

EFFECT OF ASEI INSTRUCTIONAL APPROACH ON STUDENTS'
ATTITUDE AND ACHIEVEMENT IN MATHEMATICS
IN SECONDARY SCHOOLS IN
BUNGOMA DISTRICT.

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ABSTRACT

The contribution that mathematical knowledge and skills make to the economic, industrial and technological growth of the modern world are quite obvious to almost everyone as it enters into all areas of human activities. However as important as the subject is, the tremendous and persistent failure of the Kenyan students has remained a major threat to its learning. The subject is viewed in Kenya and even in the developed world as difficult to learn, thus most students leave school without grasping the fundamental arithmetical skills required. Traditional (conventional) methods of teaching are blamed for this poor performance and negative attitude in the subject. ASEI-PDSI teaching approach is a focus of SMASSE necessitated by the need to address the situation where teaching was too much teacher dominated and largely chalk and talk. This study therefore, investigated whether the ASEI activity based approach of instruction has any effect on the teaching/learning of mathematics as measured by levels of students' achievements and attitudes towards instructional approach upon the completion of the study. The objectives of the study were: To determine whether there is difference in achievement between students exposed to ASEI and Conventional approach of instruction, examine any gender-related differences in achievement if any, find out if there is any difference in attitude between students exposed to ASEI and those using the conventional methods of instruction. The study employed a pretest posttest experimental randomized control group design. The sample consisted of provincial secondary schools in Bungoma District. Eight schools, eight classes and a total of 200 students were selected through systematic simple random sampling. Data was collected through Mathematics Achievement Tests (MATs) and Likert scale Mathematics Attitude Questionnaire (MAQ). Piloting was done in two schools to establish reliability of the instrument and alpha coefficient of about 0.80 was reliable. Descriptive statistics (percentages, mean and standard deviation and inferential statistics (t- test) were used to analyze data that was collected with the help of SPSS software version 17.0. Null Hypotheses were designed and tested at 0.05 level of significant. From the analysis the main findings were as follows; the difference in academic achievement and attitude between students taught using ASEI and those using Conventional methods were statistically significant in favor of ASEI approach, gender difference in achievement was statistically significant among the control group but was not statistically significant among the experimental group. The ASEI approach of teaching was found to have a positive effect on students' attitude and achievement therefore concluding that the choice of teaching approaches is crucial in student involvement in the lesson which finally affects the attitude and performance. It is therefore recommended that teachers in general should be willing to embrace methods such as ASEI which proved to have an impact on students.