

Effects of Computer Aided Instructional Package on Performance and Retention of Genetic Concepts amongst Secondary School Students in Niger State, Nigeria

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Abstract : The study investigated the effects of computer-aided instructional package (CAIP) on performance and retention of genetic concepts among secondary school students in Niger State. Quasi-experimental research design i.e. pre-test-post-test experimental and control groups were adopted for the study. The population of the study was all senior secondary school three (SS3) students' offering biology. A sample of 223 students was randomly drawn from six purposively selected secondary schools. The researchers' developed computer aided instructional package (CAIP) on genetic concepts was used as treatment instrument for the experimental group while the control group was exposed to the conventional lecture method (CLM). The instrument for data collection was a Genetic Performance Test (GEPET) that had 50 multiple-choice questions which were validated by science educators. A Reliability coefficient of 0.92 was obtained for GEPET using Pearson Product Moment Correlation (PPMC). The data collected were analyzed using IBM SPSS Version 20 package for computation of Means, Standard deviation, t-test, and analysis of covariance (ANCOVA). The ANOVA analysis ($F_{cal}(220) = 27.147, P < 0.05$) shows that students who received instruction with CAIP outperformed the students who received instruction with CLM and also had higher retention. The findings also revealed no significant difference in performance and retention between male and female students ($t_{cal}(103) = -1.429, P > 0.05$). It was recommended amongst others that teachers should use computer-aided instructional package in teaching genetic concepts in order to improve students' performance and retention in biology subject. Keywords: Computer-aided Instructional Package, Performance, Retention and Genetic Concepts.

Keywords : computer aided instructional package, performance, retention, genetic concepts, senior secondary school students

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