THE EFFECT OF INTERNAL QUALITY ASSURANCE REVIEWS ON DEPARTMENTAL ACADEMIC PROGRAMMES AT THE UNIVERSITY OF KWAZULU-NATAL

by

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Submitted in accordance with the requirements for the degree of

PhD

In the subject

EDUCATION MANAGEMENT

at the

CENTRAL UNIVERSITY OF TECHNOLOGY

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NOVEMBER 2015

DECLARATION

I declare that “The effect of internal quality assurance reviews on departmental academic programmes at the University of Kwa- Zulu Natal” is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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ACKNOWLEDGEMENTS

I would like to express my sincere appreciation and gratitude to:

- Almighty God for giving me the strength, courage and inspiration to complete this study.
- Supervisor Dr Jo Badenhorst for her invaluable guidance, support and commitment in terms of evaluating my work critically and providing constructive comments for the refinement of this dissertation.
- My wife, Shyamala and children Thanishiya, Shalendra and Yerdashin for their unwavering love, encouragement, understanding and tolerance.
- To the NRF Part-time Doctoral Study at a South African University/ University Scholarship Reference APDS 14012362082 (Grant number 92382) and CUT Research Fund – for financially supporting this postgraduate research project.

Accomplished with financial assistance from NRF Part-time Doctoral Study at a South African University/ University of Technology Scholarship Reference APDS14012362082 (Grant number 92382)

DEDICATION

I would like to dedicate this study to my late parents, **Arunaghary and Janaky Padayachi,** who always inspired me to pursue my goals and dreams in life through education.

ABSTRACT

The Quality Assurance System in the higher education sector in South Africa was designed and initiated in 1995. Over the past 20 years South African higher education institutions (HEIs) have been challenged by a diversity of new criteria, and in order to facilitate contemporary change, an analytical review of this antiquated system is warranted to overhaul the currently entrenched review system. In this review of the South African quality assurance system a brief historical context and an overview of QA systems in selected countries in the last twenty years are presented. Contemporary issues relevant to resistance, and regulatory and new paradigms in quality assurance, are discussed. Accordingly, this study offers a theoretical foundation on the issue of quality assurance in the global context, and adopts a historical thematic perspective with reference to developments in Quality Assurance Systems globally. The overarching research question which guided the study was: *What are the effects of internal quality assurance reviews on the outcomes of selected academic programmes at the University of KwaZulu-Natal?* The following programmes were purposefully sampled to participate in the research: the Accounting Programme in the School of Accounting, Economics and Finance; the Education Unit of the School of Management Sciences; the School of Mathematical Sciences; and the School of Pharmacy. Data collection was done in a twofold manner, namely by administering a specifically designed mixed method questionnaire to heads of departments and the head of one education unit, and by extracting data from the Higher Education Management Institution System (HEMIS) of the UKZN. The results indicate that the Accounting Programme, Management Studies Education unit and the Pharmacy programme have produced positive academic indicators of success in enrolments, graduation and pass rates after the review process. Only the Mathematics programme produced a negative student success trend after the review process. Based on the findings of the study, a conceptual quality assurance framework is proposed which incorporates emerging criteria influencing quality assurance.

KEYWORDS: Quality assurance; Higher Education, Academic indicators.

LIST OF ACRONYMS

AICTE	All India Council for Technical Education
ASEA	Association of South East Asian Nations
AUQA	Australian Universities Quality Agency
CAA	Commission for Academic Accreditation
CHE	Council on Higher Education
CSP	Corporate Strategic Plan
CTEC	Commonwealth Tertiary Education Commission
CUP	Committee of University Principals
DEA	Data envelopment analysis
DGF	Development Grant Facility
DHET	Department of Higher Education and Training
DOE	Department of Education
ENQA	European Network for Quality Assurance
ERASMUS	The European Community Action Scheme for the Mobility of University Students
HE	Higher Education
HEFC	Higher Education Funding Council
HEI	Higher Education Institution
HEMIS	Higher Education Management Information System
HEQC	Higher Education Qualification Committee
INQAAHE	International Network of Assurance Agencies in Higher Education
MENA	Middle East and North Africa
MES	Minister of Education and Science
NAAC	National Assessment and Accreditation Council
NBA	National Board of Accreditation
NCHE	National Commission on Higher Education
NQF	National Qualification Framework
NVAO	Netherlands- Flanders Accreditation Organisation
PMU	Programme Management unit

QAA	Quality Assurance Agency
QA	Quality Assurance
QIP	Quality Improvement Plan
QPA	Quality Promotion and Assurance
QPU	Quality Promotion Unit
SADAC	South African Development Community
SAQA	South African Qualifications Authority
SERTEC	The Certification Council for Technikon Education
SQAA	Scottish Quality Assurance Agency
SER	Self-Evaluation Report
TEQSA	Tertiary Education Quality and Standards Agency
TQC	Total Quality Control
TQM	Total Quality Management
UAE	United Arab Emirates
UDW	University of Durban-Westville
UGC	University Grants Committee
UK	United Kingdom
UKZN	University of Kwa-Zulu Natal
UoT	University of Technology
USA	United States of America
WEF	World Economic Forum

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CHAPTER 1

INTRODUCTION, BACKGROUND AND AIMS OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

Evidence available to the Higher Education Qualification Committee (HEQC) shows that institutions in South Africa have positively engaged with the requirements for assuring quality and developed and implemented systems for the management of quality (CHE, 2009). Although some institutions have more mature quality systems than others, many which have undergone institutional audits have managed to add emphasis to quality in their quality plans.

The quality process commences already during the design stage of new academic programmes. The process of accreditation of new programmes, as part of the quality process, undergoes rigorous scrutiny and approval at both institutional and HEQC levels, however, review data of the institutional accreditation process shows that a number of institutions have yet to develop the internal capacity to be consistently successful in their accreditation applications. There is a better understanding of meeting the minimum standards of quality with regard to teaching and learning as well as a greater awareness of the need for intellectual discussions in academic disciplines about programme content, pedagogy, delivery, student support and professional academic development for staff with national and international best practices, as was seen, for example, in the national review process of 2009 (Hay, 2011:1). Quality Assurance (QA) policies have consequently been facilitated in many HE institutions world-wide to ensure the provision of high quality education, university accountability and transparency in the use of public funding and to meet the needs of students, employers and other stakeholders (Shah, Nair & Wilson, 2011: 475).

With the recent massification of Higher Education (HE) and the concurrent increase in governmental investment into higher educational institutions, doubts have been raised about

the possibility of maintaining quality under the new set of circumstances with larger numbers of registered students and a greater realisation of the importance of HE in the new knowledge society (Loukkola & Zhang, 2010:12). Traditional mainstays of QA, such as defining quality in terms of resources, faculty research productivity, admissions selectivity and conformity to conventional educational practices and requirements, are often impractical or simply irrational in today's educational reality (Skolnik, 2010: 9).

With HE being challenged by a number of changes in the past decade, *inter alia* massification, internationalisation, the growing importance of knowledge-led economies and the advent of new education technologies, traditional QA approaches have to be reviewed to determine their efficacy (Skursock & Smidt, 2010: 6).

1.1.1 Does self-evaluation assist the university in improving the quality of academic programmes?

Selesho (2008:220) researched whether the concept of the application of self-evaluation mechanisms achieved its objective of assuring accountability and improving performance in South Africa. Universities have incorporated and applied in their evaluation practices the notion of internal self-evaluation since the establishment of the Certification Council of Technikon Education in 1986 (Certification Council for Technikon Education (SERTEC), 1993:1-05) and the Quality Promotion Unit in 1996 by introducing a university quality management system (Department of Education, 1997:75). Since the inception of this practice at universities there has not been any in-depth analysis of this mechanism, hence its validity, effectiveness and efficiency may not be confirmed with a great degree of certainty. Research methodology utilised in Selesho's study included questionnaires and personal telephone calls to four Universities of Technology (UoTs), their QA Managers and all the Academic Heads of Departments. Questions focused on the level of experience of academics connected to the programmes undergoing QA, QA mechanisms used by the participating institutions as well as the departments within these institutions. His findings (2008:226) revealed that the collective

involvement of all staff in a department is integral in enhancing the quality of departmental academic programmes. If the Council for HE (CHE) or the HE Quality Committee's (HEQC) QA policies are adhered to vigorously, it can also leave a lasting legacy of quality awareness and a QA tradition of self-regulation. Similarly Houston (2010:177), in reviewing the achievements and consequences of two decades of QA in HE, has seen significant expansion and harmonisation of QA mechanisms in South Africa, although there was limited evidence of positive effects on the quality of core processes of teaching and learning. In exploring the paradox of the separation of assurance from improvement, a shift in focus is suggested from surveillance to systemic approaches to improvement.

1.1.2 Review of quality in Higher Education over the past fifteen years

Harvey and Williams (2010:81) reviewed internal QA, improvements in learning and teaching as well as assessments of the impact of QA. They also analysed papers about quality enhancement instruments such as student feedback surveys, which have played an increasingly prominent role in quality processes since the early 1990s. Their review suggested that QA has resulted in clearer documentation and transparency, although external processes could be better aligned to everyday academic activity. QA has become an international concern and procedures have become increasingly standardised across international boundaries with, for example, the establishment of the European Standards and Guidelines for QA in the European HE Area which was adopted in 2005 (Loukkola & Zhang, 2010:9).

The consumers of education, i.e. students, families and employers, view QA of education as orientated mainly towards ensuring standards of qualifications (Mertova, Webster & Nair, 2010:7). Significantly, this consumerist approach to HE quality that is driven by governments and senior management, has not been met with enthusiasm by HE participants (Kemenade, Pupius & Hardjono, 2008:7). There appears to be a strong commitment to autonomy and academic freedom, which indicates that the academia is prone to inertia and compliant

indifference. Conclusions suggest that it is still not clear that, even after 15 years, QA systems have really enhanced HE (Harvey & Williams, 2010:81).

1.1.3 QA Improvements in Higher Education

At the beginning of the so called "quality revolution" (Kristensen, 2010:153) during the last 20 years it was expected worldwide from most of the established national quality agencies that internal quality systems and the development of an internal quality culture would emerge automatically in HE, due to the external quality impact. Kristensen (2010:153) argues that a better balance must be found between internal and external QA and quality improvement. On examining QA processes in HE Institutions (HEIs), Loukkala & Zhang (2010:9) concluded that HEIs are ideally expected to develop internal quality cultures which take into account their institutional realities and which are related to their organisational culture. Consequently, a large number of European universities have fundamental policies, structures and processes that support QA interventions such as pedagogical innovation and staff development (Loukkala & Zhang, 2010: 10)

1.1.4 Methodology to overcome resistance to QA

To facilitate HE reform, most decision makers aspire to achieve a higher participation rate and a respectable degree of excellence concomitant with diversity. However, very few know exactly how (Chueng & Tsui, 2010:169). Utilising external QA provides a fair basis of differentiation, but there can be doubt and resistance from some quarters. Stakeholders' interests differ in external QA. These interests, if allowed to interact in a collaborative setting, will produce optimal equilibrium to ensure that external QA remains a soft and preferred option in the eyes of all. Ways to achieve this optimal equilibrium include a formative approach based on trust, clear criteria and procedures, self-evaluation, use of external peers, transparency, and also requirements like "evidence based", "no surprises" and "right of representation" (Chueng & Tsui, 2010:169).

In a study by Johnes (2006:443) electronical data envelopment analysis (DEA) has been applied to assess teaching efficiency in 2547 Economics graduates from UK Universities. He found that each individual's efficiency was composed of two components: one attributable to the university where the student studied, and the other to the student himself. In this study, the "input" of initial student quality was measured by entry qualification and the "output" was measured on the quality of degree results. Thus the impact of a specific university department on the quality of the degree can be compared with the impact of a similar department at another university. By doing so, an institution's teaching efficiency could be measured and compared to efficiency scores from a conventional DEA which was applied using each Economics department as a decision making unit (DMU). An analysis at the individual level could give institutions some clarity on whether the student's own efforts or the institution's efficiency were constraining increased efficiency. These findings by Johnes have important implications for the choice of strategy for improving efficiency in teaching at HE institutions.

1.1.5 Service quality ideals in a competitive tertiary environment

Yeo (2009:62) points out that globally the HE sector relies largely on quality management to remain competitive with on-line colleges, private higher education institutions and distance educational service providers. Consequently, it is imperative for HEIs to keep up with enrolment rates and create opportunities for cross-boundary learning and collaborations. According to Yeo (2009:63), the quality of services at HEIs is thus based, first, on the perspective of conformance to requirements based on student expectations and second, on the perspective of fitness for use as determined by the student as the customer. Thirdly, the perspective of willingness to pay is based on what the student/customer can get rather than what the supplier puts in. At the core of this view is the notion of quality as a transformative catalyst in organisational processes that lead to customer satisfaction.

1.1.6 New paradigms for accreditations and quality assurance

Traditional accrediting bodies may not be the most appropriate entities for developing new, more relevant QA and accrediting paradigms. With on-line education programmes, instructional providers, learners and professional organisations, the business community is better equipped to develop the criteria for determining quality. In other words, it may make more sense to have "end users" who put a premium on quality and who play a central role in QA processes. In this regard Pond (2002:187) suggests that a course offered by a British university may be taught by a Malaysian professor from multiple locations with students domiciled in Asia, North America and Europe. In this case, a "paradigm shift" may be to accredit the learner or the instructor rather than the institution (Pond, 2002:188).

1.2 BACKGROUND TO THE PROBLEM AND RESEARCH QUESTIONS

An internal self-evaluation is the starting point in any QA process (Selesho, 2008:220). Since the inception of this process at traditional universities and Universities of Technology (UoTs), very little in-depth analysis of this process has been done at South African HE institutions. During the past twenty years QA practices have abounded in the HEI sector, but very little evidence of its impact has been established (Ewell, 2010:173). Banta (2010:181) found that only 6% of 146 profiles on QA approaches which were evaluated, contained evidence that student learning had improved. In the ensuing period, public perceptions and especially government attitudes have shifted markedly toward greater scrutiny and scepticism. Quality review has arguably met this challenge by providing publicly accessible information about institutional effectiveness to inform taxpayers and potential customers (Ewell, 2010:175).

In the world of education, policy makers and funding agencies have a responsibility to invest in educational systems. Consequently QA assessors are required to ensure accountability by on-going supervision and recommendations (Chueng & Tsui, 2010:169). In South Africa, QA in HE has a bearing on the policies, systems and processes directed at ensuring the quality of

education provision (Department of Education, 1996:25). To maintain the strive for excellence in academic programmes, QA methodologies have to triangulate in a synergistic manner and inform the complexities and nuances of all core activities related to programme management and implementation, as well as quality management. These include quality control, evaluation, reflection, growth, development and enhancement, and planning (Venter & Bezuidenhout, 2008:1114).

The goals for the quality in HE are articulated by the HEQC (HEQC: 2001:09) as follows:

- fitness of purpose;
- value for money;
- transformation.

These goals have never been achieved by the HEQC, apart from the annual reporting submitted by individual HEIS's indicating their graduate outputs. These goals are to be achieved within the ambit of the principles for HE set out in the constitution and national education policy (Department of Education, 1997:1.23 - 1.25) which are:

- academic freedom;
- institutional autonomy;
- public accountability.

If QA in HE is to serve the public good, first an inclusive as well as a socially accountable understanding of concepts such as "fitness for purpose" and "value for money" must be reached and implemented. Second, QA should be fully compatible with democratisations, as well as with the goals and purposes of autonomous academic institutions where stakeholder involvement in the co-production of quality precedes bottom up on the basis of inclusive understandings of intellectual freedom and accountability. Thirdly, QA should support the development of critical citizens to align with the traditional role of HE in educating citizens by

developing their intellectual capacity. The work of achieving outcomes such as these three is crucial and on-going and is moreover generally located within other unresolved issues in HE QA e.g., graduate attributes. (Symes, 2006:762). A strategy of determining the effectiveness of a QA system would be to evaluate the outcomes before and after the internal/external review programmes.

In light of the above, the main research question that this study sought to investigate can be formulated as follows:

What are the effects of internal quality assurance reviews on the outcomes of selected academic programmes at the University of KwaZulu-Natal?

The following sub-questions emanated from the main research question:

Research question 1:

What is the situation in terms of QA in both South Africa and internationally, and to what extent do South African HEIs align with QA standards of HEIs in selected countries?

Research question 2:

Are the current criteria utilised in internal QA processes at South African HEIs relevant and appropriate?

Research question 3:

Which quality improvement measures have been recommended and implemented after the internal quality audits of selected academic programmes at the University of KwaZulu-Natal?

Research question nr 4

Were there improvements in the outcomes of selected academic programmes in terms of the prescribed criteria, as set out in the institutional QA Policy of University of KwaZulu-Natal, after the internal quality review?

Research question no 5

Did the internal QA reviews have a positive effect on other academic infrastructure, e.g. staffing, publications, curriculum development and enrolment numbers at selected academic programmes at the University of KwaZulu-Natal?

Research question no 6

Are there statistically significant differences in the student output (pass rates and throughput rates) of the following academic programmes at the University of KwaZulu-Natal before and after an internal review process?

- The Accounting Programme in the School of Accounting, Economics and Finance.
- The Education Unit of the School of Management Sciences.
- The School of Mathematical Sciences.
- The School of Pharmacy .

The general aim of the study was to determine the effectiveness of internal QA audits of selected academic programmes in terms of prescribed criteria as set out in the QA policy of the University of KwaZulu Natal (See Chapter 3). As mentioned earlier, the prevalent literature is very vague on the effects of internal QA assessment of academic programmes. Consequently

this research study attempted to elucidate the following in attempting to answer the research questions:

- to provide a broad overview of the history of QA in HE in South Africa;
- to verify aspects of QA in HE in selected countries;
- to analyse appropriate criteria utilised in evaluating academic programmes at HEIs in South Africa;
- to determine statistically whether the internal QA system had an effect on the indicators of student success, i.e. pass rates, throughput rates and graduation rates of selected academic programmes at the University of KwaZulu-Natal;
- to establish whether the internal QA reviews had a positive effect on other academic infrastructure, e.g. staffing, publications, curriculum development and enrolment numbers at the sample academic programmes;
- to draft a framework for improved internal QA audits at the University of KwaZulu-Natal.

1.3 RESEARCH DESIGN AND METHODOLOGY

1.3.1 Design and method

A mixed research design was followed in this study. A mixed method approach is a type of research combining elements of qualitative and quantitative research approaches (Creswell, 2008:51). These two methods together complement the strengths of qualitative and quantitative approaches respectively and offset the different potential weaknesses of both approaches (Clark, Creswell, Green & Shope, 2010:365). By combining qualitative and quantitative data, stronger and more corroborated conclusions are arrived at compared to a single type of data set (Clark *et al.,* 2010: 366).

Qualitative designs typically investigate behaviour as it occurs naturally in non-contrived situations without any manipulation of conditions and experience. In this sense qualitative designs are non-experimental. The data consists of words in the form of rich textual descriptions rather than numbers (McMillan & Schumacher, 2010:37). Quantitative research, on the other hand, utilises numbers based on administrative data with relative precision, enabling analysis by using statistical tools (Gilbert, 2012:35). This approach is a cross-sectional representative study, but is does not assist in testing for causes and effects. Combining both qualitative and quantitative strategies into mixed methods approaches eliminates bias towards either qualitative or quantitative paradigms (Hewson, 2008:558). Consequently Tashakkori and Teddlie (2003:9) have described mixed methods studies as "… combining the qualitative and quantitative approaches into the research methodology of a single study." Mixed research ultimately addresses both the quantitative data ("what") and the qualitative data ('why") (Cohen, Manion & Morrison, 2011:25).

The multiple case study method, also utilised in this study, was deemed appropriate for this research as it provided breadth and depth of understanding of the research problem (Creswell, 2008: 51). Cohen et al. *(*2011:291) define multiple case designs as having more significant data than double the amount of data on a single case study. In a comprehensive discussion on the use of case study research, Gay, Mills and Airasian (2012:426) point out that it is a research approach in which a researcher focuses on a unit(s) of study known as a bounded system(s), e.g. individual academic schools at a university. It can also be viewed as an investigation of a phenomenon that occurs within a specific context. Leedy and Ormrod (2010:137) explain that in a case study, the researcher collects extensive data on the individual(s), programme(s) or event(s) on which the investigation is focused. These data often include observations, interviews, documents, past records and audio-visual materials. In this study, the case study method followed both the interpretative tradition of qualitative research and a post-positivist tradition by drawing on numerical data quantitatively to enhance an understanding of the phenomenon (the effectiveness of QA).

1.3.2 Data collection instruments

In this research project, the researcher made use of open-ended questionnaires, documents and past records. Managers of selected academic programmes were contacted in order to elicit information on benchmarks before and after an internal quality review analysis. In so doing, the success of qualitative intervention was established. Document analysis was also utilised by in-depth studying of past and present audit reports for the selected academic programmes participating in the study. Finally, data were extracted from the HEMI (Higher Education Management Information) Data System to collate information on academic outputs, e.g. throughput rates, graduation rates, publications, etc.

1.3.3 Population and sampling

Population refers to all the academic programmes active in HE Programmes at the University of KwaZulu-Natal. Based on the specific context at the time of active empirical research and availability of information, selected academic programmes that were subjected to programme reviews during the previous years were sampled to participate in the study. This was a case of purposive sampling. On the basis of my knowledge of the population, a judgment was made about which units should be selected to provide the best information to address the purpose of the research (McMillan & Schumacher, 2010) and who would best contribute to the research objectives. The University of KwaZulu-Natal was chosen as it is extremely difficult to obtain relevant data on QA of academic departments from any other HE Institution. Fortunately I was in the employ of the University of KwaZulu-Natal and I could thus utilise the data to conduct this research project. As mentioned earlier, the following academic units were involved:

- College of Science, Agriculture and Science: School of Mathematics;
- College of Health Sciences: School of Pharmacy;
- College of Law and Management: School of Accounting, Economics and Finance;
- College of Law and Management: School of Management Studies Educational Unit.

1.3.4 Data analysis

Questionnaires were analysed according to a specific sequence for content analyses and coding, as suggested by Berg (2007:306) and De Vos, Strydom, Fouche and Delport (2005:340):

- Data were collected and open coding was used to develop initial codes for sections of data that meaningfully related to the research questions.
- Codes were transformed into themes.
- Sorted text was analysed to set apart meaningful patterns through selective coding.

Document analysis was undertaken by analysing and interpreting previous and recent quality review reports of the sample. The purpose was to establish which measures have been taken to improve the general performance of academic programmes in terms of the set criteria. Information was extracted from the HEMI System (past records) indicating numerical data on outputs, e.g. graduation rates, student success rates, staff ratios, and staff publications. Subsequently statistical procedures were performed on the information (this process is described in more detail in Chapter 4).

1.4 DELINEATION OF THE STUDY

This case study was limited to certain colleges and programmes within the University of KwaZulu-Natal. This implies that the findings may not be applicable to other HEIs in South Africa. The results of this study can therefore not be generalised in any way.

1.5 ETHICAL CONSIDERATIONS

Research is an action performed by participants. As participants are social creatures, they have to conform to certain rules and regulations that govern the research process. In research,

certain actions can be referred to as unethical and others as ethically acceptable. The following ethical measures have been taken into account during the research activities:

1.5.1 Publishing ethics

One of the key ethical principles of scientific publication is that one must acknowledge sources (Layder, 2013:15). As a consequence of this ethical conscript, all quotes from referenced authors in this final research document have been properly acknowledged in the text and in the comprehensive list of references at the end of the thesis.

1.5.2 Professional ethics

This research project was designed to safeguard the rights and well-being of the research participants (Layder, 2013:16). To this end the following was done:

- The researcher endeavoured to be objective in reviewing literature and obtaining data.
-
- The researcher attempted to refrain from amending, altering or fabricating of data.
- In all cases, the researcher took extra care to describe the methodology used to obtain the data.
- The researcher respected the confidentiality and anonymity of the participants.
- The researcher obtained ethical clearance at departmental level (Annexure A 1) and at institutional level (Annexure A 2).

1.6 FRAMEWORK OF CHAPTERS

In chapter one the background to the problem was presented and the aim of study was delineated.

In chapter two a theoretical overview of QA and the historical evolution of QA Systems are presented.

In chapter three a historical perspective of QA in South Africa is detailed, followed by an international perspective of QA in selected countries.

Chapter four details the empirical design and methodology utilised in obtaining the research data.

All the qualitative and quantitative data is presented with statistical analyses of the quantitative data in Chapter 5.

In Chapter 6 the quantitative and qualitative data are related to performance indicators to indicate the efficacy of the QA process and a framework for an effective QA system at the University of KwaZulu-Natal is put forward. This is portrayed in a flow diagram model that embodies new dimensions required to enhance the quality assurance process.

1.7 CONCLUSION

This chapter provided an introduction and a theoretical background to the research project. A brief historical context and an overview of QA systems in the last fifteen years were presented. Contemporary issues relevant to resistance, regulatory mechanisms and new paradigms in QA were discussed. The problem statement was highlighted with a research strategy specifying design, method, data collecting instruments, data analysis tools and ethical considerations. Although the study is largely exploratory, it also seeks to contribute to international debates about QA in HE. Accordingly, the next chapter offers a theoretical foundation regarding the issue of QA in the global context and it simultaneously adopts a historical, thematic perspective with reference to developments in QA Systems globally.

CHAPTER 2

THEORETICAL PERPECTIVES AND CONCEPTS IN QUALITY ASSURANCE

2.1 INTRODUCTION

In this chapter the following concepts applicable to this research study will be elucidated:

- Quality Assurance;
- Quality Control system;
- QA system;
- Quality audit;
- Quality assessment;
- Indicator systems.

The chief purposes of affirming quality in HEIs are clarified with an explanation of the emergence of QA systems in South Africa, followed by a detailed analysis of the 19 criteria currently utilised in the South African HE system. Subsequently, QA criteria in HE in selected countries are expanded on, followed by an exploration of accountable systems in Malaysia, Australia and the USA. In conclusion to this chapter, the current burden of national QA demands on academic freedom and the autonomy of South African HE institutions are highlighted.

2.2 CONCEPTUALISING QA

2.2.1 Quality Assurance defined

The term *quality* is hard to define precisely, especially in the context of HE where HEIs have broad autonomy to decide on their own visions and missions. Any statement about quality

implies a certain relative measure against a common standard. In HE, such a common standard does not exist (Materu, 2007:1).

In the absence of common standards for QA in HEIs, quality in the context of HE refers to "fitness for purpose" in conforming to generally accepted standards as defined by an HEI, QA bodies and appropriate academic and professional communities. Consequently, a system or process came into being to assure that quality in HE is measured against a set of practices or norms. This process, termed QA, is thus a planned and systematic process in an HEI or programme to determine whether or not acceptable standards of education, scholarship and infrastructure are met, maintained and enhanced. Apart from these meanings assigned to the word *quality*, there are many other definitions of the term and literature offers a vast array of meanings associated with the term. The stakeholders in HE are many and varied, accordingly, there are many and varied concepts and meanings of quality (Global University Network for Innovation, 2007:5). Definitions of quality are frequently tautological (Sanyal & Martin, 2007:3). The Oxford Dictionary and Thesaurus (2007:611) describes quality as "excellence, degree of excellence, merit, value, standard, status, worth, attribute, characteristic" and "distinction". The notion of quality as simply meeting the requirements of the customer (as a stakeholder) is expressed by Juran (1989), with the focus on quality as "fitness for purpose or use".

Deming argues that quality should be aimed at the needs of the consumer, Feigenbaum sees quality as meeting the expectation of the customer and Crosby suggests that quality is "conformance to (the customer's) requirements" (Oakland, 1995:5). To define *quality* in the context of a concrete product is relatively simple, but it is a much more difficult task to define the term in the context of education (Vroeijenstijn, 1995:13). Nevertheless, governments all over the world have some or other perception of quality in education, and their role in influencing the quality discourse should not be neglected. Governments, however, tend to address quality-related issues through external quality monitoring activities (Green, 1994) such as accreditation, audits, assessment and external examination (Harvey, 2002). The objectives of those approaches are institutionally aimed at ensuring programme compliance with a series of

regulations and standards, the achievement of stated institutional goals and conformity to given specifications. Yet the term *quality* in HE and these external quality approaches have not gone uncontested (Strydom, 1995; Tam, 2010; Cooper, 2002; Anderson, 2006; Newton, 2007).

The issue of *who* does *what* in Higher Education Quality Assurance – the agencies of the state, the HE community collectively or individual institutions, their basic units and individual staff – is essentially a political one which will be resolved differently in different countries according to their history and current circumstance (Brennan & Shah, 1997:185). Despite contestations, quality in education is perceived by governments around the world as essentially comprising "…as many students [as] possible finishing the [academic] programme in the scheduled time with a degree of an international standard with reduced costs" (Vroeijenstijn, 1995:13). For employers, quality may mean the knowledge, skills and attitudes obtained during the student's period of study. An academic may view quality as good academic training based on good knowledge transfer, a good learning environment and a good relationship between teaching and research, according to Vroeijenstijn (1995:13).

These examples illustrate that the concept *quality* in education, including HE, has different meanings to different role players. In an article in The Times, Alderman (1996), as quoted by Kistan (1999:126), summarises the concept and process of QA as follows: "Quality in HE cannot be defined by reference to a set of bureaucratic procedures." Also, in the words used at Erfurt (http://www.fh.erfurt), quality is "...the working philosophy which the university employs to achieve standards. Such standards are defined as the explicit levels of attainment needed to obtain particular academic qualifications and other assessed outcomes." Universities set their own goals. They can, of course, be inspected to see whether those goals are achieved, but in an HE system as richly diverse as seen internationally, they cannot be judged against some super-benchmark – there is no "golden standard". Consequently, quality is required across the board. It is linked to the capacity and commitment of the educator, the appropriateness of the curriculum, and the way standards are set and assessed amongst a variety of related quality assessments in HE. A variety of systems and approaches have been developed for monitoring

quality of different kinds and at different levels, displaying various emphases and priorities (Tam, 2010:49). These monitoring systems include the following:

2.2.1.1 Quality Control System

Quality Control is a system to check whether the products produced or services provided have reached the pre-defined standards. Quality is usually inspected at the end of the production and is undertaken by someone external to the workforce. The main problem with this approach to quality measurement in HEIs is that it is done in isolation, thereby ignoring the fact that the overall quality of a university must be the concern of everyone who works there (Tam, 2010:49).

2.2.1.2 Quality Assurance System

A QA System is based on the premise that everyone in an organisation has a responsibility towards maintaining and enhancing the quality of the product or service. When perceived in the HE context, QA requires a whole institutional approach for a complete transformation to quality focussed goals involving top-level commitment from executive management, followed by substantial and comprehensive re-education of all personnel (Tam, 2010:49). The transformation requires time, effort and willingness of everyone in the HEI to change to a culture which is culture driven and continuously improving. When compared to the Quality Control System, Quality Assurance (QA) represents a more comprehensive approach to assessing and monitoring integrated contextual factors (Department of Education, 1996:25). As a result of the variety of views about quality in HE, QA requires not merely the detection of defects as is the case in quality control, but also their prevention. It requires the commitment of all institutional staff to an organisational culture that values quality and relentless pursuit in the quest for perfection. This, unfortunately, is a difficult goal to attain, but it should nevertheless be a philosophical directive that HEIs should aspire to.

2.2.1.3 Quality Audit

A quality audit provides a means of checking that relevant systems and structures within a HEI supports its core teaching function, and ensuring that processes are in place to secure this objective. A quality audit can be conducted either internally or externally. Such an audit checks that the educational institution does what it says it is going to do, and has documented proof to validate it. The major criticism of audits is that they offer transient snapshots of an institution (Tam, 2010:50). Academics are critical of audits as they require conformance to processes. A quality audit as an HE concept was developed in 1990 by the Committee of Vice-Chancellors and Principals in the United Kingdom (Department of Education and Science, 1991:3). Functionality was achieved by a small Academic Audit Unit using experienced academics "borrowed" from universities. This initiative was supported by the UK Government. Quality audits are not criteria-based on institutional inputs and outputs, but they focus on the processes linking the universities' inputs to the consequent outputs (Frazer, 1992: 11). The purposes of an external institutional quality audit around the world can be summarised to include one or more of the following (Woodhouse, 2003:135-136):

- assist the HEI to set up and develop its internal quality management system (institutional development or capacity building);
- assist the HEI to improve its quality (quality improvement);
- evaluate the HEI's systems for achieving its objectives (that is, purposes, vision and mission) or standards, and the effectiveness of these systems;
- measure the quality or standards of the HEI according to some (internal or external) criteria;
- provide an explicit comparison between one or more institutions, either within the same country or internationally (benchmarking);
- provide a ranking of the HEIs according to some criteria relating to performance (ranking);

- determine whether the HEI can be permitted to offer specified programmes, or qualify for some other benefit (a gatekeeper role, usually termed accreditation of academic programmes);
- define and certify qualifications (audit carried out by qualifications authority, e.g. SAQA);
- establish and maintain a framework of qualifications (audit carried out by framework authority, e.g. NQF and HEQSF);
- assess and record learning, including experiential learning, to enable credit accumulation and transfer (audit carried out by CHE);
- steer the HEI in particular directions in terms of planning, scope or methods (steering or transformation relates to fitness of purpose);
- provide a report on the HEI as a basis for (government) funding (funding) (e.g. from the DHET);
- provide a report on the HEI to show how it has used the funds and other resources it has received (that is, act as a buffer body or broker to reflect on accountability as a public record);
- monitor the financial viability of the HEI (viability);
- check the HEI's compliance with legal and other requirements (compliance);
- provide independent information about the HEI for various constituencies (prospective students, employers, etc. as information provision).

2.2.1.4 Quality assessment

According to Tam (2010:50), quality assessment is a means of assessing the quality of what is actually provided by educational institutions. It further incorporates the judgement of performance against criteria, either internally or externally. This is a contentious assessment as quality criteria for education are difficult to ascertain. Quality assessment being biased towards the HEI's mission also makes it problematic (Tam, 2010:53).

Quality assessment is implicated in developments such as marketisation and managerialism (Brennan, 2005:17). Both blame and praise are attached to such developments. Quality assessment has its devotees who believe it has benign intentions and real benefits for HE, but also its sceptics and antagonists who fear an attack on academic freedom and even worse. Verhoeven (2006:33) attributed the social context of the assessment of teaching and research to mass HE, globalisation, internationalism and neo-liberalism. It has given rise to a plethora of QA and assessment agencies such as INQAAHE (International Network of Assurance Agencies in HE) who gather 80 agencies in 50 countries, ENQA (European Network for QA) with 36 organisation and 30 government members, EAU (European network for QA) whose task is measuring the quality of international programmes and strategies of institutions, and also ASEAN (Association of South East Asian Nations) (Viara, 2007:137). These networks create an infrastructure for quality in HE by increasing interactions among QA role players and contributing to the emergence of structures of dominance as governments legitimise the role of agencies. It is not possible for HEIs to negotiate, contradict or renege on the agencies' evaluations and recommendations (El Khawas, 2001: 111).

2.2.1.5 Indicator systems

The indicator system's approach to evaluating universities compares performance against a range of indicators (Tam, 2010:50). Indicators can either be quantitative or qualitative. Quantitative indicators can be the number of graduates produced or the lecturer-student ratio, the amount of published research and the use of citation indexes as an indicator of quality in research (Viara, 2007:141). Qualitative indicators thus reflect on the quality of the graduates, or the quality of teaching and learning, or the quality of research. Consequently there are several characteristics associated with performance indicators as outlined by Tam (2010:50-52). First, a performance indicator should have a monitoring function. Hence it is defined as "…an item of information collected at regular intervals to track the performance of a system" (Tam, 2010:50). Second, an indicator is usually quantitative, and finally, performance indicators are objective related: they are "...statements, usually quantified on resources employed and achievements

secured in areas relevant to the particular objectives of the enterprise" (Tam, 2010:52). These quantitative indicators are independent of expert peers and hence they are often regarded as managerial tools and bureaucratic (Brennan, 2005: 20). Several studies have investigated the development and use of indicator systems in evaluating universities (Garcia-Aracil & Palomeres-Montero, 2009:217). These authors found difficulties in establishing classification criteria for existing indicators as there is currently no consensus. The OECD (Organisation for Economic Co-operation and Development) utilises economic and human resources (academic staff, technical and administrative staff, public expenditure on education, expenditure by student, etc.), educational processes (size of class, faculty timetables, etc.) and the results achieved by the HEI as indicators for cross national comparisons (OECD: 2007).

2.3 THEORIES OF QUALITY ASSURANCE

Three of the most important contributors to the theoretical foundations of the quality movement are Deming, Feigenbaum and Crosby. Though their QA theories originated in the industrial and manufacturing sectors, they are currently applied in other sectors, including education (Mishra, 2006:17).

2.3.1 Deming's theory

Deming (2000:23) theorised about transforming business effectiveness by offering certain key principles, e.g. creating a constancy of purpose toward improvement of product and service with the aim to become competitive, to stay in business and to provide jobs. HE institutions have established an ongoing cyclical continuum of improving their operations. It was also important for Deming to adopt a new philosophy which is applicable in HEIs facing new challenges in massification, internationalisation and electronic teaching and learning strategies. Deming further postulated the absurdity of mass inspection at the end of a process and rather encouraged staff to be trained to monitor and develop their own quality. This is enshrined in QA policy, thus embedding the notion of quality at various levels amongst academics,

departments, faculties, subject communities, cross field research units and institutions. Deming also suggested the elimination of the practice of awarding business on the basis of price tags alone, but to instead ensure that the service provider inculcates quality in all aspects of their business engagement. Consistent improvement in the system of production and service results in improved quality and productivity with decreasing costs. Instituting training on the job creates innovatory leadership where the aim of supervision should be to help people and processes enhance the work place operations.

Supervision of management as well as supervision of postgraduate students need to be overhauled, and thus HE institutions introduced mentoring and tutoring. Team building is hence encouraged in modern HE institutions. Pride, leadership and transformation have become the buzz words in fostering a climate focused on built in QA mechanisms. With the adoption of the new philosophy that prevails in a new economic age, western educational management must awaken to the challenge, learn their responsibilities, and take on leadership for change. Deming also encouraged the dissolution of boundaries between departments and the elimination of fear in employees in establishing a theory of holistic and harmonious relationship amongst institutional employees. He proposed that by eliminating the dependence on inspection to achieve quality, HEQA processes need to build quality capacity into the product in the first place. Finally, Deming believes in instilling quality into systems of adherence to the "bottom line", i.e. the notion of minimising total cost should be avoided. Purchasing departments should move towards a single supplier for any one item based on a long-term relationship of loyalty and trust. Even though Deming proposed already in 1986 that employers accomplish transformation, HEI's, especially in South Africa, are still challenged by transformational issues.

2.3.2 Feigenbaum's theory

To enhance quality systems, Feigenbaum (2009:109) postulates a mechanism to manage capital effectively, to be creative in managing and to network responsibly and strategically, whilst focusing on customers and using technology to compete. He consequently proposes that total

quality control is an effective system for integrating the quality development, quality maintenance and quality improvement efforts of the various groups in an organisation so as to enable production and service at the most economical levels which will allow full customer satisfaction. Accountability is therefore everyone's responsibility since quality must be actively managed and has visibility at the highest level of management.

His contributions to the quality body of knowledge include:

- "Total quality control" as an effective system for integrating the quality development, quality maintenance, and quality improvement efforts of the various groups in an organisation so as to enable production and service at the most economical levels which allow full customer satisfaction.
- The concept of a "hidden" plant - the idea that so much extra work is performed in correcting mistakes that there is effectively a hidden plant within any factory.
- Accountability for quality: Because quality is everybody's job, it may become nobody's job—the idea that quality must be actively managed and has visibility at the highest levels of management.
- The concept of quality costs (Feigenbaum, 2009).

2.3.3 Crosby theory

Crosby's (1926-2001) (1980:5), main point is that quality is achieved by preventing defects and conforming to requirements. Requirements must be agreed upon and employees must know how to achieve them. The monetary cost of quality is the focus of measurement and he developed a formula to help managers track this cost. This formula provides for continuously measuring the cost of waste versus the lower cost of doing things right the first time, which is his performance standard. He urges activities (e.g. "Zero Defects Day") where management and employees reaffirm their commitment to quality. His training program focuses on helping managers develop an organisational culture that focuses on quality. The ultimate goal of his

approach is to provide "defect-free" products and services to the customers (Suarez, 1992:9). Crosby's response to the quality crisis was the principle of "doing it right the first time" (DIRFT). He also included four major principles:

- The definition of quality is conformance to requirements (requirements meaning both the product and the customer's requirements).
- The system of quality is prevention.
- The performance standard is zero defects (relative to requirements).
- The measurement of quality is the price of nonconformance.

His belief was that an organisation that has established a quality program will see savings returns which will easily cover the cost of the quality program. Hence the title of his last book is "quality is free".

2.4 THE PURPOSE OF QUALITY IN HIGHER EDUCATION

In Trade and Industry, the concept of quality is centred on the notion of “customer satisfaction” Law (2010: 65). Hence the emphasis is on the customer’s satisfaction of the product or service, i.e. to what degree the product or service meets the customer’s satisfaction. In HE it is problematical what constitutes the product or service and who the customer is. Generally, the “product” correlates with the graduate and the “service” provided refers to the qualification offered by the HEI. The “customer” can be regarded to be either the student, or the future employer/ society. Ngwenya (2009:23) further identifies the issues of accountability to students, meeting the needs of employers, maintaining academic standards and financial accountability to government as some of the purposes of QA in HE. Government has expanded QA management strategies within this system to monitor, assess and enhance quality in order to give institutions more institutional autonomy. Luckett (2007: 97) expounded on the transformative goal of the QA agenda postulated by the HEQC in South Africa in addressing

reconstruction, equity, equality, development, efficiency and global competitiveness concerns. The following six approaches is utilised to define the purpose of quality in HE:

2.4.1 The "fitness for purpose" approach

In this approach the HEI formulates its goals and objectives, and its quality is measured in terms of the extent to which these have been achieved. The mechanisms and structures that are in place to monitor progress towards achieving these goals and objectives also contribute to the "fitness for purpose" of the HEI/department. An institution or department of quality would, *inter alia,* have a well-designed set of goals and objectives and it would need to demonstrate its ability or functionality to achieve them (Brink, 1998: 4). Fitness for purpose is generally the quality conception of stakeholders external to the university community who normally put a heavy premium on the instrumental function of HE. The market, for instance, looks at the ability of institutions to produce graduates who are immediately functional in the world of work. Graduates have to fit into the workplace without compromising efficiency and without prejudicing the profit benefits of an enterprise. In Luckett's view (2005: 23), QA approaches that are informed by rationality external to the educational institution and which regard students as clients, citizens or potential voters, subscribe to this understanding of quality as "fitness for purpose". This conception of quality is often linked to governments which are concerned with aligning the output of HEIs with broad national goals, and which use universities as an apparatus to address broader social problems. In this sense, the "fitness for purpose" conception of quality is closely linked to the "value for money" conception, hence the accountability nature of the approach to QA. Institutions that subscribe to this notion of quality extensively involve professional bodies and the employers of university graduates to specify their requirements and to accredit their programmes (Luckett, 2005:23).

The "fitness for purpose" definition of quality is a developmental approach to quality, and this aspect is particularly significant to HE (Nicholson, 2011). As customer specifications change with time, so do the aims to be achieved by universities. Bradbery (1991:387) contends that the

product remains a quality product by maintaining its value to the customer. The assumption here is that the quality of university delivery is not something that is static; it is rather by necessity dynamic as it is responsive to changes in the work environment.

In reviewing self-managed learning, Lester (1995:14) noted that the limitation of "fitness for purpose" is that it operates within the boundaries set by the purpose itself, which renders it totally dependent on how well the latter has been framed or constructed. Koslowski (2006) explains that, in practical terms, this can often translate to blinkered thinking, "firefighting", or pursuing aims regardless of their wider consequences, as well as offering scope for unethical, unjust or criminal behaviour. While critical, lateral and creative thinking can all be employed within these bounds, learning is ultimately limited because the whole learning system is controlled by the purpose and how it has been framed; "fitness for purpose" is essentially a single-loop test of validity which in itself has no ethical, moral or spiritual dimension, but can be as narrowly pragmatic or instrumental as the learner wants it to be.

2.4.2 The "fitness of purpose" approach

According to this criterion, a quality institution/department would have a mission, goals and objectives which would best serve the local community, regional, provincial and national aspirations (Brink, 1998:4). This approach would focus on the alignment of the HEI or departmental plans with the local, regional, provincial and national needs.

This purpose of "fitness of purpose" is enshrined in the first criterion proposed by the HEQC which makes it compulsory for institutions to address the national policy agenda for the transformation of HE (Luckett, 2003:12). This approach should also be responsive to international developments and trends in HE (HEQC: 2003:9). The methodology in achieving this approach is left to internal decision making within HEIs to guarantee their autonomy and accountability (South African Universities Vice-Chancellors Association (SAUVCA) & Committee of Technikon Principles (SAUVCA & CTP, 2003:4). Vlăsceanu, Grünberg & Parlea (2007:186)

view *quality as fitness of purpose* as a concept that focuses on the defined objectives and mission of the HEI or programme without checking of the fitness of the processes themselves with regard to any external objectives or expectations. "Fitness of purpose" evaluates whether the quality-related intentions of an organisation are adequate. Within this approach, one may distinguish alternative approaches developed in the 1990s: (i) *quality as threshold:* certain norms and criteria are set which any programme or institution has to reach to be considered to be of quality. In many European HE systems a variant defining quality as a basic standard, closely linked to accreditation, is used. In this case, the starting point is the specification of a set of minimum standards to be met by an institution or programme and to generate the basis for the development of quality improvement mechanisms; (ii) q*uality as consumer satisfaction:* quality is perceived as closely linked to the growing importance of market forces in HE, and it focuses on the importance of the external expectations of consumers (students, families, society at large) and other stakeholders (Vlăsceanu *et al*., 2007).

In South Africa, The National Working Group (NWG) on the Restructuring of the HE System (2002:3) assessed "fitness of purpose" against a set of performance indicators and benchmarks which confirmed that in critical respects, and in particular in relation to graduation rates, research outputs, staff qualifications and financial stability, HEIs were well-below the benchmarks required for a healthy and well-functioning system. To move beyond this limitation requires a consideration of the fitness *of* the purpose, or how well it has been framed in terms of wider contexts and issues. "Fitness of purpose" represents a double- or multiple-loop test of validity as it asks the student to consider the congruence of his/her objectives in broader contexts, and to question the assumptions on which they are based, in other words, to move out of the logic or frame of reference in which the purpose is based and question its congruence in a wider context. Clearly this can be a process of many loops or levels as the learner considers successively bigger pictures and wider perspectives, and identifies and questions assumptions embedded in both the purpose itself and the theories and actions associated with it. "Fitness of purpose" is still based within a personal knowledge epistemology, as it avoids imposing external definitions of congruence and asks the learner to consider

assumptions reflexively, making judgements of value and exercising wisdom. However, it has moved from within-frame, single-loop thinking to a without-frame, double- or multiple- loop approach which is unbounded by predefined frameworks where learning is ultimately unlimited. It respects the learner's map of the world, but enables the map to be extended and redrawn, including previously unexplored dimensions.

2.4.3 The "value for money" approach

This concept is relevant to the government, policy makers and public citizens who contribute taxes as chief funders of HE. In this approach, quality could be measured by performance indicators such as failure or graduation rates, or teacher to student ratios (Brink, 1998). The approach is allied to the accountability approach linked to public information reports, which include explicit statements of outcomes which are published (Billing, 2004:14). This summative approach is to inform the public of the performance of HEIs which is common in countries, such as the UK, where there is considerable institutional autonomy (Billing, 2004:15).

2.4.4 The "meeting of minimum" standards approach

This approach lies at the root of the accreditation procedures used by various professional bodies and councils. In the South African context, the HEQC stipulates a minimum set of requirements to ensure consistency of judgement across HEIs (Luckett: 2003:16). This is reflected in the South African QA system which guarantees at least some minimum standards, but which also creates a climate for the pursuit of creativity and excellence in a way that allows for diverse mission identities, and the development of an innovation mindset as well as the values of free intellectual enquiry (Asmal, 2001:6). Accreditation is an evaluation of whether an institution or programme meets a threshold standard and qualifies for a certain status (Kis, 2005: 5). In the United States, accreditation of both programmes and institutions is the main QA method (Eaton, 2004:3). Half of the European QA agencies accredit programmes. This

method is frequently used in German-speaking countries and by the Austrian, Dutch, Nordic and southern agencies (ENQA, 2003:5).

2.4.5 The "role model" approach

Certain HEIs or programmes inside institutions are regarded as quality institutions or departments, and consequently other institutions adopt their curricula, practices, infrastructure, etc. These cloned institutions thus aspire to become institutions of quality (Brink, 1998:5). In this model, emphasis is placed on high quality inputs that produce "excellent" outcomes (Koslowski, 2006:23). Exceptional quality results from the expertise of professoriate academic staff members, evidence of a programme structure and research capacity that will ensure the intellectual quality of the student experience including qualifications, research, innovation and scholarly record (Ontario's QA Task Force, 2010: 11). This approach favours good practice concepts from the profit-centred private sector which is also readily transferred to public service organisations, e.g. marketing techniques, the revamping of prospectuses and the production of videos. In this way HEIs market their wares to potential recruits at home and overseas in the drive for internationalisation of institutions.

