INFLUENCE OF SMASE PROJECT ON THE TEACHING AND LEARNING OF PHYSICS IN SECONDARY SCHOOLS WITHIN NAIVASHA SUB-COUNTY, KENYA

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DECLARATION

I declare that this project is my original work and has not been presented in any other university/institution for certification. This research project has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited in accordance in line with anti-plagiarism regulations.

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ABSTRACT

Physics aid learners to develop an all rounded understanding of the connection of science. Kenya Vision 2030 for the education sector is to have globally competitive quality education, training and research for sustainable development. Strengthening of Mathematics and Science Education (SMASE) project is a joint venture between the Kenya Government through Ministry of Education, and the Government of Japan through Japan International Cooperation Agency (JICA) with the aim to provide quality In-Service Training (INSET) for teachers in order to enhance teaching and learning, in mathematics and sciences. The purpose of this study was to investigate the influence of Strengthening of Mathematics and Science Education (SMASE) project on teaching and learning physics in Naivasha Sub-County, Kenya. Specific objectives of the study were: To evaluate teachers' attitudes towards the teaching of physics using SMASE project skills. Establish learners' attitudes towards teaching and learning of physics. To assess the availability and adequacy of teaching and learning resources for physics. To determine challenges teachers face in their implementation of SMASE project skills in teaching and learning physics. Review of literature covered aspects of the objectives of the study. Descriptive survey design was used for this study whose target population was 1,400 subjects from 24 public secondary schools, among them two physics SMASE district trainers, 24 Heads of Department (HOD), 36 physics teachers and 1380 students. Schools were stratified according to boarding and day schools. Simple random sampling was used to select 20 students in Form three from each school, nine physics teachers, and purposive sampling technique was used to select nine science HODs and two physics SMASE district trainers. A total sample of 200 respondents from nine secondary schools participated in the study. Questionnaires, interview schedules were used to collect data. Pilot study was conducted in one school to determine the reliability of the instruments. Instrument validity was determined through consultation with my supervisors. Data were analyzed using Statistical Package for Social Sciences (SPSS) computer software and presented using simple descriptive statistics such as tables and figures. Interview data were reviewed, transcribed, organized into coherent categories and coded then analyzed and presented. The findings were that SMASE project has greatly influenced the way teachers handle lessons, teachers showing appreciation to new methods of teaching, learners attitudes also have been affected positively. Resources for sciences in schools were found not to be adequate. The study recommends that principals of secondary schools should support physics teachers especially in lesson study and also improve SMASE curriculum to include new methodologies especially to those teachers who have been in the field for long.