EFFECTS OF COMPUTER SIMULATION INSTRUCTIONAL STRATEGY ON BIOLOGY STUDENTS' ACADEMIC ACHIEVEMENT IN DNA REPLICATION AND TRANSCRIPTION

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ABSTRACT

This study investigated the effects of Computer Simulation Instructional Strategy on Biology Students' Academic Achievement in DNA replication and transcription. The effects on retention ability and gender were also examined. The pretest-posttest, post posttest, quasi-experimental control group design was used for the study. DNA Replication and Transcription Achievement Test (DRTAT) was developed and administered on fifty undergraduate 300 level Biology Education students from Ekiti State University (affiliated with Michael Otedola College of Primary Education, Epe) selected as the participants. The reliability coefficient of DRTAT was established at 0.70 using Kuder-Richardson (KR 20). Experimental group was taught using computer simulation instructional strategy while the control group was taught using lecture method. Null hypotheses were verified at $p \leq 0.05$ levels using t-tests. Result showed that there is a significant main effect of computer simulation on students' mean achievement score in DNA replication and transcription. There was also a significant effect on the retention ability of students but no significant effect on gender was observed. The computer simulation was effective in enhancing students' achievement scores and retention ability therefore, computer simulation is recommended as a means of teaching Undergraduate Biology students in Nigerian university other tertiary institution.

Keywords: DNA, Replication, Transcription, Computer Simulation, Lecture Method.