EFFECTS OF COMPUTER ASSISTED LEARNING ON THE   MASTERY OF THE CONCEPT OF MUTATIONS AMONG SECONDARY SCHOOL STUDENTS IN KENYA: A CASE STUDY OF UASIN-GISHU COUNTY

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ABSTRACT

This study was designed to explore the effectiveness of Computer Assisted Learning (CAL) in the teaching of mutations in a form four Biology course in a selected secondary school in Uasin-Gishu County. The concept of mutations is under the wider topic of Genetics. Mutations are generally abstract as there are no experiments that can be done by students in the laboratory to observe the actual processes of mutations occurring in cells. It therefore poses a challenge to both students and teachers.

The purpose of this study was to design a CAL lesson and measure its effects on student's mastery and attitude towards learning mutations. The study involved comparison between experimental group (E) and the control group (C). An experimental research design known as Pretest-Posttest control group design was employed. A case study was conducted in Kerotet Girls High School in Uasin-Gishu County. Simple random sampling was used to select 54 students and place them into experimental and control groups where each group had 27 students. Those in experimental group were taught using CAL while those in control group were taught using conventional methods (lecture and discussion). The concept was taught in 5 lessons each lasting one hour over a period of one week.

Two dependent measures: i) Biology Achievement Test (BAT) and ii) Student Attitude Questionnaire (SAQ) were used to assess the effects of CAL on student's mastery and attitude towards the Biology course on mutations. Quantitative data was generated and both descriptive statistics and inferential statistics were used to analyze the data. All tests of significance were conducted at $\acute{a}= 0.05$ level of significance using the program, Statistical Package for Social Sciences (SPSS). One of the findings was that, the students exposed to CAL lesson performed significantly better on the BAT and SAQ than those not exposed to it. One of the recommendations was that teacher training programs should incorporate computer studies in order to enable teachers to design CAL lessons so as to improve teaching and learning