2.4.6 The ISO 9000 approach

This approach is abstracted from the International Organisation for Standardisation (ISO) Quality System (International Organisation for Standardisation, 2000:2), ascribed to by commercial enterprises. ISO 9000 standards were originally conceived for companies in the manufacturing industry to predict the reliability of products and quality control. In HE, practising professional formations tend to incorporate this approach in their QA practices (Brink, 1998). The ISO 9000 approach sets out the requirements of a quality management system with a standard which is based on a number of quality management principles, including a strong customer focus, the motivation of top management, the process approach and continual improvement (http://www.iso.org). This approach ensures that "customers" get

consistent, good quality products and services, which in turn bring many business benefits which are applicable in assuring quality in HE institutions. The ISO 9000 is a common label that consists of ISO 9001, ISO 9002, ISO 9003, ISO 9004 and their subsets issued first in 1987. ISO 9000 was revised in 1994 and again in 2000. The current one is ISO 9000:2000. The ISO 9001 and 9002 are quality system standards that allow certification by a third party. The ISO 9000 certification indicates that the organisation is able to meet the needs and demands of its customers in a planned and controlled manner. However, this does not necessarily indicate the products only (Mishra, 2007:44). An ISO 9000 certificate consequently assures the public that the education and training organisation is well organised and that the outcomes of programmes and courses meet the intended goals and needs of the students (Kartha, 2004:331).

2.4.7 The value added approach

Quality according to this concept is gauged by the knowledge, communication skills, life skills and economic value to the region, province, nation, etc., which are added to a student upon graduation (Brink, 1998:5). Nicholson (2011:9) interprets value added as the "...impact on the student's knowledge and personal development and on the academic's scholarly and pedagogical ability and productivity." This is reflected in graduate attributes which the CHE is now reflecting upon. "Value added" in the transformative context is linked to assessment, where the evidence of quality is found in increased student learning (Koslowski: 2006: 23).

A key indicator of quality in HEIs is the success of graduates in joining the labour market (Kis, 2005:10). Surveys initiated amongst graduates is one of the tools that gauge the relevancy and appropriateness of their "value added" attributes that they have acquired from their respective HEI's (European Network for Quality Assurance [EQNA], 2003). In Australia, for example, data on employment success of recent graduates are included in the "Institutional QA and Improvement Plan" that HEI's submit to the administering government. The Graduate Destination Survey and the associated Course Experience Questionnaire are the tools for

determining the quality of the "value addedness" (Department of Education Training and Youth Affairs [DETYA], 2000).

2.5 INSTITUTIONAL SELF-EVALUATION AND EXTERNAL QUALITY AUDITS

Institutional self-evaluation is common in most developed countries as institutions are primarily responsible for the maintenance and enhancement of the quality component of the teaching and learning experience (Thaver, 2006: 861). Evaluation services initiated and carried out by HEIs contribute to the improvement of educational quality (Ngwenya, 2009: 16). These internal self-evaluations are required to assess whether a particular HEI is coping with newer HE challenges of massification, as opposed to the elitistical and antiquated HE purpose of tailoring HE for minorities in historic times.

External quality audits are carried out by governmental agencies and professional validation councils world-wide every five or six years. This is to ensure that the HEIs are accountable in its management of governmental funding and allow access to all members of a diverse society (Jonathon, 2001:17). External QA thus consolidates the linkage between HE and the broader "public good" (Singh, 2001:2). External quality monitoring also ensures the international integrity of HE (Harvey, 2002:32).

Critics point out that external reviews inhibit innovation (Harvey, 2002: 31) and are inefficient in achieving sustainable quality improvement (Stensaker, 2003:76). External reviews also carry the risk of "game playing" and "impression management" in being compliant instead of fostering quality improvement (Newton, 2001:13). Knight (2001:3) however believes that even though self-assessment may be grandiose and hides weaknesses and deficiencies, it garners greater internal support for sustainable improvement.

Notions of academic freedom and autonomy are not always compatible with the demands of national accountability (Moses, 1995:11). The consequent tension between institutional self-

evaluation and external quality audits is perhaps the most contentious issue in the management of quality management systems world-wide (Loukkala & Zhang, 2010:40). The links between these two QA systems should be kept in mind when developing and fostering an institutional quality culture.

2.6 QUALITY ASSURANCE AND QUALITY ENHANCEMENT

QA in South Africa is governed by bureaucratic structures such as the South African Qualifications Authority (SAQA), the Council on Higher Education (CHE) and the Higher Education Quality Council (ETQA). This ensures monitoring compliance functionality with pre-determined bureaucratic requirements (ETQA, 2002:1). This regulation model is more concerned with quality control than quality development, improvement or promotion (Jibladze, 2013: 343). Quality enhancement is more fluid in that it is concerned with improvement based on feedback on current practise (El-Khawas, 2013:255). In the framework of external QA, academics focus more on processes (e.g. curricula and student learning assessment development). This enhances quality by improving academic curricula, evaluating teaching and learning and ensuring that the validity of student assessments are integrated and improved (Udam & Heidmets, 2013: 212).

Debates on the value of internal and external quality assessments as well as audits reflect differing perspectives on the two dimensions of QA, namely assurance and enhancement. Although the two dimensions are fairly distinct it would not be entirely accurate to portray them as mutually exclusive. Middlehurst (1997:49) explains how quality enhancement can develop from effective strategies of QA when pointing out that quality enhancement should also flow from QA by investigating and correcting failures or lacunae in systems and procedures, as well as by spreading good practice identified in the review of one area of activity by disseminating this to other areas. In these forms, quality enhancement is part of a feedback loop which, if recognised, noted and acted upon, should lead to incremental improvement in practice (Ngwenya,2009: 32).

2.7 CRITERIA UTILISED IN SOME INTERNATIONAL QA SYSTEMS

The discussion in this chapter does not focus on QA systems of particular countries, but rather uses examples taken from countries such as the United States, Finland, Norway, Canada, the UK and Germany to illustrate emerging patterns and approaches in the South African HE system. This approach is in line with the central aim of this chapter which is to demonstrate, by means of appropriate illustrations, the extent to which the South African HEQA system has been modelled on similar systems in developed countries (Refer 2.7.1). However, the focus is not on comparison as this is not a comparative study, but a case study with a limited national (South African) and institutional focus.

2.7.1 Finland: Contribution to South Africa's QA development

The Finnish criteria in the evaluation of HEIs is of significance in the South African context as the Finnish government and Finnish Quality Agency recently sponsored a project for the establishment of quality management systems in merged and historically disadvantaged universities in South-Africa. In accordance with the Bologna agreement, the system of audits was implemented in 2005 by the Finnish HE Evaluation Council (FINHEEC). Development required Finnish HEIs to create or establish QA systems, and FINHEEC started the piloting of audits in 2005 and all HEIs had been audited by 2011. The audit system in Finland resembles an accreditation system, as the audit is a form of certification. Prior to 2010 the significance of audits was rather weak and the consequences of rejection had not yet been defined. With the new University Act of 1 January 2010, universities are obliged to undergo external quality assessment audits which reinforce the legal significance of the system (Haakakorpi, 2011:72).

The Finnish response to the aims and objectives set out in the Berlin communiqué was deliberated by a committee on QA (Ministry of Education, Finland, 2004 as quoted by Ketunnen, 2008:325). The committee proposed that the HEIs develop QA systems covering all

their operations and that these be regularly reviewed by the Finnish HE Evaluation Council. The QA system may refer to the environments and QA systems on international and national levels, as well as the environment and QA system of an individual HEI. The quality audits should encompass how an HEI takes account of these matters in its strategic planning, management process and internal processes.

On the other hand, the national aim of quality audits is to support HEIs in their quality management and performance enhancement. The so-called *quality map approach* is used to develop the auditing targets for Finland, taking into account the auditing targets of the Finnish HE Evaluation Council. The auditing of an HEI in Finland includes the following criteria:

(1) the consistency of the strategic plans with respect to global, national and regional environments;

(2) strategic planning and objectives, overall structure and internal coherence of the strategic plans;

(3) documentation of the management process, including the definition of procedures, actors and responsibilities; strategic management and objectives; planning of operations and resources (financial and human); operations and steering and reporting of results;

(4) objectives, overall structure and the internal coherence of the QA system. This includes a definition of the objectives, functions, actors and responsibilities of the HEI's QA system as well as the respective documentation; monitoring, evaluation and continuous improvement of the QA system; participation of staff, students and external stakeholders in QA and relevance of and access to information generated by the QA system within the HEI from the perspective of the external stakeholders of the HEI;

(5) the comprehensiveness and effectiveness of the QA procedures and structures relate to the internal processes of the HEI's research and development; service to the community (the interaction with and impact on society as well as regional development cooperation) and support services (such as the library and information services, career

and recruitment services and international services and staff development; and education (Kettunen, 2008:325-326).

These five criteria form the backbone of the criteria constituting the HEQC criteria in South Africa as laid out in the CHE Review Manual (Refer Section 2.9) CHE(2004:8-24).

2.7.2 Norway: Portfolio assessment

Traditionally, Norwegian students were assessed by sit-down examinations and writing assignments and the format of portfolios were used occasionally (Dysthe, 2007:237). During the reforms of quality issues during 2007, two types of portfolios were introduced to enhance the quality of students' knowledge, their understanding of subject matter and their writing ability. A distinction was made between a working portfolio, where all the work in a certain period of time is collected, and an assessment portfolio which contains the selection of works to be assessed and possibly graded (Dysthe & Engelsen, 2004:239).

Portfolio usage within specific disciplines are often utilised in electronic evaluation of programmes (White & Ostheimer, 2006:61). The following significant criteria are recommended by Dysthe, Engelsen and Lima (2007:145) in institutions utilising portfolio assessments in quality assessment programmes:

- Type of portfolio reflecting overarching goals of the programme.
- Meta cognitive and/ or critical reflection on course content,
- Feedback based on shared, explicit criteria and rubrics.
- Development of consistent, reliable and holistic scoring guides.

2.7.3 Criterial approaches to Quality Assurance in the United States

More than twenty years ago the federal American government first required institutional accrediting organisations, America's principal mechanism for QA in HE, to review institutional practices with respect to the assessment of student learning outcomes (Peter, 2010:173). During these two decades their approach to QA has changed with its present general focus on undergraduate teaching and learning in the academe, transformed methodologies for instructional delivery, and the fact that HEQA has become trans-national. Impacts of these changes on QA have resulted in QA processes becoming more intentional, more focussed on undergraduate teaching and learning, and far more transparent (Peter, 2010:173).

With the advent of "entrepreneurial universities" (Neal, 1998: 53,) which cater primarily for students that cannot attend traditional universities, distance education programmes are online which compel governments to monitor the quality of such e-learning to ensure that quality is not compromised (Lim, 2001: 158). The University of Phoenix, for example, was established in 1974 and expanded to 98 campuses in 30 American states with an enrolment figure of more than 55 000 students. Programmes accredited there by the North Central Association have been used by 18 traditional HE Institutions and currently more than 55% of American universities offer flexible learning programmes online.

At present online virtual universities consequently compete with traditional universities. This convenient format of providing for continuous learning cannot ignore issues of quality and flexibility (Lim, 2001: 160).

2.7.4 Criteria applied in Canadian colleges

Quality Assurance in Canada presents a customised solution to the problems of assuring curricula quality by addressing cross-jurisdictional issues in establishing and verifying curricula (MacAskill, Goho, Richard, Anderson & Stuhldreier, 2008:939). The Canadian criteria are based

on current theory in educational quality, and it uses a three-stage methodology incorporating a variety of survey, planning and consultation techniques. Benchmarked data is applied in assuring that academic programme and curricular conformance is measured according to accepted Canadian collegial mission and standards. These criteria, initiated in 2000, have moved from preliminary trials through acceptance to full implementation across all academic faculties of all Canadian colleges (MacAskill et al., 2008: 939).

2.7.5 Criteria renewal in the United Kingdom

An assigned QA agency in the UK, the Quality Assurance Agency (QAA), has entered into a series of reviews, assessments, and discussions to renew the QA System (QAS), the academic infrastructure and provision of public information. McCaran (2010:108) elucidates these new criteria in the QA of student engagement, investigation of complaints, and reaching the public. They introduced the notion of the student as part of a "cohesive learning community". The antiquated rationale of regarding the student as a consumer is believed to be hampering the student's full engagement in learning communities that facilitate informing and enhancing the collective student learning experience (Little & Williams, 2010:115). It is envisaged that these more explicit internal and external processes may also be implemented successfully in other countries facing similar challenges.

2.7.6 Germany's Higher Education Quality Criteria

Mashiro (2006:140) explains how the German HE system strategically uses QA, through the new system of accreditation, to offer globally recognisable degrees such as the Bachelors and Masters degrees. With these degrees the criteria of funding relevant to quality are scrutinised. As the German Accreditation System is organised in a decentralised manner, one of its characteristics is that the accreditation of study programmes is carried out by Accreditation Agencies, who in turn are accredited by the Accreditation Council of the Foundation for the Accreditation of Study Programmes in Germany. The Accreditation Council – as the central

decision-making body of the foundation – defines the basic requirements of the process and takes care that any accreditation is carried out on the basis of reliable, transparent and internationally recognised criteria. The legal basis of the accreditation system is set out in the Law for the establishment of *the Foundation for the Accreditation of Study Programmes in Germany,* as well as in the contracts concluded between the Foundation and the agencies where the rights and obligations of the partner institutions involved in the accreditation system are defined. As part of their contract agreements, the agencies commit themselves to the deployment of the criteria and further decisions of the Accreditation Council, as well as to taking the common constitutional requirements of the Conference of German Cultural Ministers, in their currently valid version, into consideration.

The current objects of the accreditation process are study programmes for Bachelor and Master Degrees from State, or State-recognised, HEIs in Germany. If a study programme has successfully undergone an accreditation process, it is awarded accreditation for a limited period, with or without conditions, and carries the Quality Seal of the Foundation for the duration of this period. Where any study programmes are combined in a logical and justified way, the accreditation can also be carried out in a combined way. In such cases the accreditation decision is always made on the basis of the individual study programme.

The accreditation process comprises several stages and is based on the peer review principle. When an HEI submits an application for the accreditation of a study programme to a chosen agency, the relevant agency deploys an evaluation group of which the composition must be a reflection not only of the specialist content focus of the study programme, but also of its specific profile. In each case the evaluation group is made up of representatives of HEIs, i.e. professors and students, and representatives of the profession. The evaluation of the study programmes is carried out in accordance with the given Criteria for the Accreditation of Study Programmes by the Accreditation Council and, as a rule, includes an on-site inspection of the establishment by the evaluators. On the basis of the assessment report drawn up by the evaluation group and in accordance with the decision regulations provided by the Accreditation

Council, the responsible Accreditation Commission from the agency may decide either to grant an accreditation for the relevant study programme, to grant an accreditation with conditions, to abandon the process or to reject the accreditation. The accreditation of study programmes for Bachelor and Master Degrees is prescribed as a directive in the common constitutional requirements of the Conference of German Cultural Ministers and must be, as a precondition for the granting of state approval, embedded in the various individual laws concerning HE in each Federal German State (acquin.org/en/accreditationsystem.php).

2.7.7 Australian criteria towards 2020 equity targets

The renewal of quality in Australian HE coincides with significant changes in the external policy framework (Mahsood, Lone & Robert, 2011:265). This renewal of the quality and equity agenda is reflected in the context of continuing decline in public funding. Original criteria focused on student engagement and the need to take account of how and to what extent students engage with activities that are likely to lead to productive learning (Coates, 2005:25). With the changing demographics of the Australian student population, criteria have been established to meet the government's aspirations to increase the enrolments of students from targeted equity groups. Past criteria based on rewarding universities that achieved measures of student satisfaction rather than using criteria of access, participation and retention of students from diverse equity groups, have been criticised (Mahsood, Lone & Robert, 2011:265). A recent innovation in Australian HE is the risk management and risk based approaches to QA (Edwards, 2012:295). This new field is currently being explored to enhance the possibilities for achievement in Australian HE.

2.7.8 New Zealand's Critical systems intervention

Critical systems thinking "through systems intervention" to explore quality and to promote improvement in a university's department was initiated in New Zealand (Houston, Robertson & Prebble, 2008:209). From the perspectives of staff and student participation, the quality

problem mainly relates to better promote learning, analysis and reflection on the problem and local context, drawing on system methodologies to identify underlying tensions. A systematic perspective approach - building on commitments to the systems idea, sociological awareness, methodological pluralism and human improvement - can help to structure problems as a precursor to problem solving (Houston, Robertson & Prebble, 2008:209).

2.7.9 Sweden's specific themes

The external evaluations which have been implemented in Sweden are often called audits. This is an indirect form of evaluation where institutional activities related to teaching and learning are not directly scrutinised. Instead, the processes and routines assumed to improve the quality of these activities are assessed and enhanced. With regard to the audits which were conducted during the period 1995-1998, nine specific themes were selected as key aspects (Wahlén, 1997:7), namely:

- management and organisation of quality improvement work;
- institutional objectives and strategies;
- identification of and cooperation with external stakeholders;
- staff participation in QA work;
- evaluation and follow-up systems;
- development and recruitment of academic staff;
- internationalisation;
- work situation and work environment; and
- equity.

By focusing on these themes, the overarching objective was that the audits should contribute to increased self-regulation and improvement of Swedish universities and colleges. As explained by the Swedish National Agency (1995), the audits should be conducted based on the

premises and needs of the individual institution whilst no national evaluation model or national standards were supposed to be developed.

2.7.10 United Arab Emirates – introduction of graduate outcomes

The original model of assessing quality in a vocational HEI in the United Arab Emirates emphasised measurement of standards by examination. This was changed to one of evidence-based review of the quality of the programme teams QA process (Burden-Leahy, 2005:129). In 2002 a major review of the HEI programmes QA system concluded that an element of performance measurement was required since the emphasis on process was affecting the quality status of programme teams. This deficient quality status was detected in the inability of the quality process to reveal its link to the output of good quality graduates. Drawing on international best practise, HEIs developed a set of graduate outcomes and linked these to the revised academic quality model. The quality of graduates was reviewed by external and internal peer reviewers. The assessment of this criterion yielded a positive impact on curriculum development, staff knowledge and involvement in quality activities. This intervention has raised the debate about what quality means to the HEI (Burden-Leahy, 2005:129).

2.7.11 India: Contribution by students

Dhanuja (2012:1) maintains that quality education develops knowledge, skills and abilities that promote students' personal growth, vocational success and future contributions to society. The core of a clearer and better integrated assessment process is dependent on learning goals and existing assessment processes. Parents and students choose institutions that will provide them with an education which will enable them to graduate, resulting in obtaining employment or admission into professional programmes. Employers appreciate graduate characteristics and academics are keen to engage with students that are appropriately prepared for their courses, either through earlier preparations or through foundation courses

at HEIs. Quality education in the classroom is therefore relative, depending on a wide range of variables including background, personality and motivation. To enhance the background or preparedness of students it is thus essential to clarify the fundamentals such as problem solving, teamwork and organisation. These core principles contribute to quality education and promote an exceptional student experience. Dhanuja (2012:1) concludes by emphasising the significance of basic education which impacts on quality enhancement in HE.

2.8 REASONS FOR THE EMERGENCE OF QA SYSTEMS IN SOUTH AFRICA

The interrelated factors that explain why Quality Assurance has emerged in Europe, especially Netherlands which is regarded as a Quality Assurance forerunner, are not dissimilar to the factors that have given rise to its existence in South Africa (Metz & Van der Walt, 2006:101). QA is not an entirely new phenomenon in South African HE. In the past various forms of quality evaluation and improvement had been used by different institutions since the establishment of the first university in South Africa. These QA mechanisms included, but were not limited to:

- the system of using external examiners for undergraduate and postgraduate programmes;
- regular course or programme evaluation seminars involving departments and/or faculties;
- comprehensive departmental reviews;
- course and lecturer evaluation by students;
- course or curriculum evaluation by professional bodies and national discipline-based organisations or associations; and
- internal and inter-institutional peer evaluation of teaching, the curriculum and student evaluation (Ngwenya, 2009: 20).

In both the South African and European contexts, these factors include concerns about the potential decline of academic standards set against the background of the massification of HE,

the loss of business confidence in traditional academic quality management capacities, budgetary restrictions and fiscal crises (Van Damme, 2000: 10). Added to these factors is "the changing role of HE in globalising economies" (Moore, 2003:10). Other factors based on historic backgrounds unique to the South African HE landscape also contributed to the evolution of a QA system. It has become important to address quality differences across institutional programmes as a result of the previous disadvantagement of historically "black" HE institutions. This previously differential education system based on race, and to some extent, language, received a significantly reduced funding capacity resulting in inequitable resources (Department of Education, 1996:9).

Historically, therefore, QA in South Africa was an institutional management issue rather than a national or governmental prerogative (Ngwenya, 2009: 40). Conceptual work by the National Commission of HE laid down the foundations established by the South African Qualifications Authority (SAQA), the Council on Higher Education (CHE) and the Higher Education Quality Committee (HEQC) by creating an integrated system of HE reflecting the ideals, inspirations and values enshrined in the country's new constitution. This necessity is coupled with the national call on HE to be more "responsive" to national needs and to place "… greater emphasis on interdisciplinary, market responsive and equitable undergraduate programmes" (Moore, 2003:5). To achieve a transformed education system, the following criteria have been introduced by the state to "massage" the HE system to meet the national economic, social and political imperatives (Moore, 2003: 8).

2.9 CRITERIA UTILISED IN THE SOUTH AFRICAN QA SYSTEM

The CHE (2004:8-24) laid down the following criteria for evaluating academic programmes at HEIs. These criteria are discussed briefly and under each criterion The researcher provide practical examples:

2.9.1 Criterion 1

The HEI has a clearly stated mission and purpose with goals and priorities which are responsive to its local, national and international context and which provide for transformational issues. There are effective strategies in place for the realisation and monitoring of these goals and priorities. Human, financial and infrastructural resources are available to give effect to these goals and priorities.

Primarily this criterion ensures that the HEI programme or department has laid down a foundation on which to build its objectives. These fundamental aspects of the QA system have to be connected to the local, regional, provincial, national and international ethos. This initial criterion also provides credence to the QA philosophy of "fitness for purpose" (see Section 2.4.1)

2.9.2 Criterion 2

Objectives and mechanisms for quality management are integrated into institutional planning. Financial planning ensures adequate resource allocation for the development, improvement and monitoring of quality in the core activities of teaching and learning, research and community engagement.

This criterion, "borrowed" from the Industrial "Total Quality Management" approach, stipulates that institutional planning includes provision for operational issues pertinent to quality activities. This also ensures that institutional management initiates support and develop QA processes in the three main activities of an institution, i.e. teaching and learning, research and community engagement. This criterion is centred on establishing directives that would control QA in a top-down management approach which impinges on academic professional autonomy (Hoecht, 2006:541).

2.9.3 Criterion 3

The arrangements for the QA of and support for teaching and learning enhance quality and allow for its continuous monitoring.

The chief "customer" of an institution is the student; this criterion facilitates an enabling environment for this "customer" at undergraduate and postgraduate levels. This also aligns teaching and learning policy with the HEI's mission and strategic goals. Criterion three further recognises that the professional development of academic staff is essential in promoting academic competency. Provision is also made here for the implementation of a broad vision of the CHE objective of transformation which requires institutions to promote access to students from previously disadvantaged groups. An example of this would be the provision of student support programmes, e.g. tutor systems. This criterion also recognises the continuous nature of reviews, recommendations, implementation thereof and monitoring in a cyclical pattern.

2.9.4 Criterion 4

Academic support services (e.g. library and learning materials, computer support services, etc.) adequately support teaching and learning needs, and help give effect to teaching and learning objectives.

In keeping with the massification of HE in South Africa appropriate academic support services which facilitate the interaction between academic provision and academic support, are reviewed. Relevant staffing and infrastructure is revisited to ensure that academic and support staff develop their expertise and keep abreast of developments in their field. Evidence of the effectiveness of academic support services are also audited to ensure their alignment to the core functions of the HEI.

2.9.5 Criterion 5

The HEI has effective systems in place for the quality management of short courses, exported and partnership programmes, and programmes offered at tuition centres and satellite campuses.

With community linkage prioritised in university mission statements, appropriate short courses to develop local communities are expected. Policy has to be in place and these programmes are quality assured. Branch campus offerings are also audited to ensure that branch campuses are not marginalised from “main campus”.

2.9.6 Criterion 6

Clear and efficient arrangements ensure the integrity of learner records and certification processes. Oversight and monitoring responsibility is clearly allocated and acted upon.

Integrity and the trust, control, professional autonomy and accountability of universities are invested in the graduation certificates issued by the university. These graduation records of students need to be carefully stored for posterity and archived securely. In today’s atmosphere of electronic photocopying of graduation certificates, this office needs extraordinary control measures to avoid fraud and illegal issuing of certificates.

2.9.7 Criterion 7

The administration of academic programmes is conducted within the framework of an effective programme management system. Responsibility and lines of accountability are clearly allocated. Management information systems are used to record and disseminate information about the programme, as well as to facilitate review and improvement.

The emphasis of the CHE Framework of QA now resides in the management of the teaching and learning process. Consequently, line managers are called to answer on procedures, time frames, reporting and communication arrangements for the administration of programmes. Work based and work integrated skills learning methodologies are also evaluated to ensure that these are integrated into the universities' mission and strategic goals. Evidence of mentoring, identification of at-risk-students and staff capacity development in these areas is expected.

2.9.8 Criterion 8

Clear and efficient systems and procedures are in place for the design and approval of new programmes, courses and modules. The requirements are consistently applied and regularly monitored.

This criterion ensures that all programmes at all South African universities (private and public) go through the same vigorous process before they are offered to the public consumer. First, all programmes are submitted to the CHE for initial clearance who then ensures that the HEI requesting permission to offer this programme, has all the necessary infrastructure and personnel to offer, manage, monitor and take to graduation those registered for the particular programme. The second hurdle in the process is that the HEI has to obtain clearance from the South African Qualification Authority (SAQA) so that the HEI can include the qualification in their Programme Qualification Mix (PQM), and finally, funding for the programme is obtained from the Department of Higher Education and Training (DHET). The internal review process ensures that this process is followed. The external review process by professional bodies ensures that graduates are recognised by the respective professions.

2.9.9 Criterion 9

Recruitment, selection, development and support policies and procedures facilitate the availability of suitably qualified and experienced academic and support staff to deliver the programme. Staff capacity in relation to programme needs is regularly reviewed.

Criterion 9 guarantees that institutions have the appropriate academic and support staff to offer programmes. Staff also has to follow development programmes in order to get abreast of the latest development in their paradigm. Equity targets are also envisaged so that institutions are guided by the national personnel policy in staffing.

2.9.10 Criterion 10

Clear and effective systems are in place (including internal and external peer review) to evaluate programmes on a regular basis. Review findings are disseminated appropriately and utilised for staff development, curriculum improvement and increasing student access and success.

This criterion is managed by QA departments who ensure that institutions and faculties, programmes and modules are constantly reviewed. Policies for teaching and learning, enrolments, appointment of staff, moderation procedures, curriculum academic support, etc. are the cornerstones for ensuring that programmes are properly managed and reviewed. Student evaluation of lecturers also plays a role in triangulating outcomes together with tracker surveys of graduate attributes. Employer surveys are also significant in addressing appropriate programme design. These mechanisms have to feed into quality improvement plans which have to be monitored to follow their implementation. Implementation is consequently analysed by assessing certain institutional indicators to determine the efficacy of such interventions. If such interventions are not producing the desired results, the improvement plan has to be adjusted to achieve the desired goals. This constant perusal of the QA loop is thus vital to achieve the desired outcome of increasing student access and success.

2.9.11 Criterion 11

The HEI has an assessment policy and clear and effective procedures for its implementation. The policy and its procedures ensure academic and professional standards in the design, approval, implementation and review of assessment strategies for programmes and modules, and for the qualifications awarded by the HEI.

The HEI is expected to have institutional, departmental and programme policies and rules that govern assessment procedures, formulas for calculation of summative and formative marks, appeals processes, supplementary examinations, etc. Distance learning programmes, work based learning and work integrated learning programmes are equally quality assured. Evidence is also required to confirm that academic staff managing assessments are competent and that development opportunities are available for teaching staff to improve and professionalise their assessment practices.

2.9.12 Criterion 12

The HEI has effective procedures which facilitate the quality of the internal and external moderation of its assessment procedures and results, in order to ensure their reliability and to ensure the integrity of the qualifications it awards.

Moderation procedures and reports are essential to standardise and benchmark results with other universities or external stakeholders. Policy will guide the appointment of competent moderators. Record keeping of moderation reports provide evidence of the moderation procedures which should be considered at Faculty meetings to ensure their inclusion in improvement plans if warranted.

2.9.13 Criterion 13

The principles, procedures and practices of assessment are explicit, fair and consistently applied throughout the HEI. Security arrangements for recording and documenting assessment data are in place to ensure the credibility of outcomes.

Assessment procedures are audited to ensure their fairness and consistency in application. Assessment policy guidelines should be followed to maintain integrity of results. Institutions are also expected to securely maintain all assessment data to ensure the credibility of outcomes.

2.9.14 Criterion 14

The HEI has a Recognition of Prior Learning (RPL) policy, and effective procedures for recognising prior learning and assessing current competence.

The HEI is expected to allow students with a record of prior learning to enrol, provided they meet an appropriate laid down entrance requirement. This recognition of prior learning policy (RPL) recognises learning derived from relevant work experience. RPL must be exercised in a fair and transparent manner.

2.9.15 Criterion 15

Effective arrangements are in place for the QA, development and monitoring of research functions and postgraduate education.

This criterion focusses on research and postgraduate education by analysing the HEI's research policy. Capacity is reviewed to ensure development for researchers. Planning is essential for the implementation of a research framework. QA procedures are thus audited for the effectiveness of the development and monitoring of research functions and postgraduate education.

2.9.16 Criterion 16

Research functions and processes are supported and developed in a way that assures and enhances quality, and increases research participation, research productivity and research resources.

Research is one of the three major objectives of all HEIs. Consequently institutions need to have a policy and guidelines effectively implementing and resourcing research programmes. Systems have to be in place for proposal application, evaluation and approval. In keeping with national priorities, avenues for the development of new researchers from disadvantaged and female communities are expected to be implemented at HEIs. Effective linkages with institutional missions as well as local, regional and national research initiatives, are identified in this audit criterion. Outputs of the research process, e.g. data, copyright inventions and confidential findings that are effectively managed and ethically disseminated, are also audited. Strategies for the evolution of new researchers and the impact of research and research management are inclusive of criterion 16.

2.9.17 Criterion 17

Efficient arrangements are in place for the QA, development and monitoring of postgraduate education.

All aspects of postgraduate education are audited via policies, funding mechanisms, research information systems, supervision, support services, etc. QA procedures are essential for the development and monitoring of postgraduate education.

2.9.18 Criterion 18

Quality-related arrangements for community engagement are formalised and integrated with those for teaching and learning, where appropriate, and are adequately resourced and monitored.

This third leg of institutional objectives is audited to ensure community linkages are in place. Teaching and learning procedures are evaluated for relevant community engagement thrusts. Institutions are expected to provide resources for effective community engagement. The effectiveness of this criterion is determined by various mechanisms, e.g. community surveys.

2.9.19 Criterion 19

The HEI engages in benchmarking, where appropriate, and draws on user surveys and impact studies in the process of planning and setting of priorities for quality development and enhancement.

Institutions are expected to benchmark their outputs against internal and external reference points for goal-setting, improvement and international ranking. Various surveys provide feedback from various stakeholders, e.g. graduates, employers, students, etc. These impact studies assess the effectiveness of QA and quality enhancement systems in institutions. Analysis from these surveys and impact studies are consequently utilised for priority setting, strategic planning and institutional quality enhancement planning.

2.10 ACCOUNTABILITY OF QUALITY ASSURANCE

Monitoring, evaluation and QA in their various forms are viewed as cornerstones of high-quality education systems. According to Akkari (2004:145) (cbft/en-GB/Research/ Research-library), for instance, the Tunisian Ministry of Education believed that one of the reasons for the

"..mediocrity of the internal efficiency of the education system was the lack of a 'culture of evaluation'". Similarly, De Grauwe (2001:3)(cbft/en-GB/Research/ Research-library), writing about "school supervision" in four African countries in 2001, linked the decline in the quality of basic education to the cut in resources for supervision and support.

Countries and states monitor and evaluate not only to drive educational improvement, but also for accountability. There are difficulties with putting monitoring and evaluation into practice as well as some opposition to it. However, there seems to be a general consensus that evaluation is part of the process of education and that accountability is a normal and necessary part of the supply of public services.

Mala and Lange (2007: 11) have elaborated on the increasing demands for public accountability of HE that have been made in the past few decades. The setting of targets and indicators for QA in HE are the responses to demonstrate value for money, efficiency and effectiveness, and responsiveness to the country's economic and social development needs.

In spite of institutional autonomy and academic freedom, HEIs have responded to the external accountability demands by:

- greater transparency in HE operations;
- greater attention to social and economic needs in respect of graduate competencies;
- knowledge production;
- community outreach;
- increasing involvement of external stakeholders, e.g. professional councils in QA processes; and
- greater emphasis in planning for resourcing and monitoring of quality through QA processes.

Barnett (1994:165) shows that, in most contexts, QA is associated with accountability rather than with institutional improvement. He further argues that QA in HE is a practice that is associated with power tensions between and among the various stakeholders of an institution. He points to the importance of problematising the notion of collegiality that is associated with internal forms of QA. It also reframes the rationale that equates internal QA approaches with non-bureaucratic, non-accountable and self-improvement systems that enjoy maximum buy-in at implementation level. It draws from the accountability discourses to reframe the internal-external debates that run through the literature into a power relations domain. He concludes by outlining the theoretical framework that is used in the study, which is based on the notion of power, and theorises that the notion of power relationships is the key to QA practices in HEIs.

The accountability debate continues as the purposes of QA vacillate around social accountability, academic improvement, institutional performance efficiency and effectiveness, "value for money" and "consumer" protection. Policy makers will continue to choose a balance between accountability and improvement, and between external social pressure and internal academic control, riding on the options of accountability and responsiveness (Mala, 2012:193). Gradually QA is ceding accountability ground to more performance indicators, more user satisfaction surveys, and more sophisticated ranking systems, performance assessments and targets for improvements.

Luckett (2003: 4), in characterising QA models from formative to summative control with internal and external controls, formulated a successful QA system consisting of internal decision makers, students as novices or apprentices, and academics as the owners and the most affected, that lead to findings being taken seriously and subsequent genuine improvement. Conversely QA models are constituted by external decision makers. Institutional managers as owners who produce an evaluation report regarded as superficial, do little to add institutional value. This model is perceived to be inherently unstable as it is vulnerable to government pressures.

Luckett (2003:6) concludes that the external agency is in a position to make judgements about "fitness of purpose" of an institution's mission and goals by determining whether this is aligned with the governments HEIs' mission and goals. Since these self-evaluation reports are constituted by QA experts who are influenced by the HEI decision makers, they lack credibility as they are detached from the classroom interface. The outcomes of the evaluation are summative and are made public which have direct consequences on accreditation, funding status, reputation, etc.

2.11 ACCOUNTABILITY SYSTEMS IN SELECTED COUNTRIES

This section expands on the functions of the QA system in evaluating HEIs in the "fitness for purpose" approach closely allied to the "value for money" approach. Consequently, QA accountability systems from Malaysia, Australia and the United States are scrutinised. The lack of similarity with the South African accountability QA system is found to be significant as there is noticeable adherence to the concept of institutional autonomy.

2.11.1 Assessment of Accountability systems in Malaysian Education

Accountability in the Malaysian education system covers policy accountability, fiscal accountability, managerial accountability and programme accountability (Bajunid, 1996:531; Clare 2004). Policy accountability is inclusive of the political accountability which ensures that the education system attempts to accommodate the aspirations of all Malaysians in a politically sensitive manner (Bajunid, 1996: 532). Policy accountability also reinforces religious beliefs by making the inculcation of universal Islamic values one of the goals of Malaysian education. Regarding fiscal accountability, all state institutions are accountable to Parliament via the Public Accounts Committee (Bajunid, 1996:533). Engineering management accountability falls under the jurisdiction of six sections in the Ministry of Education. According to Clare (2004) programme and activity accountability are viewed from the angle of efficiency and effectiveness. Criteria include quantity, quality, timeliness, cost, cost savings, impact of

programmes and activity, improvements in operational efficiency and productivity improvements. Summatively, these initiatives foster core values such as integrity, discipline, accountability, professionalism, quality and productivity.

2.11.2 Accountability and QA in Australia

Accountability mechanisms articulated through academic QA is increasingly becoming prominent in Australian universities. The senate structures (called academic boards in Australia) focus stringently on governance issues (Rowlands, 2012:97). These developments have altered the form and function of academic governance since the role of Australian university senates now extensively revolves around academic QA. This is viewed as problematic as this approach focuses on audit-driven accountability mechanisms. Consequently, university processes such as planning, auditing, and measuring and reporting have become common responses to complex and growing external demands for accountability (Shore & Wright, 2000: 57). Financial accountability requires universities to be more entrepreneurial which places greater emphasis on institutional- level planning and control, budgeting and risk management (McWilliam, 2007:311). This consequently creates a more onerous focus on the role of the vice-chancellor and the relevant executive management team, i.e. the senate, supported by a smaller and more financially focussed university governing body or council. Consequently, there is a decline in contribution from academia (Bleiklie & Kogan, 2007: 477). This tends to marginalise senate considerations of improving teaching and research. However, the QA framework allows senate structures to have a central role in the development of academic standards that focus on enhancing learning outcomes, rather than on compliance (Rowlands, 2012:99).

2.11.3 The impact of addressing accountability demands in the United States

Banta (2010:181), in reviewing QA since 1970, cites evidence that HEl processes had been improved, including pedagogical techniques, academic staff development, curricula, student support programmes, learning communities and measurement instruments. In microscopic

evaluation per sector, however, only 6% of the profiles contained evidence that student learning (which should be the main focus) had improved. As there are no instruments for large scale assessment of HE student's learning in individual classrooms, the long term effects of QA on student learning cannot be demonstrated convincingly (Banta, 2010:182). Subsequently recommendations for testing generic skills such as writing and critical thinking have been put forward (2010: 183).

2.12 THE ADVERSE EFFECTS OF QUALITY ASSURANCE ON INSTITUTIONAL AUTONOMY

With the advent of democracy in South Africa in 1994, the South African government appointed a National Commission on Higher Education (NCHE) in February 1995 as one of its instruments to bring equity and transformation to the various HEIs. The subsequent Green paper on Higher Education Transformation (Department of Education, 1996:31) promulgated the formation of the Council on HE (CHE). The particular function of the CHE was to advise the Minister of Education on:

i) the needs and priorities of the HE system regarding student demand, demography, labour supply and demand, and the availability of public resources;
ii) the policies, principles and criteria that should govern the allocation of public funds among HE institutions;
iii) the policies, principles and frameworks that should govern private operational providers in the HE sector;
iv) the quality of the system inclusive of individual programme providers;
v) the principles and procedures applicable to accreditation of providers and programmes;
vi) articulation of programmes between schooling, vocational education and training, HE and further education, recognition of prior learning (RPL) and consequential transfer of institutional credits;
vii) availability of performance indicators to identify good practise and systemic application requiring intervention;

viii) the policies, principles and criteria identifying rationalisation and collaboration amongst institutions;

ix) the research capacity needs and infrastructure and developmental approach to strengthen research in historically disadvantaged institutions;

x) functional relationships between HE providers and the Department of Education;

xi) methodology on overcoming obstacles to achieving transformation in HE; and

xii) any other relevant educational issue.

Quality, articulation, accreditation and identification of performance indicators, later called criteria, eventually became the foundational building blocks for a futuristic national quality body to enforce these transformation targets. The burden of a national quality agency thus became imposed onto the primary autonomous characteristic of HE agencies. Sutherland (2007:15) comments that in HE the disciplinary reach of QA has increased the threats that QA imposes on academic freedom and institutional autonomy. Academics view this intrusion of QA objectives as interfering with the autonomy of HE. The underlying premise of QA in bringing significant and benevolent educational reform in HE in South Africa has thus been achieved at the expense of marginalising institutional autonomy.

Maila (2007:694) proposes that quality and accountability be obligatory in the HE context. This compliancy approach contributes to sustainability towards the maintenance of educational standards in HE institutions. Webbstock (2008:online) evaluated the discourse of academic freedom, institutional freedom and QA. Her exploration concluded that in this post modernistic globalised society academic work and academic identity is circumscribed in relation to QA. Consequently, South African HEIs are assessed nationwide on national criteria. This prevents historically advantaged universities from being assessed advantageously as compared to historically disadvantaged universities. Autonomy is still respected in QA circles with sensitivity and guarded with integrity. Large scale demographics of graduates have not shown racial equity patterns in spite of the 20 years of democratically based “fitness for purpose” approach, indicating that this is not an effective approach in redressing this inequitable legacy.

In keeping with democratisation and equity of HEI's, governing controls instituted by the CHE do not discriminate between historically disadvantaged and historically advantaged HEI's. Consequently, a differentiated set of criteria for these two distinct HEI categories should be set in place. Currently the apartheid endowed HEIs are extremely strong in their research capacity in facilitating postgraduates in the Masters and Doctorate domains, and criteria focussing on these areas should consequently be expanded upon. Historically disadvantaged HEIs are extremely weak in research capacity, and because of the massification and open door policy their undergraduate classes are under enormous pressure. Consequently, a significant aspect review should focus on the undergraduate classroom domain and minimal attention should be paid to research capacity.

This turmoil in HE has to be resolved by "joint ventures" where each stakeholder's responsibilities are clearly defined.

2.13 CONCLUSION

This chapter covered definitions of QA and allied terminology which are quite complex and varied. A multiple definition of QA was thus accepted in QA literature to depict the diversity of systems. The purpose of quality in HE was elucidated by discussing the "fitness for purpose", "fitness of purpose", "value for money", role model, and the value added approaches. The first two approaches, i.e., "fitness for purpose" and "fitness of purpose", were shown to be significant approaches in illuminating the purpose of quality in HE. Historical reasons prompting the emergence of QA Systems in South Africa were subsequently provided with the detailed nineteen criteria utilised in the CHE Handbook used to functionalise quality review systems in South African HEIs. This was then compared to QA systems in selected countries which highlighted the fact that the South African QA system is an amalgam of ideology and principles being practised in developed countries world-wide. The accountability of QA to society, students and employers was then elucidated with examples from Malaysian, Australian

and American accountability systems. The South African QA system was found to be not as reflective as it does not recognise religious input. Finally, the adverse consequences of QA on institutional autonomy were then reflected upon.

A historical perspective on the development of QA systems in South Africa and internationally is explored in the next chapter.

CHAPTER 3

QUALITY ASSURANCE SYSTEMS: HISTORICAL PERSPECTIVE OF SOUTH AFRICA AND INTERNATIONALLY

3.1 ORIGINS OF QUALITY

During the Middle Ages individual guilds took up the responsibility of managing the quality of products in Great Britain. Subsequently more formal quality control relevant to professional practice was instituted at the beginning of the 20th century, focussing on inspection, measurement and testing, which also accompanied the industrial objective of mass production with a rapid growth of standardisation. From 1900 to 1915 Great Britain was the only country in the world which had standards which were nationally applicable. From 1916 to 1932 standardisation organisations increased significantly with the United States joining the standardisation movement in 1917 (Voehl, 1994:27).

After the Second World War, Japan, with its on-industrial line quality focus, became the main driver of efficiency/quality movements internationally. Americans Deming and Juran promoted modern collaborative quality concepts to Japanese businesses, and within twenty years quality became a worldwide movement. Deming is regarded as the father of quality concepts of the late 1940s since he introduced Total Quality Management (TQM) based on statistical control and sampling processes (Birnhaum, 2000:23). By the late 1950s the quality movement was eventually aggressively introduced in the United States by Feigenbaum. Feigenbaum evolved the concept of managing quality from beginning to end, and termed this process Total Quality Control (TQC) (Mertova, Webtser & Nair, 2010:4).

In the 1980's Britain took the initiative in the quality movement by introducing BS 5750 as an international quality standard for the European Commission. This system became the precursor of the ISO 9000 which is presently utilised worldwide (Voehl, 1994:28).

The 1990's witnessed the advent of quality as a profession with focus on quality systems in Britain and other Western European countries. During this period, quality spread from industry and business into the public sector, including health care and HE (Wodehouse, 2004:77). Birnhaum took Deming's industrial concept of TQM, renamed it 'Continuous Quality Improvement (CQI) and introduced it at US HE institutions. This provoked the first serious discussion of a higher educational tool "..not only for its technical merits, but also for its educational and social implications" (Birnhaum, 2000:107).

Over the last decade, the management of academic quality assurance and improvement at institutional level was based on designated key performance indicators (Harris & Web, 2010: 203). Presently university decision-making is evidence-based, and business intelligence tools that are data-driven and remedially-strategised are utilised as the core of the institutional quality system (Harris & Webb, 2010:204).

Currently quality assurance foci have moved to the lecture rooms of universities and the evaluation of teaching and learning is now seen as a priority. This would require extensive review, analysis, modelling, consultation, documentation, new techniques and practices for the measurement of student learning (Australian Universities Quality Agency, 2009: 8).

3.2 HISTORICAL PERSPECTIVE OF QUALITY ASSURANCE SYSTEMS IN SOUTH AFRICA

3.2.1 Certification Council for Technikon Education

Technical colleges of education, originally termed Technikons, were officially quality assured by the SERTEC (the Certification Council for Technikon Education) which was established in terms of the Section 2 of the (SERTEC) Act (Act 88 of 1986) in 1986 (Certification Council for Technikon Education, 1998: 1). The Act gave the following powers to SERTEC:

- ensuring that corresponding certificates issued by the Council represent the same standards of education and examination;
- to withdraw accreditation of qualifications if required after an evaluation of a Technikon's Department;
- verifying that demands of accountability have been met; and
- promoting improvements.

Standards were evaluated at Technikons by means of visiting evaluation committees accrediting instructional programmes in four year cycles (Strydom, 1997:35). The transformation of SERTEC from a certification council to an accrediting body, was a major policy shift that changed the model and philosophy of quality assurance in Technikons (Strydom, 1997:31).

The following relevant thought provoking trends emerged in the Technikon context at the time:

- flexible procedures to be developed, taking cognisance of specific differences between institutions and programmes;
- performance indicators determined by the individual institutions using broad and clarified criteria to assess self-evaluation and accreditation;
- external panel visiting, to triangulate the information contained in an institutional evaluation report through interviews;
- after submission of the self-evaluation report (SER) the accreditation should occur within three months;
- provision to be facilitated for interim arrangements when initial accreditation was not granted. Alternatively these programmes had to wait for a period of four years when the next cycle commenced;
- to ensure some measure of consistency in the evaluation, a core of evaluators should be maintained;
- internal quality assurance should be maintained at the institutional, programme and subject levels;

- quality assurance mechanisms should be established at all institutions within certain time constraints;
- mission and vision statements should be published by institutions before self-evaluation and accreditation (Strydom, 1997:35).

The establishment of the Council on HE (CHE) in 1997 absorbed the functional aspects of SERTEC, and the subsequent merger of former Technikons into institutes first, and thereafter technological universities by 2002, caused the demise of SERTEC (Chalufu, 2002:137).

3.2.2 Quality promotion at traditional universities

According to Noruwana (1997:63), "QA is as old as universities in SA", and this view demonstrated the importance of QA by traditional universities. Consequently the Committee of University Principals (CUP) independently constituted a Quality Promotion Unit (QPU) in 1987 to maintain and improve the quality of educational programmes (Muller, 1997:37).

Strydom (1997:29) forwarded the following two reasons for the formation of a QPU:

- to promote quality at universities, since universities were the custodians of academic standards and quality assurance. A QPU formation facilitated advice and support with the intention of promoting academic standards. The independence of the QPU from universities was assured as it had its own management board which reported to the CUP;
- to provide assistance in the alignment process of reform initiatives in HE. This was particularly important for quality assurance since it contributed to the establishment of a clear quality assurance system which facilitated institutional audits, programme accreditation and institutional self-evaluation;

The CUP stipulated the following requirements for the QPU (Strydom, 1997:30):

- There should be duality in purpose: quality improvement and assurance.
- It should be inter-institution centred instead of governmental or comparative.
- Internal and external procedures should be established during the formulation of the self-assessment and during the visitation by external panellists.
- Self-evaluation was to feed into quality assurance.
- Quality should be assessed on the basis of achievement towards institutional and programme objectives as well as value contributions reflecting on the institutional context.
- The quality assurance system should be regular and cyclical.
- Academic and supportive administrative structures and functions should be assessed inclusively.
- External panellists are to be constituted by impartial, broadly experienced and responsible peers and to include industrial representations.
- Confidentiality of the evaluations to the quality promotion system and the respective institution should be maintained.
- Funding of the institution should not be correlated with quality audits.
- Government should keep the public informed about the status of the quality assurance system and its programmes.

According to Hay (2000:62-63) the establishment of a QPU was a major step in university quality assurance because it assisted universities to conduct productive institutional self-evaluation at different levels; it created a basis in the HE system for development and it promoted accreditation for the purpose of articulation.

3.2.3 Establishment of an HE Quality Committee

The onset of the quality system in SA was heralded by the establishment of the South African Qualifications Authority (SAQA) for registering standards and qualifications in terms of the SAQA Act, 1995 (Act No. 58 of 1995) (Sutherland, 2007:2).

In February 1995 President Mandela appointed a National Commission on HE (NCHE) to analyse and make recommendations on the status of HE in South Africa. From this, "A Framework for Transformation" was published In August 1996 which endorsed quality as a key principle for transforming HE (CHE, 2004:6). Consequently the Education Ministry (Department of Education, 1996:3) published the "Green Paper on Higher Education Transformation", requesting public comment on the vision and mission to transform HE. This resulted in the Higher Education Act Number 101 of 1997 which made provision for the CHE to establish a permanent sub-committee (the Higher Education Quality Committee or HEQC) to discharge its mandate for quality (Sutherland, 2007:2).

The final foundational policy supporting quality assurance was the promulgation of the National Qualifications Framework (NQF) in the Government Gazette (2007), integrating all HE qualifications and its structures for standards generation and quality assurance. This nested approach to qualifications allowed for articulation within and amongst all SA HE institutions equitably (Boyd & Fraser, 2004:6).

SAQA administers the NQF, which is based on the following five principles:

- The creation of an integrated national framework for learning achievements.
- The facilitation of access to, and mobility and progression within education, training and career paths.
- Enhancing the quality of education.
- The acceleration of redress via transformation of the HE sector.

