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ABSTRACT

The effects of Small-Group Case-Based Teaching (SGCBT) on college chemistry students' achievement, critical thinking, and attitude toward chemistry including the relationships between each of these variables were determined.

A quasi-experimental counterbalanced design with pre-post control group was used to determine the effects of SGCBT on Engineering students of four intact classes (two treatment groups and two control groups) in one of the State Universities in Mindanao. The independent variables are the type of teaching approach (SGCBT versus pure lecture-discussion teaching or PLDT) while the dependent variables are chemistry achievement (exam scores) and scores in critical thinking and chemistry attitude.

Both Analysis of Covariance (ANCOVA) and *t*-tests (within and between groups and gain scores) were used to compare the effects of SGCBT versus PLDT on students' chemistry achievement, critical thinking, and attitude toward chemistry, while Pearson product-moment correlation coefficients were calculated to determine the relationships between each of the variables.

Results show that the use of SGCBT fosters positive attitude toward chemistry and provides some indications as well on improved chemistry achievement of students compared with PLDT. Meanwhile, the effects of PLDT and SGCBT on critical thinking are comparable. Furthermore, correlational analysis and focus group interviews indicate that the use of SGCBT not only supports the development of positive attitude towards chemistry but also improves chemistry achievement of students.

Implications are provided in view of the recent findings on SGCBT and topics for further research are presented as well.