

# A Study of the Effects of Activity-Based Learning on Grade Ten Students in Teaching Chemistry

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## Abstract

The purpose of this study is to compare students' chemistry achievement between activity-based learning and traditional teacher-led instruction in Grade Ten chemistry teaching. Activity-based learning is learning that requires the learner to do something more than look at and listen to a teacher. Two schools, namely No. (2), Basic Education High School, Lanmadaw in Yangon Region and (Sub) Basic Education High School, Ayoda in Ayeyarwaddy Region were used in this study. Quantitative study was conducted to obtain the required data. In this study, Pretest-Posttest Control Group Design of experimental research was selected. The sample sizes were (60) students from No. (2), BEHS, Lanmadaw and (52) students from (Sub) BEHS, Ayoda. The experimental group was taught with the help of activities whereas the control group was taught the same lessons through traditional teacher-led instruction. 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 traditional teacher-led instruction for No. (2), BEHS, Lanmadaw ( $t = 4.74$ ,  $df = 58$ ,  $MD = 11.33$ ,  $***p > .001$ ). The findings of this study had established the fact that activity-based learning can be used to improve chemistry teaching methodology at the high school level. Activity-based learning is a useful method for students to contextualize their learning, acquire social skills, thinking skills and academic skills. Moreover, activity-based learning can also be used to teach many students with disabilities.

**Key Words:** Activity-based learning, Chemistry, Achievement

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