

Effective Practical Work on Physics Students' Performance in National Examination at Selected Schools in Sirisia Division, Bungoma West Sub-County, Kenya

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Abstract

Practical skills and ability development in the learners are very essential in the teaching/learning of Physics and other related science subjects. This is because they help learners to relate theory to reality, thus, making it easy for them to understand difficult and abstract concepts. Pursuing Physics at high school enables the students to participate in technology related studies in tertiary and higher institutions. The national enrolment at form three show that Physics is the least studied subject at this level. In addition, performance in the subject at the end of secondary school is dismal. Most students lack motivation to engage in activities related to Physics such as process skills. It is in this respect therefore, that this study investigates the factors that affect learners' practical abilities in Physics during classroom interaction and its impact on performance in Physics' National Examination. Relevant literature review concerning the study was done under specific headings in chapter two. Eight teachers of Physics and one hundred forty Form three students were observed during Physics lessons. Data was collected using questionnaires and observation schedules. The Lickert scale was used to measure the attitude of students towards Physics practical. Six schools and their respective teachers and students, were randomly selected from fourteen schools within Sirisia Division Bungoma County. Data collected was qualitatively and quantitatively analysed using basic statistics like percentages and frequency counts, to provide information that helped answer questions raised by the researcher. The findings of the study revealed that class demonstrations and experiments, as well as project learning enhance learners' ability to develop practical Physics skills. The study found that teachers play a major role in nurturing students' capabilities in developing positive skills towards Physics and assist learners' to develop manipulative as well as recording skills in practical Physics lessons. The findings showed that available Physics teaching resources influenced learners' development of practical Physics skills and lastly the study also found out that learners' attitude towards Physics influences their performance in Physics. The study recommends that secondary schools be provided with standard laboratory (especially the state-owned public schools) in which improvised and other concrete materials such as models and specimens could be stored for the purpose of Physics teaching through demonstrations, class experiments and project learning. Teachers should be taught on how to improvise on certain laboratory materials as well as help the students to discover ways of improvising the laboratory equipment from locally and available materials to enhance the teaching of practical Physics lesson and make it possible for better KCSE results.

Keywords: Practical work, Performance in physics, Attitude change, Science process skills acquisition, Physics Achievement- National Examination

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