Developing a Quality Culture
Within a
School of Nursing in Higher Education

by

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A thesis presented to the
University of Western Sydney Hawkesbury
in partial fulfilment of the requirements for the
degree of Doctor of Philosophy

March, 2000

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PLEASE NOTE

The greatest amount of care has been taken while scanning this thesis,

and the best possible result has been obtained.
Acknowledgments

I am indebted to the following people for the assistance and support they gave me during the writing of this thesis.

I am deeply grateful to my wonderful husband Bob who has constantly encouraged and supported me this year and who has shown me nothing but love and devotion. I would also like to thank my supervisors Professor Alan Buttery and Professor Alan Jeary for their constructive feedback on my work.

Special thanks must go also to Carmel Davies who, in the final stages of the ‘writing up’, spent many hours proofing drafts, offering constructive feedback, and encouraging me towards completion. Thank you to Professor Victor Minichiello and Dr Gil Soo Han who reviewed the final draft of the thesis and offered valuable suggestions.

I would also like to thank Jeanettee Tan and the administrative staff in the School of Health for their assistance and support, and their patience with me as a computer operator. Thanks and appreciation must also go to the nurse academics who participated in this research.
Statement of Authentication

The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in whole or in part, for a degree at this or any other institution.
# Table of Contents

List of tables ......................................................................................... v  
List of figures ......................................................................................... vi  
Abbreviations ......................................................................................... vii  
Abstract .................................................................................................. viii  

## Chapter 1 Introduction

1.1 Background to the Research ......................................................... 1  
  1.1.1 Quality management practices in schools of nursing in higher education 5  
1.2 The Research Problem and Research Questions ....................... 9  
  1.2.1 Statement of the research problem ........................................ 9  
  1.2.2 Research questions .............................................................. 10  
1.3 Justification for the Research ...................................................... 11  
1.4 Methodology ............................................................................... 14  
1.5 Outline of the Thesis .................................................................... 16  
1.6 Definitions .................................................................................... 19  
1.7 Limitations and Key Assumptions ............................................... 21  
1.8 Conclusion .................................................................................... 23  

## Chapter 2 Literature Review

### Section 1: Introduction

2.1.1 Introduction ............................................................................... 26  
2.1.2 Identification of literature and modes of access ..................... 28  

### Section 2: Quality Assurance

2.2.1 Nursing management and the link with Quality Assurance .......... 28  
2.2.2 The evolution of Quality Assurance in health care organisations and nursing: 
  An international review ................................................................. 32  
2.2.3 Quality Assurance in health care organisations and nursing: 
  An Australian review ................................................................. 38  
2.2.4 Quality Assurance in nursing education .................................. 41  
2.2.5 Limitations of the traditional approach to Quality Assurance .... 43  

### Section 3: Total Quality Management

2.3.1 The concept of Total Quality Management ............................. 46  
2.3.2 TQM and organisational culture and change ......................... 51  
2.3.3 TQM and human resource management ................................. 61
Section 4: Total Quality Management in Three Industries

2.4.1 TQM in the manufacturing industry: An international review .................................................. 64
2.4.2 TQM in the Australian manufacturing industry ........................................................................ 67
2.4.3 TQM in the health care industry: An international review ....................................................... 72
2.4.4 The application of TQM in the health care industry in Australia ............................................... 77
2.4.5 Integration of QA and TQM in the health care industry ............................................................. 80
2.4.6 TQM in the higher education industry ....................................................................................... 82

Section 5: Systems Theory

2.5.1 Introduction to systems theory .................................................................................................... 96
2.5.2 Checkland’s Soft Systems Methodology outlined ...................................................................... 98
2.5.3 Justification for using Checkland’s Soft Systems Methodology ............................................... 101
2.5.4 Conclusion .................................................................................................................................. 102
2.5.5 Summary of research questions .................................................................................................. 105

Chapter 3 Methodology

3.1 Introduction ..................................................................................................................................... 106
3.2 Justification for the Paradigms ........................................................................................................ 106
3.2.1 Justification for the methodologies ............................................................................................ 110
3.3 Stage 1: Focus Group Discussions
3.3.1 Setting and population profile .................................................................................................... 114
3.3.2 The sampling frame .................................................................................................................... 114
3.3.3 Focus group sample ..................................................................................................................... 114
3.3.4 Data collection procedure ........................................................................................................... 116
3.3.5 Application of Soft Systems Methodology .................................................................................. 120
3.4 Stage 2: Survey Questionnaire
3.4.1 Setting and population profile .................................................................................................... 125
3.4.2 Sample .......................................................................................................................................... 125
3.4.3 Research instrument design and development ........................................................................... 126
3.4.4 Pilot study ...................................................................................................................................... 131
3.4.5 Data collection procedure ........................................................................................................... 133
3.4.6 Response rate ............................................................................................................................... 134
3.4.7 Limitations of the major methodology ....................................................................................... 134
3.4.8 Computer program used to analyse data from survey questionnaire ........................................ 135
3.5 Ethical Procedures ......................................................................................................................... 135
3.5.1 Ethical considerations for participants in the focus group discussions ...................................... 135
3.5.2 Ethical considerations for participants in the survey questionnaire ......................................... 136
3.6 Conclusion ...................................................................................................................................... 137
Chapter 4 Analysis of Data

4.1 Introduction ........................................................................................................... 139
   4.1.1 Justification for data analysis techniques ....................................................... 140
4.2 Subjects .................................................................................................................... 143
   4.2.1 Highest nursing qualifications ...................................................................... 146
   4.2.2 Highest academic qualifications .................................................................. 148
   4.2.3 Further academic study ................................................................................. 149
4.3 Patterns of Data for each Research Question ....................................................... 149
   4.3.1 Research question one ................................................................................. 149
   4.3.2 Research question two .................................................................................. 150
   4.3.3 Research question three ............................................................................... 152
   4.3.4 Research question four ................................................................................ 153
   4.3.5 Research question five ................................................................................. 155
   4.3.6 Additive index .............................................................................................. 158
   4.3.7 Reliability analyses ...................................................................................... 159
   4.3.8 Correlational analyses .................................................................................. 163
   4.3.9 Analyses of variance (ANOVARs) ................................................................. 165
4.4 Conclusion .............................................................................................................. 165

Chapter 5 Discussion and Conclusions

5.1 Introduction ........................................................................................................... 169
5.2 Conclusions about each Research Question ....................................................... 170
   5.2.1 Research question one .................................................................................. 171
   5.2.2 Research question two ................................................................................ 173
   5.2.3 Research question three ............................................................................... 176
   5.2.4 Research question four ................................................................................ 178
   5.2.5 Research question five ............................................................................... 180
5.3 Conclusions about the Research Problem ............................................................. 184
5.4 Implications for Theory ....................................................................................... 191
   5.4.1 Attitudinal change ....................................................................................... 192
   5.4.2 Structural change ........................................................................................ 197
   5.4.3 Procedural change ....................................................................................... 199
5.5 Implications for Policy and Practice .................................................................... 201
5.6 Further Research .................................................................................................. 206
5.7 Conclusion ............................................................................................................ 208

List of References ...................................................................................................... 211

Bibliography .............................................................................................................. 231
### Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix 1</td>
<td>Letter to Heads of Schools of Nursing</td>
<td>240</td>
</tr>
<tr>
<td>Appendix 2</td>
<td>Plain Language Statement for Focus Group Participants</td>
<td>241</td>
</tr>
<tr>
<td>Appendix 3</td>
<td>Participant Consent for Focus Group Discussions</td>
<td>243</td>
</tr>
<tr>
<td>Appendix 4</td>
<td>Focus Group Discussion Demographic Data</td>
<td>244</td>
</tr>
<tr>
<td>Appendix 5</td>
<td>Table A5: Stage 1: Focus Group Discussion Results (n = 21)</td>
<td>245</td>
</tr>
<tr>
<td>Appendix 6</td>
<td>Focus Group Qualitative Results</td>
<td>247</td>
</tr>
<tr>
<td>Appendix 7</td>
<td>Developing a Quality Culture within a School of Nursing in Higher Education. Survey Questionnaire</td>
<td>251</td>
</tr>
<tr>
<td>Appendix 8</td>
<td>Cover Letter to Survey Questionnaire Participants</td>
<td>259</td>
</tr>
<tr>
<td>Appendix 9</td>
<td>Cover Letter to Pilot Study Participants</td>
<td>260</td>
</tr>
<tr>
<td>Appendix 10</td>
<td>Results of Pilot Study (n = 12)</td>
<td>261</td>
</tr>
<tr>
<td>Appendix 11</td>
<td>Reminder Letter to Survey Questionnaire Participants</td>
<td>262</td>
</tr>
<tr>
<td>Appendix 12</td>
<td>Table A12: Summary Statistics for Likert Scaled Items (n = 445)</td>
<td>263</td>
</tr>
<tr>
<td>Appendix 13</td>
<td>Table A13: Percentages for Likert Scaled Items (n = 445)</td>
<td>264</td>
</tr>
</tbody>
</table>
List of Tables

Table 4.1  Demographic characteristics of nurse academics (n = 445) .......... 144
Table 4.2  Cross-tabulation of survey respondents by age and gender (n = 445) .......... 145
Table 4.3  Cross-tabulation of survey respondents by gender and employment level (n = 445) .................................................. 146
Table 4.4  Proportion of survey respondents by highest nursing qualifications (n = 445) .................................................. 146
Table 4.5  Proportion of survey respondents by nursing qualification location (n = 445) .................................................. 147
Table 4.6  Proportion of survey respondents by highest academic qualifications (n = 445) .................................................. 148
Table 4.7  Proportion of survey respondents by academic discipline (n = 445) .......... 148
Table 4.8  Proportion of survey respondents currently undertaking further academic study (n = 445) .................................................. 149
Table 4.9  Proportion of survey respondents’ knowledge of a formal Quality Assurance program in a school of nursing (n = 445) .................................................. 150
Table 4.10 Proportion of survey responses to the traditional Quality Assurance approach used by the nursing profession (n = 445) .................................................. 152
Table 4.11 Proportion of survey responses to the integration of a quality culture with Quality Assurance in schools of nursing (n = 445) .................................................. 154
Table 4.12 Summary statistics for composite indexes (n = 445) .................................................. 159
Table 4.13 Reliability analysis of COMVAR1F — Scale (Alpha) (n = 19) .......... 160
Table 4.14 Summary statistics for COMVAR1F — Alpha (n = 19) .......... 161
Table 4.15 Reliability analysis of COMVAR2F — Scale (Alpha) (n = 10) .......... 161
Table 4.16 Summary statistics for COMVAR2F — Alpha (n = 10) .......... 162
Table 4.17 Reliability analysis of COMVAR3F — Scale (Alpha) (n = 11) .......... 162
Table 4.18 Summary statistics for COMVAR3F — Alpha (n = 11) .......... 162
Table 4.19 Kendall’s tau values for composite index — COMVAR1F (n = 19) .......... 163
Table 4.20 Kendall’s tau values for composite index — COMVAR2F (n = 10) .......... 164
Table 4.21 Kendall’s tau values for composite index — COMVAR3F (n = 11) .......... 165
Table 5.1 Comparisons found between QA & TQM and research conclusions .......... 171
Table 5.2 Implementation of the Total Quality Transformation Process for a school of nursing in higher education .......... 204
List of Figures

