

# Chapter 13

## Meeting the Realities in Technology Enhanced Learning

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### ABSTRACT

*The case discusses the challenges of introducing technology-enhanced learning in geographically dispersed learners, most of who are situated in rural areas. These are post-diploma nursing learners with minimal computer literacy. They also have limited or even no access to computers at the university because they attend part time, have full-time jobs and stay far from the university and so cannot even visit computer labs after hours. Despite these challenges, these students end up being motivated to learn computers so that they can access learning material and also use them for lifelong learning. The case also covers computer training, e-applications used, online learning, studies done, partnerships between faculty and the directorate and teaching and learning with technology. The value of simple, cheap technologies like an interactive CD-ROM in initiating students to e-learning and overcoming their bandwidth problems is emphasised, including the gains made from the project. Both staff and managerial challenges are discussed and recommendations are made.*

### INTRODUCTION

Technologies are a reality in education and so too are their challenges. Information technology, or its incorporation into educational programmes, is often presented as an ideal and practical solution

to *inter alia* contemporary problems in teaching methodologies, demands for innovation and dealing with large groups of students. It is indeed true that it does address these problems, but what is rarely mentioned are the challenges of incorporating e-learning into educational practices and maintaining an e-learning environment that meets the needs

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of both faculty and students. Burchell (2001) elaborates on various studies which consistently report on the problem of computer illiteracy, computer availability and access to computers by post-graduate students. Challenges of using the web are listed by Alessi and Trollip (2001) and these will be addressed later in this chapter. These challenges are not unique to Tshwane University of Technology as studies from other institutions in different parts of the world reveal. Hence, one refers to them as realities.

The main focus of this case study is on the introduction of technology-enhanced learning in geographically dispersed, post-diploma nursing students who study part time and are at the same time in full-time employment. Tan (2004) defines a case study as a research strategy involving in-depth empirical investigation of a particular phenomenon and states that a “case” may be an organisation, city, country or person. Gwele (2000) refers to these geographically dispersed students as returning African students whose learning needs can best be addressed through e-learning. Though the returning, geographically-dispersed students are used as a basis for the discussions, these are not necessarily the only students affected by the e-learning challenges. The reader can identify other similar situations in various parts of the world where these challenges occur.

This chapter will address some of these challenges, based on our experiences in technology-enhanced learning. These challenges include students’ challenges before implementing technology-enhanced courses: the technology-enhanced course as an intervention strategy, challenges faced by both staff and the institution in this regard; the benefits of technology-enhanced learning and, lastly, the introduction of an interactive CD-ROM as a strategy of addressing some of these realities in e-learning. In this study the technologies referred to include CD-ROMs, computers, the Internet, networks and bandwidth.

## **RATIONALE FOR THE TECHNOLOGY-ENHANCED EDUCATION PROJECT**

The Nursing Department offers the programme B.Tech Occupational Health Nursing on a part-time basis. This is an outreach programme to make continuing nursing education programmes available to nurses in remote areas of the country. The course runs for two years. The learners are professional nurses employed full time in either public and private healthcare institutions or industries. Nursing in this country is still a predominantly female profession, so males make up less than 1% of the total population of 120-150 per year of study. Being female, most of the students have to cope with the multiple roles of being a wife, a mother, a professional, a community member and a student. But as adult learners, they know what they want. They desire to be involved in their learning and wish for knowledge which is of immediate use.

There is minimal lecturer-learner contact, three days a month for three subjects in the first year, and in second year they do only two subjects. Lecturing venues include Polokwane, Nelspruit, EMalahleni, Klerksdorp, where the majority of the students stay and work in rural areas, and Pretoria, which is more urban. In our case, the context is not that of complete separation between lecturer and learner in space and time. It is partially because lecturers do go to learners periodically and they meet at educational venues with minimal infrastructure. The e-learning project in this case was implemented to augment the part-time, face-to-face modality. Each lecturing venue has at least one part-time lecturer who also acts as an onsite mentor for the learners.

The teaching and learning approach used here is Problem-based Learning (PBL). Problem-based Learning (PBL) is a curriculum design and a teaching learning strategy. According to Yin Ho (1999) PBL develops higher-order thinking skills, disciplinary knowledge bases and practical skills

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