ABSTRACT

Success among candidates after completion of school was viewed from the performance in examinations. This was because performance in studies was a significant determinant of a candidate's future social and economic status. Chemistry being one of the essential science subjects, below-average national examination performance in Kisumu West Sub County was a challenge and needed urgent intervention. Peer teaching was one of the strategies that aimed to encourage and assist the students' development and might be a remedy for this performance. Based on the social constructivism theory, the study employed mixed method approach, concurrent triangulation design. The objectives of the study were: to determine effects of class-wide peer tutoring in enhancing academic achievement scores in Chemistry in secondary schools, to examine effects of cross-age peer tutoring in enhancing achievement in Chemistry in secondary schools, to explore effects of peer assisted learning in enhancing academic achievement scores in Chemistry in secondary schools and to establish effects of reciprocal tutoring in enhancing academic scores achievement in Chemistry in secondary schools. The study was conducted in Kisumu West Sub County because of below average performance in Chemistry in national examination. 34 principals, 366 teachers and 12,299 students of which 3,498 were form two students made up the study population of 12,699. Stratified sampling was used to sample 4 schools. Simple random sampling was used to sample 93 teachers of Chemistry in 31 schools in Kisumu West Sub County to take part in the study. Krejcie and Morgan (1970) curve was used to determine the students study sample of 344. The Chemistry subject was sampled for the purpose of the study. This study used learners' Chemistry achievement tests, questionnaires, and interview guides to collect data. The test-retest method's Chemistry achievement test's reliability was calculated with a reliability index of 0.847 obtained. For the questionnaires, the coefficient was computed using the Cronbach alpha coefficient. The reliability coefficient of 0.81 was obtained after an average of all possible split-half reliabilities. The qualitative data was analyzed by organizing content into themes and sub-themes. Quantitative data derived from questionnaire items were analyzed by the use of descriptive statistics then presented in tables. This study is significant because it revealed an in-depth understanding of peer teaching approaches in this pedagogical change period to the learner-centered approach to curriculum implementation dispensation. Students from four schools were pre-tested through the Chemistry achievement test. Based on pre-test results and the students' willingness, several students were allocated to the experimental group that did peer teaching, and the rest were assigned to the control group. To find out the significance of the instructing involvement a comparison of pre and post-test achievement of experimental and control groups, the descriptive statistics of means, media, standard deviations, and inferential statistics of the t-test were employed. The research results indicated that the experimental group showed greater improvement in their Chemistry achievement as a result of their experience of peer teaching. The finding also found an increase in median and means from the pre-test and post-test scores in which the experimental group was better than the control group. The t-test showed a significant difference between the two groups with a t-value of 38.872 above the critical value of 1.967. Peer teaching had a visible effect on the post-test performance of the experiment group when tested at .05 level of significance. The study also found out that teachers in schools had not embraced peer teaching. Principals interviewed were aware that peer teaching was not one of the favorite strategies used by teachers. The researcher concluded that peer teaching enhanced Chemistry achievement in secondary schools. The study recommended that peer teaching as a learner-centered teaching method was useful to complement routine methods and should be embraced by teachers, among other recommendations. Further studies needed to be done to investigate the effect of peer tutoring strategy on students' from diverse samples to obtain more reliable results.