Figure 1.1  A Classification Model of the soft aspects of Total Quality Management in a school of nursing in higher education .................. 13

Figure 2.1  Relationship between the research problem and research questions .................. 27

Figure 2.2  A systemic view of the relationship between TQM and nursing in higher education .................................................. 93

Figure 2.3  The Soft Systems Methodology .................................................. 98

Figure 3.1  Stages 1 & 2: Expression of the problem ........................................ 120

Figure 3.2  Stage 3: Root definitions of relevant systems .................................... 121

Figure 3.3  The Rich Picture ................................................................. 122

Figure 3.4  Stage 4: Making and testing conceptual models .................................. 123

Figure 3.5  A Conceptual Model of the ideal situation in a school of nursing education system .................................................. 124

Figure 5.1  Stage 5: Comparing the conceptual model with reality ......................... 186

Figure 5.2  A Modified Classification Model of Total Quality Management in a school of nursing in higher education .................................. 190

Figure 5.3  Stages 6 & 7: Implementing Feasible and Desirable changes .................... 192

Figure 5.4  The Total Quality Transformation Process for a school of nursing in higher education .................................................. 203
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHS</td>
<td>Australian Council on Healthcare Standards</td>
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<td>AHA</td>
<td>Australian Hospital Association</td>
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<td>AMA</td>
<td>Australian Medical Association</td>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>AOQC</td>
<td>Australian Organisation for Quality Control</td>
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<tr>
<td>AQC</td>
<td>Australian Quality Council</td>
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<tr>
<td>CAE</td>
<td>College of Advanced Education</td>
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<td>CQI</td>
<td>Continuous Quality Improvement</td>
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<tr>
<td>DETYA</td>
<td>Department of Employment, Education, Training and Youth Affairs</td>
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<td>EA</td>
<td>Enterprise Australia</td>
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<td>HRM</td>
<td>Human Resource Management</td>
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<td>JCAH</td>
<td>Joint Commission on Accreditation of Hospitals</td>
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<td>JCAHO</td>
<td>Joint Commission on Accreditation of Health Care Organizations</td>
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<td>NRMA</td>
<td>National Roads and Motorists’ Association</td>
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<td>QA</td>
<td>Quality Assurance</td>
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<td>QI</td>
<td>Quality Improvement</td>
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<td>QM</td>
<td>Quality Management</td>
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<td>QSA</td>
<td>Quality Society of Australasia</td>
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<td>SESAHS</td>
<td>South Eastern Sydney Area Health Service</td>
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<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<td>SSM</td>
<td>Soft Systems Methodology</td>
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<td>TQM</td>
<td>Total Quality Management</td>
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<td>TQMI</td>
<td>Total Quality Management Institute</td>
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<td>UK</td>
<td>United Kingdom</td>
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<td>US</td>
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<td>UWS</td>
<td>University of Western Sydney</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Abstract

In Australia, the traditional Quality Assurance (QA) approach used in the hospital setting has played an important role in nursing practice. During the past decade, nurses in the clinical setting have began making a paradigm shift from Quality Assurance to Total Quality Management, or, as it is commonly referred to within health care facilities, Continuous Quality Improvement. In contrast, scant attention has been paid to quality management practices in nursing in the higher education sector. This study provides an applied example of where it investigates quality management practices in the context of organisational culture and human resource management with the aim of developing a quality culture model for a school of nursing in higher education.

The research study was undertaken in two stages. In stage 1, focus group discussions were conducted with nurse academics (n = 25) to obtain data which assisted the researcher in constructing the questionnaire for Stage 2. A postal survey questionnaire was distributed to nurse academics (n = 445) employed at the time of the study throughout schools of nursing in higher education in Australia.

The study produced several major findings from the views of nurse academics who participated in it, which indicated widespread agreement about the weaknesses of the traditional QA approach and its inadequacies in schools of nursing. However, there is no indication that a paradigm shift from QA to TQM is occurring in schools of nursing. Despite this, the study found that nurse academics generally agreed with the principles of Total Quality Management and its applicability to schools of nursing. Furthermore, the study demonstrated that, overall, nurse academics believe it is timely for schools of nursing to adopt an alternative quality management practice.

This thesis has unravelled several issues associated with nurse academics opinions of quality management practices utilised in schools of nursing. The thesis exposed a need to review quality management practices and explore other alternatives appropriate for the nursing culture in higher education. The fundamental issue is that procedures and policies formulated for nurses in the hospital setting do not serve the needs of nursing education. The study has shown that an understanding of modern quality management
practices and defining the nursing culture is required by school of nursing policy makers in order to develop appropriate strategies which are congruent with workplace needs and requirements. Thus, the most crucial factor to be considered in policy developments and future research is that it needs to contextualised in the culture of nursing in higher education.

Ways in which the principles of TQM could be integrated within a school of nursing were determined and a quality culture model was developed within a Total Quality Transformation Process. Recommendations were made for attitudinal, structural and procedural change in schools of nursing with a change in the culture of nursing education being identified as essential in order to ensure a genuine commitment to quality. An understanding of culture in schools of nursing will assist nurse academics to plan and implement quality initiatives congruent with the mission statement, goals, and values of the school of nursing. In addition, the concept of customer requires further exploration and insight during the cultural transformation process if schools of nursing are to satisfy the needs of all their customers. While the proposed quality culture model is unique to the needs of a school of nursing it has the potential to bridge the gap between quality management initiatives utilised in nursing management, nursing education, and clinical practice. Furthermore, it has become imperative that a transparent quality culture reflects contemporary nursing in Australia and the proposed model in this thesis provides nurses with an opportunity to shape a quality system for the nursing profession.
CHAPTER 1

Introduction

1 Introduction

This chapter commences with the background to the research which will outline the overall field of study, summarise the previous research conducted in the field, indicate the research gap, and identify the main research problem. The research problem is then elaborated, followed by the research questions. The research is justified citing both theoretical and practical contributions. An introduction to the methodology is provided and definitions adopted by the researcher for the thesis are presented. An outline of the thesis is presented following the five chapter structure developed by Perry (1994), and the limitations of the research are identified.

1.1 Background to the Research

Until recently, the most popular approach to monitoring standards and productivity in both the manufacturing and health care industries was Quality Assurance (QA). In the health care industry, the evaluation of health care is a process used to determine the quality of services provided to clients. An historical overview of QA showed that 'the earliest records reveal concern for the quality of medical care and as might be expected they also reveal concern for the quality of manufactured products' (Ellis & Whittington 1993, p.36). Thus, Quality Assurance is not a new concept. According to Schmele (1996), 'it is the traditional program used by organizations to assess, monitor, and improve quality' (p.510). When discussing QA and the Australian health care system Eastman (1992) noted that:

... traditional clinical quality assurance (QA) methods and programs have been highly developed and implemented at all levels of the Australian health care system through government legislation, accrediting bodies (such as the Australian Council on Hospital Standards) and professional organisations (such as the Royal Colleges and specialist societies), and at hospital level through clinical departments and units (p.219).
Nurses have participated in the monitoring of quality of client care for many years, and Quality Assurance has long been an institution within nursing in the hospital setting. The evolving nature of Quality Assurance is evident in the literature, with over one thousand QA papers published in the last ten years (Ellis & Whittington 1993). The plethora of published literature on Quality Assurance and the fact that the majority of papers are written by nurses confirms that nurses view QA as an important aspect of nursing practice.

Florence Nightingale (1859) developed standards for patient care, which she supported with evidence gathered from hospital wards. Schmele (1996) defined Quality Assurance within the health care system as a program 'based on monitoring indicators that, at least theoretically, correlate with outcomes, such as duration of hospitalization, mortality, morbidity, and patient satisfaction' (p.510). However, QA evaluation did not always give a true indication of the delivery of client care.

According to Potter and Perry (1993), early Quality Assurance programs were centralised; nursing units throughout a health care facility were monitored using the same clinical criteria. 'Measurement was often performed with agency surveys or by QA staff members who collected data about nursing units' (Potter & Perry 1993, p.226). While it is acknowledged that attempts were made to collect data, nursing procedures were often performed differently across units, thus QA often 'failed to provide meaningful information about the delivery of quality care on a specific unit' (Potter & Perry 1993, p.226). These authors stated that 'as a result, few nurses felt that the problems encountered were defined, and thus nursing practice infrequently changed' (p.226).

In more recent years, criticisms have been made of the traditional QA approach adopted by nurses in health care facilities (Masters & Schmele 1991; Bull 1994; Gillies 1994; Larrabee 1995; Schmele 1996). A major limitation of QA programs is that they direct staff to inspect and repair rather than prevent, innovate, and develop personnel (Schroeder 1988). According to Schmele (1996), efforts in QA have 'reflected professional values, and focused on inspection and identifying deficiencies rather than on continuous improvement and preventing problems' (p.142). In
addition, the development of measurable standards has been viewed as a critical component of QA programs but as Ellis and Whittington (1993) pointed out:

Increasingly, the development of measurable standards and clearly documented procedures is seen to be a necessary but by no means sufficient part of assuring quality. Of greater importance in maintaining and indeed exceeding predetermined standards of excellence are the attitudes and perceptions of everyone associated with the organisation (p.61).

Criticisms of the traditional QA approach coupled with changes in economic, political and societal forces have led health care leaders in the 1990s to reassess the ways they have viewed the concept of quality as it relates to quality care in the hospital setting. This has brought a paradigm shift 'from reacting to deficiencies to proacting to prevent problems, with consumer input the driving force in the new paradigm' (Schmele 1996, p.142). Thus, changing from detection to prevention has required a change in management style and way of thinking. Changes in quality management practices in the health care industry have largely evolved from health professionals examining and adopting quality management practices from the manufacturing industry.

In an environment of increased accountability, decreased budgets and outsourcing, manufacturing organisations worldwide are seeking to improve their processes and productivity and to make optimal use of available resources (Guimaraes 1997; Wilkinson et al. 1998). Specific changes that lead to greater internal efficiency and increased customer satisfaction therefore offer significant potential in increasingly competitive service situations. During this decade there has been an increasing trend in the adoption of quality management practices in the manufacturing industry with Total Quality Management (TQM) and Continuous Quality Improvement (CQI) attracting worldwide interest. There is now considerable empirical evidence which shows that the effective implementation of quality improvement practices leads to improvements in organisational performance in terms of both productivity and profitability (Sohal, Ramsay & Samson 1991; Maani, Putterill & Sluti 1994; Gordon & Wiseman 1995).
Evaluation of health care is also changing in response to consumer pressures and government concerns about cost containment and quality control. Schmele (1996) believed that:

> Managing care outcomes to improve the structure and process of health care delivery is becoming a universal paradigm applicable in different settings and in different systems, both nationally and internationally (p.189).