- Contributing to the personal development of its participants (i.e. students) and consequently the development of national socio-economics (Muller, 1997: 53-54).

The latest addition by the NQF is the description of level descriptors from level 1 to level 10 (South African Qualification Authority: SAQA, 2012:3). This ensures coherence in learning achievement in the allocation of qualifications and part qualifications to particular levels, and facilitates the assessment of the national and international comparability of qualifications and part qualifications. This is supported by the following three Quality Councils in South Africa:

- The Council on HE (CHE)
- Umalusi
- The Council for Trades and Occupations

3.3 HISTORICAL AND CURRENT INTERNATIONAL PERSPECTIVES ON QA

3.3.1 United States of America (USA): Outcomes Assessment

Unlike most countries, the USA does not have a nation-wide ministry of education to confer the offering of education programmes and set and enforce educational standards (Lenn, 1992:161). Individual states and local governments are responsible for HE by setting up the system of regulation called 'Accreditation in the late 21st century'. This is based on peer review by following a non-governmental, voluntary and self-regulatory approach to quality assessment and enhancement. This system reflects the diversified and semi-autonomous character of American HE in 11 620 institutions (National Centre for Education Statistics, 2011). Quality is thus a communal concept, an internalised activity formed by academic and professional educational communities.

The national non-governmental organisation, the Council on Postsecondary Accreditation (COPA), grants recognition to the accrediting agencies by fulfilling two primary purposes:

quality assessment – evaluating an institution or programme to ascertain whether it meets or exceeds stated criteria of quality; and quality enhancement – assisting an institution or programme with on-going improvement.

Since 1970 the focus has been on assessing student outcomes by gathering valid evidence of students' success in achieving these outcomes (Banta, 2010: 181). Between 1979 and 1995 several States required HE institutions to test students in general education and in their disciplines. This resulted in Barr and Tagg (1995:12) declaring that the principal focus must be changed from what lecturers are teaching, to what the students are learning.

In 2006, the federally appointed Commission on the Future of HE (US Department of Education, 2006) argued in a report for value-added testing that would permit institutional comparisons. Consequently standardised tests of generic skills such as writing and critical thinking were rolled out in 2007 in 350 institutions (Banta, 2010:182). Aper (2010:56) concludes that Americans who are concerned about undergraduate education, care about cognitive outcomes, e.g. knowledge and specialised skills, as well as economic competence.

American regional and disciplinary accrediting associations continue to make progress in requiring statements of learning outcomes, assessment of learning and the use of findings to suggest improvements, without specifying the assessment methods to be used (Banta, 2010:183).

3.3.2 United Kingdom (UK): Measuring teaching efficiency

The oldest universities in the UK, Oxford and Cambridge which were established in the twelfth and thirteenth centuries along collegiate lines, provided professional skills needed by kings, bishops and landowners to manage their operations (Lim, 2001:33). Similarly, in the fifteenth century, St Andrews, Glasgow and Aberdeen with Edinburgh following in the sixteenth century were started along civic non-collegiate lines to meet the civil needs of that time. Technological

development and the growing needs of engineering and chemical science research led to the development of colleges in 1909, later upgraded to universities. Hybrid “university colleges” in Nottingham and Exeter developed in the first half of the twentieth century producing technological and scientific expertise. Governmental expansions requested in 1963 yielded Sussex, Stirling and Ulster universities and the specialist technological universities of Strathclyde and Bath (Lim, 2001:34).

Before the formal introduction of a Quality Assessment Committee in 1992, universities had a quasi-quality assurance system facilitated by the traditional university committee system and the external examiner system. These bodies developed and reviewed courses and constituent subjects. The relevance of the programmes and effectiveness of the learning experience was obtained from systemic students, graduates and employers. Scholarly journals were monitored to track research productivity and academic-community participation was also assessed for promotion purposes (Lim, 2001: 36).

In 1990 the Committee of Vice-Chancellors and Principals of British Universities established an Academic Unit which scrutinised quality assurance processes for maintaining standards of awards and academic quality (Lim, 2001:37). This was extended to become the Quality Assurance Group of the HE Quality Council (HEQC) when polytechnics were accorded university status. In 1992 this Quality Assurance Group was replaced by a Quality Assessment Committee for each of the HE Funding Councils (HEFC) for England, Scotland and Wales. A revamped *Her Majesty’s Inspectors System* assessed the quality of teaching in each broad field of study in three year cycles (Lim, 2001:39). This quality assurance subject assessment reviewed the learning experiences and achievements of students against institutional objectives. This assured quality in all HEFC–funded institutions with poorly rated institutions required to take interventional measures before applying for future funding.

Because of the overlap between quality audits and subject assessment being carried out by separate bodies, an independent Quality Assurance Agency for HE (QAA) was established in

1997. Having functionality in introducing an integrated quality assurance service by combining HEQC's quality audit with funding councils subject assessment, its approach is based on the following principles (Comber & Walsh, 2010:224):

- Accountability
- Ownership
- Enhancement
- Reduction of duality burden from HEQC and Funding Council

With the QAA focus on learning outcomes, Johnes (2006:443) researched the methodology of assessing teaching efficiency in UK universities to determine whether it may be attributed to the student's own efforts, or the institution's efficiency when efficiency increased. He concluded that university characteristics such as expenditure and student-staff ratios affect teaching efficiency. The size of graduating classes and tutorial groups were inversely related to degree results (Connolly & Smith, 1986: 48; Smith, 1990:147), whereas average staff salaries and academic expenditure per student were directly related to degree achievement (Smith & Naylor, 2001:29). Curricula in the UK were also examined (Roxburgh, Watson, Holland, Johnson, Lauder & Topping, 2008: 882) which revealed that objectives were shifting towards competency and skills-based education and training, as opposed to a more rounded educational experience and a wider knowledge base.

The Scottish Quality Assurance Agency (SQAA) followed an enhancement-led approach which involved all five Scottish universities based on transactional, business, ecological and situational perspectives. The SQAA suggested that new, more realistic understandings of the ways in which organisations accommodate the changing landscape of "quality", are required (Comber & Walsh, 2010:223).

3.3.3 France: The Comite National d'Evaluation

In 2013 the French HE system comprised over 2.4 million students from a population of 55 million in 119 universities, staffed by approximately 150 000 teachers-researchers, technicians and administrative staff (Erawatch, 2014). The French QA System has evolved from the original HE that operated on the following three levels:

1) Centralised administrative control.
2) The universities and the market.
3) Comite National d'Evaluation (CNE) (Staropoli, 1992: 44).

The CNE consequently developed a quantitative instrument to collect and examine data with precise indicators, but relied qualitatively on peer recognition. Being independent, it can choose which evaluations to undertake and use to publicise its findings. This makes the CNE a major innovation in the French system of HE (Staropoli, 1992: 45).

In addition to the role of the CNE, the Evaluation Agency for Research and HE (AERES), established in 2009, evaluates HE institutions, research units and programmes and degrees (Hirano, 2012:32). Engineering programmes are quality assured by the Commission for Engineer Titles (CTI). The teaching plan, teaching aids for success, integration into the job market and management of the cyclic academic programme are some of the criteria evaluated in Bachelor's degree programmes. At the level of evaluating Master's degree programmes, some of the criteria include (1) the extent to which the master's degree is associated with research, (2) the organisation of the teaching programme into specialised fields, (3) links to the job market, and (4) internationalisation partnerships agreements (AERES, 2010:38). Doctoral programmes are evaluated by determining (1) the quality of the research units, (2) the scientific policy indicating action plans, (3) validating the constituency of the scientific and educational council, (4) admission requirements outlining quality recruitment, and (5) national and international partnerships (Evaluation Agency for Research and Higher Education- AERES, 2010:40).

Noteworthy is that French universities are required since 1996 to conduct student surveys and graduate surveys in order to enhance their own statistical and analytical capacity. This is not the case in the South African QA System.

3.3.4 The German experience

Germany has sixteen potentially different state HE systems differentiated according to whether it awards "lower level" vocationally orientated degrees, or traditional university degrees (Blackmur, 2008:725). Professional peers and the government share responsibility for the appointment of professors who are supposed to be intrinsically motivated to guarantee quality. While research evaluation is based on the quality of research and the researchers' performance, teaching functions emphasise the quality of degrees throughout the German HE system as the cornerstone of quality assurance efforts (Frackmann, 1992: 52).

According to Powell, Coutrot, Graf, Bernhard, Kieffer and Solga (2009), equality amongst all 378 German HEIs for the two million students is maintained by the state who set state examinations in Medicine, Pharmacy, Law and Education. Examinations for the other professions are set independently by the various universities using specifications from national frameworks drawn by educational ministers and German Rectors.

Bornmann, Mittag and Daniel (2006:688) explain that the main purpose of the Stiftung zur Akkreditierung von Studiengängen in Deutschland (Foundation for the Accreditation of Study Programmes in Germany) is to contribute to the development in the quality of teaching and learning in Germany and, with this in mind, to cooperate in the realisation of the European HE Area. To this end and on behalf of the German Federal States, the Foundation takes care that the agencies who are certified to carry out processes of accreditation of study programmes, demonstrate that they do this to the highest degree of quality, comparability and transparency. Before any agency is given the authority to award the quality seal of the Foundation for study programmes that have successfully completed an accreditation process, it must itself be

subjected to an accreditation process. On application from the agency, the accreditation process is carried out by the Accreditation Council which, as the central decision-making body of the Foundation, decides on the accreditation or reaccreditation of agencies (Bornmann *et al*., 2006: 690).

The accreditation of agencies is carried out on the basis of the Criteria for the Accreditation of Accreditation Agencies that has been developed by the Accreditation Council. In accordance with a total of twenty individual test areas for such criteria, the agencies are required, for example, to furnish proof of the legitimacy and function of its institutions, to formulate their understanding of quality based evaluation of Learning Outcomes, to explain their personnel structure and other resources, and to prove the managerial independence of the agency or its Accreditative Institutions (Serrano-Velardo, 2014:97). Furthermore, the agencies commit themselves to the deployment of the Criteria for the Accreditation of Study Programmes, not only during the accreditation process, but also on a contractual basis. This part of the criteria applies equally to agencies and HE Institutions in that it names the quality elements of the accreditation programme to be checked by the agency, and requires documents to be presented by the HE establishments as part of the accreditation process (Serrano-Velardo: 2014:98).

With a view to the realisation of the European HE Area, the recognition of the German Quality Seal, and thereby also guaranteeing the recognition and study achievements and degrees awarded from German HE Institutions and promoting their reputation outside Germany, also falls within the remit of the Foundation. By taking the European Standards and Guidelines for Quality Assurance in the European HE Area of the European Association for Quality Assurance in HE (the ENQA) wholly into account in their own relevant regulations, the Accreditation Council has made an important contribution to the development of the European HE Area (Niemi, Hudson & Harford, 2012).

3.3.5 Southern European countries: Comparative findings

With the establishment of the European Community (EC) in 1976, one of the obstacles to articulation of students between member states was academic recognition (Dalichow, 1992: 181). Consequently the European Community Action Scheme for the Mobility of University Students (ERASMUS) was established in 1987. The ERASMUS programme utilised the following four approaches:

- *The individual approach,* where examiners of academic transcripts are trained in foreign countries to enhance their knowledge of foreign academic records by the EC.
- *The administrative approach,* where the integrated EC Network of National Academic Recognition Information Centres (NARICs) collates information and offers advice on academic recognition.
- *Inter-university or inter-departmental cooperation,* managed by ERASMUS, established European Intervarsity Cooperation Programmes (ICPs) where institutions exchange third year students.
- *The inter-university or inter-departmental super approach is* based on the European Credit Transfer System (ECTS) of the EC (Dalichow, 1992:182).

With increasing student migration, The Bologna Declaration (Veiga, Amaral & Mendes, 2008:e47) laid the foundation to allow for facilitating a common frame of reference aimed at improving external recognition and facilitating mobility, as well as employability of graduates from France, Italy, Germany and the UK. The 1999 Bologna Declaration set up the following action programme (Blanco-Ramirez, 2014: 122-123):

1. A clearly defined goal to create a European space for HE in order to enhance the employability and mobility of citizens and to increase the international competitiveness of European HE.
2. A deadline date of 2010 set to achieve this European space for HE.

3. A set of specified objectives:

- The adoption of a common framework of readable and comparable degrees, "...also through the implementation of the Diploma Supplement" which allows for transnational education utilising the European Credit Transfer System (Unesco, 2004: 2).
- The introduction of undergraduate and postgraduate levels in all countries, with first degrees no shorter than 3 years and relevant to the labour market.
- ECTS –compatible credit systems, also covering lifelong learning activities.
- An European dimension in quality assurance with compatible criteria and methods.
- The elimination of remaining obstacles to the free mobility of students (as well as trainees and graduates) and teachers (as well as researchers and HE administrators).

As part of the development of the European Bologna Declaration of quality assurance standards, the 2003 Berlin communiqué (Viega *et al.*, 2008:e49) added the quality assurance apparatus based on the emergence of an accreditation system which was already implemented in Austria, Germany, Norway and the Netherlands. The 2005 Bologna Process Bergen Communiqué (Viega *et al.*, 2008:e48) added new objectives to the implementation of the national qualification framework, joint degrees and recognition of prior learning. Similar strategies in the South African HE Qualifications Framework have been implemented. (Government Gazette, 1997:5).

Reflections on development, benchmarks and indicators to improve the quality and effectiveness of the education and training systems in the European Union (EU) have been established in the Lisbon strategy (Viega *et al.*, 2008: e49) to make the EU the world's most dynamic and competitive economy. Benchmarks in HE were derived from quality and management concepts emerging from quality improvement techniques such as "Total Quality

Management" (Viega, *et al*., 2008: e49). Numerical indicators are objective, allowing for comparison of institutions or disciplines, whereas peer review procedures are perceived as subjective.

3.3.6 Australia: Academic Board's accountability

In Australia, quality has been split between quality assurance as a measure for accountability, and quality improvement as a means for transformation and improvement (Vidovic, 2004:391). While accountability has become the domain of academic boards by focussing on audit driven mechanisms, there is an opportunity to develop academic standards that focus on enhancing learning outcomes rather than on compliance (Rowlands, 2012:97).

Originally Australian universities were established in each state in the "first wave" before World War I (Sydney, Melbourne, Queensland, Western Australia, Adelaide and Tasmania) and in the "second wave" (Australian National University, New South Wales and Monash) (Marginson, 1999:12). More universities added from 1960 to 1975 brought the total to 36 public universities and two private universities by the late 1980s.

Quality, referred to as maintaining standards, was entrenched in the "first wave" universities by expatriate academics from Oxford and Cambridge. With the expansion of the university sector in the 1970s and the late 1980s, maintaining these standards of excellence became problematic which evoked a more systematic approach to quality advancement (Lim, 2001:70). Consequently in 1977 the Australian government set up the Commonwealth Tertiary Education Commission (CTEC) which was abolished in 1987 and replaced with the HE Council. This allowed for an expanded governmental system with greater access for disadvantaged groups, and a funding process linked to performance at the institutional level (Lim, 2001:70). Greater use of strategic planning and performance indicators was encouraged by government as institutions negotiated their educational profiles and funding requirements.

With the abolishment of the HE Council, the Australian Universities Quality Agency (AUQA) was established in 2000 to monitor, audit and report on quality assurance in Australian HE using a methodology of institutional self-assessment and an expert external panel (Rowlands, 2012:101). This has subsequently been replaced by the Tertiary Education Quality and Standards Agency (TEQSA) in 2012 with powers to regulate universities and protect and assure the quality in terms of international education standards (Rowlands, 2012:106).

3.3.7 Malaysian Education: Accountability Systems

In the HE context in Malaysia there are 31 Teachers Colleges, seven Polytechnics, nine universities and two university colleges (Bajunid, 2011: 154). In 1995 the Malaysian Parliament established six Departments in the Ministry Of Education to ensure accountability, efficiency, effectiveness, competitiveness and a culture of excellence amongst institutions of higher learning. Bajunid (2011:255) explains that at the institutional levels in training institutes, teachers colleges and polytechnics, principals and various heads of departments ensure that the various purposes of education (particularly the goals of character building, the acquisition of basic functional literacy, cultural literacy including scientific and technological literacy for employment) are achieved. A strong moralistic code of accountability has started to emerge in Malaysian HE with quantitative development to ensure standards in the area of buildings, physical facilities and equipment. Qualitative concepts are prioritised, e.g. zero defect, learning from the best, first things first, doing things right the first time, peak performance and total quality management (Bajunid, 2011:256-258).

With the advent of the Internet, more and more public universities in Malaysia are initiating the introduction of e-learning in their respective universities (Ramayah, Ahmad & Lo, 2010:5422). Research has indicated that systems quality, information quality and service quality will be the determinants of quality in e-learning systems.

3.3.8 Middle East and North Africa: Quality of Education

According to Bouhlila (2011:327), the quality of education in regions undergoing economic change is a universal issue. Data on educational quality in the Middle East and North Africa (MENA) is scarce, but available data would suggest that the quality of education is low (Bouhlila, 2011:328). This does not reflect a non-availability of monetary resources, but rather the inefficient management of resources already allocated. Mostafa (2012) provides the following recommendations in enhancing the quality of HE in the Middle East and North African HE institutions:

1) Increasing the quality of educational provision: This consists of improving the quality of a combination of inputs, including teachers' qualifications, instruction, curricula, equipment and infrastructure. The quality of these inputs should be improved simultaneously while giving attention to the distribution of such inputs in terms of geographical territory, gender and social class. The state can play an important role by coordinating the efforts of different actors (i.e. public, private, local, nongovernmental).

2) Reforming the incentives system: Incentives are extremely important in fostering efficient behaviour among the actors on the education market. For instance, in some cases teachers and school principals can act independent from any supervision, hence new mechanisms that link educational performances to teacher and principal benefits must be established. However, one has to note that such incentives are hard to operate since it is difficult to determine what is due to teacher performance and what is due to other determinants.

3) Reforming the role of the state: public authorities responsible for the management of the education system should take into account the requirements of the "consumers", and the latter should also be able to influence the decisions of educational authorities. Such reforms require the decentralization of some tasks to the local or school levels.

This will allow local authorities, principals and teachers to customize educational provision and instruction according to the needs of the students (given their context, culture, economic situation, social class, gender, etc.)

4) Synchronizing the education system with the needs of the labour market: The education system should deliver a diverse array of skills which correspond to the needs of the economy, hence it should become more sensitive to such needs. This requires tailoring education around the needs of the market while moving away from manufacturing standard skills by cultivating them through personalized education.

Countries in North Africa and the Middle East are not part of the European HE Area (Secretariat ENQA, 2014). Most of them have weak QA mechanisms, if any. Cognisant of the growing demand for tertiary education in the region, and the need to provide Quality Assurance services across countries (in addition to the country-level efforts), there are several initiatives that seek to build capacity and provide technical assistance at regional level. Through the Development Grant Facility (DGF), the World Bank promoted the establishment of a MENA Quality Assurance Network.

Reforming the education systems across the Middle East and North Africa should become a priority especially since the winds of change are blowing through this part of the world. Democratization need not be limited to the political process and should also extend to education, among other areas. Any undertaken reforms must reflect the needs and aspirations of the people, while preparing them for the future economic and social challenges.

3.3.9 Tanzania: University of Dar-es-Salaam

Since its inception as a University College in 1961 and later as an autonomous national university in 1970, The University of Dar-es-Salaam has experienced the major economic hardships and political wars of the 1970's. Consequently, to face the realities of the 1990's, the

university management set up a Programme Management Unit (PMU) to manage the transformation process (Luhanga, 2010:7073). As part of this process a Quality Assurance System for teaching and education was implemented in the Corporate Strategic Plan (CSP) between 1994 and 2002 (Luhanga, 2010:7077). After 10 years of implementation of the Institutional Transformation Program (ITP), a major external review of the CSP was required because of the complex and rapidly changing operational environment of the University - nationally, regionally and internationally. One of the key issues identified in the revised CSP for the period 2004-2013, was to address the challenge of improving the quality of teaching and learning and student services. A new QA mechanism will thus focus on resolving the demand for quality in teaching, learning and research, as well as the shortage of physical space within the life span of the CSP.

3.3.10 Quality in Papua New Guinean HE

Papua New Guinea is an example of a developing country with six universities, nine Community Teacher's Colleges, six Technical Colleges, nine Schools of Nursing, two Primary Industry Colleges and a few other specialised colleges (Commission for HE, 1995). QA structure wise, the Commission for HE (CHE) recommended in 1995 that a national accreditation policy be established to monitor the accreditation of programmes of HE institutions. The National Executive Council accepted the recommendation and provided two systems for improving quality (AusAID, 1997). The first system is the introduction of quality assurance in universities in which effectiveness would be audited by CHE via an established Academic Accreditation Committee. This system is incorrectly termed the Institutional Accreditation System as they are empowered to run and accredit their own programmes. The second system is the Program Accreditation System which is responsible for the accreditation of programmes in other HE in Papua New Guinea. This is accomplished via the Sub-sectoral Coordinating Bodies set up for various sectors, e.g. teaching or technical education. Universities are also authorised to audit and validate programmes similar to the CHE procedures. The universities also lend assistance by auditing and validating these programmes and by vouching for these other institutions

having effective quality assurance systems in place. Universities also allow franchising of their programmes to be taught at these institutions for university awards. In so doing, the CHE sets criteria for the academic audit of universities, and universities may thus maintain and enhance quality and relevance of their teaching, research and community service. Quality assurance is therefore locally managed and not centrally controlled. By successfully implementing quality assurance, universities are thus responsible for the effectiveness of higher education in Papua New Guinea (Lim, 2001:139).

In recognising the frailties of the traditional committee structures (e.g. staff, finance, research, etc.), New Guinean Universities have introduced the following changes (Papoutsaki & Rooney, 2006:427):

- A more efficient staff appraisal system.
- A more managerial prone Research and Publications Committee.
- Establishing an Accreditation and Quality Advancement Committee (AQAC).

Papoutsaki and Rooney (2006:422) allude to the clash of imposing a western/Christian orientated HE system created for the needs of a small formal economy at the expense of indigenous intellectual traditions contributing to the developmental needs of the country. This scenario is not dissimilar to the pressures and challenges faced by the prevalent South African democratic HE system in moving away from indigenous knowledge cultures.

The evolution of the Papua New Guinean higher education bears a strong resemblance with the evolution of the South African Higher Education System. Both have moved from a colonial foundational tradition to the new international trends in higher education that follow market trends. Critiques of this trend recognise the unsuitability of the school curriculum to deliver appropriate education, particularly in the rural context. University training programmes focussing on educating indigenous elites for career pathing in administrative institutions, are viewed to perpetrate oppressive aspects of neo-colonialism.

For quality assurance to be effective in developing countries like Papua New Guinea, Lim (2001:156) proposes that quality assurance programmes and the external quality audit be tailored to the prevailing conditions within the country. The audit must be based on the effectiveness of the quality management processes and not on the standards achieved, and it should be conducted institutionally-wise and not on the departmental level. This process would utilise institutional resources and not be target or performance indicator driven, and it should thus not raise public expectations. South African quality assurance processes have gone a similar route with institutional audits being completed over the last decade - during the next cycle a closer look at the classroom interphase is encouraged with a focus on enhancing quality assurance.

3.3.11 The Hong Kong Initiative

In 1983 the Hong Kong government requested the UK's Council for National Academic Awards (CNAA) to advise on the academic quality of degree courses. To be independent of the UK's influence from 1987 to 1990, the Hong Kong Council for Academic Accreditation (HKCAA) was established by assimilating features from the US, UK, Australia, Canada, France, Germany and the Netherlands (Sensicle, 1992:70).

Subsequently, in 1996 the University Grants Committee (UGC) in Hong Kong was established to promote quality in HE as one of the top priorities on the agenda of both the UGC and its funded institutions. The UGC defines quality assurance as "..the maintenance of the highest possible standards, both in teaching and learning and in research, commensurate with an institution's agreed role and mission" (Quality Assurance Council, 2007). The Committee ensures quality education provision in the institutions by conducting various peer reviews and providing incentives to institutions with a view to ensuring and enhancing teaching and learning quality, as well as students' language proficiency. These initiatives include Management Reviews, Teaching and Learning Quality Process Reviews, the Performance and Role-related Funding

Scheme and the Common English Proficiency Assessment Scheme. The Teaching Development Grants and Language Enhancement Grants are also designed to stimulate quality and innovation in these areas (University Grants Committee-UGC, 1996).

The UGC values a role-driven yet deeply collaborative system of HE. It recognises that all the institutions in Hong Kong have their own unique strengths in which they can aspire to become internationally competitive. The UGC works closely with the institutions in this respect and plays an active role in encouraging the HE sector to operate in distinctive, but collaborative and complementary roles. Hence, the UGC has developed at the system level appropriate tools, mechanisms and incentives to help institutions establish clearly defined roles to facilitate deep collaboration among institutions in advancement of their respective roles, and to allow excellence to emerge through fair and constructive competition.

The UGC defines academic quality in terms of the learning experiences of students including all aspects of teaching and learning delivery, academic support and guidance, and the conduct of assessment. Quality is essentially about the processes that enable students to achieve the academic standards that have been set for their awards. Institutions have an obligation to ensure that students have the opportunity to achieve defined outcomes and the academic standards set for academic awards. Learning opportunities include the quality of teaching and academic instruction provided by staff, the learning resources required to complete defined tasks and to support individual study, the advice and guidance provided by staff to enable students to progress their studies, and generally the opportunities to participate in a vibrant, cohesive and self-critical academic community (QA Council Audit Manual: http:/www.ugc.edu.hk.eng.qac., 2014).

3.3.12 India: Towards a QA System

In 1985 the Indian government became concerned about the quality and standards of HE with the growth to more than one hundred HE institutions, many of which were sub-standard and

operating purely on a profit motive with little consideration of providing education according to prevalent norms and practises (Chandra, 1992:83). Consequently the All India Council for Technical Education (AICTE) was established to protect and improve standards. As part of the accreditation function, the AICTE critically appraised institutions and programmes at intervals not exceeding six years. Accreditation was thus a system that included QA as monitored by the National Board of Accreditation (NBA), and which was promulgated in the AICTE Act of 1987 (Chandra, 1992:86).

The initial stage of accreditation required pertinent information on institutional structure, management, finances and facilities, programmes offered, curriculum content, teaching staff, teaching loads, teaching methods, student numbers and enrolment criteria, examination system, time tabling, staff development and appraisal strategies, student training and experiential learning, facilities for educational and extra-curricular activities, and QA mechanisms for self-assessment of quality of education in the institution (Chandra, 1992:88).

Questionnaires aimed at evaluating programmes focussed on the objectives of each curriculum, the availability of well qualified academics and trained supporting staff (technical and administrative), and the adequacy of support services, e.g. computer laboratories and workshops, etc. Programme information indicating academic profiles and achievements, professional development strategies amongst students (e.g. student membership of professional societies), exposure to workplace learning and understanding of ethical, social and economic factors, are also warranted (Chandra, 1992:89).

In 1994 the National Assessment and Accreditation Council (NAAC), with its headquarters at Bangalore, was established to address the issues of deterioration in quality of education. It set out to create an awareness and understanding of quality and quality assurance as crucial ingredients of national development (Mishra, 2006:6). Since then, the NAAC has embarked on developing national criteria, analysing self-study reports, validating self-study reports by an external peer team visiting on site, and grading of each HE institution by the Executive

Committee (Patil, 2006:2). However, at present, out of 612 Universities in the country, only 172 of them have been accredited by the NAAC. Out of the Universities accredited, 67 have been placed in Grade A, 99 Universities in Grade B and only 6 in Grade C, based on scores awarded during the process of recent accreditations. The National Accreditation Regulatory Authority for Higher Educational Institutions Bill (2010) has been introduced in parliament to make it mandatory for every higher educational institution in the country (other than institutions engaged in agricultural education) to be accredited by an independent accreditation agency.

The forces of globalisation and liberalisation influenced the Indian Higher education immensely. In a situation where HE, similar to goods and other services, has to compete internationally, quality assurance becomes inevitable. Some Indian HEIs operate within a larger framework comprising of several agencies, national contexts and societal expectations, and each of these has a unique rendition of the goals. At the functional level, the effectiveness of the HEI is reflected in the extent to which all these layers of goals mutually concur.

The NAAC assessment emphasises the institutional developments with reference to three aspects: Quality initiative, Quality sustenance and Quality enhancement. The overall quality assurance framework of the NAAC thus focuses on the values and desirable practices of HEIs and incorporates the core elements of quality assurance, i.e. internal and external assessment for continuous improvement. The value framework of the NAAC starts with its choice of unit of evaluation, which is the Institution as a whole. The A&A process of NAAC which involves a combination of self-evaluation and external peer evaluation, is implicitly or explicitly concerned with looking at the developmental aspects of the contribution in promoting objectivity, self-analysis, reflection and professionalism on the part of HEIs. The self-evaluation pro forma of NAAC (provided as “manuals for self-study”) maps out different inputs, processes and outputs, and moreover facilitates HEIs to evaluate their strengths, weaknesses and areas for improvement. The self-evaluation process and the subsequent preparation of the Self-Study Report (SSR) to be submitted to NAAC, involves the participation of all the stakeholders – management, faculty members, administrative staff, students, parents, employers, community

and alumni. While the participation of internal stakeholders (management, staff and students) provide credibility to and ownership of the activity and could lead to newer initiatives, interaction with the external stakeholders facilitate the development process of the institution and their educational services. Overall it is expected to serve as a catalyst for institutional self-improvement, to promote innovation and strengthen the urge to excel.

3.3.13 The Netherlands: The Inspectorate Perspective

Originally in the 70's, government and the HE institutions established QA systems which assessed typical features of the university and technical institutions. Universities prioritised comparative quality assessment of disciplines across institutions by utilising committees of external experts and publicising reports. Technical institutions set up individualised internal quality control mechanisms which were not publicised (Kalkwijk, 1992:97).

Since then the Netherlands government has changed its stance on intervention into individual higher institutional QA by allowing institutions maximum freedom to take their own decisions. The intention is to increase the autonomy of the HE institutions, with the proviso that they meet quality requirements in education and research.

In 2008 the Netherlands Court of Audit began auditing the quality assurance process in Higher Education (Netherlands Court of Audit, 2008:2). This three phase quality assurance process consisting of self-evaluation, external assessment and accreditation, was found to be deficient in the following areas (Netherlands Court of Audit, 2008: 8):

1) Composition of the Netherlands-Flanders Accreditation Organisation (NVAO) was academically biased and needed to include student and discipline experts.
2) Failure of the assessment panels to substantiate their conclusions in unambiguous terms.
3) Lack of international standards.

4) The NVAO should not assess the accreditation solely on the assessment report, but it should also be inclusive of hearings and verification panel reports.
5) Review panels to determine who to be interviewed and which documents to inspect. Consequently, changes to the quality assurance system in view of the deficiencies determined by the Netherlands Court of Audit, were promulgated in 2010 when the new round of accreditations began with the inclusion of quantitative targets.

3.3.14 Sweden: Reflection on evaluation criteria and systems

With a history of powerful centralised steering and belief in rational planning, Sweden originally had framed rules and regulations governing HE as instruments of justice and equality in place (Bauer, 1992:137). This strategy of management by directives and instructions has been converted to management by objectives and results, thus conveying more institutional autonomy on quality assurance. Consequently, Swedish HEIs must report on the workings of their quality assurance while comparative studies of all study programmes is undertaken at national level, with a view to guarantee an acceptable level of quality at all institutions (Bauer, 1992:138).

Most of the work on quality assurance in HE in Sweden is undertaken at the respective HEIs (Haikola, 2013:55). It is a prerequisite for an HEI to apply for, and be granted, entitlement to award a qualification. In the previous system the actual quality assurance procedures at the HEIs have been the subject of national evaluations. This system was criticised by, amongst others, student organisations who claimed that what students learnt should rather determine whether the quality of a programme was high, and not the quality of the quality assurance system. The subsequent national evaluation system therefore focused on the quality of programmes by evaluating their circumstances, processes and outcomes. In contrast, the system used today focuses on outcomes.

The European Network for Quality Assurance in HE (ENQA) maintains that the HEIs' own quality assurance systems should be the starting point for the entire national evaluation. The Swedish HE Authority conducts this kind of evaluation in the framework of its appraisal of applications for entitlement to award qualifications (Hiroko, 2013:194).

Another point of criticism which is universal to all QA systems in HE and currently a highly controversial issue, is that evaluation that stresses control gives rise to distrust and undermines the roles of professionals. Academic teachers are highly professional but are nevertheless not immune to this risk. It is vital for an evaluation system to develop in ways that do not inhibit the natural desire of academic teachers to develop – not only in Sweden, but in most other countries as well. On the other hand, evaluation of HE cannot avoid the general problems linked to the process involving its retroactivity, costs, methods of selection and measurement problems. These methodological problems are real ones and are dealt with, but their existence does not provide any grounds for questioning the Swedish and similar evaluation models. Quite the contrary: Haikola (2013:56) points out that this model which is based on the intentions of the Bologna reform, functions well and sets a good example for Europe.

In emphasising the effects of massification of HEI, Hiroko (2013:193) points out that autonomous institutional management and internationalisation influenced the Swedish QA framework towards English, Dutch, American and Australian frameworks. In evaluating teachers' qualifications, skills and research activities, infrastructure, goals and structures of departments and admission criteria, the QA Framework for 2011-2014 now encompasses learning outcomes determined by questionnaire surveys (Hiroko: 2013: 203). Consequently, knowledge and understanding, competence and skills and cultivation of critical skills, and problem resolution are the three learning outcomes assessed in students.

3.3.15 The Czech Republic - Quality Assurance in transition process

During the 40 years of a strict communistic regulated HE terrain until 1989, education in Czechoslovakia, as it was originally termed, was largely enforced by an ideological Marxist-Lenninist statist model (Holzer, 2010:139). This approach suggested that HE ought to be accountable to its key funding provider, namely the state. Since 1989, however, the state started to recognise academic freedom. Being the main funder of HE, the state still held some control by establishing the Czech Accreditation Agency. In terms of qualitative aspects, accreditation of programmes was granted after evaluating a series of programme aspects. Since 2008 the only established aspects of quality are the significant personal academic career development steps, i.e. acquisition of PhD, Associate Professorship and Professorship. These awards are based on research output instead of teaching and learning. The Charles University, University of Economics and Masaryk University are the only three Czech universities accredited to award Professorships. The ultimate guarantor of this system is the state (Liska, 2008:25). As of 2010, there are moves afoot to change school or programme accreditation to institutional accreditations (Holzer, 2010:144). Universities have to demonstrate a viable accrediting mechanism significantly based on assurance of quality. This internal evaluation process would then allow programmes some space for their initiatives in exchange for guaranteeing a specific standard.

3.3.16 Oman: Mapping the QA terrain

Since the early 80's, Oman has steadfastly invested in expanding its HE network and by 2006 it had 52 colleges and universities (Barwani & Osman, 2010:149). With larger graduate output than the availability of career opportunities, concern has been expressed about the quality of education. Consequently the government set up the Oman Accreditation Council (OAC) in 2001 to take responsibility for the external QA and quality enhancement of HE institutions and programmes. In 2008 the OAC 2008 developed the "Requirements for Oman's System for QA" (ROSQA) containing the following key elements (Barwani & Osman, 2010:152):

- A system for classifying HE institutions.
- A qualification and credit framework.
- Institutional standards.
- Processes for institutional and programme licensing and accreditation.

This system was gradually reviewed and updated, initially focussing on the quality audit process. The first stage, launched in 2008, emphasised the evaluation of the effectiveness of the institution's QA and quality enhancement process against its envisaged goals and objectives. This entailed the creation of a Quality Audit Portfolio which is verified by an external panel constituted by the OAC. The subsequent Quality Audit Report reveals commendations, affirmations and recommendations relevant to the progress towards an institution's goals (Barwani & Osman, 2010:153).

The second stage determined whether the institution has met the quality standards documented by the QAC. This process of standards assessment assesses the HE's institutional progress on implementing the affirmations and recommendations reflected in the Quality Audit Report. The panel then produces an Assessment Report indicating whether standards have been met. If the report is satisfactory, the OAC confers a Provider Accreditation Certificate and the cycle is repeated every four years. It is anticipated that by 2015 only accredited institutions will be authorised to offer HE programmes (Barwani & Osman, 2010:152).

3.3.17 United Arab Emirates (UAE): Free Zone model for external QA

Since 1976 three public institutions have been established which serve the national interest to make these institutions accountable for the purpose of government funding. Nationally a cyclic QA system was absent, subjecting these institutions to their own QA mechanisms (Rawazik & Carroll, 2009:80). In 2004 a ministry report noted that the public HE system was not accommodative of all citizens requiring access into HE. This initiated the development of numerous private higher institutions (Carroll, 2010:191). To provide QA to these non-

governmental HE institutions, the Commission for Academic Accreditation (CAA) was established as part of the Ministry in 2000. In accordance with international trends of peer review and international benchmarked standards, the CAA developed a set of standards for institutional and programme accreditation based on the American Southern Association of Colleges and Schools (Carroll, 2010:192). The CAA QA system requires all institutions and programmes to conform to local standards. This approach mandates programmes imported from foreign countries to reflect the outcomes stipulated by the UAE Government. Consequently, programme designers must ensure in their rationale that the cultural alignment of a curriculum has an impact on the perceived value of the programme (Dunworth, 2008:104). In view of all elements of the UAE society becoming part of the global economy and global network, the Ministry of HE and Scientific Research (MOHESR, 2007) decided that HE has to reflect this new reality "..in the kinds of educational experiences it offers its students" (2007:35). Considering that 80% of the UAE community are expatriates without residential permanency, this internationalisation of their educational programmes is to their benefit as, without it, they would not be permanently residing or seeking employment within UAE Civil Service. As a result the degree reflecting international origins would be more beneficial than UAE recognition.

In creating specifically defined locations (termed Free Zones) designed to provide economic and regulatory incentives for targeted foreign investment, the UAE developed their own state QA processes to manage the quality of imported HE. Presently the UAE runs the following three parallel QA systems:

- Public institutions authorised by government.
- Accreditation by CAA (55 institutions by 2008).
- QA controlled by individual state Free Zones.

To ensure common standards of responsibility for the QA in all the Free Zones, the Knowledge and Human Development Authority (KHDA) has been established (Carroll, Razvi, Goodliffe & Al

Habsi, 2009:17). The KHDA established a Universities QA International Board (UQAIB) in 2008 with constituent members drawn from countries exporting HE (USA, UK, Australia, New Zealand and India). These highly experienced QA professionals and external reviewers assess transnational criteria allowing international HE to be provided to expatriates and local citizens, without it being altered to local context that may undermine its international character (Carroll, 2010:200).

This pluralistic system of QA may not be appropriate in all national QA systems. The UAE, being constituted by a minority local population with limited public institutions and an extensive network of imported educational programmes, has evolved this blended QA framework. This may indicate a change in the insistence on national standards in an ever- increasing complex of globalised educational HE programmes.

3.3.18 Critique on international QA Systems in comparison with the South African QA System

On reflection, criteria utilised in the SA QA System is commensurate with criteria originally utilised in other countries. Unfortunately these have become outdated in most of those countries and there is a movement towards more contemporary facets challenging HEIs. In their evaluation of HEIs, the USA and Sweden, for example, have moved to measuring learning outcomes in students. Of note is the increasing engagement with students enrolled at these HEIs to contribute, debate and add value to QA processes. Currently this is not one of the criteria listed in South Africa by the CHE. This is a significant deficiency in the way QA processes are implemented in SA HEIs, as student input into QA processes is minimal. Internationally, also in India and Sweden, input from student and graduate surveys also play a meaningful role as a tool in QA processes. A further anomaly is the absence of linkage of the SA QA System to QA Systems in the South African Development Community (SADC) countries. Most of the European countries have their QA System linked to the ENQA (European National Quality Assurance) System; East African counties are linked to the Middle East and North Africa (MENA).

The benefits of linking with greater neighbouring zones as reflected in the Bologna process (influencing QA models in UK, France and Netherlands), are reflected in the internationalisation of the objectives of QA. This creates greater equality of HEIs in these common zones with common admission criteria and learning outcomes. Cultural awareness in the Middle Eastern countries of Oman and the United Arab Emirates serves local mandates and places HEIs on a strong ethical foundation. This is reflected in the Christian based monopoly in the New Guinean HEIs. Comparatively, South African HEIs are not dogmatic about enforcing religious doctrine.

Electronic aided education has been recognised in Malaysian QA systems and their criteria. Even though this is not specified in other international criteria, it may be evaluated in the methodology, i.e. in the manner in which teaching and learning is conveyed.

Autocratic governmental control in countries like in Germany is still maintained with the German government appointing professors and the state setting exams in Medicine, Pharmacy, Law and Education. Autonomy in the management of HEIs is significantly encouraged in most countries with “agencification” - the mode via which Governments measure accountability of these institutions.

3.4 UKZN QUALITY ASSURANCE POLICY (UKZN QPA Policy, 2013)

As the UKZN QA System is evaluated in this study, it is imperative that its QA Policy is discussed as backdrop to the recommendations offered in Chapter 5. In addition, a comparison with the broader SA HEIs QA Policies is also provided.

This UKZN QA policy provides a framework for the promotion and assurance of quality and standards at UKZN. Its purpose is to govern all processes and procedures used in the assurance and promotion of quality. This includes quality reviews, audits, teaching quality assessment, programme approval and accreditation, and Institutional quality research. The policy was

amended in 2013 aimed at refining practice and aligning existing institutional quality arrangements to support the amended University Strategic Plan (2007-2016), and achieving institutional indicators and goals.

3.4.1 Introduction and background

The UKZN has adopted the national definition of quality used by the HE Quality Committee of the Council on HE. Quality promotion and assurance endeavours are guided by "fitness for purpose", "fitness of purpose", "value for money" and transformation as key elements of the construct of quality at the University (refer to section 2.8.1 and 2.8.2). The academic and support staff who administer, manage and deliver modules, programmes and provide learning support services, carry the responsibility for upholding academic standards and enhancing the quality of provision. The unit managing the institutional quality assurance process, The Quality Promotion and Assurance (QPA) unit, encourages all departments to plan, act, observe and reflect in order to improve their provisions.

3.4.2 Broad objectives of the UKZN Policy

Within the national context, the UKZN QA Policy is strongly aligned with the CHE QA Policy in the transformation agenda of the institution and its mandate within the national system of HE. Closely allied to its functioning, it is also integrated with Professional Bodies criteria, e.g. the Health Professionals Council of South Africa (HPCSA) and Engineering Council of South Africa (ECSA). The policy is not a standalone policy as it is integral in supporting the goals set out in the strategic plan. Quality and standards must be preserved in a manner that allows the University to fulfil its vision, mission and mandate to continue to strive for excellence. An appropriate quality management system is in place as is evident from reviews which are scheduled to take place at least every five years to evaluate schools and support departments, programmes or processes (admissions). In addition, systems, structures or functions are reviewed when identified as posing any risks to the institution. Quality is monitored through a

set of institutionally agreed indicators as reflected in the strategic plan in order to contribute to local and international competitiveness. With regard to its quest to achieve international ranking, institutional research and benchmarking exercises are conducted regularly to provide feedback and improve systems and quality of provisions at the University.

3.4.3 Internal quality arrangements in various spheres of the University

3.4.3.1 Aims of Quality Assurance in Teaching and Learning

The QA Policy tries to delegate to students and staff opportunities to participate in promoting and evaluating quality. By enabling staff and students to know and understand University policies that assure and enhance the quality of teaching and learning, there is the desire to make QA processes staff driven and not staff compliant. This is further augmented by ensuring that quality which is maintained in the provision of services and standards, is consistently applied across various academic departments in support of the quality of teaching and learning at the University. The main aim of the institutionalisation of quality mechanisms is to ensure that student access with success is assured by supporting academics and students to achieve the high quality standards that the University has set for itself. This is reflected in Fig 1 below.

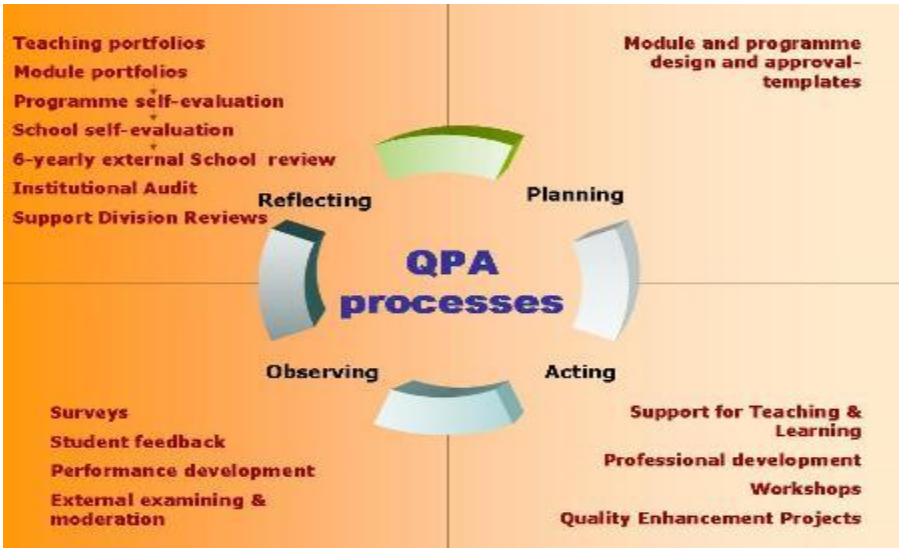

Fig 3.1 Quality Promotion and Assurance (QPA) processes

3.4.3.2 Aims of QA for Research and Innovation

A prominent tool in achieving international ranking is to acquaint academics and researchers with quality management tools in the area of research. To this end, systems and procedures that enable the University to produce high quality research with national and international acclaim and relevance, have been created. Care is taken that the improvements needed for research output should not be achieved at the expense of quality in research. QA processes also monitor competitive targets by ensuring that the University continues to benchmark its performance and quality against the best locally and internationally in the research and innovation area. At the Masters and Doctorate levels, the quality of training of future researchers through postgraduate education is monitored and is sufficiently supported to increase the student throughput and quality of research products. To assist in this objective, the QA Policy ensures that the University continues to attract high calibre post-graduate research students locally and internationally to study at UKZN.

3.4.3.3 Aims of Quality Assurance in Community Engagement

This third leg of institutional objectivity is ensured by regulating community engagement activities. Every effort is made that these are of acceptable quality, are regulated by the approved framework and registered and monitored periodically. Local aspirations are met by ensuring that, as part of its quality assurance, the University manages risks inherent in engaging with communities by training students and staff on good practices, including ethical and responsible conduct in serving communities. Provision is thus made to ensure that staff and students are provided with opportunities for education and training in community engagement, and that these constituencies continuously improve the quality of their engagements and interactions with communities. Institutional flagship programmes are also guarded by staff and students by apprising staff and students of any acts that could jeopardise quality of the engagements with communities that could result in reputational risk on the part of the University. Accordingly, students and staff in medical programmes, e.g. MBCHB, or

management programmes, e.g. Master of Business Administration (MBA), are strictly assessed and monitored as they embark on community engagement activities as these are media focussed and driven.

3.4.3.4 Aims of Quality Assurance in the Support Sector

To promote equity with academia, the QA Policy provides support staff with opportunities to reflect on their practices in order to continuously offer quality professional services to the University community. To achieve this, support staff is familiarised with the University's conceptualisation of quality and strive for service excellence in their areas of operation. Delegation downwards is thus implemented by developing a culture of reflection and continuous improvement that is underpinned by regular alignment to the University strategy and periodic quality reviews. Grounds for improvement is initiated by continuously conducting satisfaction and other surveys on quality of services, and by ensuring that service level agreements are developed by each unit, where relevant, so as to produce periodic reports on adherence to set targets and performance levels.

To position UKZN as one of the better SA universities, competitive benchmarking exercises are envisaged to assess quality and practice against the best in the university, the country and abroad, and against similar educational institutions and industry partners. To this end, academics and students are provided with opportunities to participate in promoting and evaluating quality of the support sector.

3.4.4 Governance and implementation of quality

To drive accountability, the policy is implemented by staff members in colleges and support divisions and monitored by the University Senate. To provide ownership, each member of the University community takes the primary responsibility for the quality of provision and appropriate mechanisms to assure quality. In keeping with CHE directives, the QPA's approach

to quality is developmental; academia and support staff are continually exposed to quality assurance initiatives to strengthen quality on all fronts within the University. This process is initiated by the Quality agenda which is determined by the respective Executive Management Committee members within each portfolio.

Management of the QMS and the responsibility for quality assurance implementation and its monitoring is located within the relevant University structures by authorising the QPA to institute a comprehensive system to monitor the quality of academic provision and the services offered by the support sector. The university is constituted into four colleges with each college having a designated Quality Assurance Consultant. Each Consultant is thus responsible to assess, monitor, review and improve on the various criteria promulgated by the CHE (refer Fig 1). This feeds into an institutional matrix which is under the jurisdiction of the UKZN Director: Quality Assurance who ultimately reports to Senate. Communication networks are also in place via the Director: Quality Assurance, the Registrar and the CHE.

