

Effects of Teaching using Preferred Learning Styles on Students Performance in Biology and Geography in Secondary Schools in Nairobi County, Kenya

Kaitho Simon Sila

Abstract

Learning styles influence students in all levels of education and a mismatch of teaching styles preferred learning styles makes learning a stressful experience to many learners. In Nairobi County, students in both private and public schools have been performing well in sciences. In the study, matched teaching styles with preferred learning styles were conceptualized as the independent variables that determine their performance in biology and geography. The purpose of this study therefore was to establish the effect of matching of teaching styles with proffered learning styles of student's performance in biology and geography, in private and public secondary schools in Nairobi County. This county was chosen because of unsatisfactory performance in sciences as, only 12.632% of the schools got a mean grade of B- and above, in the years 2004 to 2010. The study was based on Felder Learning Styles Theory, and Grasha Teaching Style Theory. The study employed quasi experimental research design, where a pre test, treatment of experimental group and a post test were used to estimate the impact of an intervention of mismatch traditional teaching styles either preferred learning styles in secondary schools in Nairobi county. A purposive sample of 1,322 forms two students in private and public schools were randomly selected for the study. Questionnaires and pre test and post test were used to collect quantitative data. A full disclosure of the nature of the study was given to subjects with an extended opportunity to ask questions and get their free consent to participate. The content and face validity of the two instruments were examined by experts and which were used to improve the tools before they were used to gather data. The reliability of the treatment questionnaire and achievement test in pilot study were estimated using the Pearson's correlation method and yielded a reliability coefficient of .723 and .955 respectively which were high enough to judge the instruments as reliable. The collected data was analyzed with the aid of the statistical package for social sciences (SPSS) version 22. Data was described and summarized using percentages, and means. Multivariate analysis of variance and linear regression analysis showed statistically significant effect on performance of students taught using preferred learning styles in geography and biology. However, linear regression analysis of main effect of gender and type of schools (private and public), on performance in sciences of students taught using their preferred learning styles showed no statistically significant differences. The study is significance in informing teachers of the need to identify and teach their learners according to the learners' preferred learning styles to enhance their performance in sciences. The study recommends that the ministry of education science and technology ensure facilitation is done to enable teachers detect the learning style to use in different setting.

Keywords: learning styles, teaching styles, performance, and biology and geography.