Immunization sub-topic and interactive multimedia courseware for Malaysian students: An impact study

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Abstract

The term alternative framework or misconceptions refers to any ideas held by students which are inconsistent or in conflict with the general idea accepted by scientists. Teachers need to uncover student’s prior knowledge, identify their alternative framework and subsequently find effective strategies and appropriate learning style for students to solve the problems. This action research aims to study the effects of interactive multimedia courseware in addressing the problems of students’ alternative frameworks in Immunization topic and identify the perceptions of students and lecturers about the appropriateness and quality of the software. Samples of the study included one lecturer and 30 students sitting for the Bachelor of Education in Biology and Bachelor of Science in Biology programmes in two Malaysia’s universities. An interactive multimedia courseware entitled “Immunization” was developed using PowerPoint 2010 software. Questionnaires on the effectiveness of the courseware, pretest and post-test were administered as the instruments in this study. Results of data analysis showed that there was a statistically significant difference between the means of post-test and the pretest scores. Students of the Bachelor of Science in Biology programme showed higher and better achievement scores as compared to their counterparts of the Bachelor of Education in Biology programme after using the interactive multimedia courseware. The majority of the students and lecturers agreed that the adoption of this courseware helped increase students’ understanding of the Immunization topic.

Keywords: action research, alternative frameworks, courseware effectiveness, immunization topic, interactive multimedia courseware, students’ misconception