3.5 SUMMARY

In this chapter an exposition was given of the QA Systems initiated, developed and currently applied in various countries across the world. Positive and functioning systems in first world countries were presented that could prove to be good practice model systems. These include systems which typically integrate students into peer review panels, and which use question surveys and measures to assess electronic intervention in teaching and learning and student outcomes. Developing and challenged QA systems in third world countries were also presented where gaps, challenges and concerns were evident in order to pinpoint deficiencies in third world countries' quality assurance systems. Examples are the lack of student engagement in quality processes, the adherence to the view of the evaluation of infrastructure as being insignificant, absence of critiquing of assessment systems and the neglect of indigenous knowledge systems as contributing to developmental agendas. Further, the gaps and deficiencies in the SA QA system were critiqued upon in comparison with international QA

Systems. As background to the study's aim, quality assurance processes at UKZN and a summarised outline of the UKZN Quality Assurance Policy were finally conveyed. The next chapter offers the research design and methodology followed in order to be able to answer the research questions posed in Chapter 1.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

In chapter two the literature review dealt with the theoretical background of quality assurance and the historical evolution of quality assurance systems. This discussion was augmented in chapter three with a comparison of quality assurance systems worldwide. The most interesting aspects of these evolutionary pathways of quality assurance is the way that quality assurance systems which were originally designed for all aspects of the industrialised sector, have been adapted and transformed for application to higher education systems worldwide, directing them towards academic excellence despite the challenges they faced. This chapter is aimed at presenting the framework of the research design. It includes specifying various origins of information, followed by the broad research problem which is subsequently broken down into specific aims and hypotheses. The sampling procedure is then delineated, followed by the statement of subjectivity, the selection of research participants, data collation, data analysis, reliability and validity of the study, and the ethical measures considered during the research proceedings.

4.2 SOURCES OF KNOWLEDGE

Educators strive for continual improvement of the educational paradigm. This process requires addressing problems or issues by initiating potential solutions. This acquisition of further knowledge means that educators undertake research to contribute to existing information relevant to existing knowledge (Creswell, 2008:4). Educational research solutions also suggest improvements for practice. Age old teaching and learning practices are currently being challenged by changing characteristics in the teaching sector. With the advent of numerous educational technological advancements, e.g. Powerpoint or electronically linked media, higher

educational presenters are no longer restricted to vocal presentations and black/white board strategies when presenting their lectures. Students no longer sit in lecture halls as the only venues to assimilate new knowledge, as the worldwide web has broadened educational horizons. Curricula are constantly amended to reflect the changing pool of required and available knowledge. Assessment procedures of students, lecturers, programmes or institutions have also required upgrading to be integrated with all these innovations. Consequently, educational research is required to better understand these practices (Johnson & Christensen, 2012:4). This would enable one to make an informed decision about what course of action to take in order to facilitate quality or formulate a recommendation to a third party. Therefore research has to be designed to provide solid evidence to evaluate research results critically and make informed decisions based on the emerged findings. New knowledge can be categorised from the following five sources (Johnson & Christensen, 2012:6):

- Experience;
- Authority;
- Deductive reasoning;
- Inductive reasoning;
- The scientific approach.

4.2.1 Experience

User experiences are normally captured by traditional methods and tools, such as laboratory experiments, interviews or feedback on questionnaires (Mulder & Kort, 2010:601). As experiences are often personal in nature, they enable the researcher to study a user in context in a prolonged, less resource-intensive and less obtrusive way than most current evaluation methods and tools (Mulder & Kort, 2010:602). By using questionnaires to elicit experiences of a process, the influence of the researcher in observing a process is limited as a source of knowledge since participants have different experiences of a particular context (Plowright, 2011:58). Close-ended questionnaires with predetermined answers based on a five point scale

is considered as a structured approach, and open-ended questions with consequential textual analysis enables narrative-styled experiences to be analysed (Plowright, 2011:62). In this study, the experience of the heads of departments of the participant schools was ascertained qualitatively by requesting them to complete an open-ended questionnaire about their experiences of the review process.

4.2.2 Authority

History indicates a reliance on authority in the pursuit of truth, especially in the Middle Ages when insights of authoritative figures such as Plato, Socrates, Aristotle or the early fathers of the Church were preferred to direct observations or experiments. However, these days questions are asked as to the source of the "authorities" on knowledge. At the time, authority was also linked to rank, e.g. the king, chief or judge whose "wisdom" was assumed to be correct. Nowadays authority's assertions are only accepted when it is linked to experience or other accepted norms of knowledge (Johnson & Gray, 2010:73). In the South African QA domain, authority in HE resides in the Higher Education Quality Committee (HEQC) which is largely responsible for assuring quality of all Higher Education institutions in South Africa (HEQC, 2001:1).

4.2.3 Deductive reasoning

The philosophy that reason is the primary source of knowledge is termed *rationalism*. This type of truth, independent of observation, is based on understanding an occurrence through reasoning (Johnson & Christensen, 2012:13). One major kind of rationalism is deductive reasoning where conclusions are based on factual statements. This leads to the development of specific predictions from general principles, observations or experiences (Gay & Airasian, 2003:4). A deductive approach is typically quantitative in nature. One of the challenges in a deductive approach is that the knowledge and insights of experts could be questionable, and observations can be biased because of personal prejudices. As a result, worldly content has to

be confirmed to be factual and caution has to be heeded when drawing conclusions (Johnson & Christensen, 2012:13). Once again, questionnaires were utilised in this study and Heads of departments were requested to respond on their observations and experiences of the review process and to rate the quality of the review process, based on deductive reasoning.

4.2.4 Inductive reasoning

Salmon (2007:79) describes this second form of reasoning as providing "..good reasons but not conclusive reasons to accept the conclusions". Here reasoning is made on everyday observations. Inductive reasoning is thus based on making generalisations from a limited number of related observations or experiences (Gay, Mills & Airasian, 2011:4). Inductive reasoning, based on experiences or observations, is typically qualitative in nature. The quality of inductive reasoning is highly dependent on the number and representativeness of the specific observations used to make generalisations. A conclusion based on what *may* happen is a probabilistic form of reasoning. Stating what may happen is risky as this reasoning is based on observations being extended onto something unobserved (Johnson and Christensen, 2012:14). Thus the future "based on the past" only provides a statement of probability. According to the famous philosopher David Hume (1711-1776), a problem with induction is that what may happen in the future might not resemble the past, e.g. the planet's past historic ice age is not prophetic of the current global warming.

Therefore generalisations made on the current research conducted on the review process were viewed with caution as a limited number of review processes were evaluated. Inferences drawn from research studies can only be regarded as credible if the research design was implemented adequately, the data analysed comprehensively and the conclusions are consistent with the prevalent body of knowledge (Teddlie & Tashakkori, 2010:29). This study was hence designed in a balanced format, producing data that was statistically analysed and conclusions which are reflective of the few current quality assurance analytical reports that are available.

4.2.5 The Scientific approach

An empirical statement based on observation, experiment or experience is the foundation of the scientific approach (Johnson & Christensen, 2012:13). It combines features of inductive and deductive reasoning of collected data to generalise the findings to the world at large. This approach to epistemology or the theory of knowledge and its justification, is more viable than relying on tradition, experts, personal experience or inductive or deductive reasoning alone (Gay *et al*., 2012:5). When examining the natural tenets of science, there is first of all the assumption of *determinism*. This implies that events have causes so that events happen as a consequence of other circumstances, and the scientific approach uncovers and explains these causal links (Cohen, *et al.*, 2011: 8). These events are explicable in terms of their antecedents behaving with regularity. Consequently scientists formulate laws which can be of a predictive nature and conscious control can be exerted on circumstances to modulate the outcome. In qualitative research, *determinism* links all events to one or more causes; this research project was therefore designed to link certain pedagogic outputs to the review process undertaken in the academic or support units analysed (Johnson & Christensen, 2012:33). Empirical data from heads of units/departments were triangulated with quantitative data obtained after the review process.

Empiricism, being the second assumption, postulates the belief that certain kinds of reliable knowledge can be verified by observation or personal experience (Cohen *et al.*, 2011:9). Evidence or data is thus collected to constitute a theory or hypothesis in a research setting. The detailing of procedures used to conduct the research study and reach its conclusions hence provides a structure for examining and verifying the research outcomes. These checks and balances eliminate biases and beliefs which could influence research conclusions (Gay *et al.*, 2012:5). The present study was guided by objectives and hypotheses, and *empiricism* was thus utilised to prove or disprove the hypotheses (quantitative data). Information was further based on sight and thought, and the perceptions from heads of departments/units were taken into consideration (qualitative data). These responses can be categorised as empirical data as they

provided an understanding of the practical domain of the study (Johnson and Christensen, 2012:13).

The third assumption of *parsimony* requires that phenomena be explained in simplistic terminology (Cohen *et al.*, 2011:9). A theory is parsimonious when it is simple, concise and succinct (Johnson & Christensen, 2012:19). Simple theories are preferred to highly complex ones with the proviso of all circumstances being similar. Research in higher education is a highly complex terrain and this research study *parsimoniously* attempted to elucidate the hypotheses. Theoretical explanations based on parsimony concluded this research project by linking outcomes to theoretical underpinnings in a higher education context.

The final assumption of *generality* is suited for natural scientists working with inanimate matter and generalising their findings empirically. Behavioural scientists with a rational theory of knowledge have to be cautious when generalising their findings to the particular parent population (Cohen *et al*., 2011: 9). This criterion of *generality* is not applicable to this research project as human subjects were utilised and inanimate subjects were absent.

4.3 RESEARCH QUESTION

The main research question that this study sought to investigate can be formulated as follows:

What are the effects of internal quality assurance reviews on the outcomes of selected academic programmes at the University of KwaZulu-Natal?

The general aim of the study was to determine the effectiveness of internal QA audits of selected academic programmes in terms of prescribed criteria as set out in the QA policy of UKZN (See Chapter 3). As mentioned earlier, the prevalent literature is very vague on the effects of internal QA assessment of academic programmes. For this reason this study attempted to address the following in attempting to answer the research questions:

- to provide a broad overview of the history of QA in HE in South Africa;
- to verify aspects of QA in HE in selected countries;
- to analyse appropriate criteria utilised in evaluating academic programmes at HEIs in South Africa;
- to determine statistically whether the internal QA system had an effect on the indicators of student success, i.e. pass rates, throughput rates and graduation rates of selected academic programmes at the UKZN;
- to establish whether the internal QA reviews had a positive effect on other academic infrastructure, e.g. staffing, publications, curriculum development and enrolment numbers at the sample academic programmes;
- to draft a framework for improved internal QA audits at the University of KwaZulu-Natal.

4.4 RESEARCH DESIGN

The education research continuum stretches from developing theory, to solving educational problems, to monitoring progress or judging the impact of decisions made. Classification of a given study along this educational research continuum is based on the extent that the findings have direct applicability, as well as the extent to which they can be extrapolated to other educational settings (Gay *et al*., 2012:7). The fundamental purpose of educational research is to add to the understanding of educational processes, practices, topics and issues. Historically there have been accepted procedures stating research problems, methodology of the process, analysis of the data obtained and verification of the quality of the data and its conclusions (Gay *et al*., 2012:8). In this study, a mixed method approach employing quantitative and qualitative methodologies was employed.

4.4.1 Mixed methods research

Gorard and Smith (2006:61) recognise that the labels *qualitative* or *quantitative* do not present a useful way of categorising methods and that a confrontational approach between research paradigms is unnecessary. Denzin (2008:322) suggests that a greater dialogue between their advocators is necessary and that a greater convergence is required between them. Polarisation of research into quantitative or qualitative approaches and its concomitant objectivity and subjectivity critiques are unnecessary (Ercikan & Roth, 2006:15). Mixed methods research proposes a certain compatibility (Creswell, 2008:02) which eliminates the polarity between qualitative and quantitative approaches. Research approaches utilising quantitative methods - a type of confirmatory approach - combined with an exploratory (qualitative) research method becomes complementary and integrative. Conclusions derived from mixed methods validate data, eliminates biases and are more accurate (Reams & Twale, 2008:133). Denscombe (2008:272) advances the following advantages of a mixed methods approach:

- data accuracy is enhanced;
- phenomena researched are given a more complete picture compared to a perspective obtained by a single approach, thus eliminating biased and weak conjectures emanating from a single approach;
- the researcher could build on the original data by developing analytical methodology;
- sampling is widened by screening participants with questionnaires.

The world being exclusively quantitative or qualitative is nullified in mixed methods research, which Teddlie and Tashakkori (2009:322) call the “third methodological movement.” Green (1994:20) criticises single research methodologies as providing a partial understanding of the phenomenon being investigated. Mixed methods provide an inside-outside, integrated sample with multiple validities (Johnson, Onwuegbuzie & Turner, 2007:113).

In this study, the mixed method design offered data from a limited number of qualitative questionnaires which were collected simultaneously with numerous quantitative data, thereby yielding analyses from two data sets which the researcher could triangulate by directly comparing them (Creswell, 2008:557). This enabled generalisable quantitative data to be off-set against a qualitative context. Also, the secondary quantitative data set was used to augment the primary qualitative data (Creswell, 2008:559). The initial qualitative questionnaires from the four discipline leaders were augmented by numerous quantitative data sets, illuminating key statistics before, during and after the review process. The qualitative data provided an understanding of the process that the participants underwent, whereas the quantitative data assessed the impact of the treatment on the outcomes.

The strategy of inquiry was the case study method. McMillan and Schumacher (2010:24) note that a case study examines a *bounded system,* or a case, over time in depth, employing multiple sources of data found in the setting. The case may be a programme, an event, an activity, or a set of individuals bounded in time and place. Gay *et al*. (2012:14) agree and add that case study research is an all-encompassing method covering design, data collection techniques, and specific approaches to data analysis. The researcher should therefore choose the specific type of a case study relevant to his particular research study. Mark (in De Vos *et al.,* 2005:273) refers to three types of case study, all with different purposes:

- *The intrinsic case study* is solely focused on the aim of gaining a better understanding of the individual case. The purpose is not to understand a broad social issue, but merely to describe the case being studied.
- *The instrumental case study* is used to elaborate on a theory or to gain a better understanding of a social issue. The case study merely serves the purpose of facilitating the researcher's gaining of knowledge about the social issue.
- *The collective case study* furthers the understanding of the researcher about a social issue or population being studied. The interest in the individual case is secondary to the researcher's interest in a group of cases. Cases are chosen so that comparisons can

be made between cases and concepts and so that theories can be extended and validated.

For the purpose of this study I focused more on the collective case study. Three academic departments from three selected schools and one support unit at the University of Kwa-Zulu Natal were purposefully selected to study the effectiveness of quality assurance audits over a period of time.

Case studies should not be confused with qualitative research and they can be based on any mix of quantitative and qualitative evidence (Yin, 2014:5-6). Single-subject research (as is the case in this study) provides the statistical framework for making inferences from quantitative case-study data. This is also supported and well-formulated in Thomas (2011:512): "The case study is a research approach, situated between concrete data taking techniques and methodologic paradigms." The most important question that a researcher might ask herself is under which circumstances a case study method may be utilised. According to Yin (in Baxter & Jack 2008:545) a case study design should be considered when: (a) the focus of the study is to answer “how” and “why” questions; (b) you cannot manipulate the behaviour of those involved in the study; (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study; and when (d) the boundaries are not clear between the phenomenon and context. In this research, a, b and c were considered. The advantage of the case study is that a detailed investigation of an individualised issue is undertaken as it is difficult to study a large sample in great depth. The corresponding disadvantage is that it is more difficult to generalise the inferences to related or broader situations or occurrences (Gilbert, 2012:37).

4.4.1.1 Quantitative phase of study

Quantitative research is a type of educational research where quantifiable data is collected. Using statistics, the enquiry is conducted in an unbiased, objective manner (Creswell, 2008:46).

Data are usually collected from checklists, questionnaires or other formal textural formats. This approach maintains control over contextual factors that might interfere with the data collected. There is little personal interaction with the data collected as they are sourced from statistical reports, using non-interactive instruments (Gay *et al*., 2012:183). Quantitative research utilises a narrow angle lens as the focus is only on one or a few causal factors at a time. Other influential factors are thus attempted to be kept constant as they are not being studied. This is accomplished by grouping data and comparing differences after an intervention (Johnson & Christensen, 2012:35). In keeping with this, the Higher Education Management Information (HEMIS) system was sourced to obtain the following types of data of students over a period of time:

- success rates;
- graduation rates;
- cohort rates;
- failure rates;
- enrolment data;
- dropout rates.

The only factor over time impinging on these data was the external review process. Therefore data obtained *before* the review process have been utilised. Data collected *after* the review process was implemented over a period of time and was subsequently collated. These were then statistically analysed to verify if there were any significant statistical differences between these two sets of data. This before-and-after analysis is key to the understanding of causation in educational research. In unravelling the causes and effects, both the cause and the effect have to be identified. In this case, the cause was the review process and the possible effect was determined by analysing the quantitative data that were collated on pass-, graduation-, failure-, and dropout rates, and also enrolments. Causation was thus tentative depending on:

- contiguity, depending on space and time of the effect;

- priority or succession, where the cause precedes the effect;
- constant conjunction, indicating the constant combination of one event and its successor occurring repeatedly;
- necessary connection, implying the event occurs from experience, habit and custom rather from deductive, logical necessary proof (Cohen, *et al*., 2011: 56).

4.4.1.2 Qualitative phase of the study

Qualitative research follows primarily the explorative scientific method applied to describe local observations. It is used in contexts where little is known about a phenomenon and greater insight is required (Johnson & Christensen, 2012:35). It therefore produces a reflective output of individuals' experiences and captures their personal perspectives. Human behaviour is regarded as being fluid, dynamic and metamorphic over time and hence qualitative researchers are not prone to generalizing their findings beyond the group of people assessed. This wide angle evaluation in a natural and holistic environment is not subject to intervention, and natural flow of behaviour is tracked. Writing general qualitative questions, conducting on-site questions and observations and analysing data for themes are common procedures utilised in qualitative research methodology (Creswell, 2008:50). Case studies, grounded theory research and narrative inquiry have been added to the repertoire of qualitative research. At present qualitative research has the following characteristics:

- listening to the views of the participants in the research study;
- collection of data and answers to general open questions in the domain where participants live and work;
- research having a role in advocacy aspirations in suggesting changes and bettering the lives of individuals. (Creswell, 2008:51).

The qualitative approach is more general and tentative compared to the quantitative approach and it becomes clearer as the researcher interacts with the participants. It illuminates the

invisibility of everyday life by making the strange familiar and more understandable (Gay, Mills & Airasian, 2012:381). Specific, concrete details are obtained to provide a clearer insight into a particular setting. Groupings of qualitative research studies can also contribute to the understanding of different settings. Consequently a well-designed questionnaire was utilised to gather qualitative data. These were e-mailed to the four Heads of the units after the reviews were conducted in their units to obtain their views on the review process.

On the continuum of social research, the review was imposed on education programmes managed by academic departments and supported by administrators. This study was therefore a form of evaluative research as it studied the impact of the review process on the outcomes of the academic programmes actively running. It was moreover summative as it concluded by summing up the quality of the intervention (the review process).

A questionnaire was designed and conveyed to Heads of Programmes who had their academic programmes reviewed in the previous five years (2008-2012). Their personal experiences before, during and after the reviews were thus obtained. This qualitative data were then grouped into themes focusing on advantages, problems and gaps in the review process that required attention. In this way the review process was analysed analytically to draw qualitative solutions to a physical process (see 4.10). Quantitatively academic statistical data from the period of this process of five years were extracted from the HEMIS System, and to enrich the data base, data from beyond this period (2004) were added to the analyses to determine if there were certain trends in academic outputs before the review process occurred.

4.4.2 Sample size and distribution

The researcher purposefully selected three academic programmes and one support unit that were reviewed during 2008, 2009 (two programmes) and 2012 and which were still functioning. An important consideration was to ensure that the Heads of the respective departments/units which were assessed in the original review, were still currently holding these positions. The

University of Kwa-Zulu Natal (UKZN) has recently been structured along the following four College systems:

1) College of Humanities.
2) College of Health Sciences.
3) College of Law and Management.
4) College of Science, Agriculture and Engineering.

The following programmes were purposefully sampled to obtain their experiences of the review process:

1) College of Science, Agriculture and Engineering: School of Mathematics (Academic unit);
2) College of Law and Management: School of Accounting, Economics and Finance (Academic unit);
3) College of Health Sciences: School of Pharmacy (Academic unit);
4) College of Law and Management: School of Management Studies Educational unit (Support unit).

4.4.3 Validity

Validity and trustworthiness are significant issues in effective research and essential requirements for both quantitative and qualitative research. In the quantitative phase of this research project the following positivist principles were observed (Cohen *et al*., 2011:180):

Table 4.1: Principles observed in research project

PRINCIPLE	APPLICATION
Controllability	In controllability variables are controlled that can threaten the internal validity. This research project utilised the natural setting of HE being the principal source of data which is valid and relevant.
Replicability	Replication by analysing multiple cases confers confidence about the research because the resulting evidence is much stronger. Uniqueness of responses is thus validated in this research project
Predictability	Prediction is to determine whether the primary objective of a particular research study could forecast some event in the future. The emergence of relevant criteria from this study could be validated in the future by their application.
Context-applicability	Context applicability validates that the setting, situation or environment is applicable to the research study. Consequently the HE context in this research project is validated in the quality assurance context.
Content validity	This principle ensures that the research instrument represents the domain that it purports to cover. Consequently the data from questionnaires and data systems utilised in this study were validated in the construction of the instrument.
Neutral objectivity	Neutralism refers to an objective account of the situation uncontaminated by personal bias, political goals, and judgement. The unbiased value of responses and data from this study was validated by quantifying them.

The following depicts the actions taken during the research project to observe these principles:

Table 4.2. Action taken to control aspects of validity

PRINCIPLE	ACTIONS TAKEN
Controllability	Heads of programmes were requested to provide feedback via questionnaires. Both open-ended and closed questions were utilised in the questionnaire.
Replicability	Same questionnaires were utilised amongst all the respondents. Similar data sets were extracted for all the programmes reviewed.
Context-applicability	The context of discovery is part of the research process that asks questions and formulates hypotheses based on a particular context. Responses from Heads of Departments in their natural settings (context-driven) were obtained before and after review processes.
Content validity	A mixed method design was followed. Numerical data obtained quantitatively and descriptive data obtained qualitatively were fragmentally collated in the discussion section of this research project.
Neutrality objectivity	I attempted to approach this research project neutrally. Care was taken to be unbiased in analysis of data.

The following validity tests were ensured in this research project (Cohen, Manion & Morrison, 2011:213):

- Content validity was ensured by selecting a variety of different academic and support programmes that were representative of the different structures within the higher education institution. Three out of four colleges constituting UKZN were used as case study material.
- Criterion-related validity was achieved by comparing responses to criteria from one programme to responses to criteria on other programmes.
- Construct validity was confirmed by obtaining underlying responses by asking open-ended questions in the questionnaire.

The validation in mixed methods research utilised in this study is enshrined by Onwuegbuzie & Johnson (2006:57) as follows:

- The sample was integrated by drawing from three diverse Colleges constituted by a small to a large number of enrolments - thus a combination of diverse sections.
- The Heads of Units were regarded as the inside participant, while the researcher was regarded an outside participant. Views were balanced in the sense that I did not coerce the inside participants. Responses obtained were not biased to support any ideology.
- The potential weaknesses of a single approach, quantitatively by utilising HEMIS data, were compensated for by the strength of the qualitative approach - by using questionnaires.
- Sequential effects between quantitative and qualitative data collection and analysis were minimised as there was no linkage between these two processes. The independency of each source was maintained as the quantitative approach drew from the HEMIS system and the qualitative approach analysed responses from the questionnaires.
- As the qualitative approach yielded ratings on a scale of one to five, conversion of qualifying numerical data or quantifying qualitative data was assisted in yielding inferences in a statistically neutral approach. Paradigmatic mixing and theoretical beliefs and practices yielded useful results as personal perspectives were obtained.

4.4.4 Data collection strategies

The data collection phase involved identifying and selecting individuals for study, obtaining their permission to be studied and gathering information by administering instruments such as asking them questions or observing their behaviour (Creswell, 2008:151). Data collection strategies were selected, taking into consideration the focus of the research and desired time-frame of the study. Goddard and Melville (2001:49) postulate that the advantages of open ended questions in the questionnaire are that the researcher can ask the participants to clarify

vague answers and follow up on interesting answers. In line with McMillan and Schumacher (2010:329-320), data collection and analysis were interactive research processes that occurred in overlapping phases. The phases were as follows:

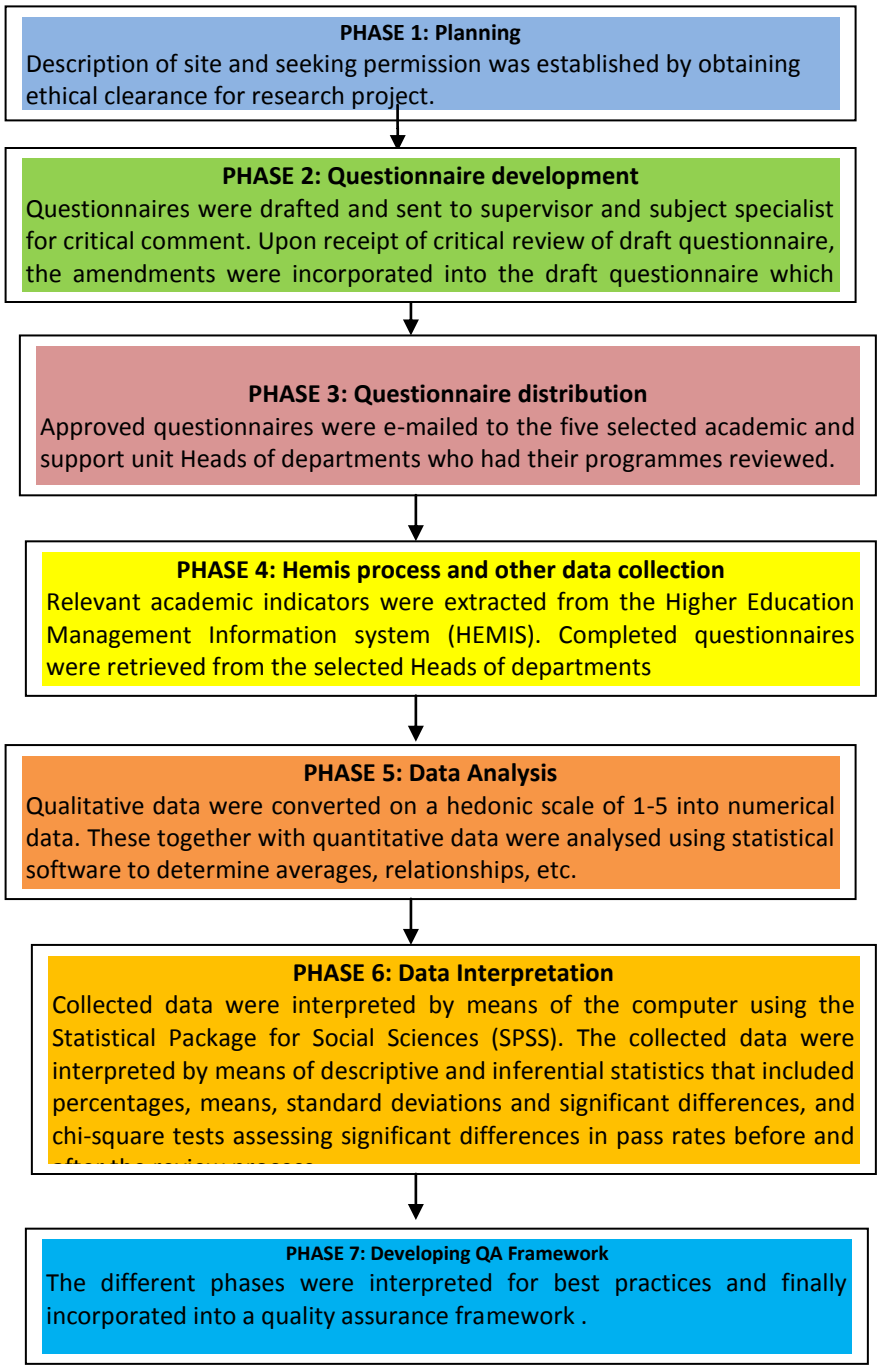

Figure 4.1: Data collection and analysis phases

4.4.5 Data processing and analysis

4.4.5.1 Qualitative data

Data analysis is a process of bringing order, structure and meaning to the mass of collected data (De Vos *et al.,* 2005:340-341). The following aspects were addressed in the open-ended section of the questionnaire:

- The university's procedures for assuring quality of academic programmes.
- The areas of improvement in the quality of the academic programme that Heads of Departments expected before the actual review.
- The recommendations suggested by the Review Report on the programme being evaluated.
- The recommendations considered to be relevant for the improvement of the academic indicators appropriate to the programme.
- Recommendations which were considered to be irrelevant in the final review report.
- The recommendations suggested by the review committee that have been implemented.
- The recommendations which can be reflected as work in progress.
- Suggestions on how the Quality Review Process can be improved at the UKZN.

Qualitative data analysis is a search for general statements about relationships among categories of data. McMillan and Schumacher (2010:367) explain qualitative analysis as a process of interim discovery analysis aimed at developing coded topics and categories that may initially come from the data, or which may be predetermined and also pattern seeking for plausible explanations. The researcher initially read the respondents' responses on the questionnaires and the notes repeatedly in order to gain familiarity with them. Creswell (2008: 244) adds that "...reading, reading and reading once more" through the data forces the researcher to become familiar with the data in intimate ways. I analysed the responses on the questionnaires confirming the accuracy of the responses. I searched through the data for

regularities, patterns and topics and wrote words and phrases to represent those topics and patterns. Since the information was disappointingly scant (see 4.5) the emergent patterns or themes were not coded. The emphasis on thematic categories in data collection was preferred. Thematic categories are explanations of what the phenomenon means to the participants (McMillan & Schumacher, 2010:244).

4.4.5.2 Quantitative data

For the quantitative phase of the study, the collected data were analysed by means of the STATA software package. These data were conveyed to a statistician to determine significant differences in the outcomes before and after the review process. Trends on significant increases or decreases in outcomes over a period of time were also determined statistically by determining degrees of significance (in percentage) by using the chi-square test. Continuous variables (academic indicators) were summarised using mean (or median) and standard deviation (or interquartile range). Categorical variables were summarised using frequency tables. Pass rates by year were displayed using line graphs. The Kruskal-Wallis equality-of-populations rank test was used to compare significant differences in median responses for Likert scale variables by programme. The chi-square (χ^2) test was used to assess if significant differences in pass proportions by pre/post review period existed. A p-value of <0.05 was deemed statistically significant for all inferential tests.

4.5 ETHICAL CONSIDERATIONS

According to the American Heritage Dictionary, a system of *ethics* is a set of "..standards governing the conduct of a person or the members of a profession" (Goodwin, 2010:40). In conducting research in psychology and education, the ethical considerations are very critical for the well-being of the respondents and for the proper handling of the data so that the research results may be valid and reliable. Research making use of particularly human respondents requires consideration in respect of judging the benefits and costs of the research to the

respondents, their informed consent and the handling of the respondents during the study and after it has been completed (Goodwin, 2010:46).

4.5.1 Judging the benefits and the costs of the research

Researchers usually have certain expectations of the individuals that participate in a study. At the very least, the respondents spend their time in participating in an experiment, or in responding to written or oral questions asked by the researcher. Even if it is not the intention to inflict harm on the respondents, researchers may sometimes be driven by their enthusiasm to obtain scientific results and put respondents at risk. In order to avoid this, and to ensure the safety of the respondents, research that is registered at certain higher education institutions is required to be monitored by the legal body that has been constituted by that institution (Goodwin, 2010:46-48). In this case the researcher have been obliged to obtain approval for this research design - including the data-gathering procedures, the instruments, and the sampling techniques - from my promoter as well as the UKZN. This approval was granted (see Appendix A (2) for the ethical clearance certificate).

4.5.2 Informed consent

Informed consent means telling the respondents in advance what will happen in the study and how the results will be used (Abelson, Frey & Gregg, 2004:xii). Informing the respondents about all the procedures and the purpose of the research could influence their involvement in the research. It may influence the results of the research negatively or positively (Ferguson & Bibby, 2004:120). Sometimes, in the case of research in social sciences, revealing all the details of the study to the respondents could lead to the concealment of the true behaviour of the respondents (Goodwin, 2010:51-52). In such situations it may be rational to conceal certain aspects of the research from them. In this case, it was necessary to share the research intention with the relevant Ethics Committee and obtain advice about the ethics of such an approach before launching the research. The respondents should, however, be fully briefed at the end of

the research project (Ferguson & Bibby, 2004:120). Since this study did not involve any deception, all the procedures and goals of the research were shared with the respondents and their consent was requested. The respondents were also informed that they have the right to withdraw from the study at any time without any kind of penalty. Finally, after the study was completed, the research results would be communicated to the relevant interest groups in the format of a summary.

4.5.3 Confidentiality

Confidentiality refers to respondents' right to obtain the assurance that "..identifying information will not be made available to anyone who is not directly involved in the study" (Trochim, 2006:24). The reason why confidentiality is assured is to try and ensure that the individuals disclose what they actually think and feel. As the questionnaire contained sensitive responses, an ethical approval certificate was obtained (Annexure 2) to ensure that confidentiality and privacy constraints of the individuals were respected (Johnson & Christensen, 2012:116). Informed consent and the freedom of withdrawal were offered to the respondents in terms of the institutional policy (UKZN Research Policy, 2013:12). During the discussion with the respondents about the procedures and goals of the research, they were encouraged to complete the questionnaires without any reservation because it was agreed that all information would be cleared by them (member checking) before publishing the results. The tension between individual programmes, units and higher educational institutions had to be guarded vigorously by adhering to a code of practice of confidentiality and discretion (Cohen, et al., 2011:472).

As this research focused primarily on human beings (Heads of programmes/units and information about students), the researcher was ethically responsible for protecting the rights and welfare of the participants, since the study involved responses to the review process and consequences of the review process. I gained the support of all participants in the study and gave an undertaking that the information collected would be confidential. The participants

were told from the outset that their participation was voluntary and that questionnaires administered were ethically approved by the university research ethical committee.

All references in this research report were contextualised by giving credit to the corresponding authors (Johnson & Christensen, 2012:124).

4.6 LIMITATIONS

This study focused on the review process and the effectiveness of this process in the Schools of Mathematics, Pharmacy and Accounting in the Colleges of Agriculture, Engineering Science, Health Science and Law and Management respectively based at the UKZN. Consequently generalisations cannot be ascribed to other Schools and other Colleges of the University of Kwa-Zulu Natal. Also, these findings cannot be reflected onto other public and private higher educational institutions.

It must also be noted that Heads of departments/units were very reluctant to complete the qualitative aspects of the questionnaires. Only after repeated persuasion and assurance that all data would be treated confidentially, did they complete the questionnaires and return them. This had implications for the data analysis process since information was scant (though informative) and the "voices" of participants could not be heard by means of information-rich quotes. The extent of criticisms and positive aspects were therefore disappointing. The HEMIS data was also difficult to obtain as the UKZN Data Unit has their own programmes to attend to - thus retrieving /conveying data to researchers is an onerous task due to time constraints in staff members' daily schedules.

4.7 SUMMARY

This chapter introduced the origins of sourcing knowledge and the approaches in obtaining knowledge via research processes. Examples of applying these theories to the research project

were detailed. The broad research question underpinning this research project was then conveyed with detailed research aims. The research approach was exemplified with focus on the case study method utilised in this project. A mixed method strategy was utilised. The quantitative approach utilised relative statistical data from the UKZN HEMIS System and the qualitative methodology utilised open-ended questionnaires to obtain the participants' personal perspectives on the review process. By applying the chi- square (χ^2) test, significant differences in the quantitative data obtained *prior* to the review process were assessed against quantitative data obtained *after* the review period. Validity and data collection strategies were described with data analytical methodologies employed in this research project. The chapter concluded with ethical considerations taken into account to preserve the privacy and confidentiality of individuals, programmes and support units analysed in this research project.

The next chapter presents the findings and interpretation of the data.

CHAPTER 5

ANALYSIS, RESULTS AND INTERPRETATION OF DATA

5.1 INTRODUCTION

Chapters two and three presented an in-depth literature study of the concepts in QA and QA systems (Chapter 2) as well as a historical perspective on QA in South Africa and internationally (Chapter 3). In Chapter 4 the research design was discussed which included the types of variables, the research questions with their related hypotheses, the data-collection instrument and the methods of data-analysis, and the ethical considerations of the study. The study aimed to investigate the effects of internal quality assurance reviews on the outcomes of selected academic programmes at the University of KwaZulu-Natal. Against this background, chapter 5 first presents the data on student enrollment, the number of students that wrote examinations and the number of students that passed in the final examinations in the following academic departments/ units and programmes:

1) Undergraduate Accounting programme: School of Accounting, Economics and Finance
2) Management Studies Education Unit: School of Management Studies
3) Mathematics programme: School of Mathematical Sciences
4) Pharmacy Programme: School of Pharmacy and Pharmacology

These examination results and graduation data were obtained from the Institutional Intelligence network (HEMIS) of the UKZN. With the aim of answering the research questions, results are presented in the form of tables, graphs and figures.

5.2 RESEARCH QUESTIONS

The main research question that this study sought to investigate can be formulated as follows: *What are the effects of internal quality assurance reviews on the outcomes of selected academic programmes at the University of KwaZulu-Natal?*

Accordingly, the following variables were identified as being important to the study:

- Success rates of students
- Graduation rates
- Cohort rates
- Failure rates
- Enrolment data
- Dropout rates
- Academic programmes/units

The above variables were examined in order to answer the research questions stated in Chapter 1.

The following sub-questions emanated from the main research question:

5.2.1 Research question number 1

What is the situation in terms of QA in both South Africa and internationally, and to what extent do South African HEIs align with QA standards of HEIs in selected countries?

5.2.2 Research question number 2

Are the current criteria utilised in internal QA processes at South African HEIs relevant and appropriate?

5.2.3 Research question number 3:

Which quality improvement measures have been recommended and implemented after the internal quality audits of selected academic programmes at the University of KwaZulu-Natal?

5.2.4 Research question number 4

Were there improvements in the outcomes of selected academic programmes in terms of the prescribed criteria, as set out in the institutional QA Policy of University of KwaZulu-Natal, after the internal quality review?

5.2.5 Research question number 5

Did the internal QA reviews have a positive effect on other academic infrastructure, e.g. staffing, publications, curriculum development and enrolment numbers at selected academic programmes at the University of KwaZulu-Natal?

5.2.6 Research question number 6

Are there statistically significant differences in the student output (pass rates and/or graduation rates) of the following academic programmes at the University of KwaZulu-Natal *after* an internal review process?

5.2.6.1 The Accounting Programme in the School of Accounting, Economics and Finance

5.2.6.2 The Education Unit of the School of Management Sciences

5.2.6.3 The Mathematics Programme in the School of Mathematical Sciences

5.2.6.4 The Pharmacy Programme in the School of Pharmacy and Pharmacology

5.3 RESEARCH HYPOTHESES

There are statistically significant differences in the student outputs (pass rates and/or graduation rates) of the following academic programmes at the University of KwaZulu-Natal after an internal review process:

5.3.1 The Accounting Programme in the School of Accounting, Economics and Finance

5.3.2 The Education Unit of the School of Management Sciences

5.3.3 The Mathematics Programme in the School of Mathematical Sciences

5.3.4 The Pharmacy Programme in the School of Pharmacy and Pharmacology

5.4 NULL- HYPOTHESES

There are no statistically significant differences in the student outputs (pass rates and/or graduation rates) of the following academic programmes at the University of KwaZulu-Natal after an internal review process:

5.4.1 The Accounting Programme in the School of Accounting, Economics and Finance

5.4.2 The Education Unit of the School of Management Sciences

5.4.3 The Mathematics Programme in the School of Mathematical Sciences

5.4.4 The Pharmacy Programme in the School of Pharmacy and Pharmacology

The general aim of the study was to determine the effectiveness of internal QA audits of selected academic programmes in terms of prescribed criteria, as set out in the QA policy of the

UKZN (See Chapter 3). As mentioned earlier, the prevalent literature is very vague on the effects of internal QA assessment of academic programmes. Consequently this study attempted to answer the research questions.

The Qualitative data obtained from the four Heads of departments who had their programmes reviewed, are subsequently presented. This information was collected by means of electronic questionnaires which participants could complete at their convenience. My aim was to allow them enough time to reflect on the questions and respond accordingly.

Context of programmes reviewed

Reviews within academic departments are focussed on modules or programmes, depending on the objectives of the review. Usually one individual programme is reviewed within a school (or a department as in other higher education institutions), as it is called at UKZN.

Within a school, e.g. School of Accounting, Economics and Finance, a number of programmes are offered, e.g. B.Com, B.Com (Hons.), M.Com, D.Com, etc. In the review of June 2012 only the B.Com programme was reviewed. From this programme only six modules, namely Accounting 101, Accounting 102, Accounting 103, Accounting 200, Accounting 300 and Management Accounting 300, were officially reviewed as pure accounting modules – other modules relevant to this programme may have been serviced by other schools. The researcher therefore focussed on these core modules and it was thus only relevant to the academic staff lecturing these core modules.

Regarding the School of Management Sciences, I analysed the review of the Education unit of the School of Management Sciences. This section administers programme design, detection of students at risks and the implementation of remedial action, e.g. tutoring, monitoring of academic support systems, etc. This support unit covers all the programmes offered by the School of Management Studies and I consequently analysed 27 modules (all the programmes

managed within this school and serviced by the School of Management Sciences' Educational unit). This indicates that reviews not only focus on academic issues, but also review administrative supportive issues.

The School of Mathematical Sciences manages the offering of 21 modules towards Bachelor of Science degree programmes with a duration of three years. The researcher focused on the various Mathematical modules relevant to B.Sc. programmes offered at UKZN.

The School of Pharmacy and Pharmacology offers numerous programmes, but during the review of October 2009 only the B.Pharm. Degree programme was reviewed. This school manages 29 modules contributing to this specific programme while other modules may be serviced. Consequently I focussed on the modules emanating from within this school relevant to the B.Pharm. Programme.

5.5 STATISTICAL RESULTS AND ANALYSIS FROM VARIOUS SCHOOLS

Based on the programmes chosen for evaluation, various indicators relevant to the criteria identified to access quality were extracted from the Institutional Intelligence Data bases and statistically analysed. The software used for the data processing and analysis was Stata 13.0 (StataCorp, 2013; Stata Statistical Software: Release 13; College Station, TX: StataCorp LP.). Continuous variables (marks) are summarised, using the mean (or median) and standard deviation (or interquartile range). Categorical variables are summarised using frequency tables. Pass rates by year are displayed using line graphs. The Kruskal-Wallis equality-of-populations rank test was used to compare significant differences in median responses for Likert scale variables by programme. The chi-square test of association was applied which allows the comparison of two attributes in a sample of data to determine if there is any relationship between them. In this study the chi-square (χ^2) test was used to assess if statistically significant differences occurred in pass proportions during the pre/post review period of the respective programmes. A p-value of <0.05 was deemed statistically significant for all inferential tests.

5.5.1 Undergraduate Accounting Programme: School of Accounting, Economics and Finance

The Undergraduate Accounting programme in the School of Accounting, Economics and Finance which offers six modules, was reviewed in June 2012 at the Westville and Pietermaritzburg campuses. The academic structure can be summarised as follows:

Table 5.1: Academic structure for Accounting Programme

ACCOUNTING PROGRAMME		
Module	**Lecturers Westville Campus**	**Lecturers Pietermaritzburg Campus**
Financial Accounting	**9**	**4**
Auditing	**3**	**2**
Managerial Accounting and Finance	**4**	**3**
Taxation	**3**	**1**

Five administrators facilitate the administrative requirements that operate within the Accounting programme at the Westville campus and two at the Pietermaritzburg campus (UKZN website - accessed 14 Nov 2014). During the 2013 academic year, 4 331 students were enrolled in the programme.

Data on student enrolment, number of students that wrote examinations and the number that passed for the period 2004 up to 2013 are presented in the following tables:

Table 5.2: School of Accounting, Economics and Finance: results for Accounting Programme: 2004

Module	No. enrolled	No. wrote	No. passed
Accounting 101	948	933	865
Accounting 102	871	858	777
Accounting 103	65	64	61
Accounting 200	715	659	392
Accounting 300	754	724	509
Mngmnt Acc 300	109	104	75

Table 5.3. School of Accounting, Economics and Finance: results for Accounting Programme: 2005-2007

MODULE	2005			2006			2007		
	No. enrolled	No. wrote	No. passed	No. enrolled	No. wrote	No. passed	No. enrolled	No. wrote	No. passed
Accounting 101	1797	1704	1412	1610	1505	1371	1392	1317	1181
Accounting 102	1521	1415	1247	1284	1224	1081	1089	1042	904
Accounting 103	72	63	30	275	260	188	308	289	220
Accounting 200	949	840	503	1474	985	725	1077	665	413
Accounting 300	564	545	331	537	519	374	950	885	552
Mngmnt Acc 300	574	540	368	511	480	317	873	828	570

Table 5.4: School of Accounting, Economics and Finance: results for Accounting Programme: 2008-2010

Module	2008			2009			2010		
	No. enrolled	No. wrote	No. passed	No. enrolled	No. wrote	No. passed	No. enrolled	No. wrote	No. passed
Accounting 101	1576	1462	1290	1704	1477	1110	1456	1397	951
Accounting 102	1101	1064	964	885	836	695	891	880	831
Accounting 103	413	321	154	427	393	198	1058	944	597
Accounting 200	1002	758	548	1017	927	601	970	900	596
Accounting 300	643	608	456	557	538	387	632	600	427
MngmntAcc 300	616	608	456	607	563	359	722	622	281

Table 5.5: School of Accounting, Economics and Finance: results for Accounting Programme: 2011 - 2013

Module	2011			2012			2013		
	No. enrolled	No. wrote	No. passed	No. enrolled	No. wrote	No. passed	No. enrolled	No. wrote	No. passed
Accounting 101	1344	1179	904	1042	946	507	1277	1129	772
Accounting 102	764	692	519	551	510	472	583	567	499
Accounting 103	890	819	634	894	809	661	815	778	610
Accounting 200	1008	752	633	626	1008	335	613	512	318
Accounting 300	676	640	522	695	676	343	537	507	363
Mngmnt Acc 300	840	709	472	802	840	517	506	427	298

Table 5.6: School of Accounting, Economics and Finance: results for Accounting Programme: 2004-2013 (Passed %)

MODULE	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Accounting 101	91	79	85	85	82	65	65	67	49	63
Accounting 102	89	82	84	83	88	78	93	68	86	86
Accounting 103	94	42	68	71	37	46	56	71	74	75
Accounting 200	55	53	49	38	54	59	61	63	54	52
Accounting 300	68	59	70	58	71	70	67	77	49	68
Mngmnt Acc 300	69	64	62	65	50	59	39	56	64	54
Average	77	71	71	67	69	64	64	67	61	66

Table 5.7. Statistical analysis: Overall pass rate by year (passed/enrolled):Accounting Programme

Year	Observed	Mean (%)	Std Error (%)	95% Confidence Interval (%)
2004	3462	77.38302	0.7701	75.95221 - 78.76743
2005	5477	71.04254	0.61287	69.82122 - 72.2414
2006	5691	71.27043	0.59983	70.07531 - 72.4437
2007	5689	67.49868	0.62098	66.26405 - 68.71535
2008	5342	69.63684	0.62913	68.38392 - 70.86827
2009	5197	64.46027	0.66934	63.14152 - 65.76276
2010	5729	64.28696	0.63305	63.03046 - 65.5289
2011	5522	66.71496	0.63414	65.45442 - 67.95781
2012	4610	61.49675	0.71668	60.07431 - 62.9046
2013	4281	66.80682	0.71972	65.37342 – 68.21726

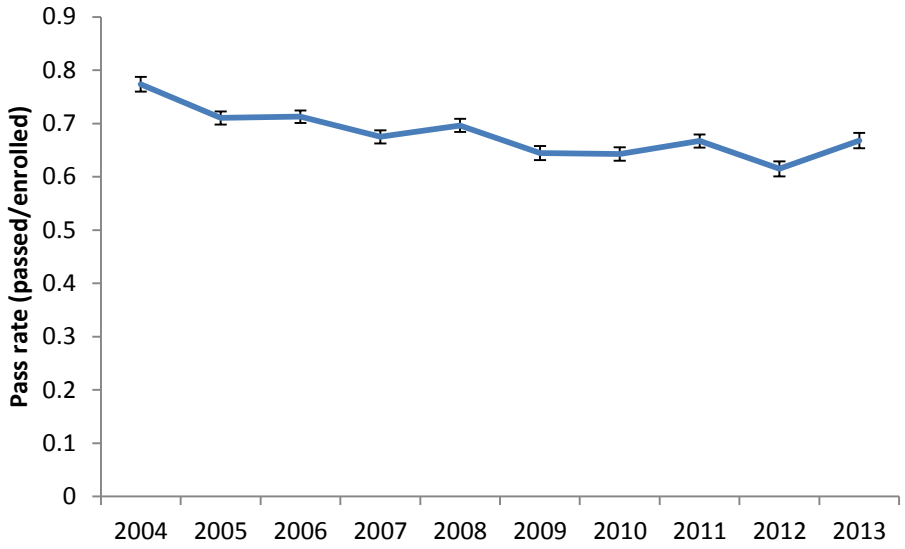

Figure 5.1: Pass rate for Accounting modules in the School of Accounting, Economics and Finance from 2004- 2013

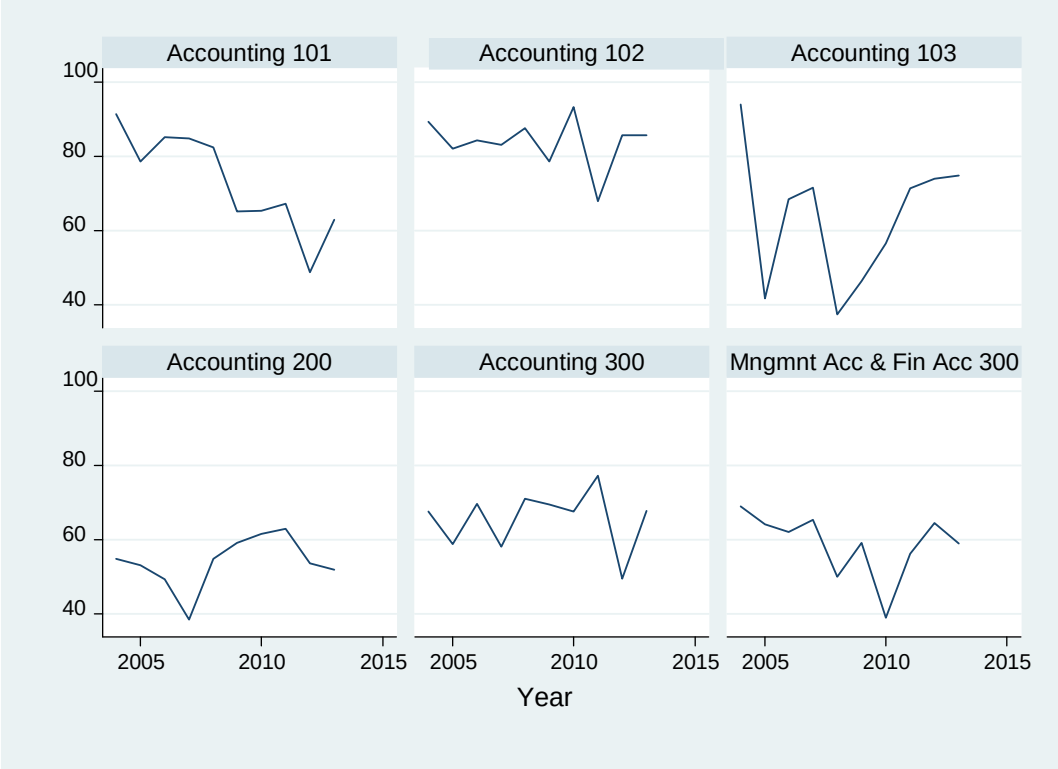

Figure 5.2: Pass rates for individual major Accounting modules

5.5.1.1 Discussion of results: Accounting modules

The Accounting Programme was reviewed in 2012. The results are presented for a ten year period from 2004 to 2013. Over this period the pass rate fluctuated between a minimum of 62% in 2012 to a maximum pass rate of 77% in 2004. Large drops or increases in particular years may be associated with particular strategies selected by the programmme Head. Kift, Tinto, Zepke and Nelson (https://www.academia.edu/8074410-assessed 23/11/14) suggest that strategies of student-centred and transitions pedagogy, institutional approaches to student engagement and changing practices in assessment and learning design may be fundamental in fostering success in the academic domain. Of significance is the fact that the Accounting programme was reviewed in 2012 and certain recommendations were made by the review panel (see 5.6.2). It is probable that the implementation of these recommendations resulted in the overall Accounting pass rate increasing from 62% in 2012 to 66% in 2013.

