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ABSTRACT OF PROPOSAL FOR PAPER

TITLE OF PAPER:	An Action Research Approach to the Design and Implementation of an Online Course in Applied Mechanics
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KEY WORDS	Action Research, Online Learning, Implementation, Instructional Design, Case History
THEMES ADDRESSED, IN ORDER OF SIGNIFICANCE	<ol style="list-style-type: none">1. design and pedagogy of networked learning2. methodologies for researching networked learning3. case studies of networked learning4. on campus networked learning5. staff development issues
BRIEF SUMMARY	The paper describes the development, using Action Research, of an online learning course in Applied Mechanics at a tertiary institution in a developing nation, carried out with limited resources in an environment of rapid and fundamental change and forming part of a professional development project.

An Action Research Approach to the Design and Implementation of an Online Course in Applied Mechanics

Summary

The paper describes the development, using Action Research, of an online learning course in Applied Mechanics at a tertiary institution in a developing nation, carried out with limited resources in an environment of rapid and fundamental change and forming part of a professional development project.

Abstract

Since the establishment of democratic government in South Africa, tertiary education has been experiencing profound changes in its structure, governance, demographics and environment. Technikon Natal, situated in KwaZulu-Natal, has seen large increases in its student population, and has changed from a single campus institution in Durban to a multiple campus institution with campuses throughout the province. For the Department of Civil Engineering and Surveying, one of the consequences of the increase in student population was that it did not have the resources to accommodate students who had failed a course more than once. Part time courses were instituted to permit disaffected students to continue studying while not occupying places needed for first time students. The development of an online course in Applied Mechanics was initiated to supplement written materials given to part time students who were required to study off campus. This paper describes the Action Research approach to the design and implementation of the online course in Applied Mechanics, in an environment of continual change.

Four AR cycles have been completed so far, and have addressed the issues of instructional design, incorporating the requirements of outcomes based education, how to integrate knowledge of learning, assessment, design for the learning styles and approaches to learning of students in the department, the use of the WebCT learning environment, and active server pages.

The course has been developed as part of a professional development programme in online learning whose objective is sustainable development in online learning with limited resources. It has not been done in isolation, but as a part of a group whose collaborative learning has for the most part taken place online. The design and particularly the Action Research approach that was adopted now serve as an exemplar for a new generation of staff.

Action Research has proved to be a practical approach to the design of the learning event during a time that the structural, human and technological environments have changed with great rapidity. In particular, regular, structured evaluation and reflection have ensured that development has focused in areas where response to the external environment and in areas where there were weaknesses in the design. It has also been valuable as a means of documenting and viewing the design. The next cycle will attempt to take into account the strategic nature of the approach to learning adopted by users of the course, and will also look at ways of facilitating online collaborative learning to meet the challenge of having

students on multiple campuses, and to take into account the possibility of acquiring online students in other parts of Africa.
