of provision of the videos, and in a closed-book examination conducted two months later.

DESCRIPTION OF INTERVENTION

In 2024 and 2025, two traditional lectures on ATP generation in a large first-year biology course were replaced by four short online videos. In 2024, the first two videos included interspersed questions, while the final two did not; this was reversed in 2025, enabling robust comparative analysis.

DESIGN AND METHODS

Performance of the 2024 and 2025 student cohorts will be compared using:

- Mean scores from initial attempts on short, low-stakes, open-book, repeatable online quizzes covering the video content
- Time spent completing these initial quiz attempts
- Mean scores from relevant questions in a closed-book end-of-semester examination

RESULTS AND CONCLUSIONS

(To be presented at the conference.)

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