Enrolment patterns varied from 3 462 students registered for Accounting programmes in 2004 to a maximum of 5 729 in 2010. Class numbers are one of the factors that influence success rates as the huge enrolment in 2010 could have resulted in a decline of the pass rate to 64%. This corresponds with findings by Giannakopoulus & Buckley (www://uj.ac.za - Assessed 17 Nov 2014) who point out that attrition rates started to increase in South Africa as universities complied with the education demands of the masses. Strydom, Kuh & Mentz, 2010:2) also concluded that graduation rates between 1993 and 2005 have declined with the massification trend at South African universities. Increasing attrition rates is not only a South African phenomenon as massification of higher education in France and the USA resulted in attrition rates of around 47% and 37% respectively (Moxley, Najor-Durack & Dumbrigue, 2010:2).

It is noteworthy that the smallest enrolment in 2004 of 3 462 students resulted in the best success rate of 77% over this ten year period. This has implications for the massification of education programmes in maintaining successful pass rates. Smit (2012:369) expounds that massification of higher education allowed the diversification of the student body which enabled students with deficient educational backgrounds to enter universities. This is linked to Criterion 9 as laid down by the CHE (2004:8-24) in Chapter 2, which requires that universities provide adequate academic and student support staff to effectively deliver support to all students, in particular those entering from disadvantaged schools.

By analysing modular results it becomes clear that all pass rates have declined from 2004 to 2012. Since the review of 2012, four modules have not exhibited a decline in modular pass rates and only two modules showed a decrease in their modular pass rates (Accounting 200 and Management Accounting 300).

From a statistical perspective, however, significance at the 95% level ($p < 0.05$) is required to reject the null hypothesis. With a p-value of 0,72 ($p > 0.05$) this indicates that the study failed to reject the null hypothesis and the research hypothesis could not be supported. Although the differences in pass averages as portrayed in table 5.7 are significant (61.5% in 2012 and 66.8 in

2013) in terms of average percentages, there is *statistically* no significant difference at the 95% confidence level. This means that the study could not prove that any differences in pass rates before and after the review could necessarily be ascribed to interventions as proposed by the review panel after the review.

5.5.2 School of Management Studies

The Education unit of the School of Management studies was reviewed in 2009. Consisting of six consultants and tutors, this unit is responsible for the overall management of the teaching and learning activities of approximately 10 000 students enrolled in the School of Management Studies. The School offers Marketing, Management, Entrepreneurship, Human Resources, Supply Chain Management and Industrial Relations Programmes at the following NQF levels:

Undergraduate professional programme:	NQF Level 6
Undergraduate diploma programme:	NQF Level 5
Undergraduate bachelor programme:	NQF Level -7
Post graduate diploma programme:	NQF Level 7
Honours programme:	NQF Level 8
Masters by dissertation:	NQF Level 9
Masters by coursework:	NQF Level 9
Doctorates by dissertation:	NQF Level 10
Doctorates by coursework:	NQF Level 10

Table 5.8: Number of graduates from the School of Management Studies from 2000 - 2012

Year	Number of graduates
2000	743
2001	988
2002	1120
2003	1289
2004	1119
2005	1053
2006	1148
2007	1046
2008	1025
2009	912
2010	774
2011	894
2012	1080

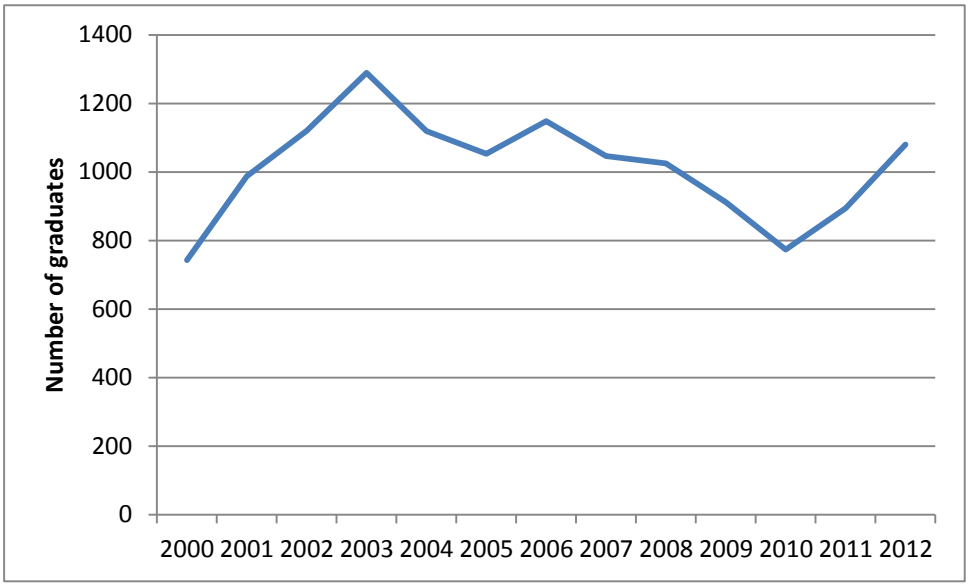

Figure 5.3: Total graduation numbers from School of Management Studies for period 2000-2012

The figures below provide a graphical representation of graduates from the School of Management from 2000- 2012.

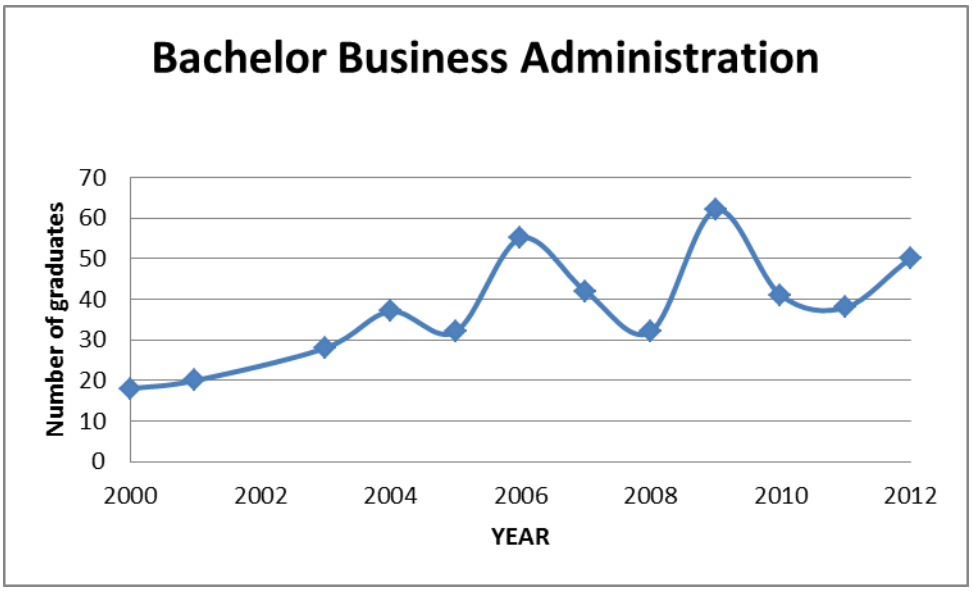

Figure 5.4: Graduation numbers for the Bachelor of Business Administration degree

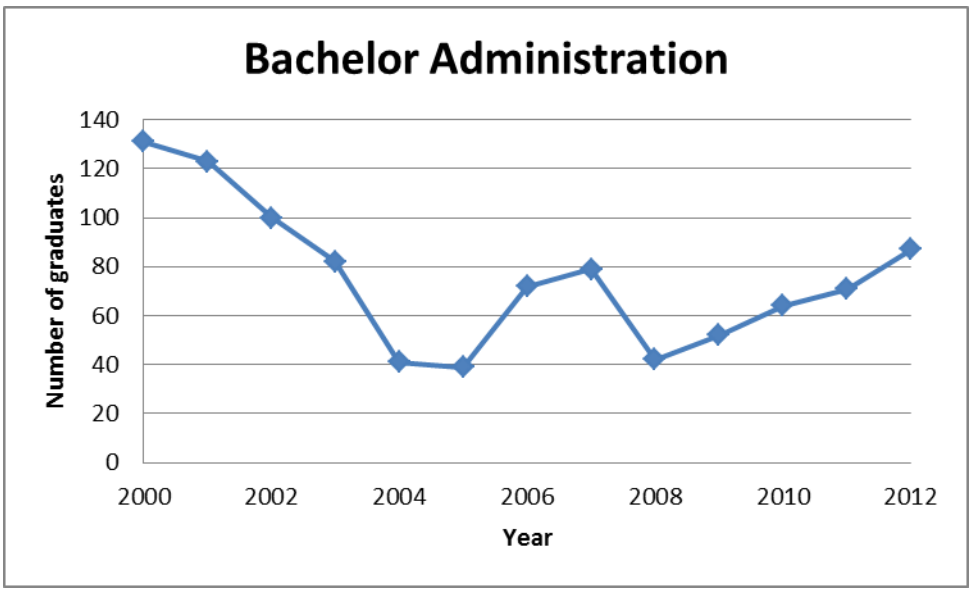

Figure 5.5: Graduation numbers for the Bachelor of Administration degree

Figure 5.6: Graduation numbers for the Bachelor of Commerce degree

Figure 5.7 Graduation numbers for the Bachelor of Commerce Honours degree

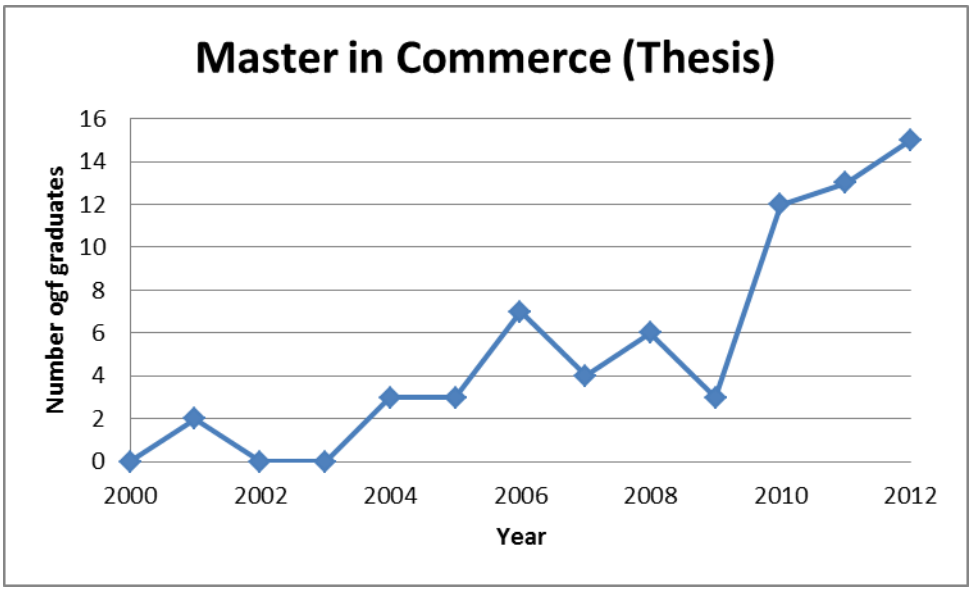

Figure 5.8: Graduation numbers for the Master in Commerce degree

Table 5.9: Statistical analysis: the Zivot-Andrews unit root test for testing significance levels in graduation rates

Minimum t-statistic	-4.270 at 2010		
Critical values	**1%** -5.57	**5%** -5.08	**10%** -4.82

The Zivot and Andrews (1992) endogenous structural break test is a t-test in which a test statistic (t-statistic) is calculated from the data and its value is used to decide whether or not the hypothesis can be rejected. The critical value(s) for a hypothesis test is a threshold to which the value of the t-statistic in a sample is compared to determine whether or not the null hypothesis is rejected. The Zivot-Andrew test requires certain assumptions to be met for it to give valid and reliable results (Gay, Mills & Airasian, 2009:334). The first assumption is that the variable (graduation rates) must be normally distributed in the population. A second major assumption is that the data represent an interval or ratio scale of measurement (as portrayed in figure 5.8), while the third assumption is that the selection of participants is independent (the selection of one cohort of graduates in no way affects selection of another cohort of graduates). In this study all the assumption have been met, and based on Table 5.10, the analysis indicates that

there is a statistically significant differentiation in graduation rates at the 99% and 95% significance levels before and after the review (see 5.2.3.1 for discussion).

5.5.2.1 Discussion of results: Management Programme

The number of Management Programme graduates varied from a minimum of 743 in 2000 to a maximum of 1289 in 2003. This indicates the effects of various interventions during this period, *inter alia* the implementation of a strategic plan consisting of pedagogical strategies, setting up certain structures within the unit and appointing a unit head. Since the review of 2009 (with 912 graduates) the number has increased to 1080 graduates in 2013. This most likely reveals that the recommendations from the 2009 review had a positive effect on the graduation rate of students. The analyses of the number of graduates in the larger programme of Bachelor of Commerce reveals that the number of graduates since 2000 (303) has steadily increased to 643 in 2012. This compares very favourably to the 617 graduates in the School of Management in 2009 when the review was carried out. Even the second most popular programme, the Bachelor of Commerce (Honours), exhibited a tripling in graduate numbers of 48 in 2000 to 185 in 2012. This is also an improvement from the 133 graduates in the Bachelor of Commerce Honours in the year of review of 2009. Figure 5.3, which depicts the graduate numbers in all programmes in the School of Management over the thirteen year period, shows a consistent increase in graduate numbers over all undergraduate and postgraduate programmes since the review of 2009.

From the critical values at 1%, 5% and 10% (as depicted in table 5.10) and a p-value of less than 0.05% (-5.57, -5.08 and -4.82 respectively), the null hypothesis as stated in 5.4.2 is rejected. The research hypothesis (5.3.2) for the school of Management Sciences is supported by the data. It can thus be affirmed that there is statistically a significant difference between the graduation rates before and after the 2009 review of the Management programme.

5.5.3 School of Mathematical Sciences

The School of Mathematical Sciences was reviewed in February 2008. This schools' programmes manages the offering of 21 modules towards the Bachelor of Science degree programmes with a duration of three years. The School is presently housed within the School of Mathematics, Statistics and Computer Sciences at the Westville Campus, with a few designated lecturers servicing the Mathematical Sciences programme at the Howard Campus.

Table 5.10: School of Mathematical Sciences: Pass Rates (% age): 2004- 2013

Module	'04	'05	.06	'07	'08	'09	'10	11	'12	'13
App Maths 1A	78	74	78	82	68	68	72	69	66	76
App Maths 1B	72	60	77	68	62	79	77	65	80	52
Maths 1A	71	56	60	73	81	69	59	67	71	70
Maths 1B	71	62	75	57	79	62	87	73	55	72
M & Stats	55	68	63	76	84	73	70	79	77	70
Adv Maths	58	69	77	82	90	86	73	69	66	83
Calc & Lin Alg	50	77	67	75	71	78	50	75	61	69
Comm M	53	85	55	49	42	68	67	76	64	71
Calc & Alg	37	57	56	69	64	76	51	62	61	57
Adv Comm M	55	61	68	50	62	86	77	77	53	70
Maths 2A	72	54	60	79	81	85	73	74	90	85
Maths 2B	77	68	85	76	83	89	90	65	69	69
Lin Alg	29	56	56	69	70	63	74	62	57	100
Adv C & Lin A	43	77	85	66	71	86	51	56	50	74
M Mthds	55	94	49	66	84	86	60	80	79	78
M Model	70	80	78	92	100	92	70	72	79	66
Alg & No.	85	60	54	68	70	63	74	59	86	69
Adv Calc	81	64	62	66	70	62	75	87	82	76
Disc Maths	90	61	50	58	84	83	77	95	91	61
Maths 3	85	85	88	72	66	68	87	82	69	63
Alg Str	75	86	65	61	86	100	100	70	88	62

The tables (B1-B3) in **Annexure B** depict the actual number and pass % of students who enrolled, wrote and passed the various individual modules that were reviewed, while figures B1 - B45 depict a graphical presentation of the results in the School of Mathematical Sciences.

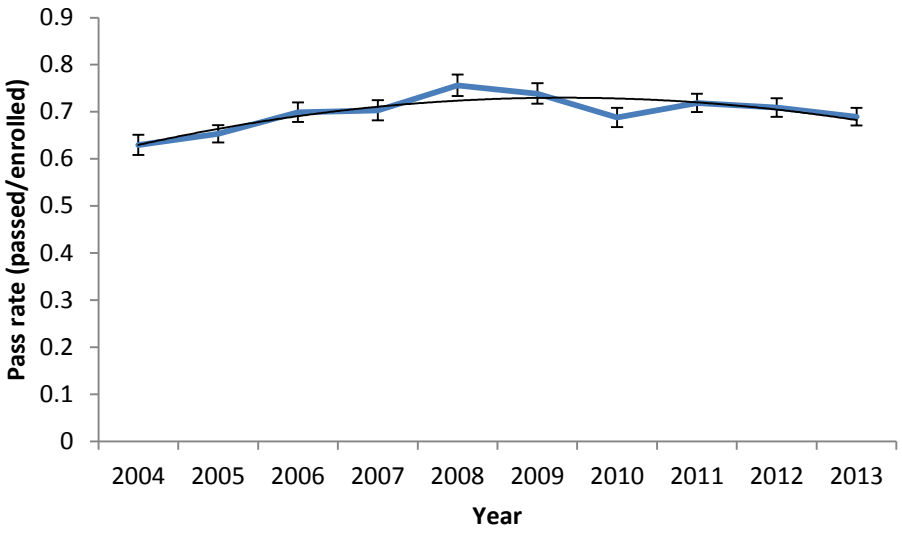

Figure 5.9: School of Mathematical Sciences: overall pass rate 2004-2013 (Pass/Enrolled)

Table 5.11: School of Mathematical Sciences: statistical analysis of module results

Year	Mean Pass rate (%)	95% Confidence Interval
2004	63	60.83903 - 65.09005
2005	65	63.51785 - 67.13846
2006	70	67.82177 - 72.00536
2007	70	68.16621 - 72.47268
2008	76	73.33554 - 77.89928
2009	74	71.72738 - 76.04963
2010	69	66.77878 - 70.83776
2011	72	69.92454 - 73.84579
2012	71	68.94389 - 72.87019
2013	70	67.08009 -70.83922

The School of Mathematical Sciences was reviewed in February 2008. Graphical representation (Figure 5.9) reveals that overall pass rates continued to increase beyond 2004 peaking in 2009, and then gradually declined post 2009. After statistical analysis at the 95% significance levels,

however, the results depicted in Table 5.13 show no *statistically* significant difference in the pass rate before and after the review of 2008.

5.5.3.1 Discussion of results: School of Mathematical Sciences modules

Results spread over ten years show a large variation which can be attributed to various strategies applied in this programme. According to the Head of the school (see 5.6.3), strategies implemented after the review included a more cohesive management structure, establishment of a school-wide teaching and learning committee, regular school-wide meetings, rotation of staff between branch campuses, standardised student evaluation of lectures, review of moderation reports, appointment of a Teaching and Learning Manager, a re-designed website, and clarification of the choice between the major streams of pure and applied mathematics.

During the year of the review (2008) most modules managed in the school peaked across the ten year period of analysis. This is indicative of the increased focus on the implementation of modules during the year of review (2008). Since then, 14 of the 21 modules managed in the school have improved pass rates, or had the same pass rate when a comparison is made between the 2009 pass rates and the 2008 pass rates. This overall decline in pass rate since the review may be ascribed to the fact that HEIs are increasingly under pressure to fill the large gap in mathematical skills with underprepared incoming Mathematics students from secondary schools. Strategies, such as sending matriculants to special educative camps before entering universities so as to assist in enhancing their underdeveloped numeracy and literacy skills, have since been implemented (Makanya, 2014). Mji and Makgato (2006:253) also pinpointed the drastic and significant shortcomings in mathematics and science teaching expertise in South African schools that placed South African last in the UNESCO and UNICEF learner achievement numeracy project conducted in 2005.

Enrolment figures varied from 5 444 in 2004 to 7542 in 2013. Due to budgetary constraints there has not been an increase of academic staffing over this period. Larger class sizes without

a simultaneous increase in academic support may also have caused a decline in pass rates. Academic tutor support for larger classes is also warranted to enhance pass rates (Yeo, 2009: 67). This provides support in online learning and independent study methods. Consequently, universities need to strategise to establish the numeracy skills of learners coming from secondary schools and who have a largely deficient background in mathematical skills.

From the values and a significance level of 72-76% in 2009 (as depicted in table 5.13) it is clear that the study failed to reject the null hypothesis as stated in 5.4.3. It can be affirmed that there is, therefore, no statistical significant differences between the pass rates in Mathematical Sciences before and after the 2008 review.

5.5.4 School of Pharmacy and Pharmacology

The School of Pharmacy and Pharmacology was reviewed in October 2009. This school manages the offering of 28 modules in a Bachelor of Pharmacy degree programme, designed with a duration of four years. The school presently employs 24 academics and 11 support staff and the programme is only offered at the Westville Campus.

The tables in Annexure C (Tables C1- C4) depict the modular analysis from 2004 to 2013.

Table 5.12: School of Pharmacy and Pharmacology: Module pass rates (%): 2004-2013

Module	"04	"05	'06	'07	'08	'09	'10	'11	'12	'13
Med Chem 1	92	98	95	94	100	99	96	100	99	100
Med Chem 2	98	87	99	96	93	99	90	99	96	99
Pharm Chem	-	100	100	90	98	98	88	95	97	97
Pharm Anal 1	86	96	97	90	95	94	91	88	100	100
Phys Pharm	90	98	95	100	99	100	96	95	98	99
Pharm Tech	97	96	100	91	99	96	88	95	100	93
Pharm Calc 1	-	99	97	90	99	98	97	99	100	100
Pharmacology 1	86	90	97	74	95	76	95	94	97	98
Pharmacology 2	96	91	89	85	89	91	95	100	95	99
Pharmacology 3	96	95	91	93	98	99	90	100	100	99
Med Chem 3	86	96	88	80	86	90	90	95	100	100
Pharm Anal 2	92	98	98	86	98	96	94	99	97	98
App Clin Chem	95	90	100	99	93	100	100	100	100	99
Med Chem 4	99	98	94	88	94	97	92	100	99	99
Instit Pharmaceuts	99	93	99	91	92	94	99	100	100	100
Sterile Products	-	96	100	91	97	94	97	100	100	100
Pharm Logistics	100	98	88	80	100	96	98	100	100	98
Pharm Care 1	98	99	97	100	98	99	91	100	100	100
Pharm Care 2	98	96	100	100	98	100	98	99	98	99
Pharmacology 4	97	100	100	97	100	98	99	100	100	100
Biopharmaceutics	92	95	100	98	100	98	100	100	100	98
Adv Drug Delivery	90	-	100	100	100	98	99	98	100	99
Pharm Care 3	98	100	99	100	100	100	100	100	100	100
Pharm Care 4	97	100	100	97	98	96	100	100	100	100
Intro to Path	96	99	97	81	81	100	97	93	100	99
Health Law 1	-	-	99	98	98	94	99	91	100	99
Health Law 2	98	100	100	97	100	97	99	100	100	100
Pharmacology 5	100	100	100	100	100	100	99	98	100	98
Research Project	99	100	100	100	100	100	100	100	100	100

Table 5.13: Statistical analysis of School of Pharmacy and Pharmacology module pass % results

Year	Observation	Mean (%) Pass rate	Std. Error (%)	95% Confidence level (%)
2004	1736	94.81567	0.53212	93.66577 – 95.81088
2005	1906	96.01259	0.44818	95.03436 – 96.84575
2006	2053	97.07745	0.37175	96.25395 – 97.76254
2007	1995	92.98246	0.5719	91.77203 – 94.0646
2008	2072	96.5251	0.40234	95.64376 – 97.27137
2009	2200	96.45455	0.39426	95.59468 – 97.18758
2010	2189	96.11695	0.41292	95.22074 – 96.8868
2011	2353	97.91755	0.29438	97.25615 – 98.45552
2012	2870	99.16376	0.16998	98.75829 – 99.46349
2013	2799	98.85673	0.20094	98.38985 – 99.21673

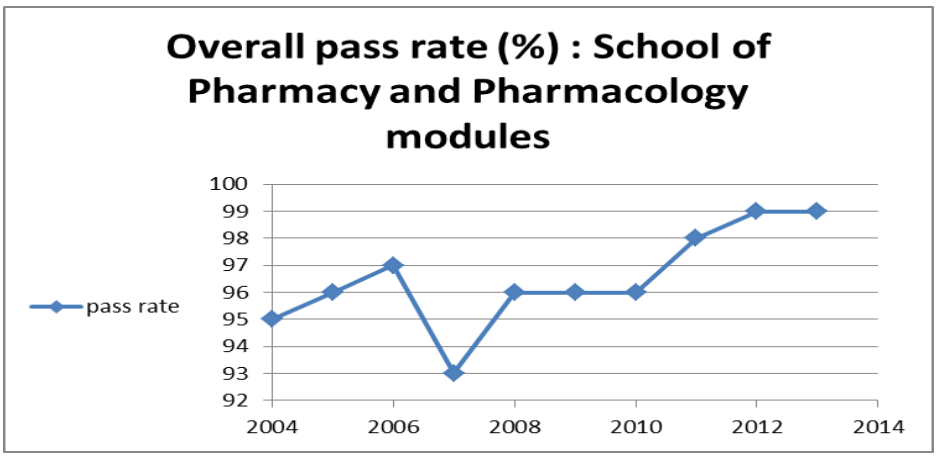

Figure 5.10: School of Pharmacy: pass rates: 2004 - 2013 with pass rates on the vertical axis expressed as a percentage of number of students passed/number of students enrolled.

At the 95% confidence level, table 5.15 reveals that there is a strong statistical significance in the percentage module pass rates with an improvement in results since the School of Pharmacy and Pharmacology review of 2009. This peaked in 2012 with a slight downturn in 2013. This relationship is evident in Figure 5.10. Modular pass rates have remained fairly consistent except for the downturn in 2007. This has recovered to peak in 2012 with a slight decline once again in 2013, which is significant at the 99% confidence limits.

The pass rates for the individual models which have been reviewed are graphically presented in Annexure C (C1-C54).

5.5.4.1 Discussion of results: School of Pharmacy and Pharmacology

Depicting the pass rates of 24 modules in the School of Pharmacy and Pharmacology, figure 5.10 reveals that all the modules have shown consistency or elevated pass rates since the review of 2009. Enrolment numbers over the ten year period have not varied significantly. Consistent class numbers with consistent numbers of academic support staff have sustained the module pass rates across the School. Over the ten year period of analysis, pass rates varied from a minimum of 93% in 2007, peaking with a 99% pass rate in 2012/ 2013. Since the review of 2009, when the Pharmacy Programme's pass rate was 96%, this has increased by 3% to 99% in 2013. This suggests evidence of the positive effects of the review of 2009.

Amongst the four case studies analysed in this research project, the School of Pharmacy and Pharmacology exhibits the largest pass rate. Analysing one of the criteria in review principles, that of admission criteria, the School of Pharmacy and Pharmacology has the highest admission criteria of 28 points at Grade 12 level, suggesting academically stronger students than in other programmes. It is therefore not surprising that results are consistently higher compared to the other programmes.

From the values and significance at the 95% level (as depicted in table 5.15) the research hypothesis is supported by the data, and the null hypothesis as stated in 5.4.4 is thus rejected. It can be affirmed that there is, therefore, a statistically significant difference between the pass rates before and after the 2009 review of the School of Pharmacy and Pharmacology.

5.6 QUALITATIVE RESPONSES TO REVIEW BY RESPECTIVE HEADS OF DEPARTMENTS

After analysing the findings on the qualitative responses on the review process provided by the respective Heads of the schools and departments, the responses were divided according to the following themes:

Theme 1: Responses to 13 closed questions in the questionnaire.

Theme 2: University procedures for assuring quality of academic programmes (refer to Section 3.4. UKZN QA Policy).

Theme 3: Awareness of areas that required improvement before the review.

Theme 4: Recommendations emanating from the review report.

The attached questionnaire (Annexure D) was distributed to the respective Heads of Departments/Unit. The responses of the participants of each programme are presented in Tables 5.17 – 5.22).

5.6.1 Accounting programme

Table 5.14: Response from Head of Accounting undergraduate programme

ACCOUNTING				
Question	**Very good**	**Good**	**Satisfactory**	**Poor**
Briefing info prior to review		x		
Programme evaluation report		x		
Time between prep & review		x		
Quality of panel		x		
Services provided to Panel		x		
Discussion at review		x		
Rigour of discussion	x			
Quality of panel chair		x		
Student response post-review			x	
Staff response post-review			x	
Tour of facilities			x	
Student work quality provided	n/a			
Programme document quality provided		x		

Table 5.15: Responses from the Accounting undergraduate programme

THEME	RESPONSE
Theme 1: **Responses to 13 closed-ended questions in the questionnaire**	The Head of the Accounting programme found most of the initial review aspects of the review process to be "good" and the students and staff responses post-review and the tour of the facilities to be satisfactory.
Theme 2: **University's procedures for assuring quality of academic programmes**	The Head of the Accounting Programme: "The process was a sound one with all the reviewers acquainting themselves with the self-evaluation report and practices in the discipline and interviewing various staff and students and support programme personnel". Reviewers were able to draw a conclusion "on the effectiveness of the programme offered." The Head was appreciative of the various constructive suggestions which were made by the review panel.
Theme 3: **Awareness of areas that required improvement before review**	The Head of the Accounting programme was unaware of any areas that required improvement before the actual review took place. This is contrary to the recommendations put forward by the review panel (see Theme 4).
Theme 4: **Recommendations emanating from the review report**	The review panel had the following recommendations: The management of the Accounting Programme had to be prioritized with the appointment of a permanent Dean, a Head of school and a School Teaching and Learning leader. This would provide positive leadership to both teaching and learning and research activities in the Accounting Programme. Attention to improving the pass rates was required by providing more attention to the screening, selection, training, support and monitoring of student tutors, and to the management of the tutorial system, with special care being given to the size of the tutorial groups. Urgent steps needed to be undertaken to remedy the apparent lack of monitoring, support and guidance of new academic staff based on the branch Pietermatzburg campus. In order to improve communication between the Accounting staff, staff is required to have more formal meetings, and that the roles and responsibilities of teaching, learning and research leaders be clarified and communicated widely to staff involved in the programme. Support staff should be expanded to correlate with overall academic staff numbers and should be trained to offer the appropriate level of support to academics.

5.6.2 Management Studies

Table 5.16: Summarised response from the Head of the Education Unit of the Management Studies Education Unit for Theme 1

MANAGEMENT STUDIES				
Question	**Very Good**	**Good**	**Satisfactory**	**Poor**
Briefing info prior to review		x		
Programme Evaluation Report		x		
Time between prep & review		x		
Quality of panel			x	
Services provided to panel		x		
Discussion at review				
Rigour of discussion				
Quality of panel chair	x			
Student response post-review	x			
Staff response post-review	n/a			
Tour of facilities			x	
Student work quality provided		x		
Programme document quality provided	x			

Table 5.17: Response from Head of Management Studies Education Unit

THEME	RESPONSE
Theme 1: Responses to 13 closed-ended questions in the questionnaire	Initial aspects of the review process were labelled as "very good" or "good". The quality of the panel and tour of the facilities were categorised as "satisfactory".
Theme 2: University's procedures for assuring quality of academic programmes	No comment on the university's procedures for assuring the quality of academic programmes was forthcoming.
Theme 3: Awareness of areas that required improvement before review	The structure of the unit needed to be addressed. The enormous pressure imposed on the Dean to head this unit was viewed as an "unrealistic expectation". A Head of Unit was thus required. After reconfiguration, a position for the Head of the unit was created as the review strengthened the motivation for such position.
Theme 4: Recommendations emanating from the review report	1. To develop a strategic plan as this would ensure an overall approach to access and the success of its goals and objectives. 2. The current structure needed a revamp to appoint a Unit Head to ensure coherence within a common paradigm of educational development within the unit and to assist the Deputy – Dean responsible for Teaching and Learning 3. The structure was also encouraged to deal with three broad areas: Access and Extended curricula; Student Monitoring and Support; and Integrated Academic Development. 4. A matter of urgency was to make permanent appointments as the UKZN council had approved these posts. 5. Posts needed to be re-distributed as the current two vacant posts were to be allocated to the restructured unit and not to the Enriched Management Studies Programme. The latter had a graduation rate of over 95% and managed to attract and retain sponsorships. 6. The post of the Head of Education: Management Studies should be clarified and a Job Perspective was to be done by the Dean. 7. Management of resources such as office space, venues and computers had to be better managed within the unit and a

Theme 4 (cont.)	system for sharing of resources needed to be designed, implemented and managed. 8. The Enriched Management Studies Programme should continue in its current format as long as it attracted funding from private sponsors. 9. A Review of the location of the Enriched Management Studies Programme within the unit was proposed as the panel's considered opinion was that this Programme would be more effective outside the unit. 10. Concerns were raised about the academic co-ordination of the Enriched Management Studies Programme. The recurriculation process and review of tutorials and material development had not been managed effectively. 11. The Enriched Management Studies Programme should continue with the school's liaison functions as this was found to be effective. 12. A module on Integrated Business Studies was proposed to be integrated into all modules in the Bachelor of Business Science and Enriched Management Studies Programmes. 13. The Bachelor of Commerce Extended Programme should be expanded in terms of student numbers and reconceptualised in line with faculty goals. This was to be facilitated in view of the high failure rates and the changing demographics within the Faculty. 14. A review of its target students in the Bachelor of Commerce Extended Programme was proposed in light of the high failure rates and changing demographics. 15. A review of the Bachelor of Commerce Extended Programme should be undertaken to fulfil DHET requirements for foundation funding. 16. Detailed analyses of student performance should be carried out and ongoing monitoring of student performance should take place to obtain early warning of at-risk students for the purpose of devising intervention measures to assist at-risk students.

5.6.3 School of Mathematical Sciences

Table 5.18: Summarised response from the Head of the Mathematical Sciences School for Theme 1

SCHOOL OF MATHEMATICAL SCIENCES				
Question	**Very good**	**Good**	**Satisfactory**	**Poor**
Briefing info prior to review		x		
Programme evaluation report		x		
Time between prep & review			x	
Quality of panel			x	
Services provided to panel		x		
Discussion at review		x		
Rigour of discussion		x		
Quality of panel chair			x	
Student response post-review			x	
Staff response post-review				x
Tour of facilities				x
Student work quality provided			x	
Programme document quality provided		x		

Table 5.19: Response from the Head of the Mathematical Sciences School

THEME	RESPONSE
Theme 1: Responses to 13 closed-ended questions in the questionnaire	Out of 13 responses, six responses were categorized as "good", five as "satisfactory", and two as "poor".
Theme 2: University's procedures for assuring quality of academic programmes	The Head of the Mathematical Sciences programme commented that "having an external review from time to time can be beneficial to a school." The opportunity of academic members to reflect on their activities in teaching and research was a benefit of the procedure in assuring quality of academic programmes and to engage with the recommendations that follow. External reviewers' comments allowed the school to reflect on the norms that it placed for teaching and research. Consequently self-reflection in quality assurance provided an opportunity to dwell on current practices and to see deficiencies within them. Large class sizes at first year level were stated as a challenge.
Theme 3: Awareness of areas that required improvement before review	The Head was aware that the teaching of large classes was a concern. The "patchiness" in teaching, despite a large number of excellent teachers, was noted. A problematic issue was that some staff members did not contribute significantly to the research output.
Theme 4: Recommendations emanating from the review report	1. The School should develop a more cohesive management structure with an Executive Committee to assist the Head, and a more formal School-wide Teaching and Learning Committee and a lead researcher to assist less experienced researchers. 2. At the time of the review, the management structure was devoid of academic leaders in teaching and learning. A research academic

Theme 4 (cont.)	leader was also absent in the management structure. This recommendation was in line with Criterion 9 (Refer to Section 2.9.9) which stipulates the requirement for experienced academic and support staff to provide direction. A school-wide teaching and learning committee would ensure that standards are maintained equally across the school. 3. Regular meetings of all school members across the centres should consider an overview of the school and its plans – perhaps on a bi-annual basis. Regular meetings should be held to maintain regular communication channels with all staff. 4. The issue of rotation of staff between Howard College and the Westville campus should be considered so as to expose students to a variety of academics. 5. The school, while allowing for flexibility in approaches to teaching, needed to cultivate a school-wide philosophy about best practices in teaching and assessment, and consider how to implement it. 6. The school should consider a standard practice with regard to student evaluation of lectures. A system should be set in place to monitor these evaluations by the lecturer concerned as well as the Head or peers who could identify avenues for improvement. 7. Comments on modules made by external examiners and moderators needed to be considered to identify any issues that needed to be dealt with.

Theme 4 (cont.)	8. The School should develop a systematic school-wide approach to course outlines and course notes so ensure standardization of materials. 9. Ways of filling the Teaching and Learning Manager's post should be re-visited and the job description needed clarification, including its reporting lines to the Teaching and Learning Committee. 10. The School should consider delaying the point where students intending to major in mathematics must choose between pure and applied mathematics. A clearer distinction between these two streams was needed. 11. The School's website needed re-designing to attract new students, to be more informative to the general public and to boost international ranking criteria. Website usage is a stipulation in evaluating and ranking higher educational institutions internationally. 12. The university should rethink its present policy of a retirement age of 60 years. Research expertise normally resides in academics with extensive years of research service beyond the age of 60.

5.6.4 School of Pharmacy and Pharmacology

Table 5.20: Summarised response of the Head of Pharmacy and Pharmacology School for Theme 1

PHARMACY AND PHARMACOLOGY SCHOOL				
Question	**Very good**	**Good**	**Satisfactory**	**Poor**
Briefing info prior to review	x			
Programme evaluation report	x			
Time between prep & review	x			
Quality of panel	x			
Services provided to panel	x			
Discussion at review	x			
Rigour of discussion	x			
Quality of panel chair	x			
Student response post-review	x			
Staff response post-review		x		
Tour of facilities		x		
Student work quality provided	n/a			
Programme document quality provided		x		

Table 5.21: Response from the Head of the Pharmacy and Pharmacology School

THEME	RESPONSE
Theme 1: **Responses to 13 closed-ended questions in the questionnaire**	The review of the School of Pharmacy and Pharmacology progressed smoothly as the Head of the Pharmacy and Pharmacology School rated nine aspects of the review as "very good" and three aspects as "good". This indicates that the Quality Assurance Consultant that managed the review process of this discipline was very effective and that the Pharmacy and Pharmacology School was thoroughly prepared for this review.
Theme 2: **University's procedures for assuring quality of academic programmes**	The "university had good policies in place for assuring the quality of academic programmes". The Head of the Pharmacy and Pharmacology School was also very complementary in acknowledging the assistance from the Quality Assurance Unit in providing direction for documentation, setting up the expert panel to put documentation together and offering advice along the way.
Theme 3: **Awareness of areas that required improvement before review**	No areas that required improvement were identified as they were reviewed recently by the Statutory Pharmacy Council.
Theme 4: **Recommendations emanating from the review report**	A. Management The school devolved from two "departments". This historical management structure had to be eliminated with the school standing on four pillars of pharmacology, pharmacy practice, pharmaceutics and pharmaceutical chemistry. The panel consequently recommended that concerns such as distribution of resources, budget, and student and curriculum issues be the responsibility of these four Discipline leaders equally represented on the School Board. The functions of the school secretary and a senior technical staff member needed to be defined across school lines as present staff still operated along historical "departmental" paradigms. B. Curriculum matters The panel recommended that the School rethink and repackage the curriculum with a perspective of equalizing the academic load across the eight semesters as the students felt overwhelmed by the credit load in the first and second years. A gradual increase in complexity from second to fourth year should be built into the curriculum so that students are expected to take increasing levels of responsibility for their own learning. Practical exposure and problem-based learning should be introduced early on in the programme.

Theme 4 (cont.)	Language skills in Zulu were offered too early in the programme in the first year. Consideration should be given to designing a customized isiZulu module during the third year which could be applied during their internship fourth year. Postgraduate students Present numbers of students engaged in Masters and Doctoral studies did not meet the institutional target of 35% reflected in the UKZN Strategic Plan 2007-2016. Closer management of postgraduate students was thus required to expand enrolment and to fast-track throughput rates. Quality of supervision was observed to be adequate. Research needed to be scaffolded appropriately as the panel supported the school's decision to offer Research Methodology during the third year to allow undergraduates to effectively engage the research project at fourth year level. The research project at the fourth undergraduate year was found to be unequally distributed with some students having disproportionate workloads. All undergraduate students should conduct equally challenging research projects. Staff research projects needed to be published to promote postgraduate research opportunities. C. Teaching and Learning • Technical staff should not perform academic duties such as teaching and assessments. • Lecturers should always be present in practicals and deal with immediate queries. • Lecturers and technical staff should liaise about the content of practical sessions. • *Ad hoc* staff should only be used to do specialist lectures. • Where it is unavoidable to make use of *ad hoc* staff, careful monitoring should take place. • Student evaluations have to be administered as per the guidelines by the Quality and Promotions Assurance Unit. • The School should ensure that students receive appropriate feedback on their complaints and evaluations.

Theme 4 (cont.)	D. Research The School should develop a school research strategy to enable junior researchers to build up equipment, resources, funding, etc. with assistance from the two experienced and prolific School research staff members. Postgraduate students, especially those who were local should be offered annual or bi-annual research days as there was no platform for postgraduates to get together to present their own interim research or receive training. Students at level 4 and postgraduate students should be kept informed about staff research interests and activities so as to encourage them in their own research pursuits. Members of staff were encouraged to attend conferences of the SA professional pharmacy groupings to encourage networking and to bring in new pharmacy and pharmacology research initiatives. E. Community Engagement The School should strengthen community engagement in the area of student practical placements. The School should ensure that the community engagement added value to community-based requirements and that research results are applied to solve community problems. F. Student support Students at first year level complained that they were not branded as “Pharmacy students”. Consequently the panel recommended that it is essential that the School works to develop an identity for the Pharmacy undergraduate students.

5.7 CONCLUSION

Disappointingly, responses from the three Heads of Schools reveal a glaring lack of awareness of issues that required attention even before the review panels conveyed their recommendations on issues requiring attention. This indicates that the Heads of Schools were not prepared for the scrutiny of the criteria under evaluation. While the closed-ended questions were reasonably informative, a limitation is the cryptic responses to the open-ended responses. This lack of criticism of quality assurance procedures may be interpreted as a compliant mentality. It possibly suggests that an authoritarian approach is followed by quality assurance practitioners when they implement QA procedures as delegated to them by the National Authority (CHE). This tendency is, however, not limited to South African QA procedures. Literature expounds on the lack of autonomy of programmes and laments on the intrusion of quality assurance processes on their terrain. Loukkola & Zhang (2010:11) also criticise the reluctance from the institutions' communities itself when developing a quality culture. Shah, Nair and Wilson (2011:475), for example, found that universities worldwide are required to ensure compliance with a number of laws, protocols and guidelines prescribed by authorities – which potentially impacts on the autonomy of an institution. Disappointingly, responses from the Heads of Schools further reveal a glaring lack of awareness of issues that required attention even before the review panels conveyed their recommendations on issues requiring attention. This indicates that the Heads of Schools were not prepared for the scrutiny of the criteria under evaluation. El-Khawas (2013:251) observed in his study outward responses of support from academics on quality assurance as a policy mechanism, but in reality non-compliance or signs of resistance are encountered on numerous higher education terrains.

Panel recommendations varied from School to School. It is significant that only the School of Pharmacy had a detailed list of recommendations. This may be a reflection of the strength of the review panels. It is consequently significant that panelists be appointed that are thoroughly proficient and skilled in the programme criteria to be evaluated. Bornmann, Mittag & Daniel (2006:687) also suggested, as a method of improving quality assurance procedures, to target

the composition of the review panel. Against this background, regular quality assessments of the procedures for quality assurance are warranted to enhance quality assurance objectives in higher education.

5.8 SUMMARY

This chapter provided qualitative and quantitative results obtained from four Schools. Three are from academic units and the fourth was from a support unit. Statistical information was obtained from the Institutional Intelligence Data Base for the ten year period that was available for academic support units for the period of 2004 to 2013. Data for the support unit of Education Management Studies was available for 13 years from 2000 to 2012. Qualitative data was obtained from the four questionnaires completed by the four Heads of Schools.

The last chapter provides a summary of the findings and conclusions and by considering the deficits observed in this study, a revised quality assurance process is proposed.

CHAPTER 6

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter will provide an overview of the statistical analysis of the academic indicators of four programme/ units or schools over a period of time. The qualitative analysis of the feedback from the Heads of these programmes/unit or schools is also reviewed, with quantitative statistical parameters analysed and discussed against current pedagogical theory and practices.

The next section focuses on designing a model which can contribute to an effective quality assurance system based on the findings of this research project. Fields of future research are indicated in the penultimate section with a conclusion terminating this chapter.

The outputs of a programme are an expression of a variety of internal factors, amongst others:

- institution's mission and vision statement;
- design of programme;
- quality assurance support for teaching and learning;
- admission criteria of students into the programme;
- level of appointment, expertise and training of the educators;
- administration of programmes;
- system to evaluate programmes;
- record keeping
- method of conveying educative material;
- assessment methodologies;
- infrastructure, e.g. classroom architecture and library resources;
- system for design and approval of new programmes;
- recognition of prior learning;

- facilitation of research;
- review and monitoring of postgraduate research programmes;
- community linkage;
- quality assurance, development and monitoring of postgraduate education;
- benchmarking, utilising programme impact surveys.
- teaching pedagogy

The Quality Assurance Review system attempts to examine these various elements in order to ensure that these criteria are appropriate to fulfil the objectives of the programme. During evaluation, these criteria are assessed and the review panel makes recommendations if these criteria are not effective to produce the appropriate outcomes. This research project analysed the efficacy of the review process by scrutinizing a variety of criteria applied in the review of the following programmes:

- The Accounting Programme in the School of Accounting, Economics and Finance
- The Education Unit of the School of Management Sciences
- The Mathematics Programme in the School of Mathematical Sciences
- The Pharmacy Programme in the School of Pharmacy and Pharmacology

6.2 SUMMARY OF FINDINGS AND RESEARCH CONCLUSIONS

6.2.1 Research question number 1

What is the situation in terms of QA in both South Africa and internationally, and to what extent do South African HEIs align with QA standards of HEIs in selected countries?

On reflection, the SA QA System is similar to QA systems utilised in other countries. Unfortunately these systems have become outdated in most of these countries and they have subsequently moved onto more contemporary facets challenging HEIs. The USA and Sweden,

for example, have moved to measuring learning outcomes in students in evaluating HEIs, which is not being facilitated in the South African QA System. Of note is the increasing engagement with students enrolled at these international HEIs in order to contribute, debate and add value to QA processes. South African QA systems are therefore not aligned with QA international standards as student input into QA processes seems to be minimal. In India and Sweden, input from student and graduate surveys also plays a meaningful role as a tool in QA processes.

Interestingly, unlike South Africa, other international countries have independent quality assurance agencies to quality assure academic programmes.

Of significance is the networking of the European QA systems with a European National Quality Assurance (ENQA) system via the Bologna process, which aligns QA systems amongst individual European countries to complement each other. Even in Northern Africa, Eastern Africa and the Middle East countries, QA systems are joined to form the Middle East, East and North African countries (MENA) QA system. However, the South African QA system is not aligned with other neighbouring regions, e.g. the Southern Africa Development Community (SADAC).

The benefits of linking with greater neighbouring zones, as reflected in the Bologna process which influence QA models in the UK, France and Netherlands, are reflected in the internationalisation objectives of QA. This creates greater equality of HEIs in these common zones resulting in common admission criteria and learning outcomes.

