Growth of Information and Communications Technology at African Universities

SARAH HOOSEN and NEIL BUTCHER

Sarah Hoosen is a researcher and project manager who has evaluated several projects and conducted research in the area of education and technology. Neil Butcher is managing the Partnership for Higher Education in Africa's Educational Technology Initiative, on behalf of the South African Institute for Distance Education. E-mail: neilshel@nba.co.za.

Across Africa, access to information and communications technology (ICT) continues to improve, as the costs of telecommunications and access devices are declining rapidly. National, regional, and continental bodies recognize the critical role that ICT can play in higher education, on the continent. Many countries are focused on developing national ICT policies and infrastructure plans to support their socioeconomic development efforts and ramifications in African higher education institutions.

Significant work has been carried out at the institutional level—by institutions and also through donor-funded projects. Established in 2008, the Partnership for Higher Education, Educational Technology Initiative aims to support ICT integration in African universities. Teaching and learning initiatives are supported that integrate use of technology and promoting collaborative knowledge creation and dissemination. The policy also focuses on initiating and

sustaining effective educational technology projects on the nature and quality of the student-learning experience and outcomes. Seven institutions from six countries are participating: Makerere University in Uganda, the University of Dar es Salaam in Tanzania, the Universities of Ibadan and Jos in Nigeria, Kenyatta University in Kenya, Universidade Católica de Moçambique in Mozambique, and the University of Education, Winneba in Ghana. The experiences of managing this project provide an illustration of ICT development at African universities.

ENHANCING TEACHING AND LEARNING

In African higher education, ICT has been used to tackle teaching and learning challenges faced in traditional teacher-led lecture rooms—including large classes, multilingualism, development of literacies, and bridging the chasm between theory and practice. The University of Ibadan embarked on a development project aimed at building university staff capacity to develop and/or source digital content and make an effective use of this source for teaching and learning. Makerere University has been engaged in developing e-content for courses and has initiated an e-portfolios project that seeks to introduce electronic portfolios into assessment.

In addition, African universities are increasingly using learning management systems of online, blended, and Web facilitated studying. Thus, analysis demonstrated that investment in learning management systems, including development of the capacity of staff and students to use them effectively and efficiently, is key to the effectiveness of e-learning and blended learning. However, the audit highlighted several gaps in capacity at participating

institutions: shortage of people with technical skills to maintain ICT systems; limited numbers of people with experience in using technology for educational purposes; heavy reliance on content-driven, top-down educational methodologies among academic staff; limited experience in project planning; and so on. To mitigate this, the project included a series of ongoing capacity-building exercises, with changing focus as needs change. Initial capacity-building activities were quite introductory but moved to more advanced ones—such as, developing simulations, animations, and video materials, as well as placing a much stronger emphasis on quality improvement. Nevertheless, a central challenge of ensuring quality remains as there are often no robust quality-assurance/improvement frameworks in place for e-learning at African universities. Perhaps one way of improving quality is through peer networking.

OTHER CHALLENGES

A major constraint on integrating ICT into teaching and learning activities is the lack of institutionalized incentives for academic staff to engage with educational technology—or even to produce better learning experiences for students—as academics are primarily rewarded on the basis of research publication. Furthermore, despite the emphasis on publications and the highlight of documenting educational technology initiatives, research has not gained much traction in that sector. The project has illustrated the paucity of capacity to undertake effective academic research in e-learning in many African universities. This challenge may be due to personnel not having much research experience, research not being given priority in relation to other job demands, or insufficient interest in implementing the research program originally envisaged in the

project. Efforts, thus, need to be made to develop research capacity in e-learning, by providing support and also by freeing up time for academics to undertake research.

The paucity of ICT infrastructure remains a major barrier to deployment of technology for educational purposes. Basic problems, such as limited bandwidth and intermittent electricity, place significant limitations on the potential for growth of e-learning at affected universities, which often disrupts development work, research, and other relevant activities. Nevertheless, some improvement seems under way, particularly in the growth of connectivity in east and southern Africa, following successful deployment of undersea cables. Furthermore, growing evidence of successful ICT use in higher education in Africa is promising, and will hopefully invigorate governments, international partners, and institutions themselves—to continue investment and focus on ICT use in higher education.