

**EFFECTIVENESS OF “STRENGTHENING OF MATHEMATICS AND SCIENCE IN  
SECONDARY EDUCATION IN-SERVICE EDUCATION AND TRAINING” (SMASSE-  
INSET) ON THE PLANNED TEACHING OF MATHEMATICS IN SECONDARY  
SCHOOLS IN KAJIADO CENTRAL SUB-COUNTY, KAJIADO COUNTY-KENYA**

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## ABSTRACT

Mathematics is the foundation of all science and technologically based subjects. The poor performance of students in mathematics tests is of great concern to parents, teachers, government and other stakeholders. The study sought to find out effectiveness of SMASSE INSET on the planned teaching of mathematics in Kajiado Central Sub-county secondary schools. This was prompted by the low performance of mathematics in past Kenya Certificate of Secondary Education examinations evidenced by table 1.2. The objectives of the study were to investigate whether SMASSE INSET has changed the way mathematics is taught and to examine whether SMASSE INSET has improved performance of mathematics. Theoretical and empirical literature reviewed identified a research gap which necessitated the study. The study was conducted in Kajiado Central Sub-county and was based on the Theory of Planned Behaviour and the Theory of Reasoned Action. A mixed approach methodology and a descriptive survey design were adopted for the study. Form four students and their mathematics teachers in Kajiado Central Sub-County formed the target population. Respondents of the study were selected randomly from form four students of year 2015. A sample of six schools, one hundred and two students, six mathematics teachers and six heads of mathematics department were randomly selected and questionnaires administered to them to gather data. An observation schedule was used to enrich information gathered using questionnaires. The research instruments were tested before data was collected to check their validity and reliability. Data was collected before being analyzed using descriptive and inferential statistics to address the research questions. Descriptive statistics included frequency counts, percentages and means while inferential statistics involved t, chi-square and analysis of variance tests. Qualitative data was analyzed thematically. The findings were presented in tables, line graphs and a pie chart. The study found out that SMASSE INSET had improved the teaching of mathematics and that the INSET had no effect on the performance of students in mathematics. The study recommends among other measures, that the government should infuse SMASSE curriculum into that of mathematics in teacher training institutions, employ more mathematics teachers and revise mathematics syllabus in secondary schools for effective implementation of lesson plans by mathematics teachers. Further research should be undertaken using a larger population to ascertain whether the problem transcends other sub-counties.