

ABSTRACT

The use of technology in education has revolutionized learning globally. Shifting beyond traditional mode of education, the integration of technology in education has become an advantage for students with specific needs. E-learning brings forth a flexible and accessible mode of education. In addition, the use of technology also bridges the gap of learning across borders. Given such strengths, it is pivotal to deliberate upon the development of technology use in education. E-learning software systems have been proposed by many researchers and academics as an alternative platform for pedagogy other than traditional face-to-face. One of such information systems is Virtual Learning Systems. Virtual Learning Systems (VLS) are becoming an increasingly common form of education due to the need for a platform that provides ability to connect people with required sets of skills, regardless of their location in the world. However, user satisfaction has been a major challenge in the success of software, regardless of whether the software is proprietary or freeware (such as open source software). The present study explores Virtual Learning System Usability Maturity Assessment that provides a means by which institutions can assess and compare their capability to sustainably develop, deploy and support this e-learning platform. The study was guided by four objectives: to identify the factors that can improve VLS usability for learning in Kenya, to determine the key factors as measuring instruments in presenting the Usability Maturity metrics for assessing VLS usability; to develop VLS assessment tool and to develop measures for VLS-UMAF for learning institutions in Kenya. The study employed mixed research design to collect both qualitative and quantitative data pertinent to the study. The target population comprised, 4930 students and 28 staff using virtual learning systems in two universities. The study employed purposive and stratified random sampling techniques. A sample of 167 students and 143 staff was drawn from the study population. Questionnaires and interview guides were used for data collection. Validity was ensured by specialist supervisors while reliability was achieved by use of correlation coefficient $r > 0.5$. Qualitative data was analysed using Thematic Analysis while quantitative data was analysed using descriptive and inferential statistics with the help of SPSS Version 21. The study presents a usability maturity model for virtual learning systems in universities and VLS assessment tool. In addition, the VLS-UMAF developed is a response to the need for measuring the extent to which Virtual Learning Systems software projects support usability. The results of which is expected to be used for assessing and improving the usability aspect in virtual learning system software development. The study recommends usability assessment methodology and metrics on VLS for e-learning practitioners, information communication technology, education professionals policy makers and researchers in virtual learning environments in making informed decisions on cost and what has to be done to have a working and reliable virtual learning platform.