Cultural awareness in the Middle Eastern countries of Oman and the United Arab Emirates serves local mandates and places HEIs on a strong ethical foundation. This is reflected in the Christian based monopoly in the New Guinean HEIs. Comparatively, South African HEIs are not dogmatic about enforcing religious doctrine.

Electronic aided education has been recognised in Malaysian QA Systems and has been acknowledged in their criteria. Even though this is not specified in other international criteria, it

may be evaluated in methodology, i.e. in the manner teaching and learning is conveyed. Autocratic governmental control in countries such as Germany is still maintained with the German government appointing professors, and the state setting exams in Medicine, Pharmacy, Law and Education. Autonomy in the management of HEIs is significantly encouraged in most countries with "agentification" as the mode via which Governments measure accountability of these institutions.

6.2.2 Research question number 2

Are the current criteria utilised in internal QA processes at South African HEIs relevant and appropriate?

Since the advent of democracy in 1994 in South Africa, the concepts of "transformation, reconstruction, equity, equality, development, efficiency" and "global competitiveness" have been inculcated into the vision of South African HEI's. Needless to say, the notion of global competitiveness and such recognisably commercial connotations as "profitability, productivity"[1] and "cost-effectiveness" have not been reflected as criteria in the evaluation of South African HEI's. Thus, the major challenge facing South African policymakers is to balance the competing and sometimes irreconcilable demands of equity on the one hand, and efficiency on the other hand. The rationale for adopting this analytical approach is to show that while at a discursive or rhetorical level the discourses of reconstruction and social justice have achieved a semblance of coherence, at a practical level these discourses have failed to take into account the practical challenges of transforming a higher education system of a developing country with a history of gross material disparities. Accordingly, one of the assumptions informing this analysis is that quality assurance initiatives should take cognisance of the historical realities of this country, while equally responding to global pressures and trends.

A second and related assumption is that in a country with a history of racial segregation and the concomitant uneven distribution of resources and opportunities, quality assurance policies and

mechanisms should develop and evolve from academic development policies and interventions. Thus, instead of treating quality assurance and quality promotion initiatives as separate management activities, they should be seen as forming part of the broad activities falling under the idea of academic development.

Since the criteria were underwritten in 1994, they have become outdated as they do not address, apart from the myriad of new developments facing South African HEI's, the challenges of diversity, inferior secondary educational schools, introduction of electronic learning technologies and internationalisation.

6.2.3 Research question number 3

Which quality improvement measures have been recommended and implemented after the internal quality audits of selected academic programmes at the University of KwaZulu-Natal?

6.2.3.1 Accounting programme

An examination of the recommendations from the review reveals that this programme was requested to improve management and staff communication, pass rates, the provision of guidance and monitoring of new staff, and liaison with support module providers. A review of the implementation of these recommendations by the Head of Department one year after the review indicated that "..most of the recommendations have been implemented", except the appointment of experienced staff and the provision of flat lecturing venues to tutorial groups on the Westville campus. In effect 75% of the recommendations have been fulfilled with the desired outcome of "improving pass rates" being met. This has to be viewed in the context of enrolment numbers increasing by a third over the ten year period. The criteria evaluated in 2012 and which have subsequently been implemented, had a positive effect on the academic indicator of student pass rates (refer to section 5.5.1). The programme thus reflects as "work in progress" the addressing of the staff profile, attracting more academic trainees and finding flat

tutorial venues for tutorial groups on the Westville campus. This indicates the programme working on making staff appointments relevant to addressing the institution's mission and vision (listed as criterion 1), based on transforming the institution to be responsive to the regional, national and international context. It furthermore has a bearing on criterion 9 - the provision of suitability qualified and experienced academic and support staff. Criterion 4, which deals with the provision of adequate academic support services, is also being attended to.

6.2.3.2 Management Studies Unit

From the 14 recommendations, the first focused on Criterion 1 (Mission and vision) and the second on the sixth recommendation of Criterion 2 (Structure in planning for effective quality management). Criterion 4 (Infrastructural space) and continuation of the Management Studies unit were addressed in recommendations seven to nine, as well as recommendation 14. The tenth recommendation alluded to Criterion 7 (Programme management system). Criterion 14 (Recognition of Prior Learning) was utilised to review the selection of students for the B.Com 4 Programme. The review of the curriculum was suggested in line with Criterion 8 (Design of new programmes).

The implementation of these 14 recommendations emanating from five criteria triangulates with the improvement in graduation rates for the years 2012 and 2013 which were statistically evaluated. This indicates a positive correlation between "criteria evaluated" and "impact on graduation rates" as one of the academic indicators pointing to institutional success. Most of the recommendations have been implemented (88%), except for the appointment of a Head of Unit and the selection of adequate numbers of students in the extended programmes according to DHET Policy. Staffing and enrolment issues are thus regarded as work in progress.

6.2.3.3 School of Mathematics

From the 12 recommendations, numbers 1 to 4 focused on Criteria 7 (Management systems). Recommendations 5 to 7 centred on Criterion 3 (Quality Assurance of teaching). The eighth recommendation touched on Criterion 10 (Effective systems in teaching and learning) as well as Criterion 12 (Moderator's report mechanism). Recommendations 9 and 12 invoked Criterion 9 (Staffing). The tenth recommendation interrogated Criterion 8 (Design of new programmes). The 11th recommendation focussed on Criterion 4 (Infrastructure). After investigation, it transpired that nine of the 12 recommendations have been implemented (75%). Criterion 3 (adopting best teaching practices) have not been implemented and likewise recommendation 8 (developing standardised teaching material). And finally, staffing and infrastructural needs still had to be resolved.

6.2.3.4 School of Pharmacy

The reasons for increased and consistent pass rates in the Pharmacy programme can be attributed to several factors. One of them could be the appropriate implementation of all the recommendations suggested by the review panel. Importantly, the School of Pharmacy reported that a new curriculum and a new management structure have been introduced while all academic posts have been filled.

Middle management practices on curriculum integration have been proven to be effective by evidence-based research (Adamson and Brown,2012: 353). The new management structure in the School of Pharmacy also succeeded by placing research at the centre of activity, as is evident by the 100% success rate in the Pharmacy Research module (Table 5.12). Research by Carr (2011: 364) reveals the significance of addressing areas of weaknesses in the curriculum and the need to change courses. In their study, pass rates on the Registered Nurses Programme improved dramatically after changes in the curriculum were affected. A new management structure is of importance in creating the key to great leadership (Wyche, 2008:11). This preparation is a basic and vital attribute to corporate success and organisational leadership. According to the feedback, the new management structure was able to fill all the academic

posts within the School of Pharmacy. In view of the findings of research studies (as cited above) on the efficacy of new curriculum design and the impact of new management structures on effective leadership, these significant implementations by the School of Pharmacy have undoubtedly contributed to the improvement in the key academic indicators.

6.2.4 Research question number 4

Are there improvements in the outcomes of selected academic programmes in terms of the prescribed criteria, as set out in the institutional QA Policy of University of KwaZulu-Natal after the internal quality review?

6.2.4.1 Accounting Programme

From an initial high mean pass rate of 77% in 2004 in the main six core subjects of the undergraduate Accounting Programme, it dropped to a mean of 61% in 2012. After the review of June 2012 the mean throughput rate escalated to 67% in 2013 - an increase of 6% compared to the previous year. As evident from Fig. 5.1, reviewing of throughput patterns over the ten year period indicates that there has been a gradual decline in the throughput rates, with a turn-around after 2012. This minimum throughput rate of 61% increased to 67% in 2013, which was also the throughput rate in 2007. Furthermore, of the six key modules managed by this programme, five modules had significant upturns in their throughput rates compared to rates prior to the review. Considering that educative processes are subject to a multitude of influential factors, it is difficult to link this turnaround to the programme review in June 2012.

6.2.4.2 Education Unit of the School of Management Sciences

The graduation rate of the Management Studies Unit increased from 19% in 2009 when the unit was reviewed, to 22% in 2012. Prior to this period the graduation rate began to decline from 24% in 2008. The recovery from 2009 onwards was not instantaneous as the graduation rates

continued to decline in 2010 to 15%, and then recovered to 17% in 2011. The review process seems to have arrested the decline in the graduation rate a year later and this increase in graduation rate has been maintained for two successive years. Short-term successes like these are cautioned by Grissmer, Ober and Beekman (2014:1) who focussed in their research study on short term achievement failing to produce long term gains. Their research also indicated that minority students in American colleges are more likely to have significant gains with demographic control, which augurs well for South African colleges practising demographic control in the enrolment phase.

In analysing the graduation numbers of individual programmes, it is significant that the number of Bachelor Commerce graduates has doubled from a total of 303 in 2000 to 643 in 2012. Likewise, the number of Bachelor Business Administration graduates has tripled from a total of 18 in 2000 to 58 in 2012. Similarly, the number of Bachelor Commerce Honours graduates has quadrupled from 48 graduates in 2000 to 185 in 2012. Another postgraduate programme, the Masters in Commerce (dissertation) has steadily improved its graduation rate from 1 student graduate in 2000 to 15 graduates in 2012. Equally, the PhD cohort has increased from 1 graduate in 2001 to 4 in 2012, while the Doctorate in Commerce has tripled its graduate output from 1 in 2000 to 3 in2012.

All the other under- and post-graduation programmes were very consistent and stabilised in their graduation output over this 13-year period, as is evident in the graphs depicted in Figures 5.4-5.8.

6.2.4.3 School of Mathematics

Over a 10 year period from 2004 to 2013, the average pass rate of the School of Mathematics has increased from 63% in 2004, then peaked at 76% in 2008, and declined gradually to 69% in 2013. The school was reviewed in 2008. One of the academic indicators of success in this study is pass rates, and against the context of the 21 key modules, seven modules had increased their

pass rates from 2008 to 2013 whilst 14 modules showed decreased pass rates from 2008 to 2013. Also comparing pass rates over a ten year period, 11 modules showed increased pass rates from 2004 to 2013, while 10 modules showed decreased pass rates. This overall decline was found to be statistically significant at the 95% and 99% confidence levels (Table 5.11).

6.2.4.4 School of Pharmacy and Pharmacology

The School of Pharmacy has shown an average pass rate of 95% from 2004, with a decline to 93% in 2007 and a gradual increase to 99% in 2013, with these fluctuations being statistically significant as reported in Table 5.13. In 2009, when the school was reviewed, the pass rate was 96% and this has significantly increased to the 99% confidence levels in 2013. Modular pass rates (Fig. 5.10) have also remained remarkably consistent within this range and have shown no significant decline over this ten year period.

6.2.5 Research question number 5

Did the internal QA reviews have a positive effect on other academic infrastructure, e.g. staffing, curriculum development, and enrolment numbers at selected academic programmes at the University of KwaZulu-Natal?

6.2.5.1 Accounting Programme

In concluding on the efficacy of the quality assurance review system as having an impact on the outcomes of the Accounting Programme, the qualitative data indicate that one of the aims of the quality assurance system in improving the throughput rates has been successfully achieved. Two other criteria, staffing and infrastructure, are regarded as work in progress. Indications are thus that all the criteria analysed were appropriate and the most desired outcome of improving throughput rates has been achieved.

6.2.5.2 Education unit of the School of Management Studies

The Education Unit in the School of Management Sciences is overall responsible for the design of curricula and it moreover provides academic and administrative support to Management Programme students. As they were supportive of the recommendations provided by the review panel in 2009, it has resulted in effective management of the Management academic programmes at undergraduate and postgraduate levels.

Recommendations on staffing – to appoint a Unit Head, to make permanent appointments in the current council approved posts and to re-distribute posts - were all accomplished by 2011. Curriculum development of some modules were re-conceptualised in 2012. Enrolment numbers were targeted to increase in the Extended Bachelor of Commerce programme which started with an intake of 393 students in Accounting 103 in 2009 (Table 5.4) and expanded to 815 Accounting 103 students in 2013 (Table 5.5).

6.2.5.3 School of Mathematical Sciences

When looking at the larger modules, the enrolment doubled for the Applied Mathematics 1A Module, Advanced Calculus and Linear Algebra Module, and Mathematics 3 Module. Enrolment tripled in the Algebra and Numeracy Module and quadrupled in the Advanced Calculus Module. Of these five modules, four showed a significant decline in pass rates. Consequently the teaching and learning methodology needs to be modified or refined in larger classes. Bloom and Unterman (2014:290) report that small schools of choice with less than 100 students per grade, performed 11% better than students in bigger classes during the first year. This report also indicates that 8% of the students in small schools were less likely to fail more than one core subject. These analyses indicate the detrimental effect of larger intakes as the Applied Mathematics A, Advanced Calculus and Linear Algebra, Mathematics 3, Algebra and Numeracy, and Advanced Calculus had 853, 213, 402, 117 and 141 students enrolled respectively in 2013.

6.2.5.4 School of Pharmacy and Pharmacology

The Pharmacy enrolments have increased from an average of 60 (Table 14 – 2004) to 90 (Table 17- 2013) which presents an increase of 33%.

6.2.6 Research question number 6 and hypotheses

Are there statistically significant differences in the student output (pass rates and/or throughput rates) of the following academic programmes at the University of KwaZulu-Natal before and after an internal review process?

6.2.6.1 The Accounting Programme in the School of Accounting, Economics and Finance

From a statistical perspective, the study failed to reject the null hypothesis and the research hypothesis could not be supported. This means that the study could not prove that any differences in pass rates before and after the review could necessarily be ascribed to interventions as proposed by the review panel after the review.

6.2.6.2 The Education Unit of the School of Management Sciences

From the statistical analysis it is evident that the null hypothesis as stated in 5.4.2 can be rejected. The research hypothesis (5.3.2) for the School of Management Sciences was supported by the data. It can thus be affirmed that there was statistically a significant difference between the graduation rates before and after the 2009 review of the Management programme.

6.2.6.3 The School of Mathematical Sciences

From the values and a significance level of 72-76% in 2009 it is clear that the study failed to reject the null hypothesis as stated in 5.4.3. It was therefore found that there were no statistically significant differences between the pass rates in Mathematical Sciences before and after the 2008 review.

6.2.6.4 The School of Pharmacy and Pharmacology

Statistical analysis of the data for the School of Pharmacy revealed that the research hypothesis was supported by the data and the null hypothesis, as stated in 5.4.4, was rejected. It can therefore be affirmed that there was a statistically significant difference between the pass rates before and after the 2009 review of the School of Pharmacy and Pharmacology.

Although the null hypotheses could not be rejected for all the programmes, by way of summary the following was established:

- The Accounting pass rate increased from 62% (2012) to 67% after the review (2012 to 2013).
- The Management Studies graduation rate increased from 19% (2009) to 22% in 2012.
- The results in the School of Mathematics declined from 76% (2008) to 69%.
- The School of Pharmacy pass rate increased from 96% (2009) to 99% in 2013.

6.3 QUALITATIVE FINDINGS ON THE REVIEW PROCESS

6.3 1 Accounting Programme

The Head of the Accounting Programme also found the review process to be “good” and had no expectation of the areas of improvement that was expected before the review. Suggestions on

improving the review process were made, e.g. to extend the period to edit the review report. This suggests that facilitative time frames be allocated to the various stages in drafting a review report. The discerning aspect of this Accounting review process only one year after the review process, is that it does not indicate whether the gains after this review process will/can be maintained. Short-term success fails to produce long term results (Gissmer, Ober & Beekham, 2014:1). A further longitudinal study based on longer time frames after a review would be able to indicate whether the recommendations made will stand the rigors of time. Also, monitoring of the implementation of the recommendations will ensure the application of the recommendations as reflected in the review report. An analysis of modular management and performance also needs to be reflectively strategised to determine the causative factors in a module that is performing negatively, as opposed to the positively performing modules. This indicates that constant reflection by the Accounting Management team is required to ensure that all facets of the Accounting programme are abiding by the provisions of the recommendations conveyed by the Accounting Review Panel.

6.3.2 Education Unit of the School of Management Studies

The Management Studies Unit rated the Review process between “very good” and “good”. The Headship of this Unit was envisaged as an area of improvement expected prior to the review. This expectation was supported by the Review Panel. On suggestions to improve the review process, the Management Studies Unit postulated that the turnaround time for various stages of the review process needed to be quicker. This differed from the Accounting programme which suggested that the editing of the review report needed more time. Obviously, different time allocations were made available to the stakeholders as the review processes between these programmes were managed by different personnel. Another suggestion to enhance the review process was to make the interviewing of all the stakeholders all inclusive so that the process cannot be criticised. The upward graduation rates of its core programmes in the Bachelor of Commerce (fig. 5.6), the Bachelor of Business Administration (fig. 5.4) and the Bachelor of Commerce Honours (fig. 5.7) have proven to be consistent, while the graduation

rates in the smaller undergraduate and post graduate programmes were stabilised without any decline in graduation rates.

6.3.3 School of Mathematical Sciences

The declining pass rates in Mathematics in Secondary schools also indicate a lack of preparedness of matriculants that are entering Higher Education institutions (CHE, 2013:58). UKZN has introduced support systems in the form of extra tutoring and extended learning programmes to matriculants who enter with mediocre Mathematics results. These support systems obviously need to be refined to be effective. On researching educationally disadvantaged students in South Africa, Alexander, Badenhorst and Gibbs (2005:66) commented that the apartheid system of social engineering in South Africa enforced the segregation of racial groups which particularly affected education, resulting in inferior primary and secondary teaching of black learners. Their research study, conducted ten years after the abolishment of apartheid, concluded that "..the consequences are still being felt in tertiary institutions, especially at a time of curriculum transformation" (Alexander, Badenhorst and Gibbs, 2005:70).

In discussing the issue of under-preparedness of students entering universities, the CHE (2013:58) commented that the approach of teaching Mathematics in schools does not sufficiently develop the reasoning, conceptual abilities and theoretical knowledge that is the basis for learning in higher education. This view is confirmed by the 2012 World Economic Forum who ranked South Africa last among the 62 countries surveyed in terms of the quality of Mathematics and Science education (WEF 2012:330), and second last in the 2013 ranking (WEF 2103:325). In researching support systems in community colleges, Henry (2011) reported that participation in comprehensive support and access intervention programmes for the low income and working poor is associated with a significant positive effect on community college pass rates from semester on semester. Furthermore, over the period of the study lasting three years, the participants in this supported programme maintained a higher cumulative grade

point average, and they attempted and earned more college credits compared to students in programmes that were not actively supported with intervention strategies.

Of note is that the review process occurred early in 2008 with pass rates peaking over a ten year period in 2008. A gradual decline in pass rates during the post review indicates the lack of sustainability of the events that contributed to the excellent pass rates in 2008, and also a deficiency in the implementation of key recommendations on teaching and learning practices, infrastructure and staffing beyond 2008. There was a significant difference in the perceptions of the Head of the Mathematics School compared to the other Heads of units/ programmes or schools on the quality of the review process. The Head of the Mathematics School rated the review process between "good" and "satisfactory" – the weakest rating amongst the four unit/ programme or schools reviewed.

6.3.4 School of Pharmacy and Pharmacology

The School of Pharmacy rated the review process as "very good". On comparison with other schools' performance after their reviews, the School of Pharmacy has shown the best pass rate after the review.

6.4 MODEL FOR ENHANCED QUALITY REVIEWS OF PROGRAMMES

Based on the preceding review of the responses on the review process from the Heads of academic departments and the Head of the support unit, an innovative review process has been formulated to streamline the review procedure. A graphical presentation of the enhanced review process is reflected in figure 10, followed by a more detailed narrative.

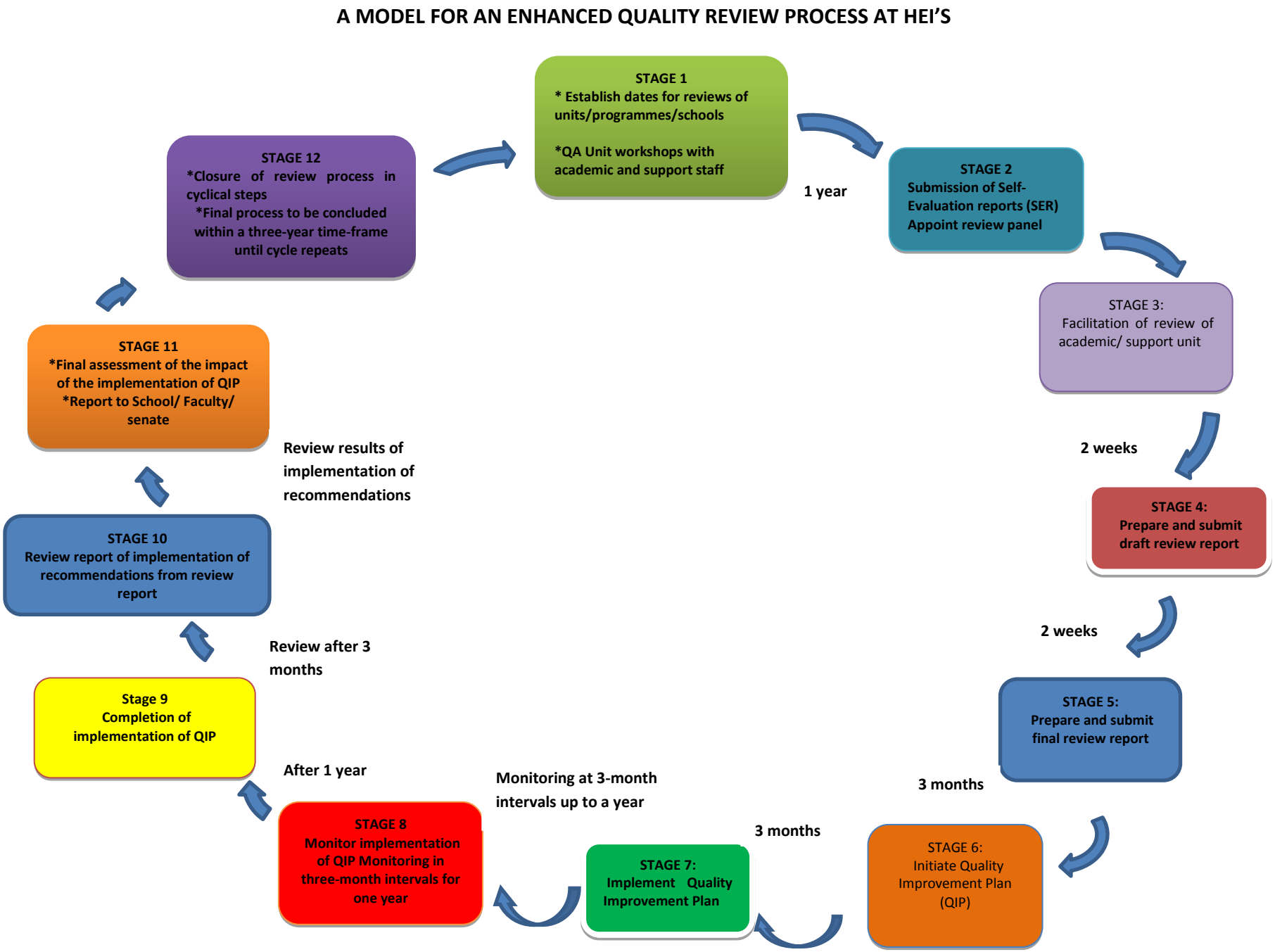

Fig. 6.1. Proposed Quality Review Process

6.4.1 Establishment of a date for review of academic/ support units

The University currently operates on a principle of reviewing an academic programme, school or support unit every three to five years (UKZN Policy, 2013). The decision for their programmes/units to be reviewed is made by Heads of Schools at the beginning of the academic year. This tends to create tension amongst academic and support staffs that have to facilitate the production of a Self- Evaluation Review (SER). This review needs to be conducted within a month during the first term of the academic year. A review strategic plan needs to be considered by the senior executives of the institution to reflect a cyclical pattern of review of all academic/support units over a period of five years. The strategic plan needs to be adopted by senior/executive structures, e.g. Senate. In so doing, academic/support units will have been notified far ahead of the scheduled review process and will thus have enough time to create a SER.

6.4.2 Self- Evaluation Report (SER)

The Quality Assurance Unit should conduct a workshop with all academic and support staff of the academic/support unit to be reviewed. During this workshop the nineteen QA criteria, as laid out by the CHE (2004:8-24), can be interrogated. This will enable the units as well as the support staff to prepare a thorough draft SER at least two weeks before the set date of the review. This should allow the Quality Assurance Unit enough time to first review the SER to ensure that it is accurate, of a high standard and comprehensively covering all nineteen criteria. The SER needs to be circulated timeously to the members on the review panel for their perusal.

6.4.3 Review of academic/support unit

The Quality Assurance Unit is responsible for all logistical arrangements during the review process. These include aspects such as telephone/electronic video link connectivity or written submissions from distant/unavailable role players to ensure an inclusive review process, thus eliminating complaints of marginalisation from critics. Timeous notice of the

review date will ensure that all the relevant role players, including past graduates and employers of graduates, are allowed to participate in the review process.

6.4.4 Draft review report

A period of two weeks should be allowed for the report writer or the chair of the review panel to facilitate a draft review report. Minutes of the review process, written submissions from role players and the SER are usually used as founding documents for the draft review report. If the report drafting process is protracted it might stall the review process and be regarded as just another administrative burden. This will defy the purpose of the exercise.

6.4.5 Final review report

As a matter of procedure, the draft review report is circulated first amongst review panel members to ensure their adoption of the review report. It is then circulated amongst the academic and support staff of the programme/unit reviewed for their input and adoption. A period of at least two weeks should be allowed for this stage in the review process to ensure ample opportunity for all participants to convey feedback to the writer or designated person who wrote up the report. Once all the comments have been included in the draft review report, it should then become the final review report. It should subsequently be distributed to the senior executives of the institution and the Head of the programme/unit. The final report will then become the basis for the compilation of a Quality Improvement Plan by academic staff.

6.4.6 Initiation of a Quality Improvement Plan

Currently the institution (QPA Policy, 2013) allows a period of a year for the reviewed department to compile a Quality Improvement Plan (QIP). This is too lengthy and the Quality Assurance unit needs to workshop strategies amongst the personnel of the reviewed programme/ unit and within a term (3 months) to ensure the production of a QIP. This has to be tabled at the relevant school/unit or Faculty Board to facilitate the drafting of a

legitimate working document to contribute to the enhancement of the reviewed department.

6.4.7 Implementation of QIP

Currently institutional procedures do not allow the Quality Assurance unit the authority to implement the recommendations offered by the review panel in their review report. Guidelines have to be drawn up on how the Quality Assurance unit can assist the reviewed programme/ unit to implement the recommendations. Usually infrastructural or staffing issues need to be addressed and strategies of analysing financial budgets and human resource implications need to be improvised.

6.4.8 Monitor implementation of QIP

This is another stage poorly lacking in the quality assurance process which prevents the quality assurance from closing the quality loop adequately. At least once a term a thorough introspection on delivery of the recommendations should be in place. Term reports on the progress on the implementation of the recommendations should be facilitated in the form of school/ faculty reports officially tabled at legitimate forums to ensure appropriate assistance is devolved to the issues requiring attention.

6.4.9 Completion of the implementation of QIP

After a year an analysis should be made to note the progress on the implementation of the recommendations from the review report

6.4.10 Review report of implementation

This is a hardly followed up and leads to a waste of review resources if not managed properly. Thorough research has to be conducted on issues not attended to and also the reasons why certain recommendations have not been activated or regarded as work in

progress. This would highlight shortfalls in middle and executive management in supporting the recommendations from the review report.

6.4.11 Final assessment of the impact of the implementation of QIP Report

During this phase (which has never been accomplished at this institution) a comparison before and after the review of the key academic indicators should be thoroughly analysed. This would provide a holistic picture of the overall impact of the implication of the recommendations from the QIP. It would further provide significant insight on the efficacy of the quality review process. Any shortfalls in the review process can be reflected upon and in future quality assurance planning can thus be circumvented. Consequently closing the quality loop is achievable.

6.4.12 Closure of review process

A period of roughly three years would have elapsed from the inception of the review process of the programme/unit. This extended process requires commitment, continuity and consistency from the Quality Assurance unit to implement. Consequently highly professional and knowledgeable personnel are the required constituents of a Quality Assurance unit. Support from senior management and all role players in the institution is thus essential to the success of the review process.

6.5 LIMITATIONS OF THE STUDY

- The consequences of the review process in this research project were analysed within a very short time frame of less than five years after the review was accomplished. A time line of more than five years has to be considered in order to measure the success or lack of success of the review process of a programme/unit. As improvements from the implemented recommendations take a long time to gain traction in higher educational institutions, the results of the review process would impact on the reviewed programme over longer periods of time.

- The project only investigated the consequences of a review process within one cycle of the review process. Review effects after cycles of at least two reviews should be researched to analyse the outcomes of cyclical reviews. This requires a long term span of least ten years to be researched. This would provide insight into the cyclical design of review programmes.
- The qualitative data were collected by means of a self-response instrument (a questionnaire), and as such this type of instrument has inherent limitations. Participants completing an open-ended questionnaire may answer superficially (as was the case in this study), may forget important issues, or may misinterpret a given question (Babbie, 2010:293). Conducting similar studies by using other data-gathering methods, such as observation and interviews or focus-group discussions, are suggested.

6.6 RECOMMENDATIONS FOR FURTHER RESEARCH

- Comparative studies amongst various higher education institutions researching the effects of the review process need to be facilitated to initiate benchmarking locally, nationally and internationally. Best review practices can be selected from such research endeavours and promulgated into higher educational institutions requiring similar interventions.

- Review processes analysing student support units in assisting poorly performing students need to be thoroughly investigated, as there is an alarming predominance of students that are challenged in higher educational institutions world-wide. This would contribute to developing methodologies that provide adequate support to students that are categorised as “at-risk”.

- The recent advent of electronic teaching technologies to enhance the teaching practice which is popularly recommended in many review processes, can also be researched to verify their pedagogical relevance.

6.7 CONTRIBUTION OF THE RESEARCH

The National Quality Assurance Framework was designed in 1994 and certain criteria may have reached the end of their shelf life. Reviews of academic and support units are also usually viewed by university personnel as a painstaking and laborious process that overwhelms their daily work routines. Being highly autonomous, university academics and support staff view this process as incursive into their highly contested and protected domain. By researching this aspect of higher educational management systems, the present study proposed suggestions which would ultimately make the review process user-friendly and more efficient. With the restriction in financial resources allocated to the functionality of the review system, this research also provided an opportunity for the review process to provide better value for the capital invested in it. With accountability paramount in the management of higher educational institutions, an improved review process could only enhance the image of higher educational institutions in the accountability paradigm.

6.8 SUMMARY AND CONCLUSION

Quality Assurance of the various academic programmes/schools or units has indicated various factors in the higher education process that warrant attention:

- curriculum framework;
- design of its component parts;
- teaching approaches;
- assessment;
- student support;
- infrastructure;
- staffing.

The Accounting Programme, Management Studies Education Unit and the Pharmacy programme have produced positive academic indicators of success in enrolments, graduation and pass rates after the review process. Only the Mathematics programme

produced a negative trend after the review process. According to CHE (2013: 63), this trend of poor performance of Mathematics students amongst South African undergraduates is not encouraging. Of the nineteen criteria reviewed amongst the programmes, criteria 16 and 17 on research were not significantly addressed by the reviewers, as is the case with criterion 18 on community linkage and criterion 19 on benchmarking. Since these criteria were introduced in 2004, they seem to be slightly outdated as new challenges of under-preparedness and larger enrolments of university entrants have become obstacles to attaining success with regard to some of the academic indicators. As a result new criteria, especially focussing on the teaching and learning challenges within the university classroom, should be established. Perspectives from the programme/ unit Heads on assessing the quality of the review process varied from Satisfactory (Mathematics Programme), to Good (Accounting and Management Studies Unit), to Very Good (Pharmacy programme). This indicates that a level of consistency needs to be applied in the manner which review processes are operationalised across various programmes/schools or units within a university. Recommendations on improving the review process included making the review process inclusive of all the role players in the academic programmes, extending the period of writing and editing the review report, and improving the turn-around time of the review process. Consequently acceptable time frames have been included in the review process model included in this research study. Summatively, QA reviews have demonstrated positive effects on the Accounting, Management and Pharmacy programmes at the UKZN.

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ANNEXURE A (1): APPROVAL TO CONDUCT RESEARCH

Approval of Research Programme at the

University of KwaZulu-Natal

UNIVERSITY OF KWAZULU-NATAL

Title of the Programme: PhD Dissertation: The effect of internal quality assurance reviews on departmental/ school academic programmes at UKZN

Name of Applicant: RA Padayachi

This serves to confirm that doctoral candidate Mr RA Padayachi is allowed to conduct relevant research appropriate to the topic: The effect of internal quality assurance reviews on departmental/ school academic programmes.

Permission is thus granted to this candidate to access quality reports and other appropriate data relevant to specific quality audits of departmental/ school programmes.

Research methodologies utilizing research questionnaires and interviews with appropriate personnel are also authorized providing that anonymity of departments/ schools/personnel are observed.

.....

Dr L Lalendle
Director: Quality Promotions and Assurance

.....

Ms K Singh
Senior Human Resources Officer

ANNEXURE A (2): ETHICAL CLEARANCE FOR RESEARCH PROJECT

APPENDIX 2: ETHICAL CLEARANCE AT INSTITUTIONAL LEVEL

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

18 September 2012

Mr RA Padayachi 211151490
QPA Unit
College of Humanities
Howard College Campus

Dear Mr Padayachi

Protocol reference number: HSS/0931/012D
Project title: The effect of internal quality assurance reviews on academic programmes

EXPEDITED APPROVAL

I wish to inform you that your application has been granted Full Approval through an expedited review process.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Professor Steven Collings (Chair)

/pm

cc Supervisor: Dr B Badenhorst (CUT)

ANNEXURE B: SCHOOL OF MATHEMATICAL SCIENCES

School of Mathematical Sciences: module results: 2013

Table B1 : KEY

Abbreviated module	Module name
App Maths 1A	Applied Maths 1A
App Maths 1B	Applied Maths 1B
Maths A	Mathematics A
Maths B	Mathematics B
M & Stats	Mathematics and Statistics
Adv Maths	Advanced Mathematics
Calc & Lin Alg	Calculus and Linear Algebra
Comm M	Commercial Mathematics
Calc & Alg	Calculus and Algebra
Adv Comm M	Advanced Commercial Mathematics
Maths 2A	Mathematics 2A
Maths 2B	Mathematics 2B
Lin Alg	Linear Algebra
Adv C & Lin A	Advanced Calculus and Linear Algebra
M Methods	Mathematical methods
M Model	Mathematical Modelling
Alg & No.	Introduction to Algebra and Number Theory
Adv Calc	Advanced Calculus
Disc Maths	Discrete Mathematics
Maths 3	Mathematics 3
Alg Str	Algebra Structure

Table B2: School of Mathematical Sciences: module results 2004-2006

Module	2004			2005			2006		
	Enr	Wrote	Pass	Enr	Wrote	Pass	Enr	Wrote	Pass
App Maths 1A	425	414	331	853	789	634	554	515	432
App Maths 1B	427	399	309	717	632	431	457	447	353
Maths 1A	464	437	329	900	825	503	638	587	381
Maths 1B	414	411	295	772	686	480	455	433	341
M & Stats	415	389	229	953	872	646	801	740	507
Adv Maths	194	174	112	185	165	128	179	171	138
Calc & Lin Alg	52	51	26	47	47	36	51	48	34
Comm M	884	847	465	241	226	204	245	195	135
Calc & Alg	308	265	115	418	330	239	272	219	153
Adv Comm M	336	277	184	264	207	160	130	109	88
Maths 2A	365	364	264	756	681	409	649	600	386
Maths 2B	359	349	264	546	484	372	448	488	382
Lin Alg	154	145	44	147	126	83	190	178	150
Adv C & Lin A	106	69	46	84	80	65	151	126	94
M Mthds	116	111	64	89	87	84	49	40	24
M Model	47	41	28	45	37	36	9	9	7
Alg & No.	38	31	28	60	44	36	26	19	14
Adv Calc	26	21	21	175	140	112	84	80	71
Disc Maths	6	6	6	49	35	30	188	147	95
Maths 3	264	260	223	388	380	329	333	326	294
Alg Str	4	4	3	22	22	19	17	14	11

Table B3: School of Mathematical Sciences: module results 2007-2009

Module	2007			2008			2009		
	Enroll	Wrote	Pass	Enroll	Wrote	Passed	Enroll	Wrote	Pass
App Maths 1A	508	488	418	573	560	391	619	575	420
App Maths 1B	468	447	319	501	462	308	491	481	390
Maths 1A	588	571	427	629	606	501	561	516	389
Maths 1B	510	467	289	643	619	506	435	421	271
M & Stats	839	795	639	848	819	714	1171	1124	859
Adv Maths	143	135	117	125	117	112	207	196	177
Calc & Lin Alg	80	80	60	67	64	47	40	36	31
Comm M	253	200	124	215	190	158	285	195	154
Calc & Alg	257	223	177	266	244	169	349	311	265
Adv Comm M	206	180	103	136	115	84	207	196	154
Maths 2A	483	473	383	409	401	333	482	472	410
Maths 2B	416	396	318	335	327	277	420	417	373
Lin Alg	257	223	177	27	25	19	30	26	19
Adv C & Lin A	135	122	89	157	150	112	161	145	100
M Mthds	50	43	33	144	140	121	35	33	30
M Model	26	25	24	32	32	32	49	48	45
Alg & No.	19	18	13	27	25	19	30	26	26
Adv Calc	109	96	63	112	106	90	107	101	92
Disc Maths	139	122	89	26	25	25	20	20	20
Maths 3	330	307	239	342	323	225	295	275	200
Alg Str	6	6	4	7	7	6	5	5	5

Table B4: School of Mathematical Sciences: module results: 2010-2012

Module	2010			2011			2012		
	Enroll	Wrote	Pass	Enroll	Wrote	Pass	Enroll	Wrote	Pass
App Maths 1A	669	657	479	793	755	548	682	639	453
App Maths 1B	516	504	398	637	620	416	612	588	490
Maths 1A	663	648	392	882	845	589	738	703	525
Maths 1B	576	558	385	712	686	520	603	575	329
M & Stats	1231	1113	860	1359	1281	1078	1166	1076	899
Adv Maths	223	203	163	252	237	173	163	143	108
Calc & Lin Alg	48	46	24	66	60	34	16	15	14
Comm M	281	268	189	263	253	201	328	299	210
Calc & Alg	366	337	188	408	374	299	364	321	188
Adv Comm M	177	162	136	159	151	122	199	174	106
Maths 2A	472	410	261	422	412	311	585	579	524
Maths 2B	299	294	268	372	368	243	561	543	385
Lin Alg	31	28	23	16	12	10	7	4	4
Adv C & Lin A	236	203	121	217	207	121	232	212	116
M Mthds	50	49	44	56	56	45	75	74	59
M Module	112	106	78	123	116	89	96	90	76
Alg & No.	29	28	23	74	63	44	85	78	73
Adv Calc	139	132	104	149	144	129	120	113	98
Disc Maths	12	12	10	19	19	18	27	26	25
Maths 3	337	333	293	244	241	201	242	240	167
Alg Str	8	8	8	10	9	7	8	7	7

