

Integrating Collaborative Learning Techniques and Concept Mapping in Teaching Physics

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Abstract

The main purpose of this study is to investigate the effectiveness of using integrated collaborative concept mapping model for students' achievement in Physics. This study is also an attempt to examine the attitudes of students towards their learning of physics, and those of teachers towards using proposed model in teaching Physics as well as to suggest ways and means for improving teaching of Physics. The adopted research design was the embedded design. The data were collected from No. (3) BEHS, North Okkalapa and No. (2) BEHS, Bahan. Nonequivalent control group design was chosen as quantitative method. Qualitative data were collected before, and post of the study with interviewing and during the study with observation checklists for both teachers and students. The instruments used in this study were pretest and posttest, interview questions and observation checklists. ANCOVA was used to find the significant difference in the achievement scores of students who were taught by integrated collaborative concept mapping model and those who did not receive it. Thematic analysis and percentage were used to show the attitude changes before and after intervention. According to the results, achievement of students from experimental groups was significantly higher than that of students from control groups. The interviewing results showed that there were positive changes towards learning of physics and teaching with the proposed model. In accordance with the observation results, above 80 % were completed in applying proposed model in teaching Physics. Overall results showed that using integrated collaborative concept mapping model in teaching Physics was found to be quite effective in teaching physics in high school level. It is hoped that enhancing positive attitudes towards learning of physics for students will contribute to success in teaching and learning of physics in Myanmar.

Key words: Learning, Collaborative learning, Concept, Concept Mapping

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