

Computer aided assessment as a self management tool for understanding organic chemistry concepts

ABSTRACT

This article describes a formative assessment learning object that functions as a resource for students to learn independently. This experimental study conducted among science students at University Putra Malaysia seeks to clarify the nature of feedback needed by students in a computer aided assessment learning object. The students were divided into two groups - the control group (CAA1) evaluated their knowledge and comprehension of organic chemistry reactions using the CAA learning object prototype which offered only outcome feedbacks (correct or incorrect). Conversely, the experimental group (CAA2) evaluated their understanding of organic chemistry reactions with the assistance of scaffolded feedbacks (brief written explanation) offered by another CAA Learning Object prototype. Both prototypes had the same interactive questions but with different types of feedbacks. The study showed positive outcomes in terms of increased students' understanding due to the significant improvement of students' performance after they had used the computer aided assessment (CAA) learning objects. Although two groups of students were exposed to different types of feedback, their performance in the post-test significantly provide evidence that CAA can be an effective formative self-management tool for understanding organic chemistry concepts.

Keyword: Computer aided assessment; Outcome feedback; Scaffolded feedback; Self-management; Conceptual understanding