EFFECTIVENESS OF GUIDED DISCOVERY AND EXPOSITORY METHODS ON STUDENTS' ACHIEVEMENT IN SENIOR SECONDARY SHOOL MATHEMATICS

By

Ozomadu, Eric A.

Department of Computer Science and Mathematics, Godfrey Okoye University, Enugu.

Abstract

This study was designed to compare the effect of Guided Discovery and Expository methods on students' achievement. Two research questions and three research hypothesis guided the study. A non-equivalent control group design was adopted for the study. A sample of 160 Senior Secondary School (SS2) Mathematics students was used for the study. For the Guided Discovery treatment group, a total of 81 SS2 students were used while for the Expository group, a total of 79 SS2 students were used for the study. The instrument was mathematics achievement test on algebra (MATA). It was developed and used for both pretest and posttest. MATA was validated by four experts in Mathematics education and educational measurement and evaluation. The reliability of the instrument was 0.60 using Pearson Product Moment Correlation coefficient method. The research questions were answered using mean and standard deviations. The hypotheses were tested at 0.05 level of significant using analysis of Covariance (ANCOVA). The study revealed that the Guided Discovery of teaching was more effective in enhancing student's achievement in algebra. There was significant gender difference in enhancing students' in MATA. Interaction effect of gender and method on student's achievement is significant. Recommendations such as encouraging teachers to adopt guided discovery method in their mathematics classroom were made.

Introduction

Many nations of the world today are described as developed due to their scientific and technological breakthroughs. The general acceptance that mathematical methods are basic solutions to all kinds of problems has rightly enhanced the importance attached to mathematics instructions in secondary schools (Galadima; 2010). Further, the roles of mathematics towards realizing scientific and technological feats are unquestionable. The extent to which mathematics supplies nutrients to science and technology is the extent to which the later survives. This shows that mathematical implications are scientific imports in mathematical problems (Aliyu, 2008). In the words of Onoh (2006), the importance of mathematics education in Nigerian educational system and the nation's technological development has been given recognition. This fact is adequately reflected in the new 6-3-3-4 system of education which is geared towards self-realization, scientific and technological process (Federal Government of Nigeria, FGN2004). Jegede (2009) noted that there can be no real development technologically without a corresponding development in mathematics as conceived and practiced.