Chapter 7.21
Preparing African Higher Education Faculty in Technology

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INTRODUCTION

One of the most difficult challenges facing African higher education institutions (HEIs) is the successful resolution of the inherent tension that underlines efficient and effective utilization of existing resources on one hand and intensified demand for more and better education on the other (Okuni, 2001; Sawyerr, 2004). Although the potential of information and communication technologies (ICTs) to enhance participation in African HEIs has been widely recognized, its transformational capacity has barely been reached because of limited infrastructure, technological capacity, funding and sustainability of resources, and human resources and expertise. Poor infrastructure and weak regulatory policies and frameworks have resulted in inadequate access to affordable telephones, broadcasting, computers, and the Internet (Johnson, 2002).

For many countries, the uneven use of ICT presents the equity dilemma, where the gap between the information-rich and information-poor further marginalizes disadvantaged groups, inadvertently widening the digital divide (Dunne & Sayed, 2002). Statistics by African Internet Connectivity (2002), for example, indicates that although all African countries have Internet connectivity, there are only about four million Internet users. A report by the Association of African Universities (2002) indicates that ICT in African HEIs is limited and varied. Consequently, the benefits of ICT are not being fully realized due to factors such as struggling economies and rising enrollment.

Despite policy pronouncements, the status of ICT shows that the continent is at a growing disadvantage with respect to the global information and technological revolution (Association of African Universities, 2000). Meanwhile, educators are expected to be at the forefront, helping to plan and develop national and international systems that facilitate rapid dissemination of information while simultaneously keeping current with the literature in their various academic disciplines.

BACKGROUND

Two features characterize higher education in Africa. First, until the 1960s, HEIs consumed few public resources, because they were not central to the economic needs of the society. As countries achieved independence, higher education expanded as a symbol of autonomy and autarchic development. The second feature was the major response of higher education to social and economic change has been curricular change. As noted by Dunne and Sayed (2002) and Sawyerr (2004), the 1970s witnessed growing cynicism and skepticism that replaced the initial optimism about higher education development. By the 1980s, it was clear that while substantial progress was being made, it was evident that higher education was in need of change. The proposed changes harnessed the potential of ICT and faculty development to improve access, quality, and efficiency of higher education.

The massification of higher education is now associated with increased access for those who have been previously excluded (Dunne & Sayed, 2002). HEIs have invariably been cast in the role of producing skilled human capital, coupled with the responsibility of acting as catalyst in the search for quality and relevance in terms of teaching, research, and service (Seddoh, 2003). Paradoxically, during the transition, higher education has been characterized by increased competition and decreased funding, and slow rates of economic development have contributed to the perception that HEIs are not making significant economic and social contributions. Faced by financial constraints, African governments question investing in higher education, and donor agencies primarily focus on primary education. The following is an overview of the state of ICT in African HEIs in relation to challenges and opportunities. The importance of decision making in the selection and implementation of ICT in higher education is discussed, followed by a discussion of techniques that are useful in preparing faculty to use ICT. Recommendations and the future of ICT are also presented.

TECHNOLOGY INTEGRATION IN HIGHER EDUCATION

The goal of higher education is to expand educational opportunities, seek pedagogical alternatives, and accommodate new theoretical assumptions that potentially enhance teaching and learning (Minishi-Majanja, 2003). While not everyone agrees with the assumption that technology-enhanced instruction is a viable method of delivery, experimenting with new modes of delivery has been one of the means of accommodating enrollment pressures. When ICT are well-implemented and utilized, they can add new resources to existing course content in the learning environment and introduce unique options for teaching and learning.

Access to the Internet offers users the possibility of interaction that transcends the boundaries of time and space, enhances the range of information available to learners, and expands the opportunities for international communication (Donat, 2001; Minishi-Majanja, 2003). Distance education, open learning, and e-learning have all made considerable use of various resources, such as Web-based and Web-enhanced learning. Many of these include satellite links, computers, telephone conferencing, fax, and interactive video. Donat (2001) and Okuni (2000) present the case of the African Virtual University based in Kenya as an example of a first attempt to use on a large-scale various ICT to meet the growing demand for access to quality higher education throughout the continent. Bhalalusesa (1999) and Minishi-Majanja (2003) also present examples of the Open University of Tanzania and the University of South Africa as HEIs that have also been providing quicker and more effective access to