Recently, several health care organisations have adopted manufacturing and business approaches such as restructuring, cost containment, greater efficiency, and increasing quality. DeLaune and Ladner (1998) identified the major factors that have influenced the development of the quality movement in health care as consumer demands, financial viability, professional accountability, regulatory requirements, progress in quality improvement techniques, and changes in health care delivery. According to Brigham (1993), 'the momentum of TQM has been so contagious that it swept through manufacturing, then service and health care, and now comes to government and education' (p.42).

As health care organisations become more attuned to manufacturing trends, Quality Assurance activities are being replaced or integrated within Total Quality Management (TQM) or Quality Improvement (QI) programs with several Australian health care organisations successfully implementing quality management practices and obtaining significant improvements in quality, customer satisfaction and competitiveness (Ryan & Fahey 1992; Crawford 1994; Gale 1994; Hauquitz et al. 1994; See & Flynn 1994).

Total Quality Management also lays challenge to the traditional nursing management style which is hierarchical with little involvement of employees. According to an Australian author, Morey (1996), the concept of TQM calls for a 'dissemination of organisational power and with it a sharing of organisational responsibility' (p.114). This has the potential to enhance the development of nursing power, leadership and knowledge, and to provide nurses with an opportunity to actively and creatively contribute to the development of their work.
However, the Total Quality Management path has not always led to success. Ellis and Whittington (1993) warned that while ‘industrial approaches to organisational change and to Quality Assurance management can provide a useful framework, further development is required before they can be transferred to health care contexts’ (p.213). Indeed, some health care organisations have experienced resistance to the implementation of Total Quality Management and the reasons are twofold. First, there is a relative paucity of empirical literature that attests to the contribution of TQM to organisational performance, and this research ‘gap’ has created misunderstandings and disagreement regarding the expected benefits of TQM.

Second, when comparing the traditional QA model with the TQM model, McLaughlin and Kaluzny (1994) considered it as a paradigm shift to a new way of thinking about the philosophy and practice of quality. This shift has also brought about a move from a department-based approach to a system-wide approach; and from a philosophy of cost versus quality to a philosophy of cost and quality (Crosby 1986; Deming 1986). However, the paradigm shift in the way that quality is viewed continues to be a barrier to the implementation of TQM within organisations.

As previously mentioned, the traditional QA approach used in health care facilities has in recent times been acknowledged by health professionals as an insufficient method of monitoring the quality of client care. An increasing interest in adopting a broader, more comprehensive quality practice is evident with health care leaders and practising nurses at both national and international levels making a paradigm shift from Quality Assurance to Total Quality Management. Yet the philosophy of this modern quality management approach has received scant attention from nurse academics with the traditional QA methods still being utilised in schools of nursing in the higher education sector in Australia (anecdotal evidence). This has implications for the nursing profession which are examined in the following section.

1.1.1 Quality management practices in schools of nursing in higher education

In Australia, the ‘apprentice system’ of nursing in the hospital setting was abandoned and the transfer of nursing education to the higher education sector commenced in
1984. The reasons for transferring nurse education into the higher education system included the improvement of the professional and social status of nurses; the need for a broad-based educational preparation for nurses, as well as an acknowledgment that the health care sector could not provide nurses with the opportunity to learn the full range of skills required to interact effectively within a rapidly changing society (Commonwealth Department of Human Services & Health 1994; Reilly & Perrin 1999).

With the transfer of nursing education from the hospital-based system to the higher education system, schools of nursing were established either independently as a department within a faculty, or subsumed within a faculty of a related discipline. At the time, it was not uncommon for nurse educators from the hospital setting to be employed in schools of nursing and with the transfer they brought with them policies and practices used by the nursing profession in the hospital setting. One such practice was the traditional Quality Assurance approach used by nurses in the hospital environment and anecdotal evidence suggests that this QA approach is still being utilised in schools of nursing in higher education today. This scenario has implications for the future of nursing practice and nursing education.

First, the traditional QA approach transported from the hospital environment to schools of nursing meant that the previously mentioned deficiencies and limitations, most notably the ‘inspectorial’ nature of QA, became infiltrated throughout the cultures of schools of nursing. The researcher, employed as a nurse academic since the early 1990s, has, as part of her responsibilities, monitored and evaluated nursing education programs using QA methods to meet both internal and external accreditation requirements. ‘Nursing courses are subject to the accreditation procedures of State and Territory Registration Boards’ (Commonwealth Department of Human Services & Health 1994, p.4). From the researcher’s academic experience, QA methods are often used on an informal and individual basis in schools of nursing. Anecdotal evidence further suggests that the traditional QA approach is not sufficient to meet the needs of nursing in higher education which would account for its fragmented and informal use in some schools of nursing. However, the degree to which this monitoring method is used by nurse academics is not known for certain, neither is the level of satisfaction with the traditional QA approach known.
The second implication centres on the level of uniformity with quality management practices within nursing practice and nursing education. As previously noted, several health care organisations and nurse practitioners have made a paradigm shift from Quality Assurance to Total Quality Management with nurses advocating the need for a new direction in their quality management practices. This shift has resulted in discarding the negative elements of the traditional QA approach and incorporating the functional elements into the new quality management practice (Schmele 1996). Practising nurses employing the principles of Total Quality Management which incorporate the concept of customer, total employee participation, and employee empowerment view the concept of quality on a broader, more comprehensive level and work towards creating an organisation where quality is everyone's concern (Crawford 1994; Gale 1994; Hauquitz et al. 1994; See & Flynn 1994; Schmele 1996).

In contrast, nurse academics in schools of nursing continue to work with a 'technical' quality method. The researcher believes that the differences between quality management practices could cause a disparity. This has the potential to produce a division between nursing in the hospital setting and nursing in the higher education sector if the QA approach employed in schools of nursing remains the sole quality practice. It also has the potential to create role conflict for graduate nurses. The division will become apparent when student nurses graduate from schools of nursing where only a 'technical' view of quality is held and Total Quality Management concepts have not been incorporated into formal nursing programs. Graduate nurses will enter the workforce and encounter a quality management philosophy embedded within the nursing practice culture which is not familiar to them. Schmele (1996) stated:

*From all appearances, the science of QM [Quality Management] in health care will continue to rapidly emerge during the decade ahead. This presents a challenge to colleges and universities — to ensure adequate preparation to meet the role demands of the future* (p.549).

If the role demands are not met during undergraduate nursing preparation, pressures to conform to workplace expectations could further increase the level of graduate
nurses role conflict. As the Steering Committee for the National Review of Nurse Education pointed out: ‘employers want graduates who are aware of workplace needs and requirements and are able to enter employment with minimal need for further training, supervision or orientation …’ (Commonwealth Department of Human Services & Health 1994, p.4).

While Total Quality Management has been adopted by several industrial organisations, universities in Australia have been slow to recognise the strengths of this quality management practice. In addition, the transfer of TQM practices from the manufacturing to the higher education sector remains controversial among the academic community. Some academics view TQM as a new management fad which does not have universal application, while others believe that a quality management practice cannot be adopted from the manufacturing sector (Koch & Fisher 1998; Kanji & Malek 1999). However, Paine, Turner and Pryke (1992) argued that TQM can also have a major input into education 'as we begin to appreciate education is not an industry that is somehow unique, different and isolated from other industries' (p.7).

Before the integration of Total Quality Management into the undergraduate nursing curricula can be considered, a change in mind set will be required of nurse academics who hold a ‘technical’ view of quality. While it is acknowledged that some individual evaluative requirements may be met using a QA approach, these would be integrated into a broader organisation-wide approach to quality with quality improvement initiatives the concern of all employees. As a result, quality at this higher level would, according to Dale, Cooper and Wilkinson (1997), ‘require a broadening of outlook and skills and an increase in creative activities from that required at the quality assurance level’ (p.24). However, it can also be anticipated that making a paradigm shift may be welcomed by nurse academics as the standards that TQM promote are not based on ‘the sorting the bad apple approach of quality assurance that constantly seeks to discipline and eliminate substandard performance’ (Fulop & Rosier 1993, p.289).
Whilst there is TQM literature written by nurses in the UK, US and Australia, it focuses on health care settings, mainly hospitals, and it is not empirically based (Parsley & Corrigan 1994; Clinton & Scheiwe 1995). To this researcher's knowledge there is no international or Australian research-based literature pertaining to Total Quality Management in schools of nursing in higher education.

1.2 The Research Problem and Research Questions

1.2.1 Statement of the research problem

This study investigates quality management practices and policies in the context of organisational culture and human resource management with the aim of developing a quality culture model for a school of nursing in higher education in Australia.

When nursing education moved from the hospital setting to the higher education sector commencing in the 1980s, the QA techniques used by nurses in the hospital setting were also transferred and became part of the cultures in schools of nursing. During this decade practising nurses in health care facilities have questioned the traditional Quality Assurance methods and have shown an increasing interest in making a paradigm shift from Quality Assurance to Total Quality Management. Yet while the QA approach has been widely acknowledged by the nursing profession as unsatisfactory because of its inspectorial, reactive nature, it has continued to be used as the main monitoring method in schools of nursing in higher education. The purpose of this study was to primarily explore the concepts of Quality Assurance and Total Quality Management in nursing education focussing specifically on the views of nurse academics in making a paradigm shift from QA to TQM.

The findings will enable the researcher to identify the principles of TQM which could be applied to a school of nursing in higher education. A quality culture model will then be developed based on the analysis plus the considerations of organisational culture as conceptualised by Schein (1985). This original contribution to the literature will have a significant impact on the nursing profession, specifically in the realm of nursing education.
1.2.2 Research questions

To address the research problem, information was required from nurse academics currently employed in schools of nursing in higher education in Australia at the time of the study. The following five research questions were formulated which could collectively yield the information required to first address the research problem, and second to assist in developing a quality culture model for a school of nursing in higher education.

1. Do schools of nursing in higher education in Australia have a formal Quality Assurance program?

   This research question was further operationalised into the following question.

2. What are the Quality Assurance activities undertaken by nurse academics in schools of nursing in higher education?

3. Is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?

4. Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities already in place in higher education?

5. What are nurse academics’ perceptions of the applicability of Total Quality Management in schools of nursing in higher education in Australia?

Development of the preceding research questions evolved from the research problem which pursued two lines of enquiry. First, the researcher sought to identify the monitoring and evaluation methods embedded in the cultures in schools of nursing and then examine nurse academics views on the traditional paradigm of quality, that is, Quality Assurance. Following this, the researcher needed to explore the possibility of nurse academics making a paradigm shift from Quality Assurance to Total Quality Management. Both lines of inquiry are important areas of research given that too little attention has been directed to how quality management practices affects the organisational culture and management of human resources in nursing in higher education.

It was necessary to operationalise the research questions in a way which enabled the researcher to choose the most appropriate data collection method. For the first four
research questions, unstructured questions in the survey questionnaire yielded a collection of data about the respondents views and rationales on quality practices. The qualitative data provided a further opportunity to obtain more indepth views and for the researcher to validate or better understand the various views put forward. The attitudinal scale in the questionnaire provided the data to question five using descriptive and nonparametric statistics.

In summary, the findings from this study will enable the researcher to develop a coherent model for managing quality in a systematic way for a school of nursing in higher education. Furthermore, the findings will prove to be very beneficial in providing recommendations for future quality improvement plans for schools of nursing in universities.