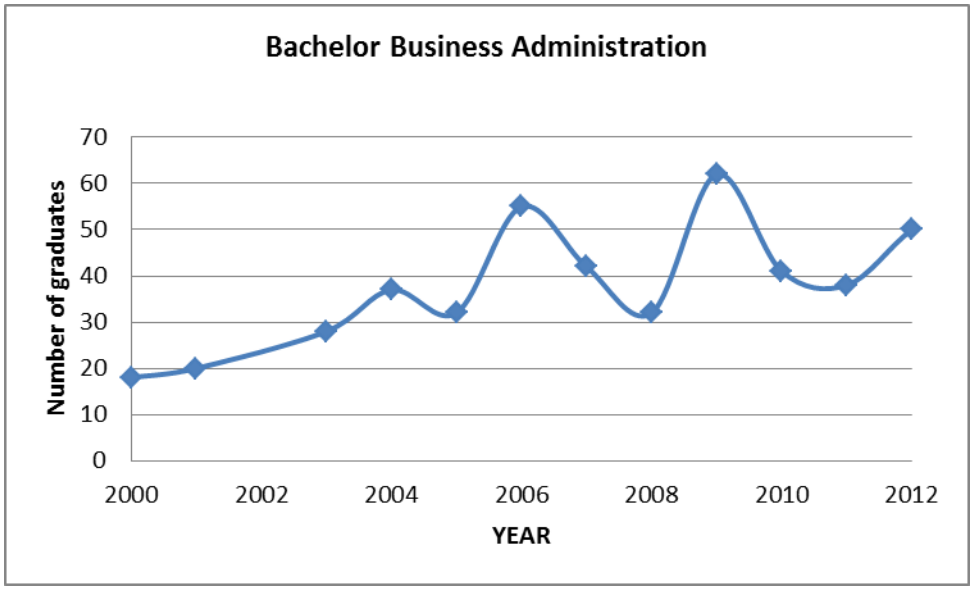

Figure B1: Pass rates for the Bachelor Business Administration programme

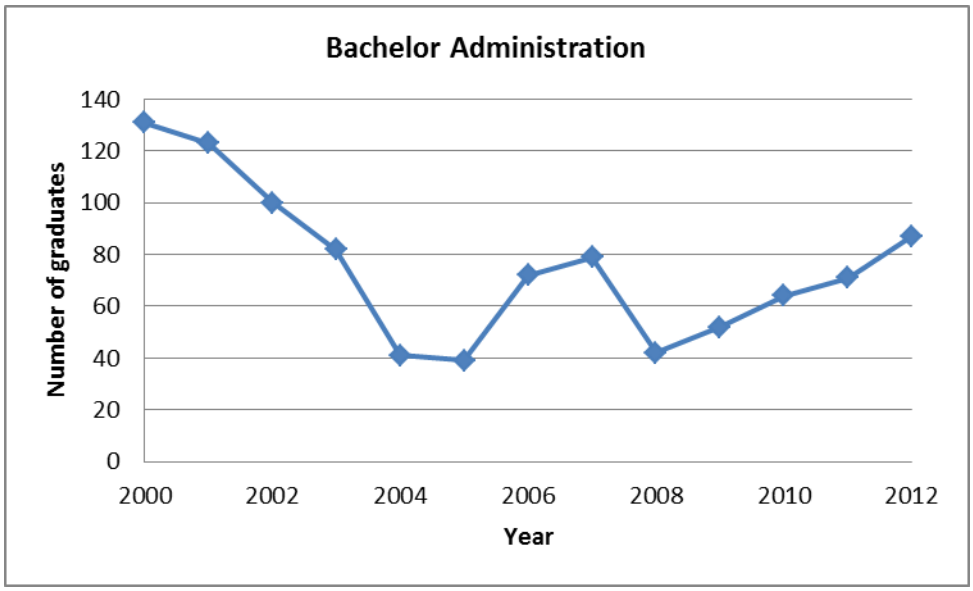

Figure B2: Pass rates for the Bachelor Administration programme

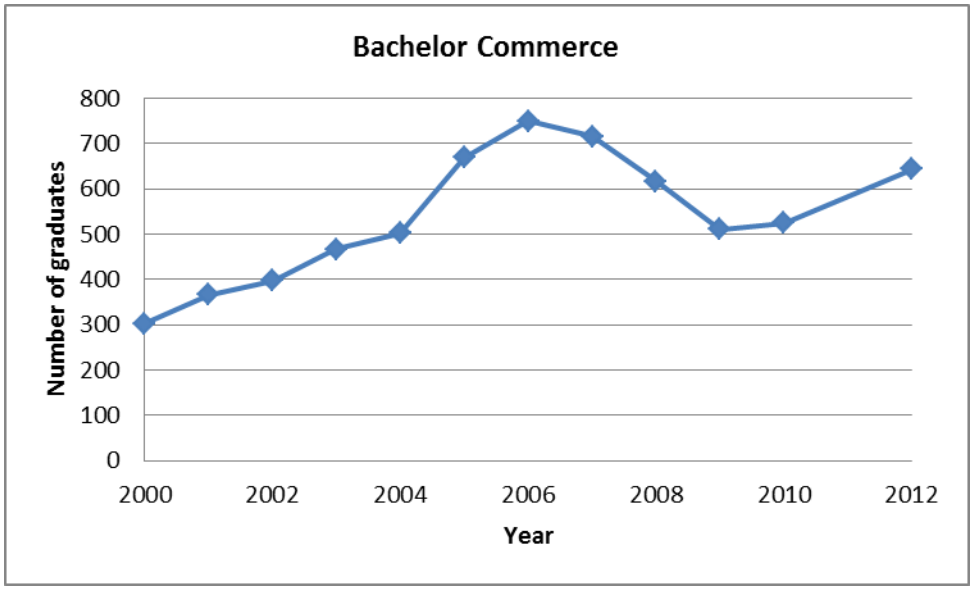

Figure B3: Pass rates for the Bachelor Commerce programme

Figure B4: Pass rates for the Bachelor Commerce Honours programme

Figure B5: Pass rates for the Masters in Commerce (Thesis) programme

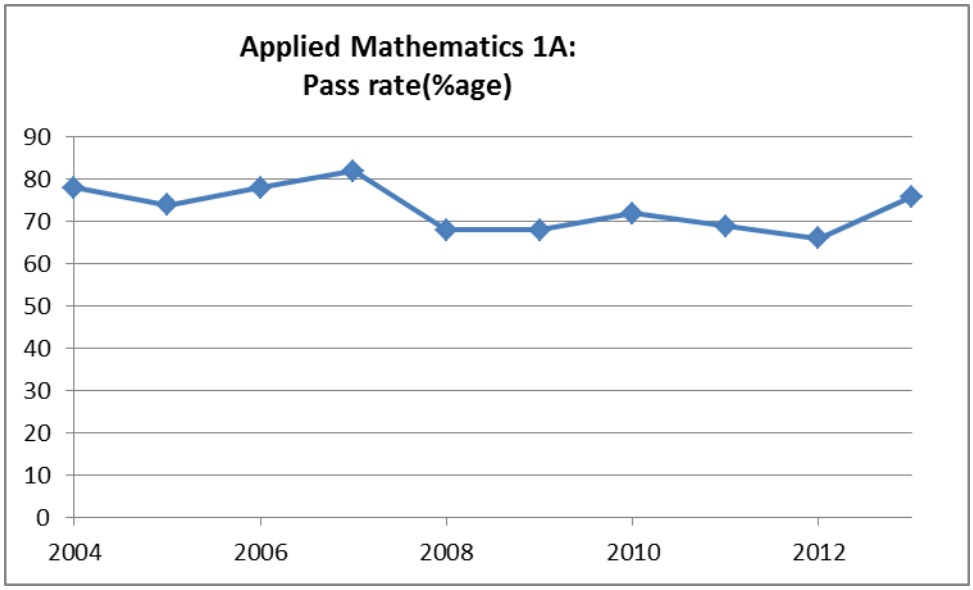

Figure B6: Pass rates for the Applied Mathematics 1A module

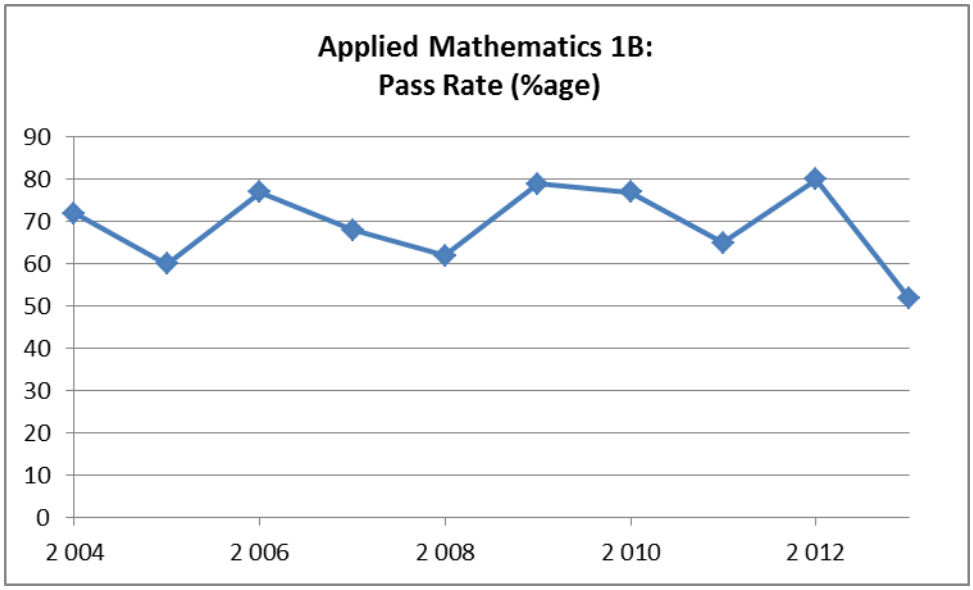

Figure B7: Pass rates for the Applied Mathematics 1B module

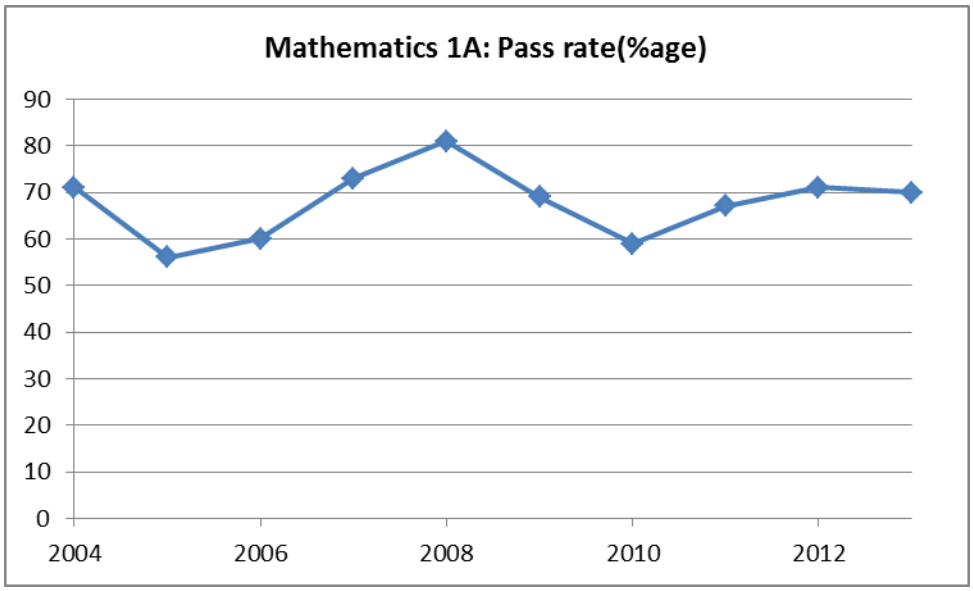

Figure B8: Pass rates for the Mathematics 1A module

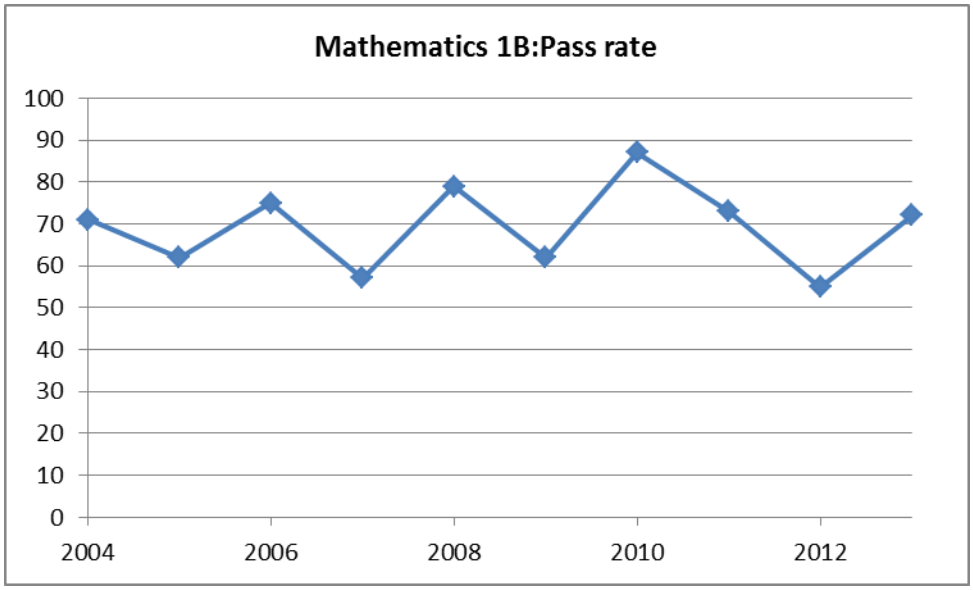

Figure B9: Pass rates for the Mathematics 1B module

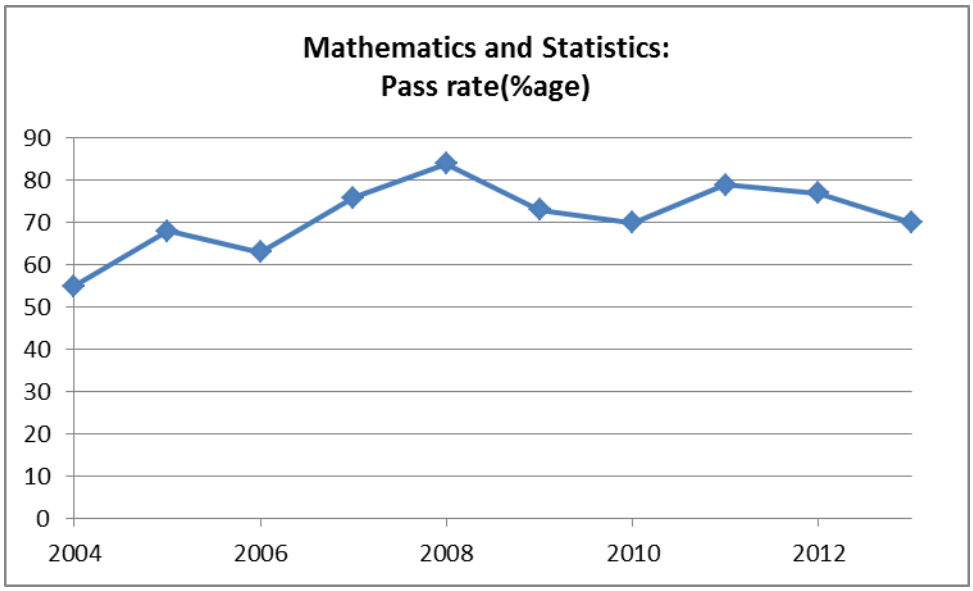

Figure B10: Pass rates for the Mathematics and Statistics module

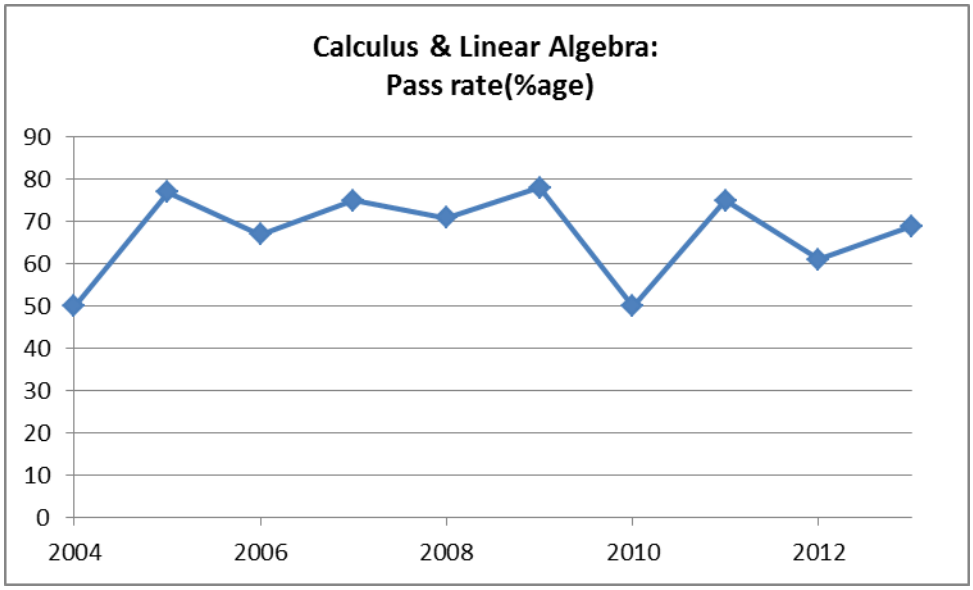

Figure B11: Pass rates for the Calculus & Linear Algebra module

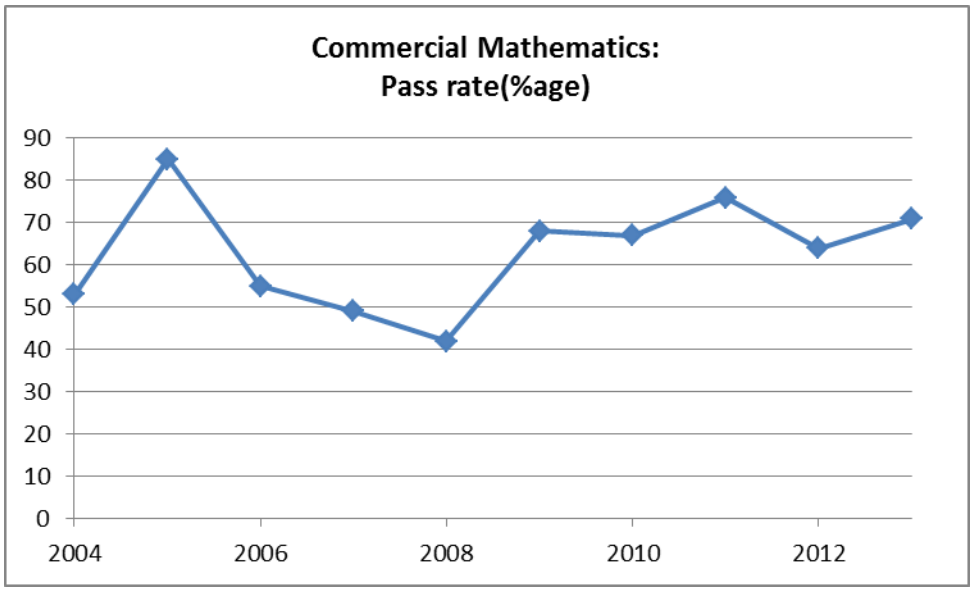

Figure B12: Pass rates for the Commercial Mathematics module

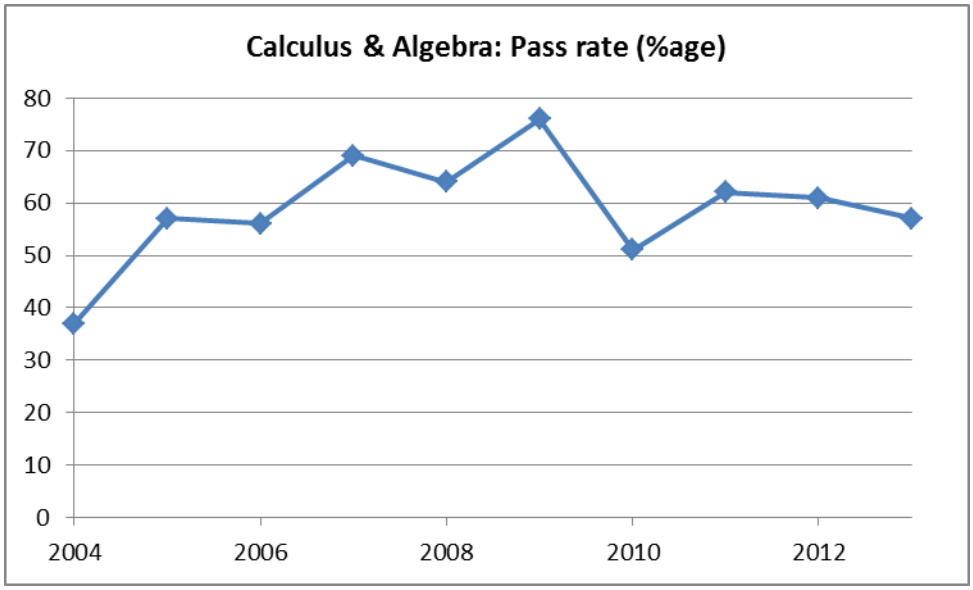

Figure B13: Pass rates for the Calculus & Algebra module

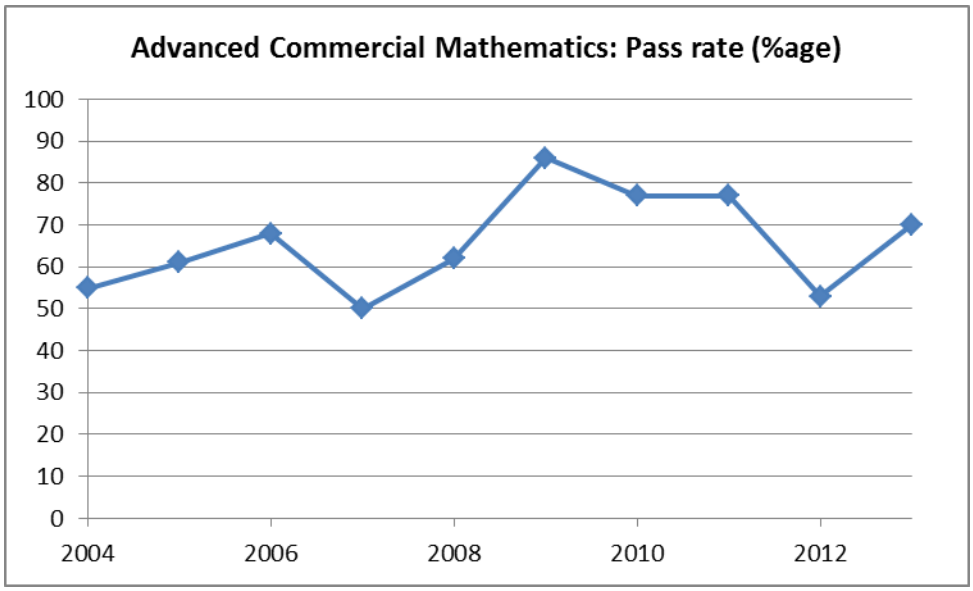

Figure B14: Pass rates for the Advanced Commercial Mathematics module

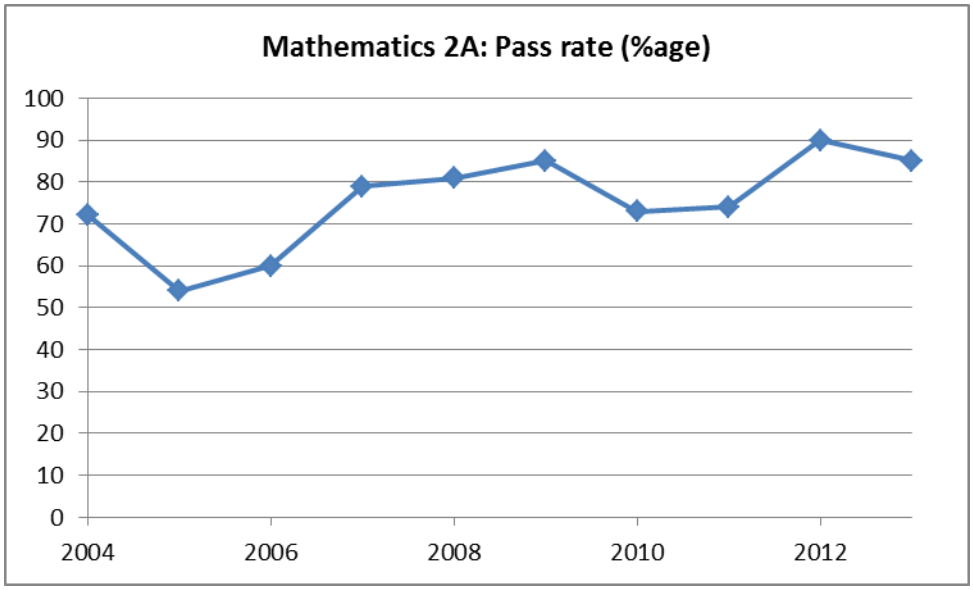

Figure B15: Pass rates for the Mathematics 2A Module

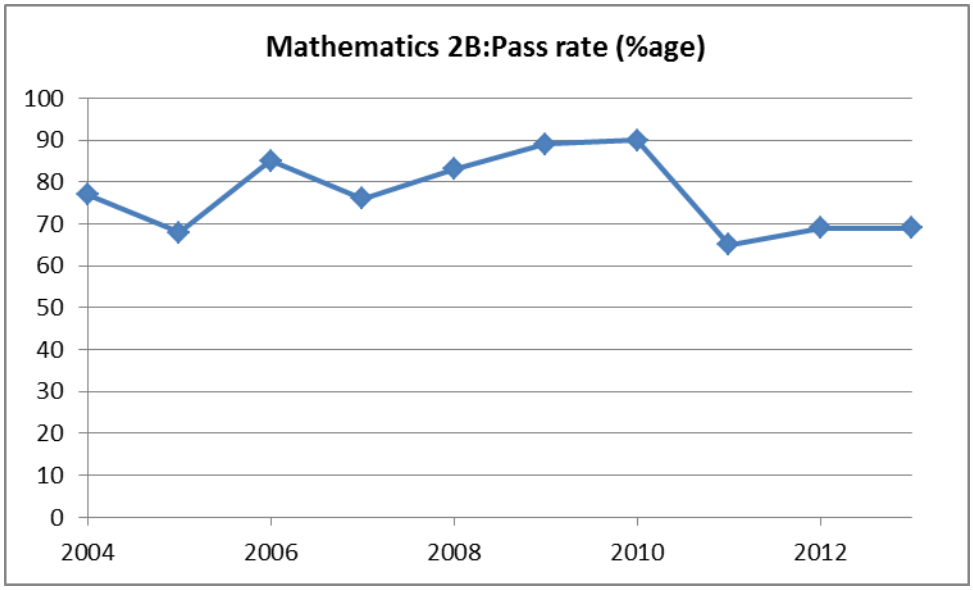

Figure B16: Pass rates for the Mathematics 2B module

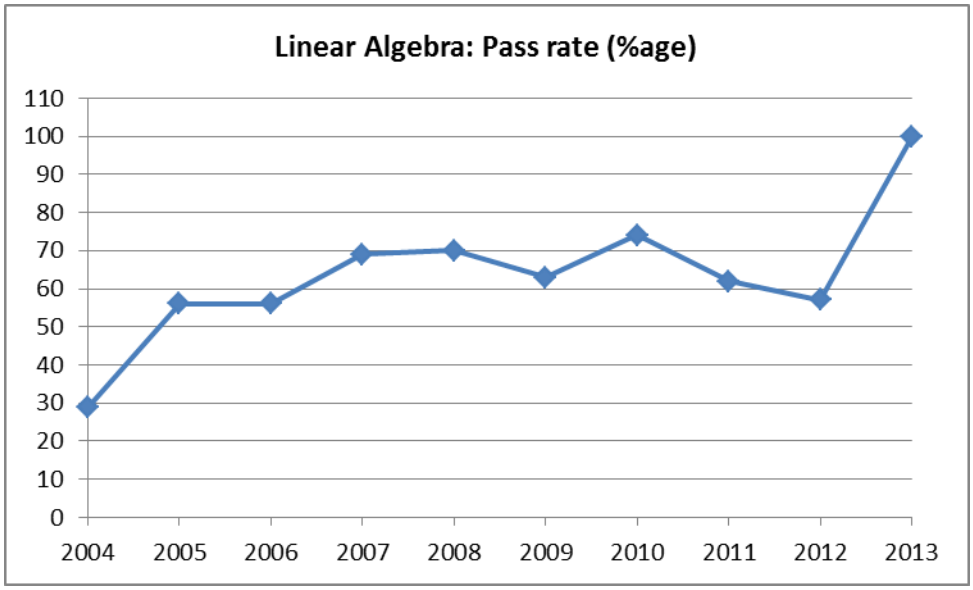

Figure B17: Pass rates for the Linear Algebra module

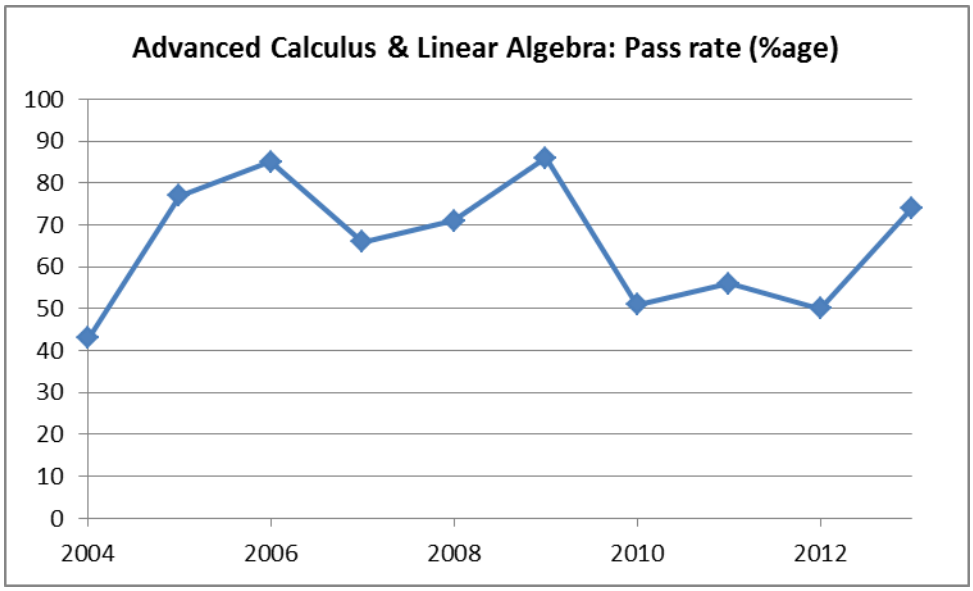

Figure B18: Pass rates for the Advanced Calculus & Linear Algebra module

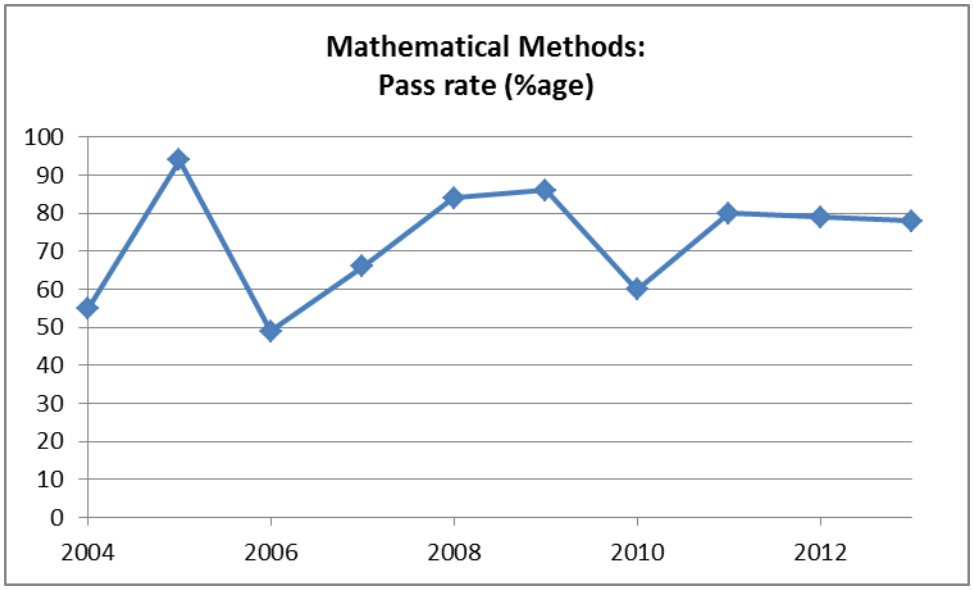

Figure B19: Pass rates for the Mathematical Methods module

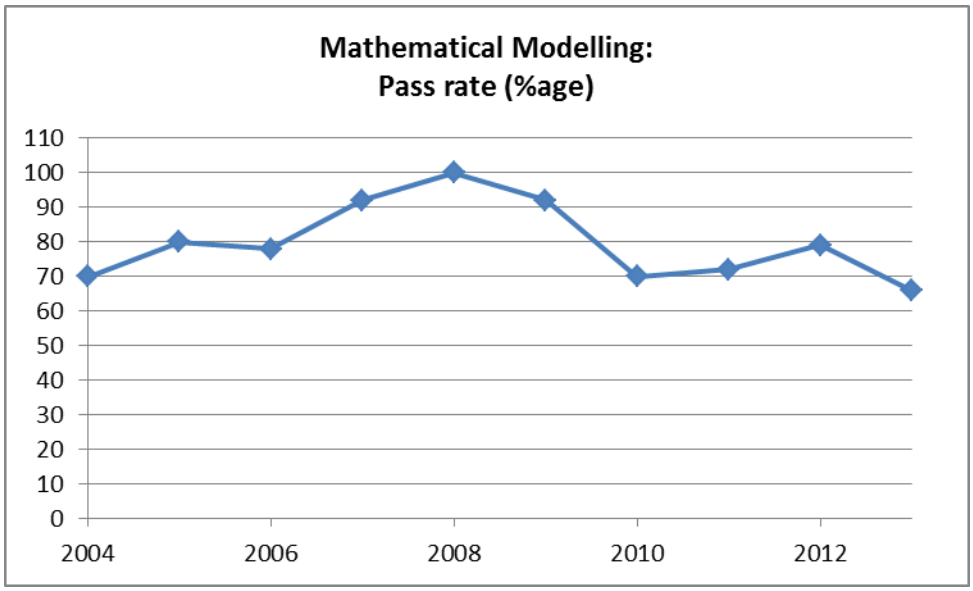

Figure B20: Pass rates for the Mathematics Modelling module

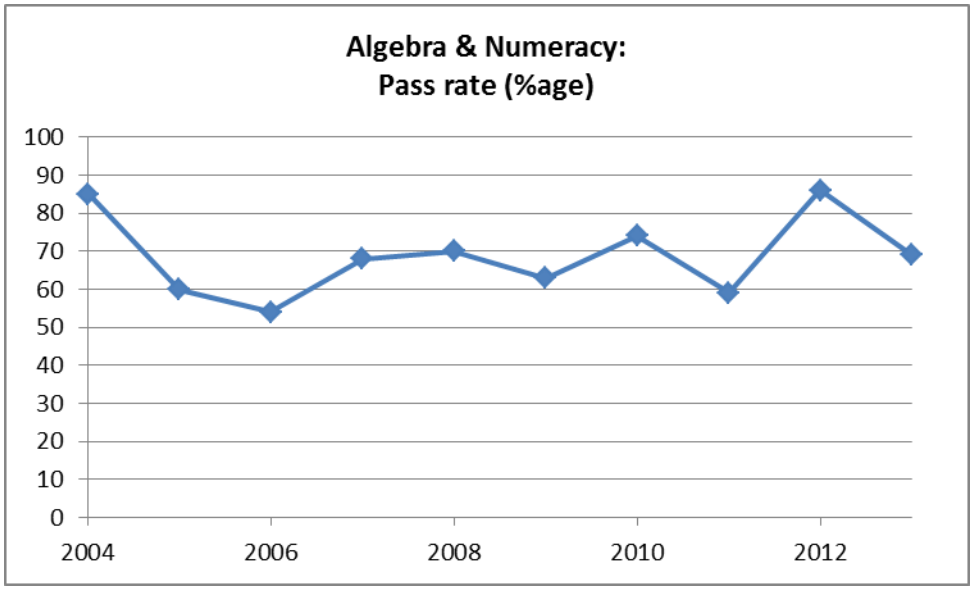

Figure B21: Pass rates for the Algebra & Numeracy module

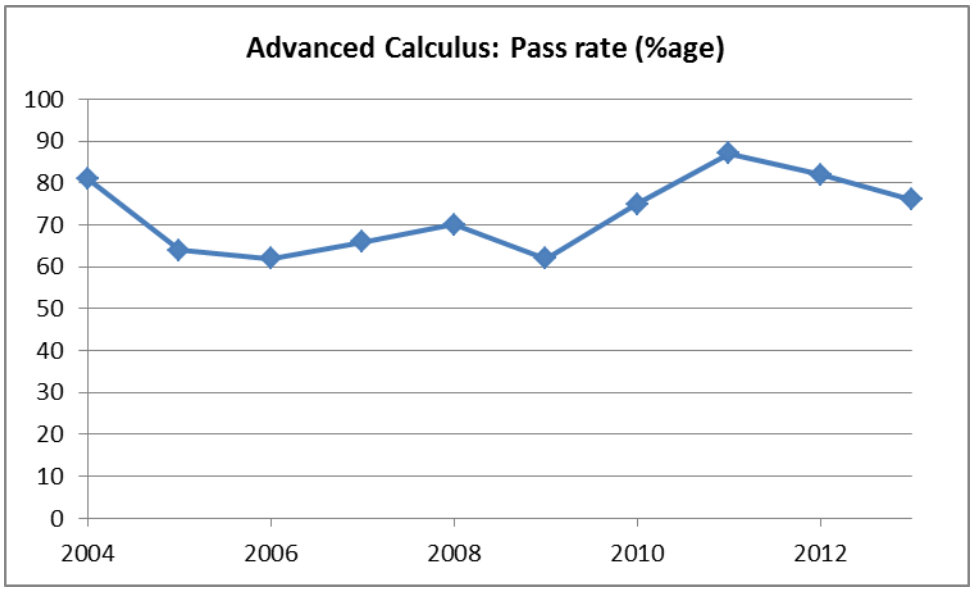

Figure B22: Pass rates for the Advanced Calculus module

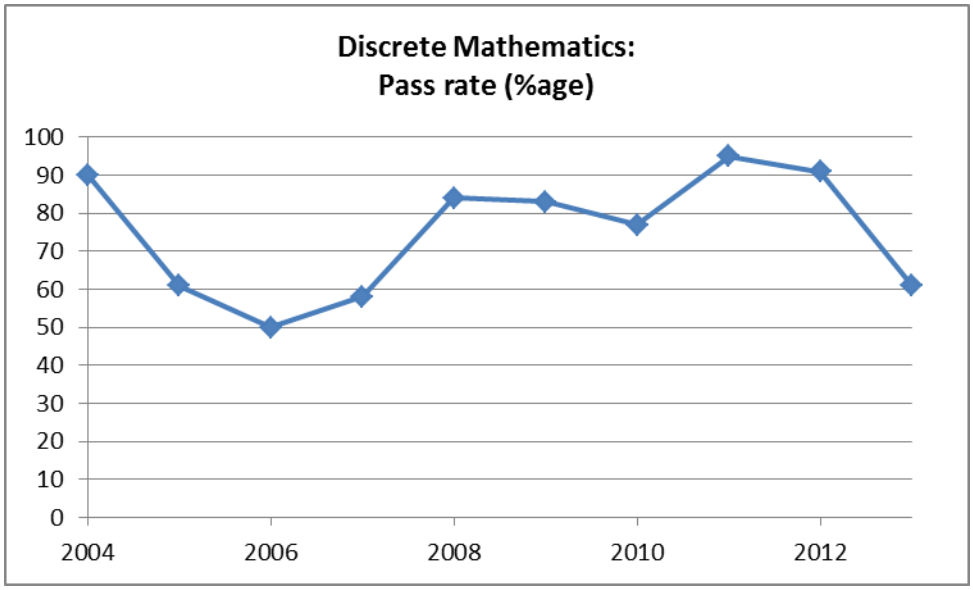

Figure B23: Pass rates for the Discrete Mathematics module

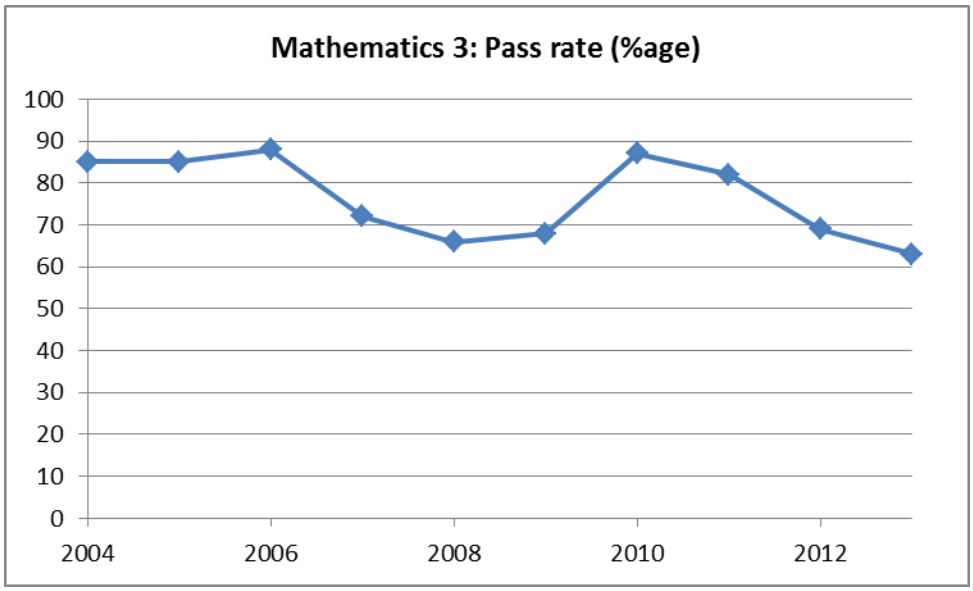

Figure B24: Pass rates for the Mathematics 3 module

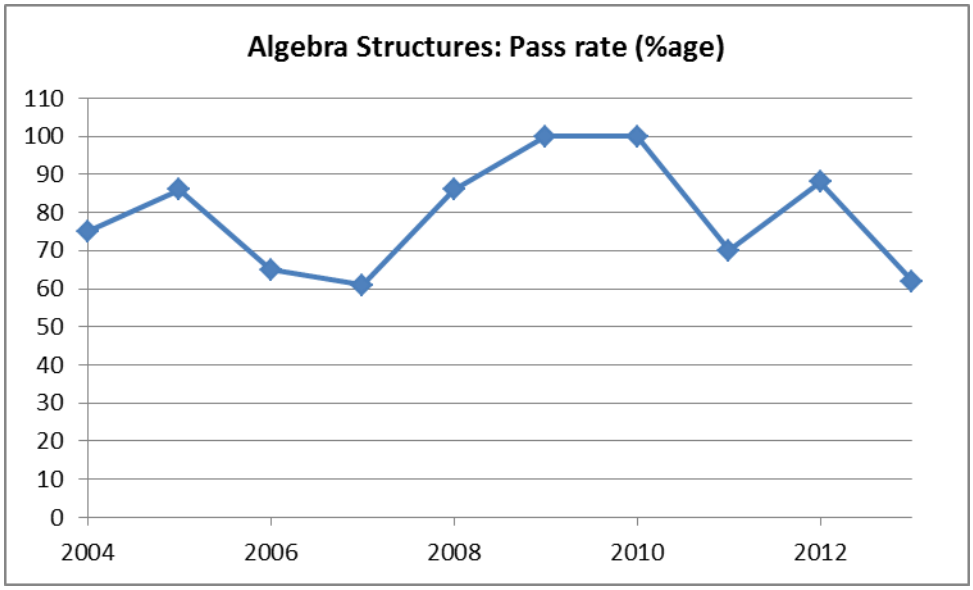

Figure B25: Pass rates for the Algebra Structures module

ANNEXURE C: SCHOOL OF PHARMACY AND PHARMACOLOGY

Table C1: KEY

Abbreviated module	Module name
Med Chem 1	Medical Chemistry 1
Med Chem 2	Medical Chemistry 2
Med Chem 3	Medical Chemistry 3
Med Chem 4	Medical Chemistry 4
Pharm Chem	Pharmaceutical Chemistry
Pharm Anal	Pharmaceutical Analysis
Phys Pharm	Physiological Pharmacy
Pharm Tech	Pharmaceutical Technology
Pharm Calc 1	Pharmaceutical Calculations
App Clin Chem	Applied Clinical Chemistry
Pharm Logistics	Pharmaceutical Logistics, Economics and Management
Instit Pharmacts	Institutional Pharmaceutics
Pharm Care 1/2/3	Pharmaceutical Care 1/2/3/4
Adv Drug Delivery	Advanced Drug Delivery
Intro to Path	Introduction to Pathology

Table C2: School of Pharmacy and Pharmacology: Module analysis: 2004-2006

Module	2004			2005			2006		
	En	Wrote	Pass	En	Wrote	Pass	En	Wrote	Pass
Med Chem 1	59	58	54	84	84	82	75	75	71
Med Chem 2	61	60	60	80	80	69	83	83	82
Pharm Chem	-	-	-	79	79	79	71	71	71
Pharm Anal 1	66	65	57	83	83	80	71	71	69
Phys Pharm	72	71	65	82	81	80	77	77	73
Pharm Tech	71	71	68	83	83	80	76	76	76
Pharm Calc 1	-	-	-	79	79	78	71	71	69
Pharmacology 1	120	120	103	91	89	82	87	85	84
Pharmacology 2	70	69	67	85	83	77	77	76	69
Pharmacology 3	73	72	70	85	85	81	70	69	64
Med Chem 3	74	73	64	68	68	65	76	76	67
Pharm Anal 2	71	71	65	61	60	60	61	61	60
App Clin Chem	66	64	63	67	65	60	77	77	77
Med Chem 4	66	64	63	67	67	66	66	66	62
Instit Pharmacts	76	75	75	61	61	57	78	78	77
Sterile Products	-	-	-	82	81	79	69	69	69
Pharm Logistics	79	79	70	52	52	51	74	74	65
Pharm Care 1	57	57	56	72	72	71	74	74	71
Pharm Care 2	57	57	56	74	74	71	68	68	68
Pharmacology 4	69	67	67	70	70	70	68	68	68
Biopharmaceutics	76	72	70	63	63	60	76	76	76
Adv Drug Delivery	61	61	55	-	-	-	3	3	3
Pharm Care 3	67	66	66	64	64	64	71	71	70
Pharm Care 4	68	67	67	65	65	65	71	71	70
Intro to Path	54	53	52	69	68	68	78	78	76
Health Law	67	66	66	63	63	63	71	71	71
Pharmacology 5	67	67	67	70	70	70	68	68	68
Research Project	69	68	68	62	62	62	70	70	70

Table C3: School of Pharmacy and Pharmacology: Module analysis: 2007- 2009

Module	2007			2008			2009		
	En	Wrote	Pass	En	Wrote	Pass	En	Wrote	Pass
Med Chem 1	64	62	60	83	83	83	76	76	75
Med Chem 2	52	52	50	85	84	79	80	79	79
Pharm Chem	60	59	54	84	84	82	79	79	77
Pharm Anal 1	59	57	53	86	84	82	73	73	69
Phys Pharm	58	58	58	74	74	73	83	83	83
Pharm Tech	55	54	50	77	77	76	68	68	65
Pharm Calc 1	61	61	55	80	79	79	83	83	81
Pharmacology 1	69	64	51	85	83	81	70	69	53
Pharmacology 2	82	80	70	64	63	57	80	78	73
Pharmacology 3	76	76	71	65	65	64	77	77	76
Med Chem 3	82	82	66	70	67	60	83	80	75
Pharm Anal 2	80	80	69	64	64	63	78	76	75
App Clin Chem	71	70	70	61	60	57	75	75	75
Med Chem 4	69	66	61	72	71	68	76	76	74
Instit Pharmacts	69	69	63	60	60	55	77	76	72
Sterile Products	66	65	60	63	63	61	72	72	72
Pharm Logistics	75	74	60	80	80	80	68	68	65
Pharm Care 1	65	65	65	58	58	58	72	71	71
Pharm Care 2	69	69	69	58	57	57	72	72	72
Pharmacology 4	69	69	67	64	64	64	62	62	61
Biopharmaceutics	67	67	66	59	59	59	68	68	67
Adv Drug Delivery	59	59	59	64	64	64	62	62	61
Pharm Care 3	65	65	65	61	61	61	69	69	69
Pharm Care 4	64	64	62	62	62	61	69	68	66
Intro to Path	67	63	54	86	84	70	80	80	80
Health Law 1	68	68	67	68	67	67	82	79	77
Health Law 2	68	68	66	60	60	60	70	70	68
Pharmacology 5	67	67	67	62	62	62	62	62	62
Research Project	62	62	62	60	60	60	67	67	67

Table C4: School of Pharmacy and Pharmacology: Module analysis: 2010 – 2012

Module	2010			2011			2012		
	En	Wrote	Pass	En	Wrote	Pass	En	Wrote	Pass
Med Chem 1	71	68	68	92	92	92	109	108	108
Med Chem 2	71	70	64	94	94	93	95	95	91
Pharm Chem	74	69	65	95	95	90	111	110	108
Pharm Anal 1	86	83	78	93	92	82	104	104	104
Phys Pharm	71	69	68	97	97	92	107	107	105
Pharm Tech	84	83	74	97	97	92	103	103	103
Pharm Calc 1	71	69	69	92	92	91	107	107	107
Pharmacology 1	99	98	94	96	96	90	98	97	95
Pharmacology 2	60	60	57	84	84	84	95	94	90
Pharmacology 3	57	57	57	84	84	84	92	92	92
Med Chem 3	90	86	81	62	62	59	104	104	104
Pharm Anal 2	69	67	65	75	75	74	89	87	86
App Clin Chem	66	66	66	74	74	74	95	95	95
Med Chem 4	66	66	61	76	76	76	101	101	100
Instit Pharmaceuts	84	83	83	62	62	62	99	99	99
Sterile Products	67	66	65	83	83	83	97	97	97
Pharm Logistics	58	58	57	85	85	85	97	97	97
Pharm Care 1	65	64	59	89	89	89	93	93	93
Pharm Care 2	68	68	67	84	84	83	94	94	92
Pharmacology 4	69	68	68	67	67	67	86	86	86
Biopharmaceutics	73	73	73	64	64	64	84	84	84
Adv Drug Delivery	75	74	74	64	63	63	84	84	84
Pharm Care 3	70	70	70	63	63	63	89	89	89
Pharm Care 4	70	70	70	68	68	68	87	87	87
Intro to Path	97	96	96	84	82	78	100	100	100
Health Law 1	83	82	82	64	62	62	98	98	98
Health Law 2	71	70	70	64	64	64	88	88	88
Pharmacology 5	69	68	68	67	67	66	87	87	87
Research Project	68	68	68	66	66	66	90	90	90

Table C5: School of Pharmacy and Pharmacology: Module analysis: 2013

Module	2013		
	Enrolled	Wrote	Passed
Med Chem 1	95	95	95
Med Chem 2	97	97	96
Pharm Chem	97	97	94
Pharm Anal 1	98	98	98
Phys Pharm	98	98	97
Pharm Tech	89	89	83
Pharm Calc 1	98	98	98
Pharmacology 1	50	50	49
Pharmacology 2	90	90	89
Pharmacology 3	98	97	97
Med Chem 3	88	88	88
Pharm Anal 2	98	98	96
App Clin Chem	89	88	88
Med Chem 4	87	86	86
Instit Pharmaceuts	107	107	107
Sterile Products	99	98	87
Pharm Logistics	95	93	93
Pharm Care 1	93	93	93
Pharm Care 2	98	97	97
Pharmacology 4	91	91	91
Biopharmaceutics	99	99	97
Adv Drug Delivery	96	96	95
Pharm Care 3	95	95	95
Pharm Care 4	92	92	92
Intro to Path	95	94	94
Health Law 1	99	99	98
Health Law 2	95	95	95
Pharmacology 5	92	92	90
Research Project	92	92	92

