

**IMPACT OF STRENGTHENING OF MATHEMATICS AND  
SCIENCE IN SECONDARY EDUCATION PROGRAMME ON  
THE TEACHING AND LEARNING OF PHYSICS IN MIXED DAY  
SECONDARY SCHOOLS IN YATTA DISTRICT, MACHAKOS  
COUNTY**

**CHARLES CHALO MWANTHI  
BEDS/000513/2122/12225**

**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF  
EDUCATION IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF DEGREE OF  
BACHELOR OF EDUCATION IN MOUNT KENYA  
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## ABSTRACT

This study focused on the impact of the Strengthening of Mathematics and Science in Secondary Education (SMASSE) programme on the teaching and learning of Physics in Mixed Day Schools in Yatta District of Machakos county. The SMASSE programme is a joint venture between Kenya government represented by the Ministry of Education. It came into being in 1998 when the constantly poor performance in Mathematics and science (Physics, Biology and Chemistry) became a matter of serious concern. Broad curriculum, lack of facilities and inadequate staffing were always cited as the major causes of the failure. Other factors like students' and teachers' attitude, poor teaching strategies, poor mastery of content by the teachers alongside poor utilization of available resources hinder effective teaching and learning of mathematics and science. The study established the impact of SMASSE on teacher/student attitudes towards Physics, teaching and learning of Physics and established any constraint that the programme may be experiencing. The researcher used descriptive survey research method to collect data in Mixed Day schools. Findings from the study carried out by a researcher showed that SMASSE has had an impact on the teaching and learning of physics. There is a positive attitude among majority of the physics teachers towards teaching physics. Similarly, majority of the students have a positive attitude towards learning physics. The physics teachers involve the students during physics lessons in activities such as question/answer, group discussions and experiments. In addition, the students' physics performance in Kenya Certificate of Secondary Education (KCSE) has improved and student enrolment in physics has increased. However, it was noted that only a few teachers improvise, evaluates the lessons and use Activities-focused, Students-centered learning with Experiments and Improvisation (ASEI) lesson plans. High workloads, lack of sufficient facilities and teachers' negative attitude towards SMASSE were the main challenges that affect successful implementation of SMASSE programme .The study gave various recommendations to address the challenges.