1.3 Justification for the Research

While quality management practices are receiving increasing attention from the manufacturing industry at both international and national levels, and TQM is emerging also as a viable quality management approach in the health care industry (Gale 1994; See & Flynn 1994; Schmele 1996; Stamatis 1996), there is relatively little information in the literature on quality management practices in the higher education industry. Furthermore, there is no evidence in the literature of schools of nursing in higher education adopting Total Quality Management principles or integrating the traditional Quality Assurance activities within a broader, more comprehensive quality management approach. Additionally, although the TQM literature has been growing rapidly and the TQM philosophy has received relatively wide acceptance in the manufacturing and health care industries, much of the literature only focuses on prescriptions of TQM (Hackman & Wageman 1995; Waldman 1995).

In the past decade, Total Quality Management has received considerable attention and much has been written about the hard or technical aspects of TQM. However, Ruben (1995) argued that the core concepts of TQM ‘have far more to do with fundamental issues such as leadership, service orientation, collaboration, decision making, communication, participation, and cultural change’ (p.30). While this may
be correct, a survey of the literature reveals that although several TQM proponents believe that the soft aspects of TQM are essential to the success of TQM (Juran 1964; Ishikawa 1985; Deming 1986; Aubrey & Felkins 1988; Dale & Cooper 1992), scant attention has been paid to the human resource factors.

According to Wilkinson et al. (1998), most of the TQM work ‘asserts the importance of human resource issues, but does not go beyond general references to a need for more training, enhanced motivation and changed cultures’ (p.30). Indeed, several authors suggested that TQM failures may be due to a lack of attention to human resource management issues (Binney 1992; Cruise O’Brien & Voss 1992; Kearney 1992; Miller 1992; Wilkinson et al. 1998).

Within the contexts of these debates, few studies have collected systematic data to determine the utility of Total Quality Management in higher education and to ground the measures that are directly applicable for a school of nursing. This study attempts to address this gap in the research literature on quality management practices, particularly in the nursing administration and management literature.

The aims of this thesis were to first identify Quality Assurance activities in schools of nursing and assess their appropriateness in meeting the needs of nursing in higher education. The second aim was to examine the perceptions of nurse academics to the applicability of Total Quality Management in schools of nursing in higher education, and to identify the principles of TQM that could be applied to suit the nursing culture in a school of nursing. To meet these aims the researcher tailored the investigation to specifically examine organisational culture and human resource management in schools of nursing. Both aspects are integral components of Total Quality Management and have been categorised as the soft aspects of TQM by Dale, Cooper and Wilkinson (1997), and Wilkinson et al. (1998). These human factor concepts which have the potential to impact on change implementation in a school of nursing can be viewed in Figure 1.1. The classification model in Figure 1.1 represents the soft aspects of TQM, and TQM will be viewed in this thesis in relation to the organisational and environmental context in which it is located. This model will be refined throughout the thesis as a result of the literature review and the research findings.
This thesis will make both a practical and theoretical contribution. The principles of Total Quality Management suitable for schools of nursing in higher education will be identified using the Soft Systems Methodology (SSM) by Checkland (1993) as the theoretical framework. First, the research findings will enable the researcher to develop a quality culture model applicable to a school of nursing within higher education which is both realistic and workable. Second, using Checkland’s (1993)

Figure 1.1: A Classification Model of the soft aspects of Total Quality Management in a school of nursing in higher education

Source: Cruickshank 1999

Soft Systems Methodology as a structured systemic approach to problem-solving throughout, the thesis will provide a template allowing other nurse academics to replicate the study in schools of nursing in national and international higher education institutions.
1.4 Methodology

Section 1.4 provides an overview of the methodological framework for this study. The thesis has followed the five chapter structure proposed by Perry (1994). Perry (1994) considered that ‘only one major methodology which suits the research problem’ will be used to collect the data, and ‘other methodologies would be used in a secondary role to help formulate research issues (for example, some interviews to help design a survey’s questionnaire)’ (p.20). In this thesis the determining factor in choosing the methodology was the type of knowledge required to answer the research questions and, adhering to Perry’s (1994) five chapter structure, the major methodology employed for this study was a survey using a mail questionnaire. The positivist paradigm was selected as the major methodology as it could provide objective, quantifiable data which were required for the development of a quality culture model for a school of nursing in higher education. However, since little is known of quality management practices in schools of nursing, the views of nurse academics were viewed as crucial in discovering in-depth, preliminary data which would aid the major methodology. Thus, the interpretivist paradigm was adopted in a secondary role and as a precursor to the major quantitative methodology.

A national survey of 850 nurse academics employed at the time of the study throughout forty schools of nursing in higher education in Australia was conducted in November 1996. The response rate from the survey was 52%. Justification for the major methodology, the survey questionnaire, can be found in section 3.2 in Chapter 3, and a discussion and description of the major methodology is in section 3.4, in Chapter 3.

The focus group technique was used in a secondary role and as a precursor to the quantitative method used in the thesis. The focus group discussions were conducted in 1995. From a random sample of the 40 schools of nursing in higher education in Australia at the time of the study, focus group discussions were conducted in four states and one territory of Australia. Stratified random sampling using employment level as the stratum was used to ensure that each employment level in the schools of nursing was represented in the focus groups. The five employment levels were professor, associate professor, senior lecturer, lecturer, and associate lecturer.
Since there is a paucity of both prescriptive and empirical literature on Total Quality Management in nurse education at international and national levels, it was appropriate in the exploratory stage of the thesis to determine a sample of nurse academics’ perceptions of the applicability of Quality Assurance and TQM in schools of nursing and this was accomplished using focus group discussions. The reasons for using the focus group technique were twofold. First, focus group discussions were used as a resource for the design of a quantitatively oriented survey, since they could provide in-depth contextual detail. Second, using focus group discussions helped ensure the researcher received an overall picture of participants’ perceptions of quality issues in schools of nursing in higher education. This was further ensured by using a stratified random sample of nurse academics at five employment levels.

In summary, the focus group technique enabled the researcher to: explore in-depth, nurse academics’ perceptions of a quality culture in schools of nursing; ascertain nurse academics’ knowledge of Total Quality Management focusing on the soft aspects of TQM which are organisational culture and change, and human resource management; and obtain a holistic picture of Quality Assurance activities in schools of nursing. The data obtained from the focus group discussions assisted the researcher in developing and designing the survey questionnaire and it was anticipated that the data would also enhance the validity of the research instrument in the major methodology. Justification for using the focus group technique in a secondary role is in section 3.2.1 in Chapter 3, with a description of the focus group discussions and procedure in section 3.3.

Reliability of the attitudinal scale of the research instrument was assessed using Cronbach’s coefficient alpha for internal consistency. In the attitudinal scale the three composite indexes developed had alpha coefficients of more than 0.50. Data were analysed using descriptive statistics, a nonparametric statistical test, Kendall’s tau_b, and univariate analyses of variance (ANOVAs).

The theoretical framework chosen for the thesis was the Soft Systems Methodology (SSM) developed by Peter Checkland, Professor of Systems at Lancaster University.
This structured methodology was used throughout the thesis as a link between the conceptual and empirical aspects of the thesis, and also as an endpoint to demonstrate perceived relationships between concepts. Thus, it provided an integration of the parts of the thesis.

An introduction to the Soft Systems Methodology can be found in the following section; a description of the methodology can be found in section 2.5.2; and the justification for using this particular systemic approach to problem-solving is in 2.5.3 in Chapter 2. The application of the Soft Systems Methodology commences in section 3.3.5 in Chapter 3 and the seven stage process is incorporated throughout Chapters 3 and 5.

1.5 Outline of the Thesis

The organisation of the thesis will follow the five chapter structure developed by Perry (1994). The researcher will use the term thesis consistently as advised by Perry (1994), and the terms research and study will be used when referring to the research undertaken in the thesis. Furthermore, Perry (1994) discusses the immediate discipline of the research problem and its parent disciplines, and in this thesis the immediate discipline is recognised as nursing in the higher education industry, and the parent disciplines are Quality Assurance and Total Quality Management. Chapter 2 of the thesis presents a review of the literature, commencing with a discussion on the evolution of Quality Assurance in the United States and Australian health care systems, followed by a review of the development of the traditional QA model conventionally used in nursing. The evolution of Total Quality Management will be traced; the philosophy and principles of TQM will be examined, and a review of empirical studies on TQM implementation will be presented. The second section of this chapter includes a conceptual analysis of organisational culture and change and human resource management in schools of nursing in higher education. The chapter concludes with an introduction of systems theory and a description of Soft Systems Methodology which is used as the theoretical framework. A justification is also given for using the Soft Systems Methodology developed by Peter Checkland (1993).
Systems theory was considered by the researcher to be an appropriate theory for this thesis as it could provide the structure to examine the research problem as a whole entity, with each of its component parts. However, a systemic approach was required which would deal with a *real world problem* which was ill-structured and unclear, and where there was no obvious solution or ways to overcome the difficulties being experienced. The Soft Systems Methodology (SSM), developed by Peter Checkland (1993), was deemed appropriate as the theoretical framework for the thesis as it could address the research problem. Throughout the thesis the seven stage process of SSM will be theoretically linked, and operationalised to the research methodology in Chapter 3 and the discussion and recommendations in Chapter 5.

Checkland (1993) defined Soft Systems Methodology as ‘a systems-based methodology for tackling *real-world problems* in which known-to-be-desirable ends cannot be taken as given’ (p.318). According to Flood and Jackson (1991), SSM ‘articulates a process of inquiry, it is a learning system that leads to purposeful action in a continuous cycle’ (p.171) with the process of inquiry never ending. Wilson (1984) described the Soft Systems Methodology as ‘a seven stage process of analysis which uses the concept of a human activity as a means of getting from, finding out about the situation, to taking action to improve the situation’ (p.64). According to Forbes (1995), SSM provides ‘an ideal tool for strategists to use as it deals with the effects of belief on behaviour as well as making an inclusive process rather than some isolated activity carried out by an *expert* who has all the answers’ (p.16).

The SSM concepts were developed through research, practical application and experience in a variety of complex organisational systems in the 1980s, when Checkland explored systems engineering techniques used for structured problems. Checkland applied systems engineering methods to broadly defined, messy managerial situations to determine whether this approach could be utilised in *soft* systems situations. According to Checkland (1993), *hard* systems thinking ‘is goal-directed, in the sense that a particular study begins with the definition of the desirable goal to be achieved’ (p.149), but this approach to *soft* problems did not work because in *soft* systems situations the goals are often obscure. Additionally, *hard* systems thinking assumes that problems are real and that ends are easily definable. Therefore, the primary concern is ‘how should we reach predefined ends,
what are the best means available, or "How should we do it?" (Flood & Jackson 1991, p.169).

In contrast, SSM does not comply with the means-end approach, but asks the question 'What should be done', and this becomes the main focus of SSM. Checkland (1993) defined a soft problem as 'a problem, usually a real-world problem, which cannot be formulated as a search for an efficient means of achieving a defined end; a problem in which ends, goals, purposes are themselves problematic' (p.316). Thus, Checkland's research results led to a very different approach to soft 'problem-solving' with the philosophy of SSM breaking away from the traditional, hard view of the nature of problems.