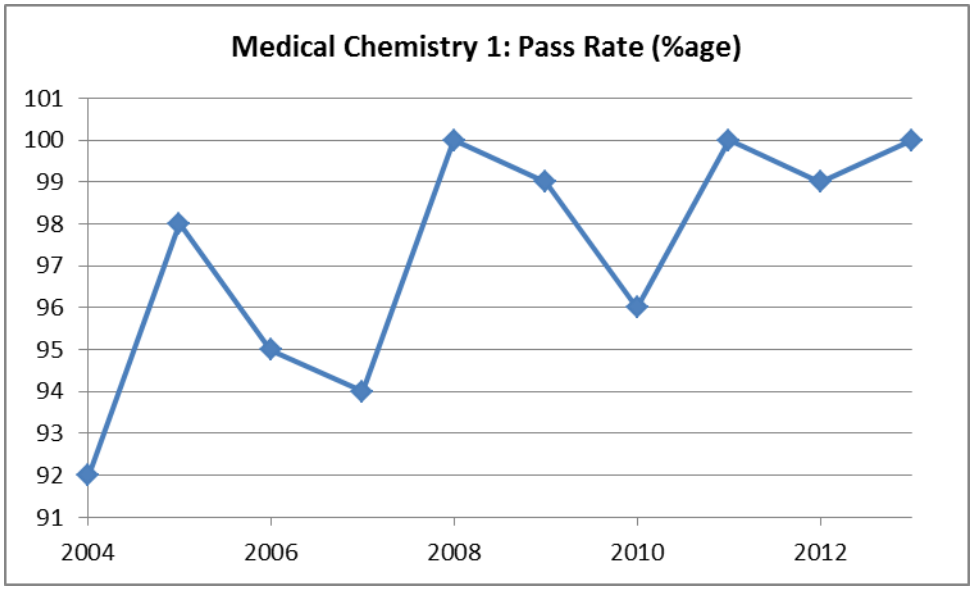

Figure C1: Medical Chemistry 1 module pass rate: 2004 -2013

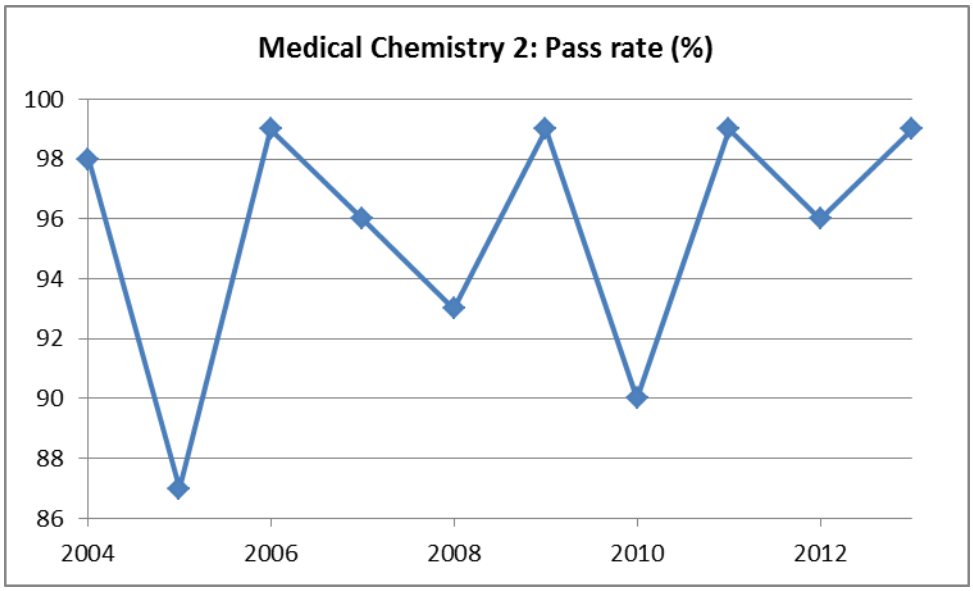

Figure C2: Medical Chemistry 2 module pass rate: 2004 - 2013

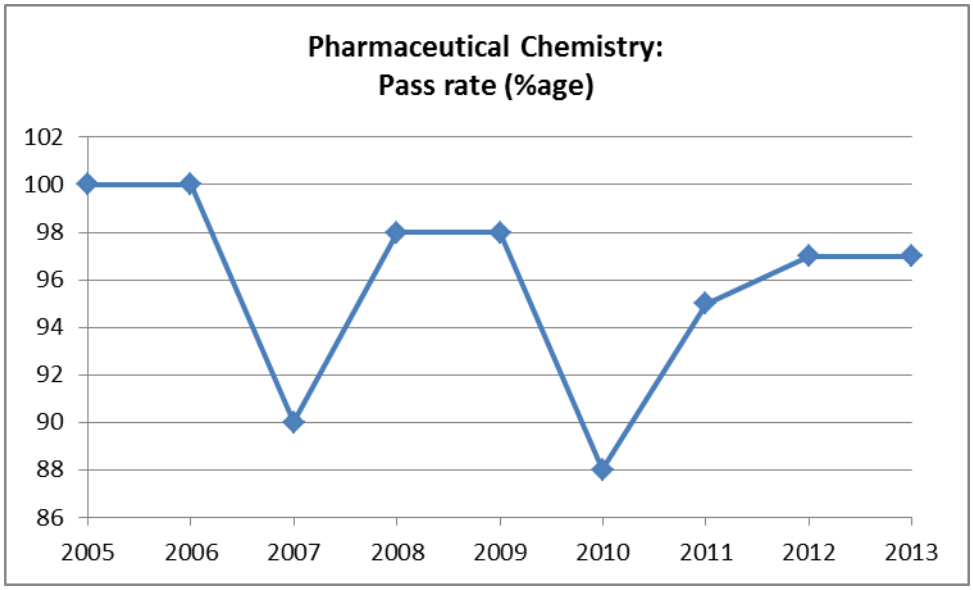

Figure C3: Pharmaceutical Chemistry module pass rate: 2005 - 2013

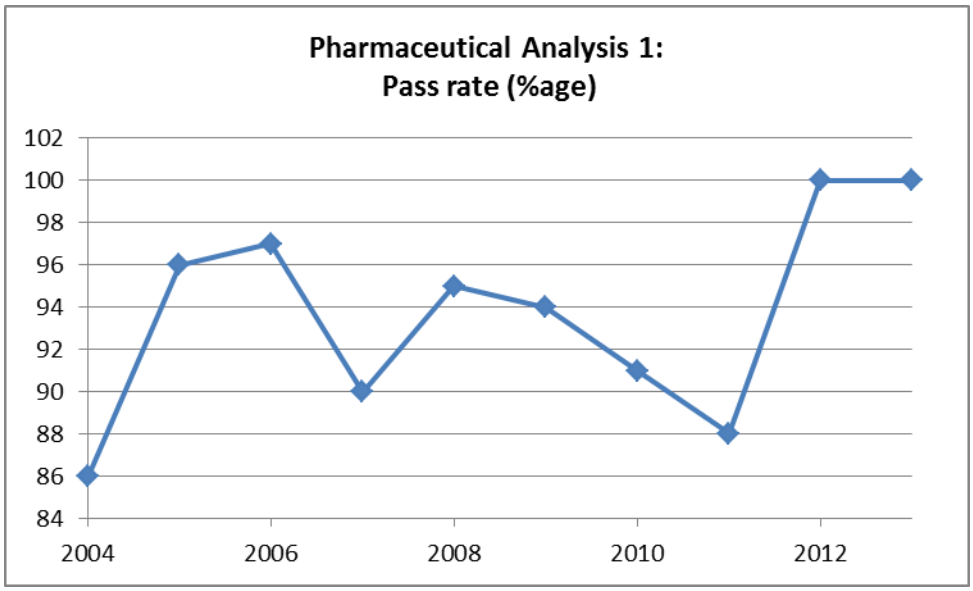

Figure C4: Pharmaceutical Analysis 1 module pass rate: 2004 -2013

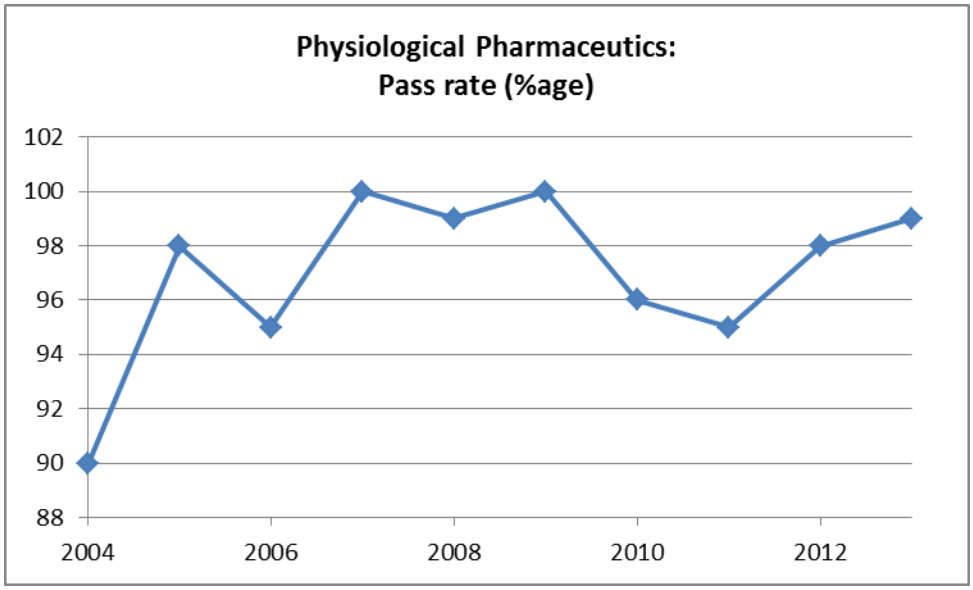

Figure C5: Physiological Pharmaceutics module pas rate: 2004 - 2013

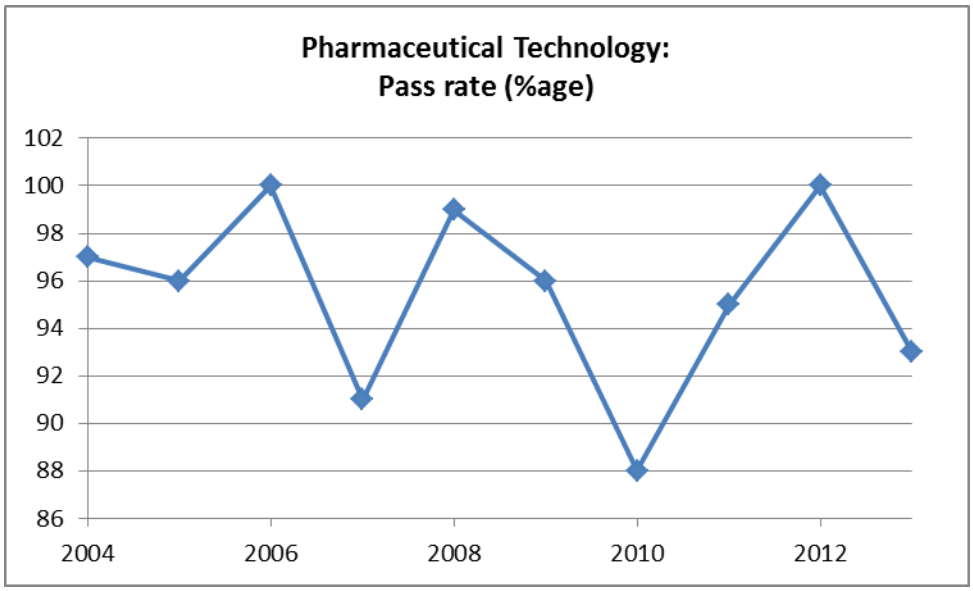

Figure C6: Pharmaceutical Technology module pass rate: 2004 - 2013

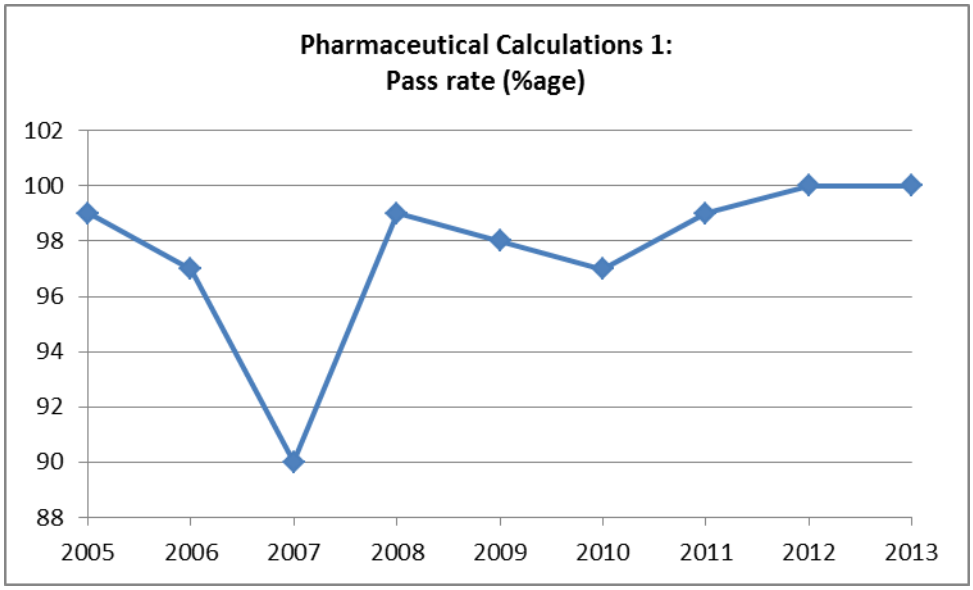

Figure C7: Pharmaceutical Calculations 1 module pass rate: 2004 -2013

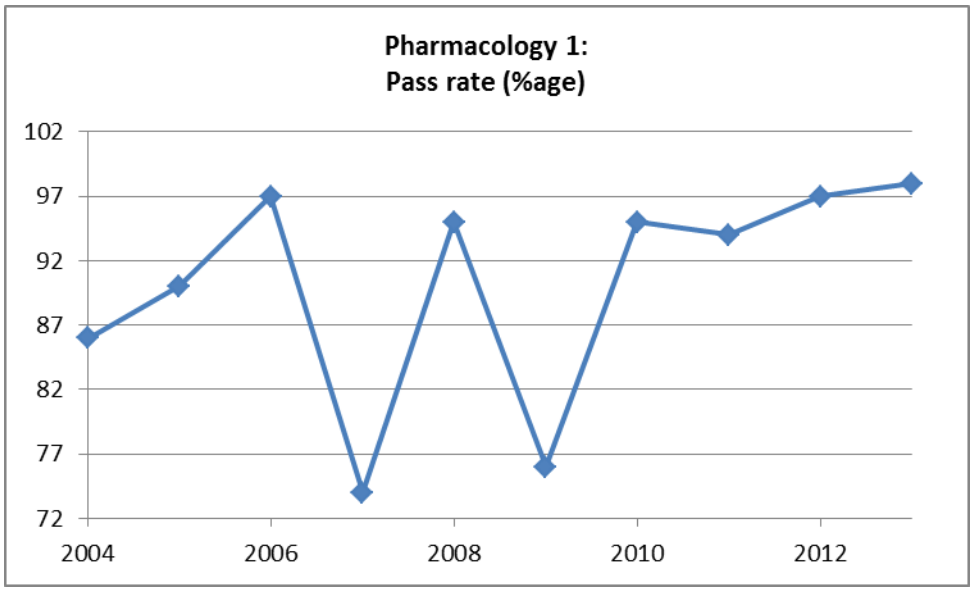

Figure C8: Pharmacology 1 module pass rate: 2004 - 2013

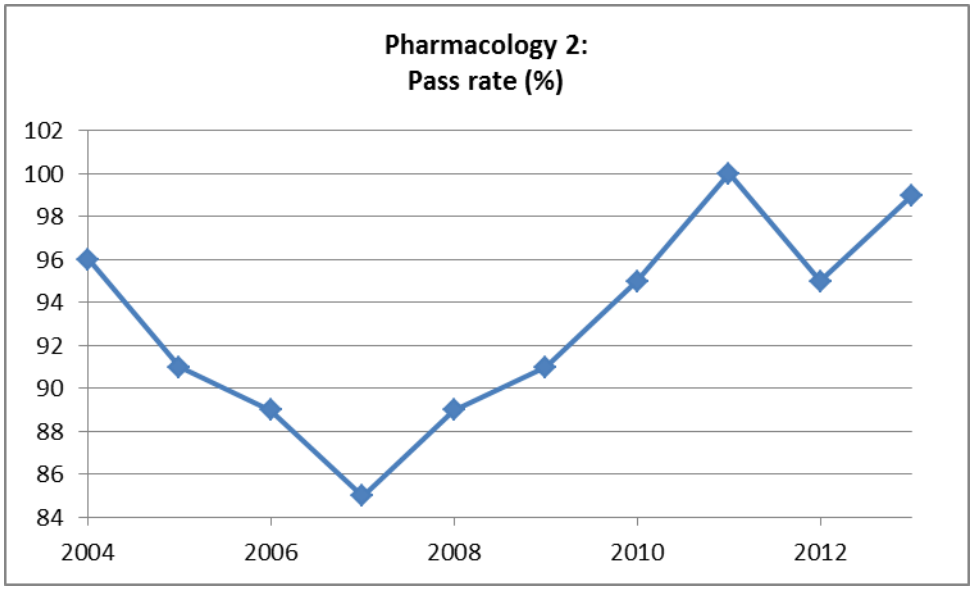

Figure C9: Pharmacology 2 module pass rate: 2004 - 2013

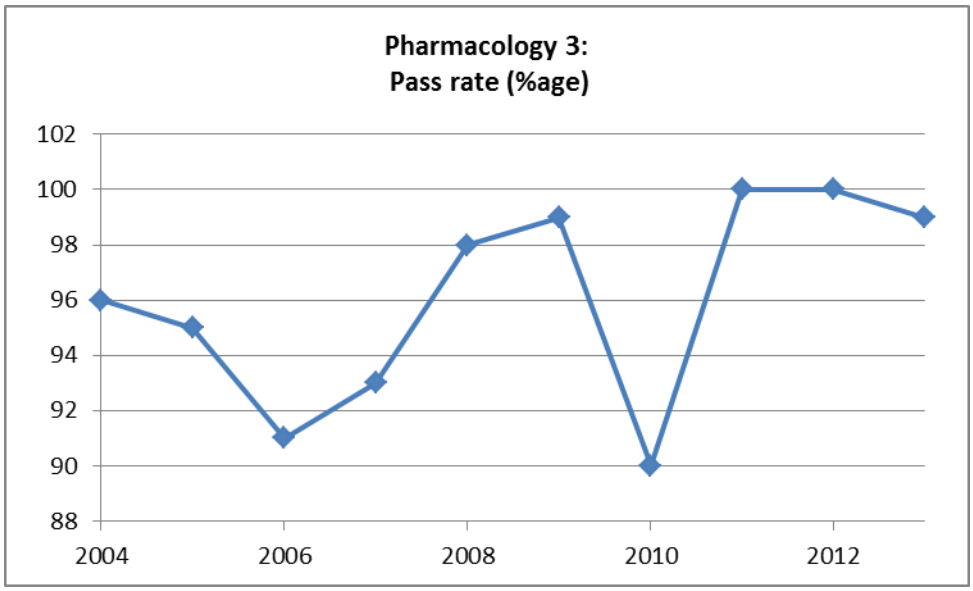

Figure C10: Pharmacology 3 module pass rate: 2004 - 2013

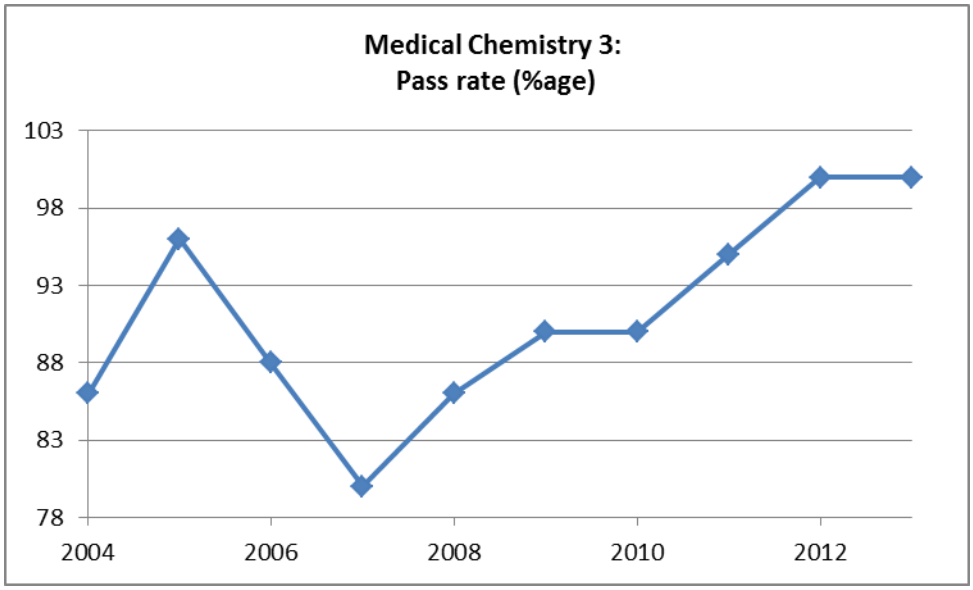

Figure C11: Medical Chemistry 3 module pass rate: 2004 - 2013

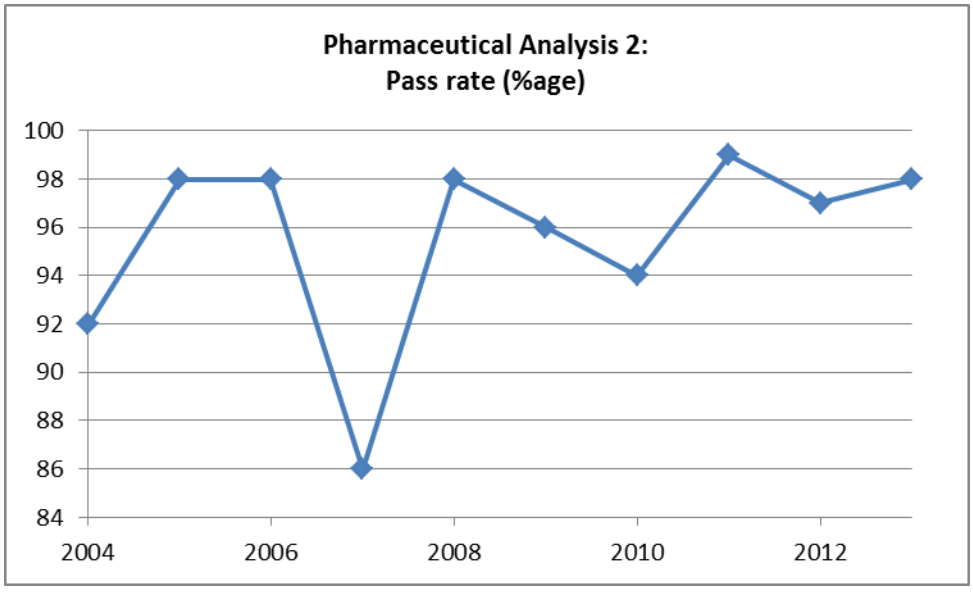

Figure C12: Pharmaceutical Analysis module 2 module pass rate: 2004 - 2013

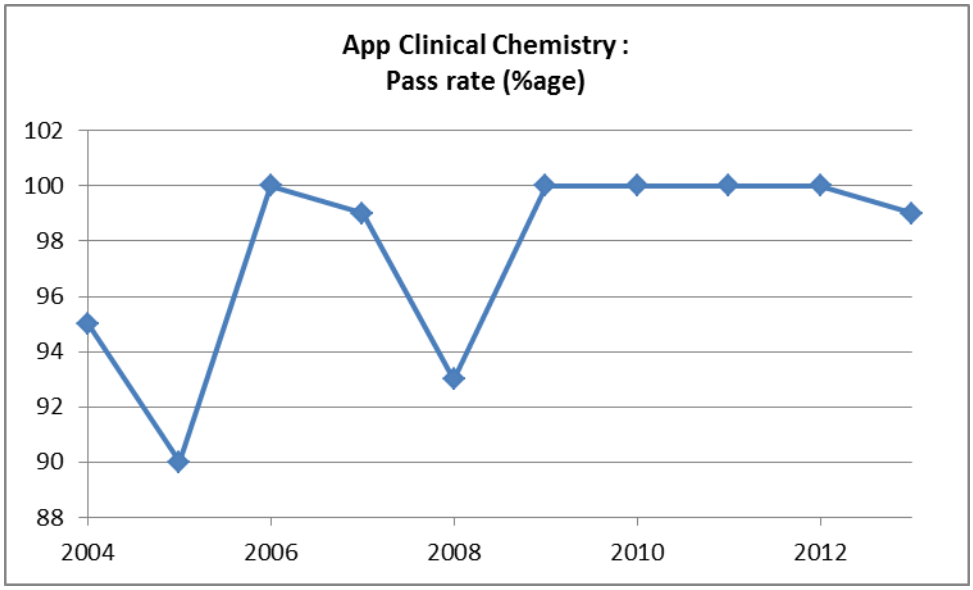

Figure C13: Applied Clinical Chemistry pass rate: 2004 - 2013

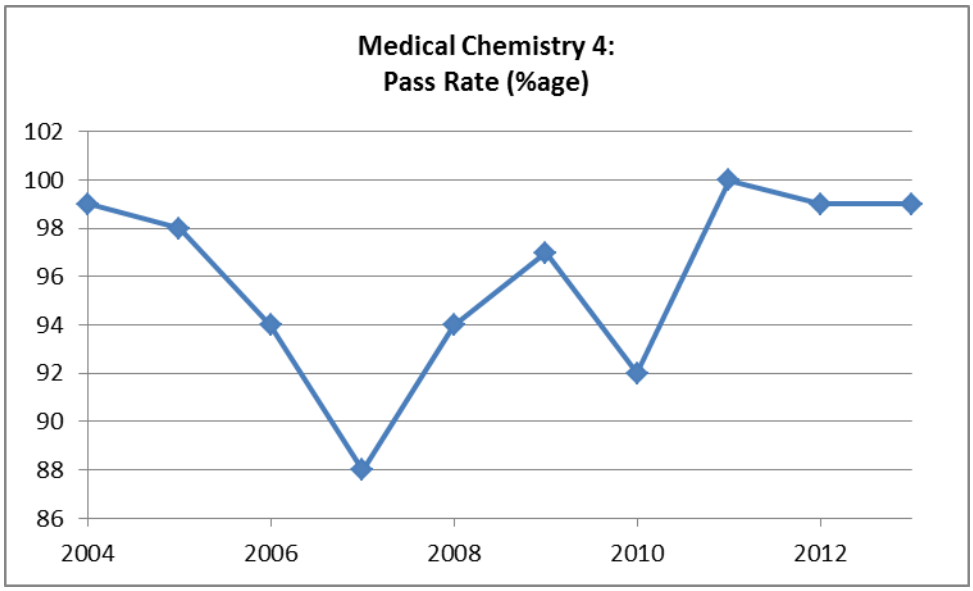

Figure C14: Medical Chemistry 4 module pass rate: 2004 - 2013

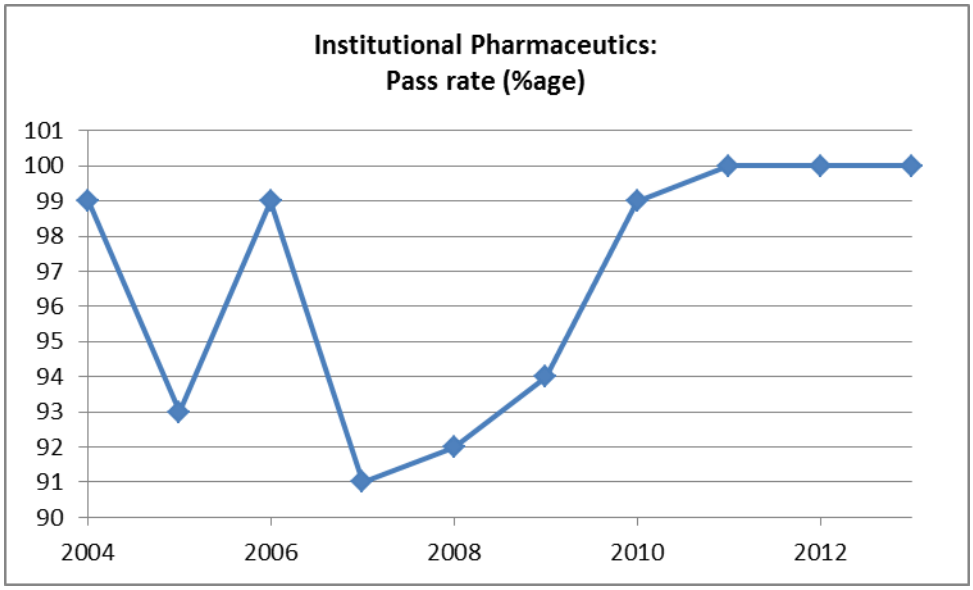

Figure C15: Institutional Pharmaceutics module pass rates: 2004 - 2013

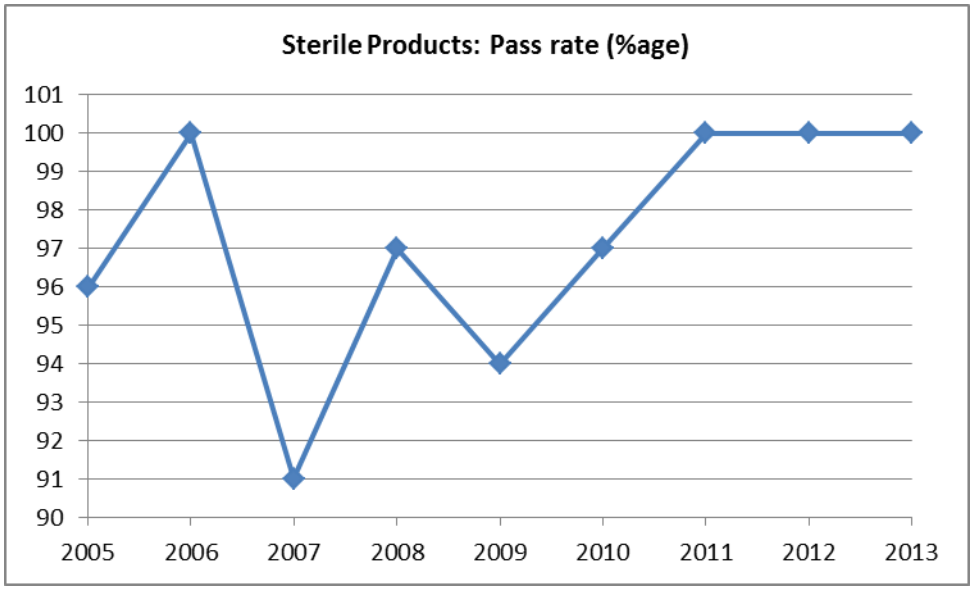

Figure C16: Sterile Products module pass rate: 2004 - 2013

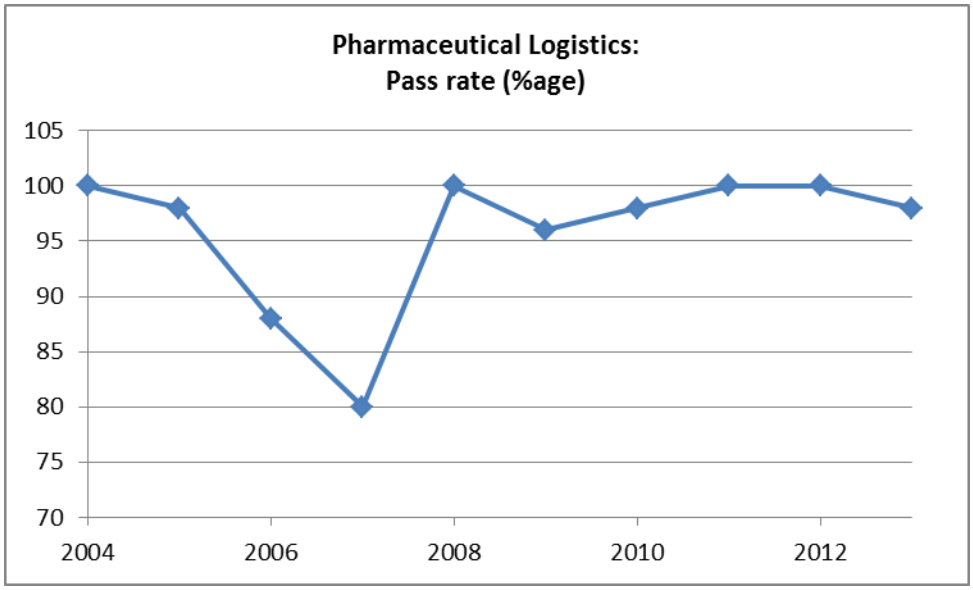

Figure C17: Pharmaceutical Logistics module pass rate: 2004 - 2013

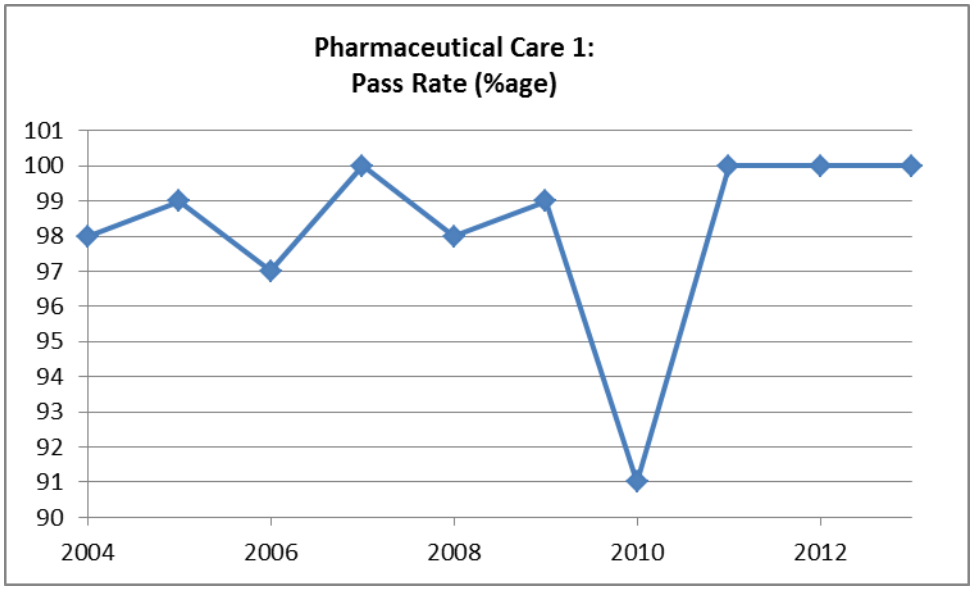

Figure C18: Pharmaceutical Care 1 module pass rate: 2004 -2013

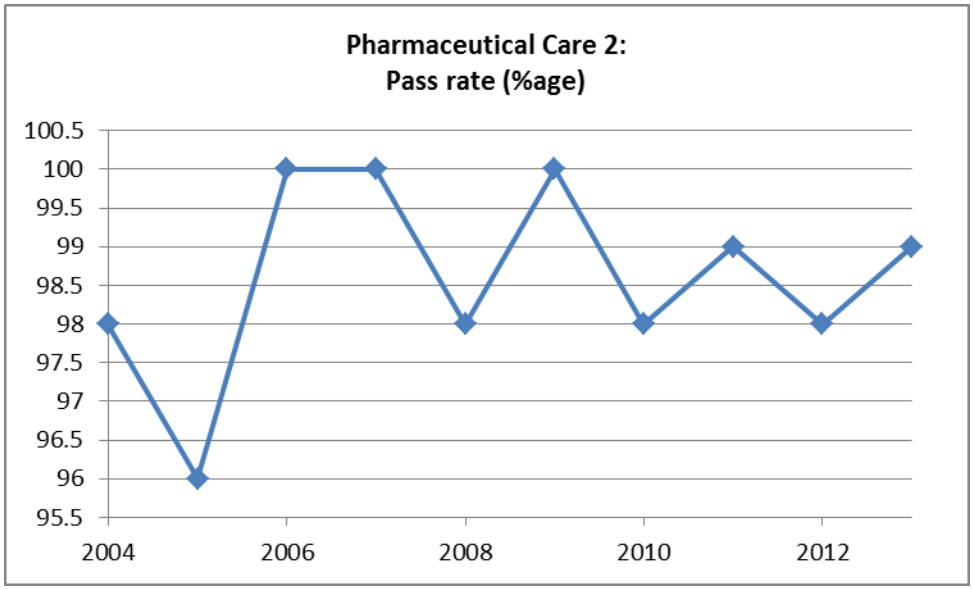

Figure C19: Pharmaceutical Care 2 module pass rate: 2004 - 2013

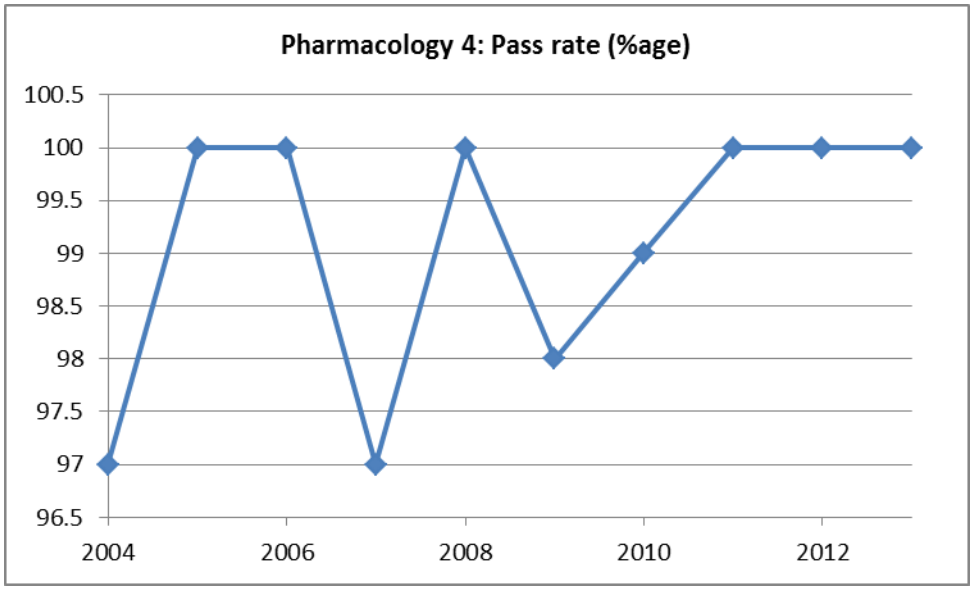

Figure C20: Pharmacology 4 module pass rate: 2004 - 2013

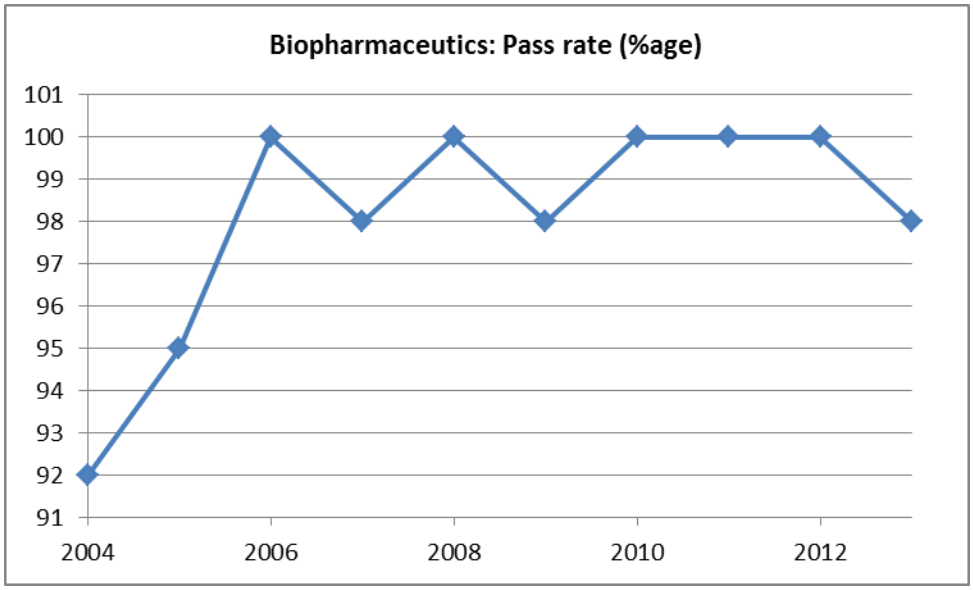

Figure C21: Biopharmaceutics module pass rate: 2004 - 2013

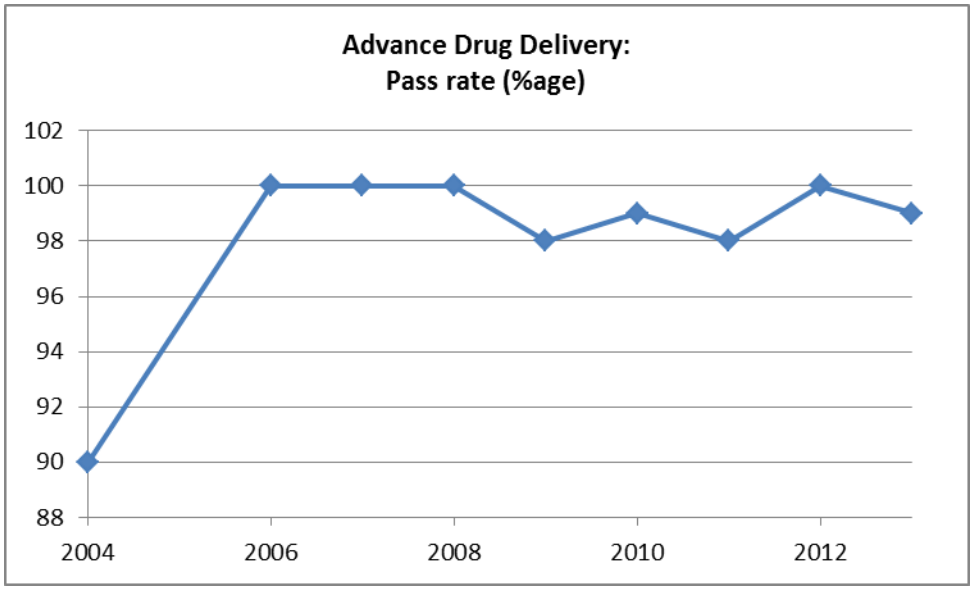

Figure C22: Advance Drug Delivery module pass rate: 2004 - 2012

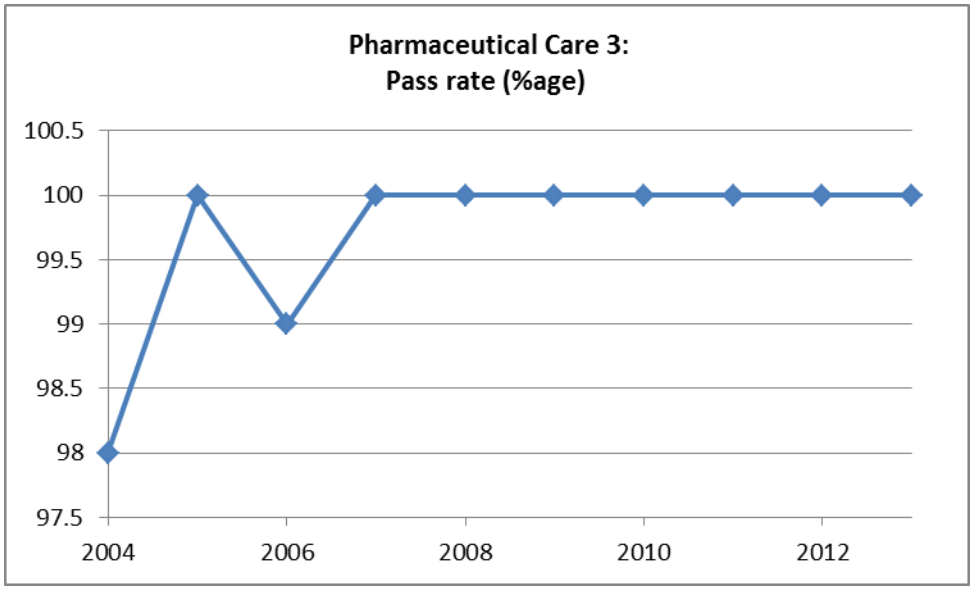

Figure C23: Pharmaceutical Care 3 module pass rate: 2004 - 2013

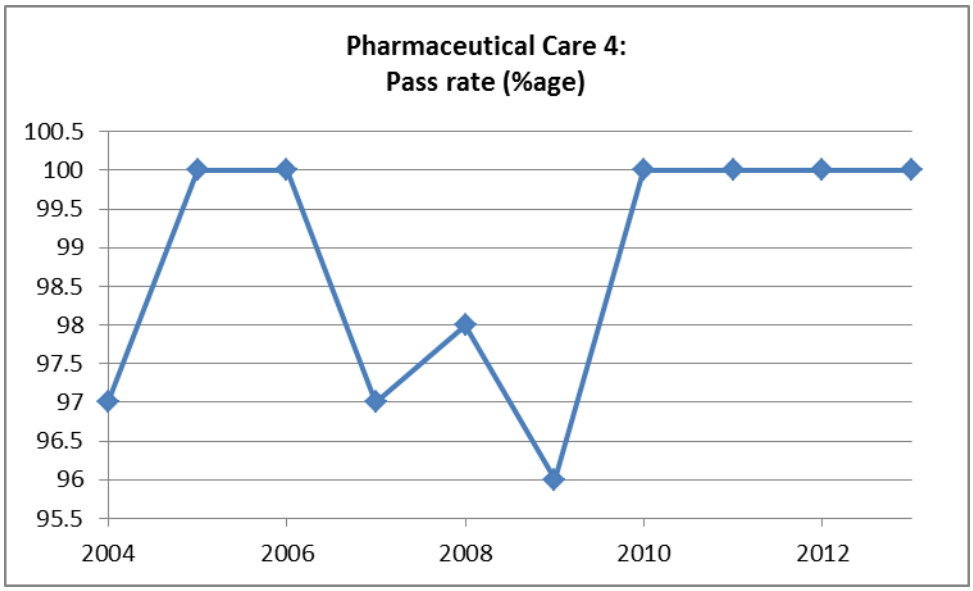

Figure C24: Pharmaceutical Care 4 module pass rate: 2004 - 2013

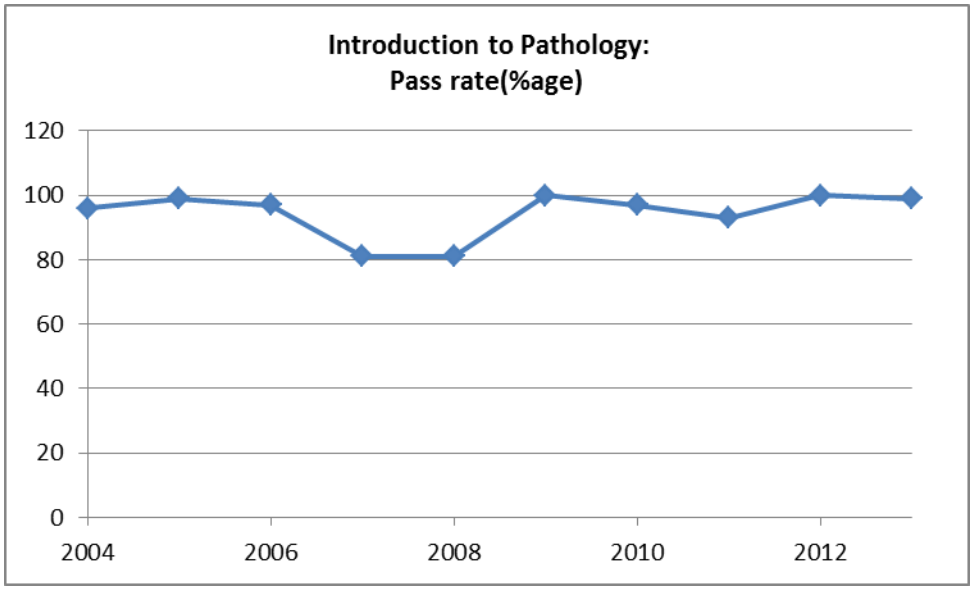

Figure C25: Introduction to Pathology module pass rate: 2004 - 2013

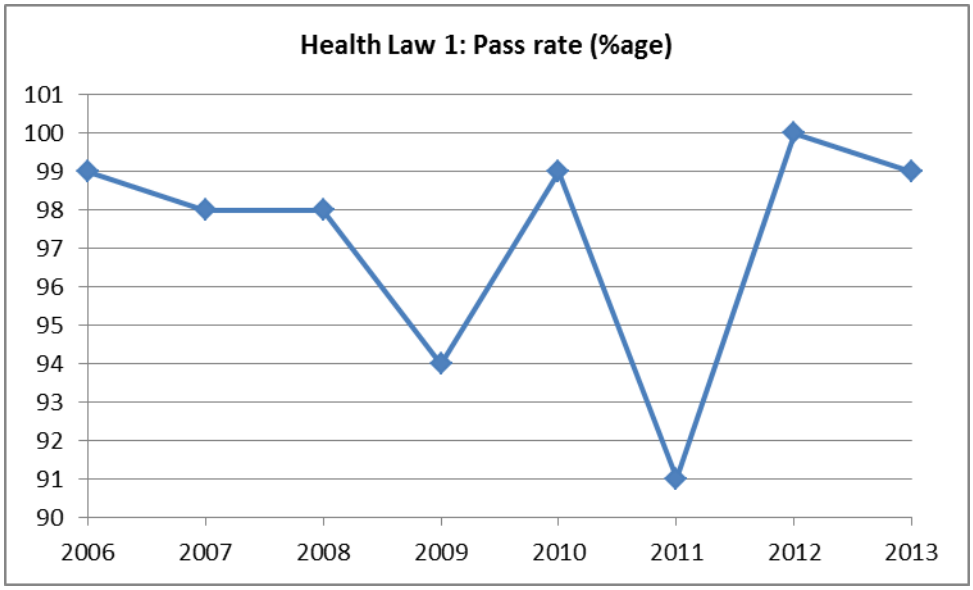

Figure C26: Health Law 1 module pass rate: 2004 - 2013

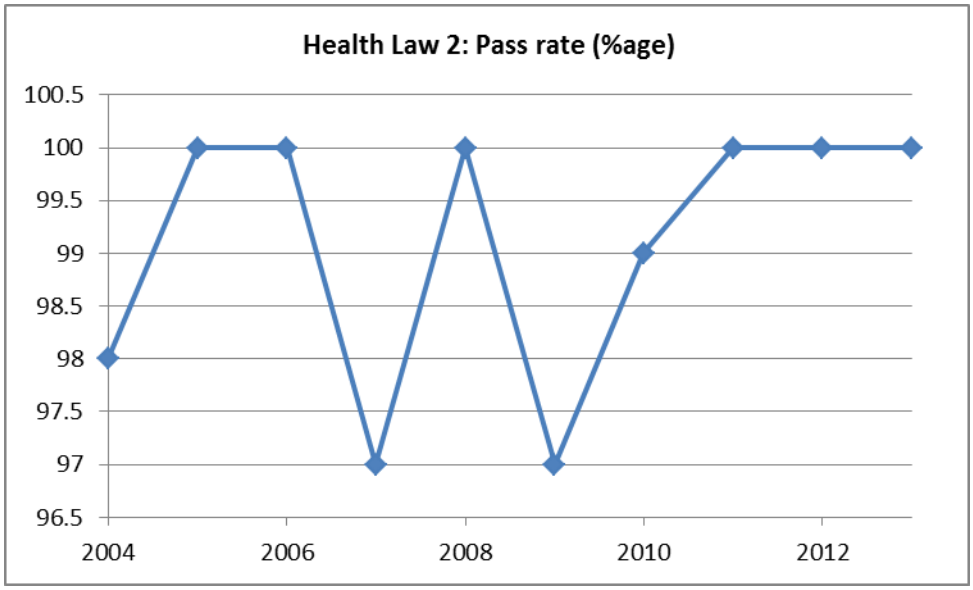

Figure C27: Health Law 2 module pass rate: 2004 - 2013

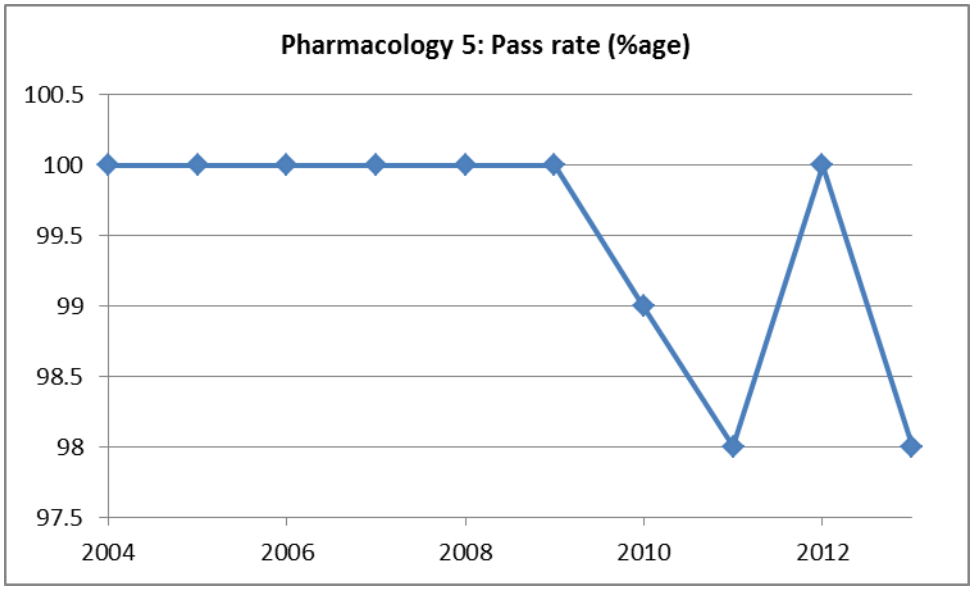

Figure C28: Pharmacology 5 module pass rate: 2004 - 2013

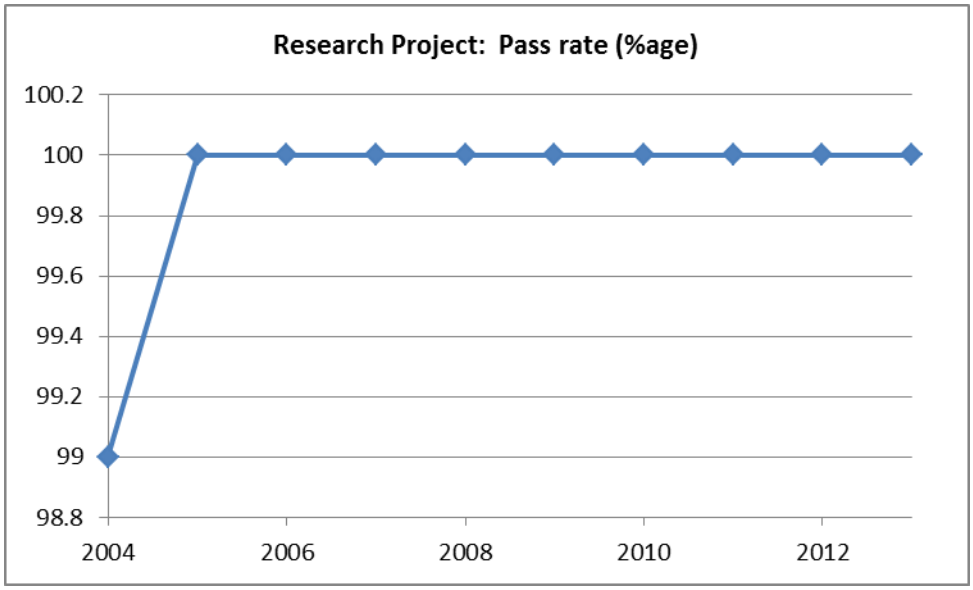

Figure C29:Research Project module pass rate: 2004 - 2013

ANNEXURE D: QUESTIONNAIRE

UKZN APPROVED RESEARCH PROJECT: HSS/0931/012D:

UKZN INTERNAL REVIEW PROCESS

REVIEW QUESTIONNAIRE

PROGRAMME REVIEWED : …….

DATE OF REVIEW : …….

Your academic programme has recently been subjected to an internal review process. Certain processes were followed which requires feedback and interventions from your side in order to improve the quality of the programme. The items below denote information which is invaluable in ensuring a quality assurance review process in future. Consequently you are required to confidentially fill in your response to the following questions by ticking in the appropriate box below and completing the open questions that follow. Your anonymous response which is voluntary will be treated with the utmost confidentiality.

	Very Good	Good	Satisfactory	Poor	n/a	Any other comments
1. Briefing Information prior to review						
2.Programme Evaluation Report						
3. Time between availability of documentation and the panel review evaluation.						
4. Panel composition/balance of expertise.						
5. Administrative arrangements and service provided to panel						
6. Range of discussion during review of programme						
7. Rigor of discussion during review of programme						
8. Quality of chairing of review sessions.						
9.Feedback from students after the review process						
10. Feedback from staff after the review process						
11.Tour of facilities under review						
12.Quality of student projects, dissertations etc. presented						
13. Quality of Academic Programme documentation provided for review						

2. Please comment in general on the University's procedures for assuring quality of academic programmes.

_____

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3. Indicate the areas of improvement in the quality of the academic programme that you expected before the actual review..

4. List the recommendations suggested by the Review Report on the programme being evaluated.

5. Which recommendations did you consider to be relevant to the improvement of the academic indicators appropriate to the programme ?

6. Which recommendations did you consider to be irrelevant in the final review report?

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7. Which recommendations suggested by the review committee have been implemented?

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8. List the recommendations which can be reflected as work in progress.

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9. Any suggestions on how the Quality Review Process can be improved at UKZN?

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Thank you very much for your responses