



Item	Content
Introduction	<p>In developing countries where higher education is fraught with serious challenges at multiple levels, there is increasing pressure to ensure that technological possibilities are viewed in the context of educational needs. This case study (conducted at the University of Cape Town) argues that a central role of educational technology is to provide additional strategies that can be used to address the serious environmental and educational challenges faced by educators and students in higher education. It shows how specific and carefully considered interventions using ICTs can be used to address teaching and learning concerns regarding South Africa Higher Education Institutions context.</p> <p><b>Using interactive spreadsheets to develop mathematical literacy skills:</b> Economics at university level poses particular difficulties for students since lecturers assume prior knowledge of the economy. Unfortunately, many students from previously disadvantaged communities have very limited knowledge of the economy at the start of their university careers. Under-prepared first year students encounter further difficulties due to a lack of academic literacy skills. The Industry Research Project (Carr et al., 2002) was designed to address economic literacy while simultaneously dealing with language and communication skills of UCT economic students. Interactive excel spreadsheets in conjunction with short writing tasks in the form of online discussions, short essays, reports and presentations were used in academic development economics courses at UCT. These tasks or activities provided a range of opportunities for students to develop understanding of economic discourses through writing in economics. Although Carr et al. (2002: 5) found it difficult to measure the impact of these tutorials, which formed a small part of the first year economics curriculum, they observed that the interactive spreadsheets were effective teaching tools in that tutors were able to focus students' attention on economics issues rather than procedural issues and that the quality of articles produced by students improved due to the online feedback provided during the process of drafting articles online. This curriculum project demonstrates the use of educational technology in conjunction with face-to-face activities in addressing students' academic literacy skills.</p> <p><b>Using educational technology to manage tutorials in large classes:</b> Many university courses are theory driven and assume that students have knowledge or real world experience and can therefore make the links between theory and practice. Students often have limited experience or practical knowledge and therefore have difficulty in understanding theory. The Director's Cut was produced and used in a Film and Media course at UCT to provide students with insights into the practical processes involved in filmmaking without engaging in the actual process of editing. Exposing students to actual editing is expensive and impractical in a large course. The intervention provided individual students with an authentic learning environment through a simulation. Students sequenced film clips, hence simulating the role of an editor through a simplified version of the editing process. In this way, the focus is on key learning aspects of film narrative and spectatorship and linked theory to the 'practice' of film editing.</p>
Type of institution involved	Higher Education Institutions (HEIs)
Title of the methodology used	The role of ICTs in higher education in South Africa: One strategy for addressing teaching and learning challenges
Type of educator	HEIs Educators
Tool/tools used	Lecture notes online, streaming videos of lectures, DVD, Multimedia including digital video, audio clips and Animations, blogs, forum, information gateways.
Main Challenges, Key Success & Enabling Factors	As is the case in higher education globally, South African higher education is under pressure to increase participation from diverse groups of students and to produce the skills required for rapidly changing society. Education is viewed as one of the key mechanisms of achieving social transformation. It is in this educational context that new opportunities for educational technology have arisen. The major teaching and learning challenges facing higher education revolve around student diversity, which includes, amongst others, diversity in students' academic preparedness, language and schooling background. Teaching and learning in South African higher education has also to contend with deep-rooted complex issues and problems stemming primarily from a previously racially divided and unequal education system. In addition, large classes are an endemic feature of most university courses posing an additional challenge in the teaching of a diverse student population. South African higher education institutions are faced with a myriad teaching and learning challenges. Through this case study, we look at ways in which ICTs have been used to respond to these challenges at one South African higher education institution.
Lessons Learnt & Recommendations	The model has been substantiated with examples of the application of educational technologies to teaching mathematical literacy, academic literacy, management of large classes, and ways of influencing curriculum design. Our argument is that technology alone is not a solution to the educational challenges faced in South Africa. The challenges lie in identifying and conceptualising ways that educational technology can usefully contribute to student learning experiences, curriculum and pedagogical designs. The case study demonstrates and argues that educational technology has a key role to play in South African higher education as one of the strategies for addressing teaching and learning concerns. This challenges learning designers to rethink the role of educational technology within broader educational interventions that are shaped by educational needs rather than being technologically driven.
Country	South Africa
Name of the Institution/Education Center	University of Cape Town, South Africa



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