

ABSTRACT

Chemistry occupies a significant position in secondary school curriculum because of its applications in everyday life. In spite of this importance, the academic performance of Kenyan students in the subject in has remained poor over the years. The fundamental challenge in teaching of chemistry is how to enhance students' achievement in the subject. Innovative, research-based and learner-centred teaching methods engage the learners in the learning process. Such methods are effective for mastery of concepts and also enhance learners' achievement in the subject. Although Computer Based Cooperative Mastery Learning (CBCML) may help in enhancing students' achievement in chemistry, its effects had not been determined in Bomet County. This was the focus of the study. Solomon Four Non-equivalent Control Group Design was used. The study sample comprised of 238 form three students from four schools purposively chosen from 21 County Co-educational secondary schools in the county. The study involved four groups; two Experimental Groups taught through CBCML and the other two Control Groups taught through the Conventional Teaching Methods (CTM) for six weeks. A Chemistry Achievement Test (CAT) was administered a pre-test and later on re-organised and administered as a post-test. The reliability coefficient of the instrument was 0.85 estimated using KuderRichardson (K-R21) formula. Data analysis was carried out using descriptive as well as inferential statistics. The differences between the group means were checked for statistical significance using t-test, ANOVA and ANCOVA. The findings of the study showed that the students exposed to CBCML had relatively higher scores in the CAT than those taught through CTM. Thus, CBCML enhances students' achievement in Chemistry more than CTM. Therefore the researchers recommend that chemistry teachers incorporate CBCML in their teaching.

Keywords: Computer Based Cooperative Mastery Learning, Secondary School, Chemistry Achievement.