Quality assurance practice

in online (web-supported) learning in higher education:

An exploratory study

A thesis by

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ABSTRACT

Keywords: online (web-supported) learning, quality assurance, self-evaluation, client feedback.

The fields of quality assurance in higher education and e-learning, or technology-enhanced learning, are current and topical, yet seldom overlap (Reid, 2003). Higher education institutions are experiencing pressure to become more client focused and compete on the global stage, especially with respect to technology-enhanced learning. We are on the brink of a genuine pedagogical revolution (Moon, 2003) and calls for quality promotion, accountability, self-evaluation, value for money and client satisfaction cannot go unheeded.

Three knowledge domains provide the context for this study: quality assurance, higher education and web-supported learning. Their intersection locates the research problem that was investigated, namely the quality assurance of web-supported learning in higher education.

The research design is an instrumental case study, focusing on web-supported learning as a supportive medium in a flexible, blended learning model at the University of Pretoria, South Africa. The research methods include the literature survey, case analysis meetings, a student survey, lecturer interviews, expert consultation and task teaming.

The conceptual framework for this study (Figure 2.5) is based on the confluence of the existing theories: quality assurance theory, instructional systems design and systems theory. The updated conceptual framework (Figure 7.1) and the synthesized findings (Table 7.1) reflect the holistic nature of the process-based quality management system for web-supported learning that characterises this study.

The value of this study to the academic community is in the findings, which include a taxonomy of critical success factors for web-supported learning, the identification of factors which promote student and lecturer satisfaction (or frustration) with web-

supported learning experiences, and lessons learnt by applying standard quality assurance theory to the instructional design process.

The self-evaluation exercise in an academic support unit provides a precedent and contributes criteria that will be useful to the Higher Education Quality Committee in South Africa, as well as to other higher education institutions.

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for e-lady	e-lesson
doing e-work	
on e-lessons	e-nough's
on e-learning	e-nough
e's-slow	e-silly
on e-uptake	e-stuff
of e-offers	
of e-love	e-need
here's e-lesson	e-love
for e-lady	e-me
in e-language	
of e-love	e-mmediately
John Fresen	7 February 2004

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LIST OF ACRONYMS

ADDIE	Instructional Design Model: Analysis, Design, Development, Implementation, Evaluation
AIS	Academic Information Service (Library) at the University of Pretoria
ALN	Asynchronous Learning Networks
ASQ	American Society for Quality
ASTD	American Society for Training and Development
BSI	British Standards Institute
BEM	Business Excellence Model
CBE	Computer-Based Education
CHE	Council on Higher Education
CMC	Computer-mediated Communication
CUP	Committee for University Principals
EFMD	European Foundation for Management Development
EFQM	European Foundation for Quality Management
ELIP	E-Learning Quality Improvement Programme
ETD	Education, Training and Development
ETQAs	Education and Training Quality Assurance bodies
EQO	European Quality Observatory
FOTIM	Foundation of Tertiary Institutions of the Northern Metropolis
HEQC	Higher Education Quality Committee
ICT	Information and Communications Technology
IHEP	Institute for Higher Education Policy
ID	Instructional Design
ISD	Instructional Systems Design
IT	Information Technology
IR	Information Retrieval
LMS	Learning Management System
NADEOSA	National Association for Distance Education of South Africa
NCHE	National Commission on Higher Education
NQF	National Qualifications Framework
NSBs	National Standards Bodies
ODL	Open and Distance Learning
QA	Quality Assurance
QC	Quality Control

QMS	Quality Management System
QPU	Quality Promotion Unit
SA(B)EM	South African (Business) Excellence Model
SAEF	South African Excellence Foundation
SAIDE	South African Institute for Distance Education
SAQA	South African Qualifications Authority
SAQI	South African Quality Institute
SAUVCA	South African Universities Vice Chancellors' Association
SERTEC	Certification Council for Technikon Education
SGBs	Standards Generating Bodies
SLA	Service Level Agreement
SNQAF	SAUVCA National Quality Assurance Forum
SSM	Soft Systems Methodology
TLEI	Department of Telematic Learning and Education Innovation
TQM	Total Quality Management
UNISA	University of South Africa
UP	University of Pretoria
VLE	Virtual Learning Environment (used in the UK synonymously with LMS)
WSL	Web-Supported Learning

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LIST OF TERMINOLOGY

Asynchronous Learning Networks (ALN)	"Asynchronous learning networks (ALN) – an important variant within what is commonly known as 'online learning' or 'e-learning' – emphasizes computer and Internet technologies to facilitate interactive communication between an instructor(s) and students in an online environment" (Lorenzo & Moore, 2002, p. 3).
Benchmarking	Benchmarking is "a means of establishing 'good' and 'best' practice to diagnose problems and see oneself in the mirror of 'best' practice elsewhere. The central purpose is to provide an external reference for evaluating quality, cost-effectiveness of activities and processes" (Schofield, cited by Ogunrinade, 2000, p. 141).
Blended learning	Blended learning is a mixed methodology of traditional, face-to-face classroom sessions, and remote asynchronous learning sessions where material is made available and interaction takes place in a virtual learning environment (Whaymand, 2004).
Computer-based education	The use of a computer, whether standalone or networked, to manage and access large amounts of information and present it in a novel, interactive and interesting way (Volery & Lord, 2000).
Distance education Distance learning	• Distance education covers the various forms of study at all levels, which are not under the continuous immediate supervision of tutors present with their students in lecture rooms or on the same premises. Students nevertheless, benefit from the planning, guidance and teaching of a supporting organisation (Holmberg, 1995). • Distance learning refers to learning environments centering upon the physical separation of the learner, or a group of learners, from the source of learning (Kochtanek & Hein, 2000). • "Distance learning can be defined as any approach to education delivery that replaces the same-time, same-place, face-to-face environment of a traditional classroom" (Volery & Lord, 2000, p. 217).
Distributed learning	• Distributed learning describes a learning community with multiple sources of information, including the students themselves. "The focus is not so much on delivery mechanisms as it is on learning experiences and resources in support of student interactions and learning" (Kochtanek & Hein, 2000, p. 282). • A blended model, incorporating asynchronous, synchronous, face-to-face sessions, and a heavy reliance on technology and self-learning on the part of the student (Volery & Lord, 2000).

