Chapter 7
Towards Alleviating the Post-Apartheid Education Crisis in South Africa

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ABSTRACT

Post-apartheid South Africa is witnessing an education crisis of significant proportions. The new outcomes-based education system has failed to deliver, and universities are suffering the consequences of under-preparation of learners for tertiary studies. The educator corps is lacking, and it has become common practice for universities to deploy augmented programmes in mathematics for secondary school learners in the surrounding area. This chapter describes a particular model of blended learning, devised for the Incubator School Project (ISP), an initiative of the Nelson Mandela Metropolitan University (NMMU) in the Eastern Cape of South Africa. The defining feature of this blended model is that it incorporates DVD technology, which offers an affordable and accessible option for the particular group of learners. DVD technology was used as an ingredient in this blended learning approach since it is easily available to the majority of learners and to the schools they attend. This chapter describes the particular blended model and reports both qualitatively and quantitatively on its success: qualitatively, based firstly on a questionnaire completed by learners and secondly on interviews of educators; quantitatively, based thirdly on learner performance before and after the intervention and fourthly on a single school case study where the mathematics performance of the learners who participated in the ISP is compared to those who did not participate in the ISP. Finally, the scope of blending of this model is evaluated by means of a radar chart, adapted from an existing radar measure. The findings of the study suggest that the use of DVD technology in the blended learning approach impacted favourably on the mathematics learning and enhanced the mathematics performance of these learners.

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INTRODUCTION

Hailing the end of the apartheid era in South Africa in 1994, the new dispensation brought expectations of entering an era of equal opportunities for all citizens. Education had previously been contentious as favouring the privileged communities of South Africa and the political change brought a vision of equity. It was also felt that many of the learners in the current school system did not develop the required problem solving skills and the ability for critical reasoning in the learning process (Department of Education, 2000). The perception was that learners sat listening to the educator, passively taking notes and not actively participating in the learning process. A new education system became a priority and in 1997 the then minister of education, Sibusiso Bengu, announced the implementation of a new education system which was to follow an outcomes-based education (OBE) approach, to be implemented for the first time in 1998. Bengu (1997) suggested that OBE

> *... aims at equipping learners with the knowledge, competencies and orientations needed for success after they leave school .... Its guiding vision is that of thinking, competent future citizens ... the new curriculum will integrate education and training incorporating a view of learning which rejects a rigid division between academic and applied knowledge and skills ... and foster learning which encompasses a culture of human rights, multilingualism and multi-culturalism. (p. 1)*

OBE was implemented to address the imbalance in education and the changing demands of the society. In addition, the shift away from a teacher-centred approach to a learner-centred approach, advocated by OBE, was a selling point of the new system. The vision of the new education system was to integrate education and training in a life long process of learning. OBE provided learners with more mobility between the different fields of study and occupations (Graven, 2002). The OBE system brought about many changes, not only a change in approach but also changes in curriculum.

The new education system required all learners to do mathematics up to Grade 12. Learners interested in tertiary studies were advised to do Mathematics whereas others are required to do Mathematics Literacy. Prior to OBE, learners could choose among Higher Grade Mathematics and Standard Grade Mathematics or neither. Although there are similarities between Mathematics in the OBE system and the former Higher Grade Mathematics, Mathematics Literacy bears no resemblance to the former Standard Grade Mathematics. Mathematics Literacy aims at providing learners with mathematical skills that will equip learners for life in general.

The transition from one education system to another was a serious step to take. In South Africa, the transition created great concern especially because it happened shortly after the 1994 election, which gave the transition to the new approach and curriculum a political colour. Furthermore, the OBE system was criticised because it had already failed in a number of other countries, since it is a system that requires many resources (well-trained teachers in particular) in a country where education resources were already under pressure. Jansen (1998) predicted that it would be widening instead of narrowing the gap between rich and poor learners.

Sixteen years after the demise of apartheid, it is generally accepted that many of the misgivings were justified and that there is a national education crisis in South Africa, bigger than ever before, especially with regard to teaching and learning of mathematics (Mail & Guardian, 2007; Nicolson, 2009). The concern has been raised at the tertiary level that students are not meeting the expectations of preparedness met by their predecessors (Engelbrecht & Harding, 2008). The change of curriculum has created many challenges for

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