

Computer Aided Instruction and Performance in Kiswahili Language Skills among Public Secondary Schools in Nakuru County, Kenya

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Abstract

The Ministry of Education initiated the integration of computer technologies in teaching of school curriculum in order to enhance quality of education in Kenya. Poor performance in Kiswahili subject skills has been experienced for a while, among majority students in sub-county secondary schools in Nakuru County, Kenya. The integration of CAI in teaching of Languages, helps to transform pedagogical skills in order to improve learners' performance. The purpose of this study was to determine the difference in performance in Kiswahili language skills between students, taught Kiswahili subject using CAI and those students taught the same content using TTMs. Four objectives guided this study, namely; to determine the difference in performance in Kiswahili in a) grammar, b) reading comprehension, c) writing skills between students taught Kiswahili language skills integrating CAI and those students instructed the same content using TTMs and d) develop a theory explaining the use of CAI on performance in Kiswahili language skills. This study was guided by Constructivist Learning Theory and employed a causal-comparative design. This study was conducted in public sub-county secondary schools in Nakuru County, with a target population of 13290 subjects, comprising Kiswahili teachers, form two students, and principals. A sample of 839 participants comprising 750 students, 59 teachers and 30 principals was drawn using stratified, purposive and simple random sampling methods. Questionnaires, semi-structured interview schedules and documentary analysis guide were used to collect data from principals, teachers, and students. Piloting was done on questionnaires and interviews in secondary schools from a different county. Piloting helped to determine the validity and reliability of the instruments. This was done two weeks before the commencement of the actual study. The study confirmed the instruments valid and reliable. Reliability from questionnaires was each computed separately using Cronbach's Alpha Formula. Teachers' coefficient yielded a correlation coefficient of 0.73; while students' yielded a coefficient of 0.76 that were all considered reliable for the study to be conducted. Descriptive statistics were used to analyze quantitative data from objectives; while the hypotheses were tested at 95% confidence interval using t-test in order to determine the difference in performance in Kiswahili language skills between students taught Kiswahili using CAI and those students taught the same using TTMs. Quantitative data were presented and interpreted in frequency table distributions, bar graphs, and pie-charts; while qualitative data was summarized into differences and analyzed in text. The findings showed that CAI improves performance in grammar by higher mean of 21.79 than lower mean of 16.94 scored by TTMs. Additionally, CAI improves performance in reading comprehension by higher mean of 21.08 than lower mean of 10.79 scored by TTM students. Also, CAI enhances performance in writing by higher mean of 22.95 than lower mean of 13.07 scored by TTM students. All the hypotheses were rejected at 95% confidence interval ($p=0.000<0.05$) indicating that the students' mean performance in grammar, reading comprehension and writing taught using CAI and TTMs are significantly different. The differences were in favor of those students taught grammar, reading comprehension and writing using CAI than those taught using TTMs. Based on these findings, the study concluded that those

students taught Kiswahili using CAI performed better in grammar, reading comprehension and writing than those students taught Kiswahili using TTMs. It was recommended; that the MOE should review the Policy on integration of CAI in teaching of Kiswahili subject with regard to making it mandatory for all secondary schools and updating CAI. These results could be useful in increasing teachers' CAI integration for Kiswahili subject instruction purposes in order to enhance students' performance, thereby improving quality of education.

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