The Soft Systems Methodology moves between the real world and the ideal world of pure systems thinking, so an analyst can compare the actual situation with a desirable one. The analyst can then discuss with the owners of the problem the comparisons between the two situations and identify culturally feasible and systematically desirable changes to the actual situation. The Soft Systems Methodology is expressed in the form of a diagram in Chapter 2. Figure 2.3 represents the methodology in a chronological sequence which should be read from 1 to 7, but, according to Checkland (1993), the seven steps do not have to be followed when using this process of analysis.

In principle a start can be made anywhere. Backtracking and iteration are also essential; in fact the most effective users of the methodology have been able to use it as a framework into which to place purposeful activity during a systems study, rather than as a cookery book recipe (Checkland 1993, p.162).

Chapter 3 commences with a justification for the paradigms and methodologies presented in this chapter followed by the unit of analysis and procedure for the focus group discussions. Using Checkland's Soft Systems Methodology as the theoretical framework, the application of SSM commences with establishing stages one and two of the seven stage process from the focus group findings. The results of stages 1 and 2 enable the researcher to define stage 3 and to build a Conceptual Model in stage 4 which is then integrated into the findings, discussion and recommendations in
Chapter 5. The unit of analysis and procedure for the survey questionnaire is presented, ethical issues relating to the research are discussed, and methodological limitations are identified. The chapter concludes with a description of the statistical computer program utilised for the questionnaire data analysis.

In Chapter 4 the data analysis and interpretation of results of the survey questionnaire are presented. Chapter 5 presents the conclusions about each research question and the implications for theory, policy, and practice are addressed. The final stages of Checkland's Soft Systems Methodology, stages 5, 6, and 7 are integrated and operationalised in the discussion, and in stages 6 and 7, the major elements of a TQM model applicable to a school of nursing in higher education are identified, explained and justified. Ways in which the model can be integrated into a school of nursing within a tertiary institution are presented in Figure 5.5. This chapter concludes with recommendations for further research into this field of study.

1.6 Definitions

‘Definitions adopted by researchers are often not uniform, so key and controversial terms are defined to establish positions taken in the PhD research’ (Perry 1994). The following definitions are used throughout the thesis.

Continuous Quality Improvement (CQI): is the ‘approach to quality management in which scientific, data-driven approaches are used to study work processes that lead to long-term system improvements. This concept has evolved into systems such as process improvement or performance improvement’ (DeLaune & Ladner 1998, p.194).

Human resource management: is the ‘development of plans and practices that realise the full potential of the workforce to pursue the quality and performance objectives of the organization. Includes (1) education and training, (2) recruitment, (3) involvement, (4) empowerment, and (5) recognition’ (Lewis & Smith 1994, p.317).
Mind set or paradigm: 'A person’s mind-set is an expression used to indicate the way the person views quality. It is used in contexts implying that the correct mind-set is one which is disposed to look at quality from the viewpoint of prevention rather than inspection. An alternative expression is paradigm, and a change in mind-set is then referred to as a paradigm-shift' (Fox 1995, p.266).

Nurse practitioner: is a ‘registered nurse with appropriate accreditation who practises within the professional role of a nurse but who has autonomy in the work setting and the freedom to make decisions consistent with her/his scope of practice’ (Commonwealth Department of Human Services & Health 1994, p.29). This definition will be used throughout the thesis when referring to practising nurses in the hospital environment.

Nursing academic (or academic in nursing): is a ‘member of staff at a university faculty, department or school of nursing (whether or not registered as a nurse, and/or experienced in nursing work)’ (Commonwealth Department of Human Services and Health 1994, p.30).

Quality Assurance (QA): is the ‘traditional approach to quality management in which monitoring and evaluation focus on individual performance, deviation from standards, and problem solving’ (DeLaune & Ladner 1998, p.194). This definition will be used throughout the study when discussing the traditional Quality Assurance approach used in health care organisations and in nursing practice.

Quality Management (QM): is an ‘umbrella term encompassing all systematic approaches to the assessment and improvement of quality’ (Schmele 1996, p.590).

Total Quality Management (TQM): is the ‘method of management and system operation used to achieve CQI. TQM promotes an organisational culture that supports customer needs, empowers employees to work as teams, emphasizes self-development, and requires a new leadership style in which employees are viewed as resources’ (DeLaune and Ladner 1998, p.194).
University school of nursing: is a ‘faculty, department or school of nursing located within a university on one or more campuses (sites)’ (Commonwealth Department of Human Services & Health 1994, p.30). This definition will be used throughout the thesis when referring to schools of nursing in the higher education sector.

1.7 Limitations and Key Assumptions

Nursing institutions in the higher education sector are referred to as schools of nursing throughout this thesis. The researcher acknowledges that nursing institutions throughout Australia may constitute a faculty, a department or a school but the generic term, a school of nursing, was used to avoid confusion when referring to nursing education institutions.

In recent years, numerous terms such as ‘quality improvement’, ‘quality management’, continuous quality improvement, and ‘total quality management’ have been presented in the literature to describe quality activities both in the industrial and health care sectors. Whilst it is acknowledged that a myriad of terminology does exist surrounding the concept of quality, it should be borne in mind that the first concern should be with the quality initiative itself. As Schmele (1996) pointed out ‘it is time we abandon our preoccupation with right-speak in favor of a more fundamental concern for right-think’ (p.97). However, the author does concede that the terms Total Quality Management and Continuous Quality Improvement are not interchangeable terms.

According to Schmele (1996), TQM is a ‘philosophy of leadership, grounded in statistical theory and driven by a shared set of values and beliefs, and it is operationalized by top-down total employee commitment and participation in customer-focused CQI of all work processes throughout the organization’ (p.314). Dwyer, Murray and Mott (1998) also highlighted the difference between the two terms stating that:

While TQM approaches centre on the more broader aspects of workplace reform, such as the application of quality control techniques, group problem-solving of process operations and a focus on internal and external customer-supplier relationships, continuous
improvement (CI) by comparison could be described as the process which underpins TQM (p.20).

The researcher recognises that today ‘quality’ in organisations is more commonly referred to as quality management practices. However, at the conception of this study, the terms used to describe modern quality management practices in the literature were Total Quality Management (TQM) and Continuous Quality Improvement (CQI), so the term Total Quality Management has been adopted in the investigation of the research problem. For the purpose of clarity and consistency, the terms Quality Assurance (QA) and Total Quality Management (TQM) will be used throughout this thesis.

The literature on Quality Assurance related to health care is prolific and has evolved from several health care groups including the nursing, medical, physiotherapy and occupational therapy professions (Ellis & Whittington 1993). To meet the aims of this study, literature that relates to QA practices used by the nursing profession in both the health care and higher education industries will be used. This research is based on an assumption that the nursing profession has developed its own QA guidelines, standards and procedures. This assumption is supported by Wilson (1987), and Ellis and Whittington (1993), with the latter authors stating that ‘while the nursing profession has produced by far the greatest number of quality assurance systems and techniques they are almost exclusively for and about nursing’ (p.28).

References from non-nursing professional groups will be used when pertinent but the bulk of the QA literature pertaining to other health care groups will be excluded from the study. Furthermore, the sample of this study will be limited to nurse academics employed in schools of nursing in the higher education sector at the time of the study. Thus, the results of the study cannot be generalised beyond the study sample.

There is an assumption that schools of nursing in the higher education sector employ the traditional QA approach used by nurses in the hospital environment. This view is based on the QA literature; the researcher’s academic and clinical nursing experience with QA practices; and anecdotal evidence from nursing professionals.
The two methodological limitations to the thesis are the research instrument and the sampling method which are identified and discussed in Chapter 3. In brief, the research instrument was purposely constructed in an abstract way to gain a picture of individual nurse academics’ views of Total Quality Management in schools of nursing in higher education. This is further discussed in section 3.4.7. The findings of the investigation must be treated with caution and cannot be generalised as representative of the nurse academic population in Australia, as they only reflect the findings from a convenience sample of nurse academics.

1.8 Conclusion

In recent times, many health care professionals including practising nurses have changed their focus on quality in patient care, from Quality Assurance to Total Quality Management, or, as it is commonly referred to in the health care industry, Continuous Quality Improvement. The evolution and development of modern quality management practices in the health care industry have been influenced by increasing demand and expectations from consumers, and the increasing control from government to contain costs and increase efficiency. In addition, the traditional Quality Assurance approach which has been provider defined and focused has also influenced the need for change in health care quality. Nurses in the health care industry who have made a paradigm shift from Quality Assurance to Total Quality Management have discarded the negative elements of the traditional QA approach and integrated the functional elements into the new quality management practice.

While there is growing interest in Total Quality Management within nursing in the Australian health care industry, the situation is notably different with nursing in the higher education sector. Anecdotal evidence plus the researcher’s clinical and academic nursing experience suggest that QA procedures and policies that were transferred from the hospital to the higher education setting continue to be used on an informal and individual basis to meet internal and external monitoring requirements. Anecdotal evidence further suggests that the ‘technical’ quality method found within the traditional QA approach is not sufficient to meet the needs of nursing in higher education. Despite this, the traditional QA approach is still used as the main quality management practice in schools of nursing probably because nurse academics have
viewed this approach as the only method in meeting both internal and external regulatory requirements.

This situation poses important issues for nurses which need to be addressed before long-term effects detriment to the nursing profession are witnessed. First, differences in quality management practices between clinical nursing and nursing education are emerging which have the potential to create a division within the nursing profession. Second, the disparity between quality management practices will impact on graduate nurses entering the workforce which could cause considerable role conflict.

These issues raise several questions that the researcher alone cannot answer. Moreover, there is no indication from literary sources that: 1) alternative quality management practices have been developed or adopted in schools of nursing in Australia, or 2) that the views of nurse academics in Australia have been sought in respect of appropriate quality management practices for nursing education.

This thesis will make a significant contribution to the nursing literature by identifying and examining quality management practices in nursing education in Australia, an area of research not previously investigated. More specifically, it will: 1) examine the above QA issues and identify the quality practices employed by nurse academics; 2) discover nurse academics views on appropriate quality management practices specifically for nursing education; and 3) assist the researcher in developing a quality culture model suitable for a school of nursing in higher education. It is anticipated that the complex nature of organisational culture and human resource management will impact on the development of such a model. Thus, these elements referred to as the soft aspects of TQM will also be investigated in this thesis. An understanding of cultures in schools of nursing will also assist policy makers in developing strategies for quality initiatives. Finally, using Checkland's (1993) Soft Systems Methodology for this ill-structured, complex research problem will provide structure to the overall thesis. It will also provide a template for future use by nurse academics in schools of nursing in higher education.

Embedded within the research problem are aforementioned complex issues associated with quality management practices in schools of nursing. For this reason
the research strategy used to thoroughly identify and understand the issues included two methods from the positivist and interpretivist paradigms. The thesis included two levels of data collection and analysis: focus group discussions with a stratified sample of nurse academics, and a postal survey using a convenience sample of nurse academics. The major methodology utilised a self-reported questionnaire survey designed to gain demographic data and data concerning QA and TQM identified in the aims of the study. The questionnaire was developed following focus group discussions which explored the issues of QA, TQM, and nursing cultures within schools of nursing. To this extent, the survey was qualitatively derived utilising the focus group technique.

