

## Chapter 19

# Application of E-Learning in Teaching: Learning and Research in East African Universities

**Michael Walimbwa**  
*Makerere University, Uganda*

### **ABSTRACT**

*The challenges of an increasingly borderless world, as seen in the advancements in information technology, have brought reform in universities and re-conceptualized what constitutes learning, teaching, and research. E-learning is often implemented as a response to increasing educational demand and an increasingly networked community. E-learning is considered as an interactive means to provide an alternative environment that stimulates practical learning and equips learners with the skills to manage technological change and innovations. This chapter evaluates the initial phase of e-learning, the importance of a rightful attitude, context, and instructional design in digital learning environments in Makerere University, Uganda, University of Nairobi, Kenya and University of Dar es Salaam, Tanzania. The increase in enrollment in these universities brings in many challenges in service provision, negatively affecting instruction, learning, assessment and research services. A crisis-solving approach is presented as stimulating a creative context for the meaningful introduction of e-learning. It is also discussed whether the environment created so far through computer-mediated learning motivates institutions to integrate e-learning further. The sample involved instructors and learners from three universities in three different countries of Eastern Africa. Findings conclude that an e-learning environment must be introduced by creating relevant awareness to change attitude and empower users with an authentic approach without too much technological complexity. Review of curriculum, assessment and training around e-learning environments are also imperative as these interrelated factors form part of the e-learning process.*

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## **ORGANIZATION BACKGROUND**

Some of the problems in higher education of countries of Eastern Africa are the huge numbers of learners and fewer instructors that eventually affect the quality of teaching, learning and research. There have been attempts to tackle some of these major problems by the introduction of e-learning through integration of information and communication technology (ICT) into teaching, learning and research situations. E-learning, begun with the use of radios and television sets in instruction followed by the instructor led systems (audio) where cassettes were recorded for learners to use independently with minimum help of the teachers. In all these phases, there was support of printed media to enable independent and self-paced learning on the side of the learner. In East African universities, e-learning is a recent technological initiative, which started with few computers and basic networks. Makerere University, Universities of Nairobi and Dar es Salaam were connected to an internet service provider (ISP) that enabled them to periodically download e-mails. These Universities, with little knowledge of the potential of e-mail in instruction and limited networks left internet service to the wits of a few individuals, who later abandoned it (Tusubira, 2002).

The three universities share a common context of location in Eastern Africa and have a common challenge of increasing education demands amidst limited resources. During colonial days, these three were constituent colleges of the University of London, specialized in some programs. For instance, students who wanted to do law in East Africa would go to the University of Dar es Salaam as it was not offered in either of the two. In 1963, the three universities became constituent colleges of the University of East Africa: Makerere University College in Uganda, University of Dar es salaam in Tanzania and Nairobi University College in Kenya. Since then, these Universities have grown in terms of student intake, academic units and academic programs. Naturally, the num-

bers were manageable then, and quality training was guaranteed. Makerere University, which had less than 5,000 students in 1990, had increased this enrolment to 30, 000 students by 2005. There were equivalent increments in student enrolment at universities of Nairobi and Dar es Salaam to 20,000 and 16,000 respectively. With the large number of students, traditional modes of teaching became quite limiting, compelling the universities into innovations to ensure quality service. From analogue file management system of large box files with immense papers, there was a dig through the digital world of computing and networking as innovations. In these universities, using ICT is so popular now that it has a Swahili language name, TEHEMA: “*tehnologia, ehabari mawasiliano*”

## **SETTING THE STAGE**

Computers, multimedia (mm), interactive data-banks and communication platforms in e-learning stir expectation of the potential of ICT in education. Institutions of learning embarked on connections to the internet, formulation of ICT policy master plans and acquisition of learning management systems (LMS) sometimes called learning platforms. Meanwhile, there was demarcation of e-learning centers and intensive set up of other appropriate facilities for e-learning. It was felt that ICT in education have the potential to increase not only the effectiveness of the educational process but also its overall efficiency whether in terms of classroom activities or administration (Omwenga, 2003). Jonassen (2001) asserts that e-learning conforms to constructivism- a teaching and learning paradigm that allows one to learn what they want, at their own pace and to construct knowledge in a social environment. Jonassen describes a constructivist-learning situation as:

- *Active*: where students are able to meaningfully process their own information into valuable personal and social knowledge.

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