Chapter VIII
E-Learning and Virtual Campus Development:
From Innovation to Sustainability

Irene le Roux
University of Pretoria, South Africa

Karen Lazenby
University of Pretoria, South Africa

Dolf Jordaan
University of Pretoria, South Africa

ABSTRACT

The University of Pretoria (UP) implemented a virtual campus in 1999. The measure in which and rate at which the virtual campus environment was adopted in the institution, was substantial. To accommodate the expected growth the University decided in 2004 to upgrade the learning management system in order to provide more stability and better integration with the student information system. However, the more complex integrated environment resulted in more points of failure and a less stable environment. Higher user frustration levels led to a decline in the number of users. The chapter discusses four key variables that influence growth and sustainability in an e-learning environment: Management, Training and Support, Measurement, and Technology strategies. We argue that additional resources required in Information Technology Services (ITS) were not adequately provided for. We give suggestions for future directions.

BACKGROUND

The adoption rate of the virtual campus and e-learning environment at the University was such that Bonk (2004) refers to this growth as being "monumental" (p. 23). Zawacki-Richter (2005) used the University of Pretoria in a case study and states: "The example of the University of Pretoria

was selected for a case study because learning and teaching with new media was introduced here with impressive effect and great success". At the Blackboard BbWorld European Conference in Nice, February 2007, the implementation strategy UP followed for Blackboard Vista was showcased as best practice (Chasen, 2007). The success in e-learning at UP can largely be contributed to the development of an integrated virtual campus.

The virtual campus of the University of Pretoria is an example of organisational innovation (Lazenby, 2003). The 'S'-curve empirical prediction cycle is often used in the technology and innovation environment (Porter et al., 1991). The chapter identifies the key variables that impact on the sustainability of the virtual campus and the e-learning environment: Management, Training and Support, Measurement and Technology strategies. We argue that progressive integration with legacy systems, as well as dependence on Information Technology Services (ITS) (over a period of ten years) poses a threat to the sustainability of the virtual campus. In this light that we contend that current management structures at executive level within the institution as well as at operational level within the Information Technology Services should be revisited. These managerial changes must be supported by a stable Information Communication Technologies (ICT) infrastructure to ensure sustainability. We also hope that a new enterprise systems renewal project will be sufficient innovation to create a new 'S'-curve, supported by high level dedicated strategic leadership and policies to provide direction for academic technology.

Context

The University of Pretoria is one of the largest residential universities in South Africa. It is ranked as one of the top five hundred universities in the world (Shanghai Jiao Tong, 2007). The academic offerings are organised into nine faculties, i.e., Engineering, the Built Environment and Information Technology; Law; Education; Humanities; Economic and Management Sciences; Health Sciences; Veterinary Science; Natural and Agricultural Sciences; and Theology. The university offers a total of 1,802 programmes, including 341 undergraduate and 1,461 postgraduate programmes to approximately 53,400 students. Of these, about 14,000 students are traditional paper-based distance education students (University of Pretoria, 2007b, pp. 13-18).

A virtual campus was implemented in 1998/1999 consisting of a learning management system (WebCT) and wrap-around portals for students and lecturers. The virtual campus was deployed on an institutional scale and provides seamless access to the learning and student administration environment (Lazenby, 2003). Within the context of this chapter, the term virtual campus will be used for portals that provide administrative functions to lecturers and students through the portals, and the term e-learning environment for the learning management system and other technologies used for teaching and learning.

Adoption Rate

By the end of 1999, 12,700 students used the student portal – Student Online Services – and close to 1,600 students were enrolled in WebCT-supported modules (Lazenby, 1999). Currently, close to 42,000 students use Student Online Services and more than 30,000 students have access to Web-supported modules. A total of 2,231 staff members use Lecturers Online, of which 1,039 lecturers use WebCT to support face-to-face teaching and learning.

During 2005, WebCT merged with Blackboard. Due to the ambiguous nature of the name "Vista", and the desirability of moving away from trade names, it was decided to name the learning management system "clickUP". Figures 1 and 2 illustrate the growth in the number of clickUP modules and the growth in the number of students who use clickUP.