The thesis does, however, contain two methodological limitations which must be acknowledged in order that its findings are kept in context. First, the research instrument was developed purposely for this study to discover what nurse academics opinions and perceptions were on QA, TQM, and nursing cultures, so information on these topics was not provided within the questionnaire. Readers of this thesis may perceive this as a limitation with the subsequent development of a quality culture model for a school of nursing not a true reflection of the views of nurse academics in Australia. Justification for the abstract construction of the questionnaire is given in section 3.4.7. Second, the survey questionnaire participants were part of a convenience sample so the ability to generalise the findings is limited. The researcher believes however, that the two levels of data collection and analysis in this thesis are as accurate and comprehensive as could be achieved with the methods and procedures employed.

In summary, this chapter has laid the foundations for the thesis. The chapter introduced the background to the research, the research problem and the research questions. Justification for the research was presented with theoretical and practical contributions identified. The methodologies were briefly described and definitions were presented. Each chapter of the thesis was outlined, and the limitations of the research were briefly identified. The following chapter will present a systematic review of the literature in relation to the research problem in this thesis.
CHAPTER 2

Literature Review

Section 1: Introduction

2.1.1 Introduction

This chapter provides an overview of the literature relating to the research questions and commences with a description of how the literature was accessed and utilised for the purpose of this chapter. To adequately address the research problem identified in section 1.2 in Chapter 1, it is necessary to review the literature from the parent disciplines, that is, Quality Assurance (QA) and Total Quality Management (TQM). The literature will also be reviewed from the immediate discipline which is nursing in the higher education industry. The first two sections of the chapter present a review of past and recent research and theory dealing with quality management practices in the health care industry and the nursing profession. This is divided into three sections: the functions of nursing management and its link with Quality Assurance; the evolution of Quality Assurance in overseas and Australian health care organisations and nursing; and the generic approaches used to measure quality. The limitations of the traditional approach to Quality Assurance in the hospital setting are also identified and discussed.

Sections three and four will examine the origins, development and applications of Total Quality Management in three industrial environments, namely, the manufacturing industry, the health care industry, and the higher education industry. The theoretical and empirical literature on Total Quality Management is reviewed focussing on the significance, implementation, evaluation of TQM, and the integration of QA and TQM in health care organisations. In this study, Total Quality Management is viewed in relation to the organisational and environmental context in which it is located, and only organisational culture and structure, and the role of human resource management, that is, the soft aspects of Total Quality Management will be examined.
The last section in the chapter, section five, presents the theoretical framework. A
Methodology, was used throughout the study which led to an integration of the five
chapters in the thesis.

For the purpose of clarity, and to set the scene for the reader, two main paths will be
followed in this chapter. First, a discussion on the Quality Assurance process as a
traditional function of nursing management in the hospital setting, and an historical
overview of Quality Assurance in health care organisations and nursing practice will
lay the foundation for the first three research questions. Second, the origins of TQM
will be traced, and organisational culture and human resource management discussed
to lay the foundation for research question four. Examining the two quality processes
will form the theoretical basis and direction that this study will pursue. To assist the
reader in following the sequence of the chapter refer to Figure 2.1.

Figure 2.1: Relationship between the research problem and research questions

Source: Cruickshank 1999

27
2.1.2 Identification of literature and modes of access

For the literature survey, international and national sources were accessed and material written in the English language was selected. In order to review the parent and immediate disciplines of the research problem, literature was surveyed from the following disciplines: nursing, health care, business and management. Since the historical origins of Quality Assurance and Total Quality Management play an important part in the development of the research questions, old references as well as recent writings have been used when appropriate. The review was conducted using cumulative indexes, abstracts, bibliographies, and computerised databases. Literature was identified by a computer search of the Cumulative Index of Nursing and Allied Health Literature (CINAHL); Dissertation Abstracts International (DAI); MEDical Literature Analysis and Retrieval System onLINE (MEDLINE); ERIC (Education Resources Information Centre); and the Hospital and Health Administration Index (HHAI). The electronic database, ABI/Inform, provided literature on Total Quality Management in the business management, health care and nursing, and higher education disciplines. Nursing and management material was also accessed using electronic search engines on the World Wide Web such as Infoseek and LYCOS. Data were also located by branching from documents accessed through electronic and manual searches.

Section 2: Quality Assurance

2.2.1 Nursing management and the link with Quality Assurance

The role of nurse managers, management styles used in nursing practice, and the Quality Assurance process as a function of nursing management will be addressed in this section. Before the concept of QA can be explored, these three issues identified above, need to be outlined to familiarise the reader with traditional nursing management practices.

In Australia, nursing currently represents the largest occupational group within the health care industry. The nursing profession can be broadly categorised into three groups: nursing management (commonly referred to as nursing administration within the hospital setting), nursing practice, and nursing education in the higher education
sector. Traditionally, nurses have been awarded the status of nurse manager based on experience and merit, and were ‘often only prepared academically in clinical nursing and lacked the financial and business skills necessary today for such a role’ (McDonagh 1998, p.23).

When the apprentice system of nursing in the hospital setting was abandoned, and the transfer of nurse education to the higher education sector was commenced in 1984, there was a shift from a service-under-supervision model of learning to the use of education models to facilitate student learning. Under the old hospital-based system of nursing education, the emphasis was on training rather than education, and nurses did not receive any preparation for future management positions. Today, nurses wishing to pursue a career in nursing management, either at the departmental or unit level are being encouraged to undertake further education. According to Fonville, Killian and Tranbarger (1998), ‘it is central to nursing leadership that nurses have an educational preparation that includes not only a strong clinical component, but also administrative skills, business and negotiation preparation, and an understanding of leadership attitudes’ (p.84). The push for aspiring nurse managers to obtain management skills has been further exacerbated by the increasing complexities of health care organisations, and the pivotal role that nurses play in management practices today.

A review of the literature on nursing management methods did not identify a management approach which has been developed by the nursing profession. This could be attributed to the fact that traditionally the nursing profession has strongly emphasised the client as the nurse’s primary concern, and management functions were covered by others in the health care facility, such as doctors and the director of nursing.

Hospitals are complex organisations in which authority, responsibility and relationships can be uncertain and complex, and traditional hospital nursing has had a well-defined hierarchical authority structure with an ascending chain of command (Short, Sharman & Speedy 1998). According to McDonagh (1998), ‘the traditional director of nursing role was seen as controlling, autocratic, and entrenched in the bureaucratic organisational structure of hospitals, and the mantra of management at
that time was planning, organising, controlling, and leading with an emphasis on controlling' (p.23). Decision-making power was concentrated at the top, health care facilities were organised into departments and divisions, and a hierarchy of supervisors and middle managers controlled and directed the workers and the processes. Short, Sharman and Speedy (1998) stated that the smooth running of a hospital ‘is dependent on everyone knowing their place and obeying superiors’ (p.40). According to Morey (1996), ‘traditional management techniques focus on blaming individuals for poor performances rather than looking for deficiencies in the process of production’ (p.114), but Moloney (1992) argued that ‘since the majority of nurses are employed by organizations, their status as employees in a bureaucratic structure limits their independent decision-making’ (p.230).

Several international texts, mainly from the US and UK discuss the management process, leadership styles, conflict resolution strategies and planned and unplanned change taken from other disciplines and used by nurse managers (Yoder-Wise 1999; Grohar-Murray & DiCroce 1992; Marquis & Huston 1992; Marriner-Tomey 1992; Gillies 1994). Grohar-Murray and DiCroce (1992) suggested that ‘the nursing profession is developing its own unique and innovative management strategies as nurse researchers and administrators study the management process’ (p.116). However, during the literature survey, the researcher did not find any evidence of a nursing management model developed by the nursing profession.

In an Australian text written by Cuthbert, Duffield and Hope (1992), the authors discussed management theories and highlighted four major approaches: scientific management, classical organisation, behavioural and quantitative approaches. The authors present a brief historical overview of each approach, but do not identify a specific approach adopted by nurse managers in Australia. They do emphasise, however, the importance of an organisation having a mission, philosophy, goals and objectives in place, which are developed as operational tools and not meaningless ‘management ornaments’ (p.17).

Cuthbert, Duffield and Hope (1992) cited a research study conducted by Trexler (1987) who investigated the use and effectiveness of mission, philosophy, goals and objectives, in nursing departments in 27 American states. Trexler (1987) found that
most of the documents were stated in idealistic terms and were unachievable. As a result, there was a low level of congruency between the mission, philosophy, goals and objectives as defined in the documents and the actual nursing activity (Trexler 1987, cited in Cuthbert, Duffield & Hope 1992).

In a more recent Australian text written by Clinton and Scheiwe (1995), the authors discussed the multiple roles of a nurse manager which include recruitment and appraisal of staff; having an understanding of legal and industrial issues, and government policies and budgeting; remaining current in their own clinical area of expertise; and having current technical knowledge. According to the authors, nurse managers need to be flexible and adaptable to client and staff needs, and that ‘during a normal shift, they may change their management style to suit the demands of the moment’ (Clinton & Scheiwe 1995, p.58). An overall management approach employed by nurses in Australian hospitals is not specified.

The preceding review of the literature has demonstrated that nurse managers in the hospital setting have incorporated management practices from other disciplines and nurses have traditionally worked within a hierarchical structure. Furthermore, integrated within nursing management functions, either at the organisational or unit level, has been the process of Quality Assurance. The tradition of nursing strongly emphasised the client as the nurse’s primary concern, ‘with managers responsible for monitoring the quality of the product that their units produce, and in health care organisations that product is client care’ (Marquis & Huston 1992, p.353). Nurse managers have employed Quality Assurance principles and methods to measure quality service and outcomes, and have actively participated in the QA process, mainly at the unit level. According to Schmele (1996), nurse managers were responsible for the unit-based QA activities, from implementation to evaluation, but ‘it was often the nursing QA coordinator, however, who held the function of QA process expert and consultant’ (p.547). Thus, Quality Assurance was viewed as a separate nursing management function which resulted in the division of the nursing management role and quality management practices.

In the past decade there has been an increasing interest in quality management practices among health care and human service industries in response to consumer
demands, financial viability, professional accountability, regulatory requirements, progress made in quality improvement techniques, and changes in health care delivery (DeLaune & Ladner 1998). The nursing profession has also indicated an interest, and the term Quality Assurance traditionally used by health care providers and the nursing profession in the hospital setting is now being increasingly replaced by Total Quality Management and Continuous Improvement (Schmele 1996). McDonagh (1998) stated that nurse executives 'have often been leaders in the area of shared governance or shared leadership models as well as quality improvement programs which are vital competencies in contemporary business environments today' (p.24). Recent endeavours by nurses in pursuing the quality path in health care will be discussed in sections 2.4.3 and 2.4.4.

