

**AN ASSESSMENT OF STRENGTHENING MATHEMATICS AND SCIENCE
EDUCATION TRAINING OF MATHEMATICS AND SCIENCE TEACHERS ON THE
PERFORMANCE OF KENYA CERTIFICATE OF PRIMARY EDUCATION IN
KIHARA ZONE, KIAMBU COUNTY, KENYA**

**GITITHA SUSAN WAMBUI
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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF
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ABSTRACT

The SMASE project was set to pursue in-service training of existing mathematics and science teachers as a tool for strengthening these subjects. Therefore this research aims to determine the effectiveness of SMASE training program on performance in mathematics and science subjects on primary education in Kihara Zone. The objective of the study was to establish whether SMASE training has any effect on the performance in Mathematics and Science since inception of the training, to determine the extent to which the Activity, Student-centered, Experiment, Improvisation (ASEI) and Plan, Do, See, Improve (PDSI) approaches used in SMASE has had an influence on Mathematics and Science teachers and to document challenges faced by the teachers on implementing ASEI/PDSI approaches. In this study, the researcher adopted descriptive research design using a case study approach. A total of eleven schools using purposive random sampling were involved in the study. Data analysis was done using Statistic Package for Social Sciences (SPSS) software and Excel. Findings were presented using percentages, frequency distribution and means. The head teachers were presented to rate on a five point likert scale. According to the analysis of the findings, the head teachers agreed that the SMASE INSET programme had significant effects on teaching in their school as evidenced by a mean of 3.32 and a standard deviation of 0.73. The head teachers also indicated that what teachers learnt in the SMASE INSET had been very useful in their teaching and that teachers had become more effective after going through the SMASE INSET programme as supported by means of 4.21 and 3.76 respectively. Further findings indicated that the headteachers were of the view that their school needs in teaching of mathematics and science were addressed by the programme (mean= 4.25 and standard deviation= .801). From this study, the researcher concluded that science and mathematics teachers in Kihara division have a positive attitude towards SMASE INSET project, they plan for lessons and execute them using student- centered approaches, they tended to agree that ASEI/PDSI pedagogy are implemented in the teaching of mathematics, those with more positive attitude toward SMASE INSET program tended to apply the ASEI/PDSI pedagogy often, teachers faced a lot of challenges in the implementation of ASEI/PDSI pedagogy in an educational system which is examination unlike the initial objectives of SMASE which was to upgrade the capability of the youth in mathematics and science. The study recommended that more in-service trainings and SMASE training to train teachers in the second teaching subject, the findings indicated a weak positive attitude change towards science by students. There should therefore be promotion of favorable attitudes towards science, more effort needs to be directed towards making science and mathematics enjoyable by students, involvement of major stakeholders like Head teachers and representatives of targeted teachers during preparation of in-service trainings would promote participatory approach.