THE EFFICACY OF SMASE PROGRAMME AS A PERFORMANCE STIMULANT IN MATHEMATICS AND SCIENCE: THE CASE OF PUBLIC PRIMARY SCHOOLS IN IMENTI SOUTH, KENYA

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ABSTRACT

This study sought to evaluate the efficacy of SMASE program as a performance stimulant in Mathematics and Science using the case of public primary schools in Imenti South District, Kenya. Performance in Mathematics and Science has been extremely below average over the years. Specifically the study sought to: determine whether teachers' workshops had any effect on pupils' performance in Mathematics and Science, determine whether the new teaching approaches affected pupils' performance in Mathematics and Science and determine whether effective use of resources had any tangible effects on pupils' performance in Mathematics and Sciences. The Study was based on the Theory of Decision – Oriented Evaluation approach. In this study, both quantitative and qualitative methods were applied. Descriptive Survey design was adopted for the study. The respondents of the study were selected standard eight learners, head teachers and mathematics and science teachers. A sample of 30% of the total number of schools was used in the study. Data was collected through the use questionnaires and interview schedules. Data was analyzed using both descriptive and inferential (student t-test) statistics. Findings were presented in form of bar graphs, pie charts and frequency tables. Findings from the study indicated that the SMASE program has had an impact on learners' capability, and that through ASEI-PDSI, there has been a significant improvement in pupils' cognitive skills resulting to the improvement in performance in mathematics and science subjects by teachers arousing interest and curiosity among learners; creating opportunity for learners to take responsibility for their own learning; employing inquiry-based approach as opposed to recipe-type experiments and using interactive learning methods. Study findings demonstrate that the new teaching approaches recommended in SMASE were being adopted readily by all teachers and had contributed to improved performance in science and mathematics. It is important to note that resources were used adequately and that SMASE training had contributed towards the improved performance of learners in Mathematic and Sciences in primary schools in the district. The study recommends that Mathematics teachers should be encouraged to continue making use of the new teaching and learning approaches to give pupils an opportunity to practice what they have learnt. Frequent exercises, assignments, home works and projects aligned to the new skills help to develop deep understanding of mathematics and Science ideas and concepts. Whereas the overall impact has been confirmed, there is need to use the result of the analysis to improve INSET delivery and enhance the impact. Probably, it would be necessary to review the questionnaire items and improve on the subsequent administration of questionnaire to ensure that a larger sample of teachers response. Possibly, statistical analysis could be carried out on annual basis to allow for immediate incorporation of feedback in the provision of INSET. This calls for enhanced capacity of national trainers to carry out such frequent analyses to ensure sustainability. A similar study could be carried for larger sample in different parts of the country. A study investigating the effects of inadequate facilities, teachers and teaching learning materials on the quality of teaching and learning mathematics and sciences is also suggested.