Abstract

The study investigated the comparative effects of Selvaratnam, & Fraser (1982) and Ashmore et al. (1979) problem-solving instructional strategies on Advanced Level students' achievement in Stoichiometry. The quasi-experimental design with a nonequivalent comparison group consisting of pre-and post-test measures was utilized in the study. The participants were 525 Advanced level chemistry learners drawn from 8 high schools from Gweru district. Data were collected using standardized achievement Tests in stoichiometry. The problem-solving instruction was implemented in four experimental schools while the remaining four control schools were taught using the conventional lecture method. Analysis of Covariance (ANCOVA) was used to analyze data. The findings indicated a statistical significant difference in the performance of students taught using the two problem-solving strategies and those taught using the conventional method. The Scheffe's post-hoc test indicated that students taught using the Ashmore et al. (1979) problem-solving instructional strategy performed significantly better than those taught with the Selvaratnam & Fraser problem-solving strategy. Furthermore, it was also found that the performance of students in the experimental group was not influenced by gender. Chemistry teachers are therefore strongly recommended to use problem-solving instructional strategies in their classes to improve the abilities of learners in solving stoichiometry problems.