In summary, Quality Assurance has been the traditional approach to quality management in nursing, in which monitoring and evaluation have focused on individual performance, deviation from standards, and problem-solving. In the past decade, the health care sector and the nursing profession have come to realise that an approach which examines structure and process instead of individual performance is required in order to provide quality care to clients, and today, the nurse manager's role in quality initiatives is quite different from that of past nurse managers involved in Quality Assurance.

Before the quality management methods recently employed by health care organisations can be fully explored, it is necessary to show the link between Quality Assurance and Total Quality Management in the health care sector. A background on the traditional Quality Assurance approach used by nurses in the hospital setting will be presented followed by a discussion on the transition from Quality Assurance to the current quality management methods adopted from the manufacturing industry.

2.2.2 The evolution of Quality Assurance in health care organisations and nursing: An international review

There are two main traditions of Quality Assurance. One is Quality Assurance for health care; the other is Quality Assurance for manufacturing and service industry (Ellis & Whittington 1993). This section will provide an historical overview of
Quality Assurance in overseas and Australian health care systems. To understand the recent emphasis on quality management practices in the health care industry it is also necessary to examine the major forces that have influenced quality care throughout history.

The concern for quality in health care is by no means a revolutionary matter. In the course of Western civilisation alone, quality concerns date at least as far back as the 5th century BC, when the Greek physician Hippocrates established a code of medical ethics, a guide to practising medicine, which is used to this day (Bauman 1991). Thus, from the earliest times, providers of health care have articulated guidelines for practice, and such guidelines reflect concern for the quality of care. Ellis and Whittington (1993) referred to this gestational stage of Quality Assurance as 'the embryonic stage when such mechanisms as existed were implicit, but not specifically referred to as Quality Assurance' (p.9).

Further along the timeline, modern Quality Assurance is considered to have begun in the mid 1800s with Florence Nightingale's efforts to improve the conditions of care delivered to British soldiers during the Crimean War. Nightingale, joined by others, continued her quality improvement work throughout the remainder of the century (Bauman 1991). She made an attempt to assess whether nursing care was adequate, and she also encouraged her nurses to keep records and statistics related to the care of their patients. Her methodical measurement of facts and statistics relating to patient care resulted in an increase in her influence, with a subsequent improvement in the quality and indeed quantity of resources for those wounded in the Crimea (Bassett 1993). Ellis and Whittington (1993) termed this stage the emergent stage during which 'the term Quality Assurance gained currency, concepts were explicitly discussed and procedures were self-consciously implemented and evaluated' (p.9).

Early in the century, the quality of many practising nurses and particularly midwives became a concern to the profession and in 1902 the Midwives Act was passed for the control and provision of midwives. In 1919, the Nurses’ Registration Act made similar provisions for nurses. However, these efforts to ensure the quality of nursing care did not address the actual standards of hospitals, where most of the care and treatment of serious conditions occurred.
Prior to World War I, the United States established clinical education reform, professional accreditation policies, and improved the organisation and delivery of health care. Because of rising health care costs, over-servicing, and poor quality of medical care in the United States, the Joint Commission on Accreditation of Hospitals (JCAH) was formed in 1952 and criteria were established for Quality Assurance in hospitals (Ellis & Whittington 1993). This accreditation program for hospitals has continued to be the main hospital accreditation program in the United States, and primarily applies process and structural standards to demonstrate that accredited hospitals have the mechanisms in place to provide high-quality patient care.

In the mid 1960s, the rapid growth in inflation and a rising cost of health care in the United States once again caused public concern about quality of care, which led the federal government to enact legislation establishing Medicare Conditions (Ellis & Whittington 1993). According to Bauman (1991), ‘these conditions helped structure the provision of professional and paraprofessional care and established minimum standards for monitoring and reviewing the appropriateness, effectiveness, and overall quality of health care provided to Medicare beneficiaries’ (p.10). Also, during this time the Joint Commission expanded its accreditation program to include long-term care and rehabilitation facilities (Bauman 1991).

From the 1950s to the 1970s the focus was on the development of specific instruments to measure quality of nursing care. A literature survey revealed that most of the major research on measuring quality of care has been carried out in the US and Canada (Sale 1996). The first studies on quality of nursing care in the US were developed in the early 1950s, but research on measuring quality was not conducted until years later, when ‘measurement instruments were developed by nurses and researchers from other professional backgrounds’ (Sale 1996, p.4). These included the Slater Nursing Competencies Rating Scale (Wandelt & Stewart 1975), which is a tool designed to measure the nursing care received by patients. The development of the nursing audit, known as the Phaneuf Audit (Phaneuf 1972) began in 1952 but was not published until 1972. It was the belief at the time that nurses, responsible for the provision of care, were accountable for its quality and that, given an audit
method, were capable of passing judgment on the quality. This was, in essence, the evolution of peer review. The nursing audit evaluated the quality of nursing care through the appraisal of the nursing process as reflected in the clinical records of discharged patients. A patient’s records were reviewed, each item of care was rated, and a score was computed. Care provided was then described as excellent, good, incomplete, poor or unsafe. Similar tools to measure nursing performance and patient care were designed by Donabedian (1968), Zimmer (1974), Lang (1976), and Schmele (1985).

Two other instruments to measure quality of care also appeared during the 1970s: the Quality Patient Care Scale (Wandelt & Ager 1974) and the Rush Medicus Methodology (Jelinek et al. 1974). At the same time, work had begun in developing generic models or frameworks for conducting Quality Assurance activities. The model approach as an alternative from the standardised methodologies previously mentioned was directed at a process to address quality assessment with the uniqueness of the given agency and patient population. It allowed for the opportunity to focus on a specific issue, and emphasis at the time was placed on developing criteria, establishing standards, and refining models. In the US, it was realised that audit review alone could not promote an improvement in patient care. Consequently, the Joint Commission on Accreditation of Hospitals (JCAH) established standards of nursing care in 1971, providing a more ‘objective and systematic review of patient care and performance’ (Sale 1996, p.5).

During the 1980s, the JCAH imposed new standards on hospitals. The JCAH stipulated that it was mandatory for each hospital to have a Quality Assurance program in place by January 1981 (Schmele 1996). The programs were to include a review of care provided by health care practitioners from all disciplines within that organisation, a report of the findings of their Quality Assurance activities, and action plans for known or suspected problems or concerns. Schmele (1996) suggested that ‘quality was the buzzword of the 1970s; the 1980s was the era of Quality Assurance’ (p.40) and ‘the watchwords for the 1980s became monitoring and evaluation of quality and appropriateness’ (p.163).
Schmele (1996) conducted a literature survey on the concept of quality as it relates to contemporary nursing care, and found not surprisingly that quality was considered by several authors to be a complex, multi-dimensional concept ‘requiring further analysis and clarification’ (p.35). Of further interest was the finding that the health and nursing literature ‘appeared to be following a decade behind the pattern of evolution in the general and management paradigm’ (p.40). This could be attributed to the fact that until recent years little attention was given to consumer input with regard to decision-making and evaluation of the delivery of services.

In 1984 the World Health Organization (European Region) made a commitment that by 1990 all member states should have built effective mechanisms for ensuring quality of client care within their health care systems, and according to Ellis and Whittington (1993), health care Quality Assurance had arrived at what the authors described as the *mandatory stage*. Now governments, professionals and patients were in broad agreement that Quality Assurance for health care was essential, with the health care system managed in such a way that ‘the quality of care is guaranteed and the best possible care is provided for the greatest possible number in the most economical way’ (Ellis & Whittington 1993, p.10). As a result of the World Health Organization (WHO) program, nurses in Europe became increasingly interested in the quality management and Quality Assurance of their performance (Schmele 1996, p.230).

In the late 1980s, the Joint Commission added accreditation for home health agencies and related service providers and it became known as the Joint Commission on Accreditation of Health Care Organizations (JCAHO) (Ellis & Whittington 1993). The JCAHO emphasised the concept of Continuous Quality Improvement and consumer input in evaluating care. In the 1992 JCAHO Standards, the terms ‘Quality Assessment and Improvement’ were used in preference to ‘Quality Assurance’ due to a consensus that quality could not be assured.

This change in terminology can be attributed to Donabedian’s classic statement made in 1988 that ‘the term Quality Assurance though firmly ensconced, is a misnomer; quality at best can be protected and enhanced, but not assured’ (p.173). This was quickly accepted by hospitals and nurses in the US and Canada, with several health
care organisations replacing the term Quality Assurance with Quality Improvement. At the same time, several models of Total Quality Management and Continuous Quality Improvement began appearing in the health care literature. In contrast, the nursing profession in Britain remained focused on Quality Assurance initiatives, but according to Schmele (1996), nursing in the UK ‘does appear to be in transition between standards and quality assurance, with some evidence of a move towards the consumerist view’ (p.41).

The classic way of approaching the measurement of quality was offered more than twenty years ago by Donabedian, a physician and prolific writer on quality. Reference to his work is essential if the topic of Quality Assurance is to be thoroughly reviewed. In 1969, Donabedian described the QA process as consisting of three interrelated components: structure, process, and outcome (Donabedian 1988). According to Peters (1991, p.2), Donabedian cautioned that ‘structure, process, and outcome were not to be seen as three dimensions of quality, as is often stated, but rather as three different avenues to a judgment of quality’.

The range of nursing literature on Quality Assurance is divided on whether to use structure, process, or outcome measures and the advantages of each component. Donabedian (1988) argued that a judgment could be made about quality directly by examining the attributes of the process of care itself, or indirectly by examining the characteristics of the setting of care (structure) or the effects of care on the health and welfare of individuals or populations (outcomes). He admitted that:

> there was disagreement over which attributes belonged in each category because the process-outcome distinction was an arbitrary one composed of a continuous chain of means and ends; that is, the flow of process became divided into parts, each of which had its own outcomes (Peters 1991, p.2).

Thus, even the classic measurement of quality was not without its dilemmas, and according to Schmele (1996), the three measurements of structure, process, and outcome as proposed by Donabedian, ‘have rarely been interrelated sufficiently to make adequate judgements about quality’ (p.314). While Donabedian’s approach did meet the JCAHO requirements for accreditation purposes, it failed to curb rising
health care costs or to 'continuously improve the quality of both clinical and managerial internal processes' (Schmele 1996, p.314).

2.2.3 Quality Assurance in health care organisations and nursing: An Australian review

Given the global situation described in section 2.2.2, it is not surprising that Australia also experienced problems of rising health care costs and lack of review systems during the 1960s. According to Renwick and Harvey (1989), 'it was taken for granted throughout the 1950s and 1960s that patients in hospitals received a high standard of care' (p.16), and as this section will demonstrate, it has been only in recent decades that the quality of client care has received increasing attention from government, professional bodies, and health care providers.

