RELATIONSHIP BETWEEN INFORMATION COMMUNICATION TECHNOLOGY USE AND UNDERGRADUATE STUDENTS' CRITICAL THINKING SKILLS FOR E-LEARNING IN SELECTED UNIVERSITIES IN KENYA

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ABSTRACT

The purpose of this study was to examine the relationship between Information Communication Technology (ICT) use and undergraduate students' critical thinking skills for e-learning in selected universities in Kenya. ICT was operationalized in terms of self-efficacy, teaching style and ICT applications in use while critical thinking skills were measured in terms of analysis, evaluation, inference and reasoning. The objective of the study was to find out undergraduate students' ICT use, assess their critical thinking skills and investigate the relationship between the self-efficacy for ICT, lecturers' teaching style, ICT applications used and the undergraduate students' critical thinking skills. The study adopted a quantitative approach in data collection and analysis plus a descriptive correlational design. Out of a target population of 8135 students from four Kenyan universities, a combination of stratified and systematic sampling was used to generate a sample of 270 respondents using Yamane (1967) formula. Data was collected using a structured questionnaire whose validity and reliability was ascertained through a pilot study and experts. All the data collected were analyzed using statistical package for social sciences (SPSS) version 20 for descriptive and inferential statistical measures. Descriptive analysis was used to summarize data in means, standard deviation and percentages. Pearson product moment correlation coefficient was used to determine the correlation between the independent and dependent variables and a p value of .05 was set to test the hypotheses. Multiple regression analysis was performed to describe the relationship between the independent and dependent variables of the study. The findings demonstrated a positive significant relationship between ICT and the undergraduate students' critical thinking skills in e-learning in selected universities in Kenya. There was a weak demonstration of critical thinking skills among undergraduate students (M=2, SD 1.5). The results indicated a positive and significant relationship between self-efficacy and critical thinking skills (r= 0.345; p= 0.000), teaching style and critical thinking skills among undergraduate students in e-learning (r=0.326, p=0.000). Likewise, positive and significant relationship was found between ICT applications in use and the development of critical thinking skills (r= 0.582, p=0.000). There was no statistical difference between the critical thinking skills by gender (Male: M=1.82, SD 0.70; Female: Mean=1.6, SD 0.69; p=0.069) or year of study (3rd years: M=1.75; SD= 0.7, p=0.266; 4th years: M=1.6; SD 0.5, p=0.266). However, results indicated that students taking Bachelor of science had higher means as compared to those taking Bachelor of Arts (B.Sc.=2, SD 0.62, p=0.000; BA:M=1.2, SD 1.24, p=0.000). The study concluded that majority of students predominantly use Microsoft office applications, WhatsApp and discussion forums in e-learning. Self-efficacy for ICT, lecturers' teaching style and ICT applications in use positively and significantly correlated with undergraduate students' critical thinking skills in Kenya. The study recommended that university administrators should enhance policies related to ICT use while ODeL departments should ensure continuous support for lecturers and students for effective e-learning. Further, LMS vendors and suppliers should provide user friendly platforms with propensity for collaborative thinking. Lecturers who teach online should design and teach their courses with a balance of social presence, cognitive presence and teaching presence as envisaged in the CoI and social constructivism theory. Course syllabi should be designed with outcomes, activities and assessment frameworks that seek to promote critical thinking skills. Recommendations were made that future studies be conducted using varied designs to investigate ways of strengthening teaching presence, self-efficacy and ICT applications in use to enhance the promotion of strong critical thinking skills.