

Effects of Experiential Cooperative Concept Mapping Instructional Approach on Secondary School Students' Achievement in Physics in Nyeri County, Kenya

Wambugu Patricia W; Changeiywo Johnson M. & Francis G. Ndiritu

Abstract

The purpose of the study was to investigate the effects of Experiential Cooperative Concept Mapping Instructional Approach (ECCA) on students' achievement in Physics. Solomon Four Non-equivalent Control Group Design under the quasiexperimental research was used. A stratified random sample of 12 Secondary Schools was drawn. The experimental groups were taught using ECCA approach while the control groups were taught through Regular Teaching Methods (RTM). Two groups were pre-tested prior to the implementation of the ECCA treatment. After five weeks, all four groups were post-tested using the Physics Achievement Test (PAT). The instrument was validated and pilot tested before use. The reliability coefficient for PAT was 0.80. The instrument was scored and data was analyzed using t-test, oneway ANOVA and ANCOVA at a significance level of alpha (α) equal to 0.05. The results of the study showed that there was a statistically significant difference between the achievement means of students who were taught through ECCA and those taught through RTM. There was no statistically significant difference in achievement with respect to gender. The researchers recommend the use of ECCA in addressing the current low performance and gender disparity in Physics.

Keywords: Experiential Cooperative Concept Mapping (ECCA); Regular Teaching; Methods (RTM); Secondary School Students; Achievement in Physics; Nyeri County; Kenya

Full-text: <https://www.iiste.org/Journals/index.php/JEP/article/download/13015/13520>