

Effects of Mastery Learning Approach on Secondary School Students' Physics Achievement

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Abstract:

This study aimed at finding out the effects of Mastery Learning Approach (MLA) on students' achievement in Physics. The study was Quasi-experimental and Solomon Four Non-equivalent Control Group Design was used. The target population comprised of secondary school students in Kieni East Division of Nyeri District. The accessible population was Form Two students in district co-educational schools in the division. Purposive sampling was used to obtain a sample of four co-educational secondary schools. Each school provided one Form Two class for the study hence a total of 161 students were involved. The students were taught the same Physics topic of Equilibrium and Centre of Gravity. In the experimental groups MLA teaching method was used while the Regular Teaching Method (RTM) was used in the control groups. The experimental groups were exposed to MLA for a period of three weeks. The researchers trained the teachers in the experimental groups on the technique of MLA before the treatment. Pretest was administered before treatment and a post-test after three weeks treatment. The instrument used in the study was Physics Achievement Test (PAT) to measure students' achievement. The instrument was pilot tested to ascertain the reliability. The reliability coefficient α was 0.76. Experts ascertained their validity before being used for data collection. Data was analyzed using t-test, ANOVA and ANCOVA. Hypotheses were reaccepted or rejected at significant level of 0.05. The results of the study show that MLA teaching method resulted in higher achievement but gender had no significant influence on their achievement. The researchers concludes that MLA is an effective teaching method, which physics teachers should be encouraged to use and should be implemented in all teacher education programmes in Kenya.

Keywords: Mastery Learning, Kenya, Physics Achievement, Secondary School

Fulltext: <https://eric.ed.gov/?id=EJ907666>