

An Investigation into the Impact of Activity-Based Learning on Science Teaching at the Middle School Level

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Abstract

The purpose of the research is to compare students' general science achievement between activity-based learning and formal instruction in Grade Eight General Science Learning. Activity-based learning may be defined as a method of instruction, where activities of different types, suitable and relevant to specific subjects are integrated seamlessly into the formal instructional materials and methods to involve students in the teaching-learning or instructional process and engage them fruitfully. Activity-based learning is learning that requires the learner to do something more than look at and listen to a teacher. Two schools, namely Basic Education High School, Hlawkahtar and Basic Education High School, Gonepyin in Ayeyarwaddy Region were used in this study. The sample sizes were (120) students from each school. Learning materials were selected from Grade Eight General Science Textbook: Chapter (5) and other extended learning materials from books, journals, videos and photos that are relevant with the lessons. In this study, a quantitative research method was used to compare the students' general science achievement between the experimental group and control group. The design adopted in this study was posttest only control group design of experimental research. Independent samples *t*-test was used to analyze whether there was a significant difference between the two groups. The results showed that the students who received the treatment by activity-based learning were significantly better than those who received the treatment by formal instruction for BEHS, Hlawkahtar ($t = 20.92$, $df = 58$, $MD=12.62$, $***p<.001$), and for BEHS, Gonepyin ($t = 17.44$, $df = 58$, $MD = 17.97$, $***p<.001$). Research findings revealed that activity-based learning has positive impact to the improvement of general science learning at the middle school level. Activity-based learning is a useful learning for students because it encourages students to learn how to learn, how to inquire knowledge, and how to attack new problems.

Key words: activity-based learning, science achievement, teaching science, instructional process.

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