

An Analytical Study of the Effects of Project-Based Learning on the Attitude and Achievement of Grade Ten Students in Chemistry

Khin Mu Mu Han¹ and Hswe Mar Oo²

Abstract

The main purpose of this study is to investigate the effects of project-based learning on the attitude and achievement of Grade Ten students in chemistry. Specially, this study aims to analyze the effects of project-based learning on the attitude and achievement of Grade Ten students in chemistry and to compare the students' achievement between the students who are taught by project-based learning and those who are not. Both quantitative and qualitative research methods were conducted to obtain required data. The design adopted for quantitative study was posttest only control group design which is one of the true experimental designs. Two townships were randomly selected from four districts in Yangon Region. One high school from each township was selected by using random sampling technique. The participants in this study were (120) Grade Ten students from the selected schools and they are also selected in random. The instruments used in this study were Posttest Question and Attitude Questionnaire. Project work is selected from the content areas of Chapter (15): Carbon and its Compounds. Posttest Question was achievement test based on the content area of Chapter (15). Independent samples "t" test was used to find the difference in the achievement of students who learned by project-based learning and those of students who learned by formal instruction. According to the result, project-based learning achieved high performance in knowledge level, comprehension level and application level of the students in chemistry. For obtaining required qualitative data, a five-point likert-scale (strongly disagree to strongly agree) type questionnaire which contained altogether (14) items for analyzing Grade Ten students' attitude towards project-based learning was used. All students in the experimental group were selected as subjects for qualitative study. Questionnaire was distributed to the students after learning through project-based learning in each experimental group. Therefore, the research findings showed that project-based learning could improve students' achievement at knowledge, comprehension and application levels and the students from experimental groups had positive attitude towards project-based learning.

1. Lecturer, Dr., Department of Methodology, Yangon University of Education

2. Senior Assistant Teacher, B.E.H.S Neikban, Hinthada Township, Ayawaddy Division