e-learning e-education	• The design, development and delivery of technology-enhanced learning experiences, using a variety of media, for example web-based (online), computer-based (multimedia CD-Roms), interactive television broadcasting, audio- and video-tape, video conferencing. • Instructional content or learning experiences delivered or enabled by electronic technology. It includes a variety of learning strategies and technologies (American Society for Training and Development, n.d.). • "e-Learning is content, tasks, problems and most importantly feedback and collaboration, mediated through a networked computer" (Reeves, 2001, workshop).
Flexible learning	The creation of student-oriented teaching and learning environments, which allow the student flexibility in terms of: • entrance to and exit from the learning programme; • modes in which teaching and learning take place; • programme compilation; • assessment methods; • time and place of study; • pace at which learning occurs. (University of Pretoria, 1998).
Formative evaluation (in Instructional Design)	"Formative evaluation is a judgement of the strengths and weaknesses of instruction in its developing stages, for purposes of revising the instruction to improve its effectiveness and appeal" (Tessmer, 1993, p. 11).
Instructional Design	The art of designing instructional interventions that promote student cognition, learning, interaction and performance - putting yourself in the shoes of the student, anticipating their difficulties, accommodating different learning styles, offering meaningful learning activities, all in order to enhance the achievement of the desired learning outcomes.
Online / web-based learning	• Use of the Internet and the World Wide Web (WWW) to deliver interactive learning experiences to students, independent of distance, time and place. This includes both synchronous and asynchronous modes of interaction. • "Any learning that uses the Internet to deliver some form of instruction to a learner or learners separated by time, distance or both. Online learning may occur among people scattered across the globe or among co-workers at a single facility via corporate intranets and local area networks (LANs). What defines online learning is the use of network communications systems as the delivery medium" (Reiser & Dempsey, 2002, p. 283).

Open learning	Open learning means that the learner has a certain degree of choice with respect to entry criteria, time, pace and place of learning. Learners can work through an open learning programme on their own, and make choices to suit their life style and learning styles (Race, 1989).
Prototype	A prototype is a "preliminary version or a model of all or part of a system before full commitment is made to develop it" (Smith, p. 42, quoted by Nieveen, 1999, p. 128).
Quality Assurance	- A planned and systematic set of procedures which are designed to build quality into a product or service, that is, to carry it out correctly the first time (Boyd, 2001b). "Quality Assurance is about ensuring that there are mechanisms, procedures and processes in place to ensure that the desired quality, however defined and measured, is delivered" (Harvey & Green, 1993, p. 21).
Quality Control	A procedure for checking work after it is done and then correcting it if faulty (Boyd, 2001b).
Quality Management System (QMS)	"A quality management system can be defined as a system designed to manage the continuous improvement of all processes in an organisation in order to meet customer expectations" (Meyer, cited by Fourie, 2000, p. 51). "A quality management system is the sum of the activities and information an organisation uses to enable it to better and more consistently deliver products and services that meet and exceed the needs and expectations of its customers and beneficiaries, more cost effectively and cost efficiently, today and in the future" (SAQA, 2001b, p. 9).
Six Sigma	A recent and popular (in the USA) quality improvement methodology, based on statistical methods (Hoerl, 2002).
System	"A system is defined as a set of two or more interrelated elements of any kind. It is not an ultimate indivisible element but a whole that can be divided into parts" (Fourie, 2000, p. 52).
Telematic learning	The University of Pretoria extends the semantic definition of the word 'telematic' (*tele* – over a distance; *matic* – by means of) to incorporate a flexible learning model delivered through a variety of media and enhanced by technology (Fresen, 2002).

Total Quality Management (TQM)	A holistic management philosophy which harnesses the efforts of everyone in the organisation to achieve continuous improvement (Fresen, 2002).
	"It is a philosophy with a number of practical suggestions for its own self-perpetuation and implementation. Essentially it is a philosophy that can be simply summed us as 'doing things properly' in order to maximize competitiveness and profit" (Harvey & Green, 1993, p. 30).
	"Total Quality Management focuses on achieving quality and can be defined as a philosophy and a set of guiding principles that intend to meet and exceed the needs and expectations of various external and internal customers" (Steyn, 2000, p. 175).
	"TQM is an approach to improve the competitiveness, effectiveness and flexibility of an entire organisation. It is essentially a way of planning, organising and understanding every activity in the organisation and depends on each individual at all levels within the organisation" (Smit, 2001, p. 50).