In 1974, the Australian Council on Hospital Standards was established by the Australian Medical Association (AMA) and the Australian Hospital Association (AHA) (Renwick & Harvey 1989). The primary goal of the ACHS was to improve the quality of client care in Australian hospitals by setting standards and evaluating performance. However, when the Committee of Inquiry into Hospital Services in South Australia was asked to report on quality of care in 1983, the Inquiry stated that it was unable to fully report 'because the relevant data were simply not available' (Renwick & Harvey 1989, p.1). This became known as the Sax Report, and it was significant for two reasons: 'for the first time, there was official recognition that high quality care could not be taken for granted in Australian hospitals, and it was formally acknowledged that there was no body of routine information on which to draw to describe quality of care' (Renwick & Harvey 1989, p.1). The early Quality Assurance initiatives in Australian health care organisations also drew unfavourable comments from health care leaders (Best 1987; Wilson 1987; Houghton, Casteldi & Horvaton 1990). This dissatisfaction was supported by a survey conducted by Renwick and Harvey (1989) which found only a minority of hospitals had sufficient Quality Assurance activities which could result in improvements in quality care.

In 1987, standards for Quality Assurance became mandatory for accreditation by the Australian Council on Hospital Standards. Because it was decided to include other
health care facilities, in 1988 the Council changed its name to the Australian Council on Healthcare Standards (ACHS) (Renwick & Harvey 1989). Thus, the role of the ACHS was to award or deny accreditation to not only hospitals, but also to other types of health care facilities such as community health services, nursing homes and day procedure facilities. The attainment of accreditation relies on documented achievement of specific standards. Observed behaviour and documentation are measured against set criteria which indicate whether the standards were achieved or not. Emphasis on the accreditation award has been taken seriously by Australian health care organisations. For example, in the early 1990s, a directive issued by Queensland Health stated that all Queensland public hospitals should achieve ACHS accreditation.

However, the accreditation process on quality of health care has also attracted criticism from health care leaders in this country. According to Lloyd (1987), the accreditation standards are fragmented, and do not provide for a continuous improvement of quality care. Renwick and Harvey (1989) suggested that accreditation programs focus only on structure, while outcomes are neglected. In a survey conducted by Lloyd and Patterson (1989) to determine the attitudes of nurse executives to the accreditation process, the study revealed that a significant number of respondents were dissatisfied with the accreditation standards, especially with the review of the standard of Quality Assurance programs. This dissatisfaction could impact on whether Quality Assurance standards are satisfactorily achieved or not, so these findings will be borne in mind during this study.

In the past decade in Australia, nurses have integrated many facets of Quality Assurance in their practice areas mainly as a result of the rapidly changing nature of health care. They include, but are not limited to, developing Quality Assurance activities at the unit level, developing standards, and developing frameworks that integrate standards into practice and Quality Assurance activities. Formal quality mechanisms have been introduced including Infection Control Programs, Hospital Policy and Procedure Manuals, and more recently, Critical Paths/Care Maps (Schroeder 1994). Research has demonstrated the ‘design of care regimes based around notions of efficiency and flexibility, apparently due to the need to continuously improve care in the face of scarce resources’ (Keleher & McInerney
According to Hindmarsh (1994), and Kingsland, Smith and McKinley (1994), *Quality pathways and best practice* care regimes are increasingly becoming the dominant paradigms by which nurses define their work. This is demonstrated in a recent strategic plan developed for the nursing service in the South Eastern Sydney Area Health Service (SESAHS), in which the strategic objectives include the development and implementation of a continuous improvement quality program (SESAHS 1998).

In summary, nursing has traditionally been concerned with quality patient care, and professional and legal bases for nursing practice ‘are the roots for the establishment of monitoring quality’ (Grohar-Murray & DiCroce 1992, p.162). A review of the literature revealed that during recent decades, QA processes in overseas health care systems gained a prominent role mainly as a result of social and governmental forces, and professional nursing groups at international and national levels have developed guidelines, standards and procedures for practice, accreditation and certification. Quality Assurance is the process of setting standards, monitoring practice, and evaluating and resolving practice problems. It is a specific problem-solving method with explicit standards and criteria; it is also a screening process that uses audits to draw conclusions about how well the particular standard has been met, and in Australia this process has been highly integrated with governmental, legal, and professional regulatory bodies.

The literature review also revealed that recently, several regulatory and accrediting health care bodies in the US, UK, and Australia have shifted the emphasis from structural and procedural standards to quality improvement measures based on patient outcomes. Thus, it has become necessary to redefine quality, and further, to redefine it in terms agreed upon by all involved parties, namely, the care providers, the purchasers, the regulators, and the consumers. The implementation of quality improvement measures based on patient outcomes will involve nurses in the hospital and community settings. Thus, the researcher will need to explore this issue with nurse academics when undertaking the research, as it could help to establish whether or not this has created a disparity in quality practices between nurses in the health care industry and nurses in the higher education industry.
2.2.4 Quality Assurance in nursing education

Sections 2.2.2 and 2.2.3 have described the evolution of Quality Assurance in the US and Australian health care systems. This section will specifically address the development of Quality Assurance in nursing education. Although much has been written about Quality Assurance in nursing in the hospital setting, there is a paucity of international and national literature on Quality Assurance initiatives in schools of nursing in higher education.

Nurse education in common with all areas of health is undergoing rapid and wide-ranging change, and since the late 1980s, there has been discussion regarding quality strategies in nursing education. According to Akinsanya (1992), in the late 1980s the United Kingdom Central Council adopted a strong position for increased quality in both pre-registration and post-registration courses. In 1989, nurse educators in Camberwell Health Authority in the UK devised a program of standard setting for nurse lecturers (Cooper 1989). They chose to base their set standard to meet Donabedian’s (1980) format of structure, process, and outcome, and the group’s original aim to write a workable standard was achieved. According to Cooper (1989), the nurse educators believed that ‘the standard and other standards that would follow would become part of the institutional culture thus contributing to increasing quality’ (p.17). Reublinger (1989) argued that the formalised inclusion of QA in the nursing curriculum would lead to future practitioners of nursing ‘implementing quality in every area of their practice’ (p.23). Bassett (1993) stated that it was essential that Quality Assurance strategies be adopted in all British colleges of nursing that would work at all levels within the organisation. Jolly (1989) had earlier reinforced that view and recommended that the concept of the customer should be developed by nurse educators.

The relatively recent upsurge in British interest in the study and implementation of Quality Assurance programs within the health context can be traced back to Maxwell (1984). In his model he suggested six dimensions of health care quality which needed to be addressed, namely: access to services; relevance to need; effectiveness; equity; social acceptability; efficiency and economy. This model has been mainly used in the application of quality strategies in the field of health care but Bassett
(1993) chose to adapt Maxwell’s model to nursing education, because ‘it appears to cover the process and functions of any teaching institution in a systematic and logical way’ (p.56). However, the model tends to focus mainly upon negative features of the organisation, and it can be argued that to implement Maxwell’s model would be a time-consuming and potentially costly venture.

In Australia, a regulatory nursing body exists in each state and territory to monitor nursing programs offered by schools of nursing in higher education, and external monitoring measures, such as accreditation, have an integral part in the curricular development and delivery of undergraduate and postgraduate programs. Currently, external review and accreditation processes by the nurse registering authorities offer evaluation of courses, suggestions for improvement, and grant permission to conduct degrees and certificates at both undergraduate and postgraduate levels. Thus, nurse education courses are subject to the accreditation procedures of state and territory nurses’ registration boards. These processes are not, however, indigenous to the internal perspectives of the schools of nursing and therefore become evaluation standards to be tolerated and subsequently incorporated. Fendt and Vavrek (1992) suggested that ‘when the improvement processes arise from vested sources, contextual and cultural forces inform the decision-making processes and changes are implemented with commitment’ (p.43). While the external accreditation process is mandatory and measures the quality of nurse education programs against established standards, the question needs to be asked whether internal quality assessments are made in schools of nursing in higher education.

In 1993 the transfer of nurse education to the higher education industry was completed in Australia. The main objectives of the transfer were to provide wider professional preparation and career choices for nurses, and in late 1993 a national review of nurse education in the higher education sector was conducted to assess the extent to which the objectives had been achieved, and to make recommendations to improve the effectiveness of nurse education in order to meet the workforce objectives (Commonwealth Department of Human Services & Health 1994).

One of the recommendations related to course development and monitoring processes and stated that schools of nursing should develop course advisory
committees which ‘should be actively consulted in relation to program and curriculum development, evaluation and review, quality assessment and course accreditation’ (p.16). This was an important issue in this study and anecdotal evidence obtained by the researcher from nurse academics suggested that the recommendation has been adopted by several schools of nursing, but no empirical evidence was found in the literature. Furthermore, the question of whether schools of nursing in Australia have actually established formal Quality Assurance programs and the activities undertaken within these programs has not been empirically tested. Thus, the following research questions were formulated to identify the number of schools of nursing who have established QA programs and to explore the QA activities undertaken within schools of nursing.

1. Do schools of nursing in higher education in Australia have a formal Quality Assurance program?

This research question was operationalised into a further question.

2. What are the Quality Assurance activities undertaken by nurse academics in schools of nursing in higher education?

2.2.5 Limitations of the traditional approach to Quality Assurance

Traditionally, high-quality nursing care has been viewed as comprising a technical component and an interpersonal component, both elements relating most closely to the performance of those delivering the care. QA programs focus mainly on measuring technical performance, determining whether performance conforms to acceptable standards and attempting to improve performance when the standards are not met. Thus, the major objective of QA is to achieve standards of performance which are considered ‘satisfactory’ or conform to some defined technical criteria.

Unfortunately, these standards rarely, if ever, incorporate the needs and requirements of the client. In essence, quality activity and client care are practised as mutually exclusive. Customer satisfaction has traditionally been measured by health care standards and not the recipient’s perception of the health care provided (Larrabee 1995). Bull (1994) concurred and said that little attention has been given to obtaining the client’s perspective on quality of care. Marquis and Huston (1992) stated that
most industries create product lines based on consumer expectations and satisfaction, whereas nursing has been driven by quality standards set by the profession' (p.352). According to Parker (1999), some aspects of health care delivery 'seem to reflect the needs of the clinicians more than those of the patients' (p.20).

In the hospital setting, the QA process has been part of a hierarchical rigid structure with high supervision, many levels of checking, and little emphasis on self-management. QA programs are inherently directed to finding shortcomings in the staff or apportioning blame when performance standards are not achieved (Schmele 1996). Furthermore, QA measures concentrate almost exclusively on 'policing' the standard of care delivered by the clinical staff with little concern about the care delivered by the organisation as a whole. In the early days, according to Katz and Green (1997), health care organisations 'counted how many bad things happened to clients divided by the total number of things done to clients. For example, the total number of medication errors was divided by the total number of medications administered' (p.36). This approach to monitoring left no room for a continual performance improvement of service delivery, nor was it possible to correct variations in service. In nursing, traditional practice has also been dictated by regulations and rules which often stated only one acceptable method of a nursing procedure. According to Morey (1996), 'the merits of this were not judged in terms of the quality of patient care outcomes, but by whether exact procedural rules were followed' (p.113).

These deficiencies in the traditional QA approach in the hospital setting have been well documented by Berwick (1990). He described current management practices in hospitals as the application of 'the theory of bad apples', and the management process as the collection and analysis of data as a means of detecting substandard performance and shifting the blame to the employees responsible for the bad work. In this situation, quality is maintained by the detection and removal of these 'bad apples' from the organisation. Gillies (1994) stated that the purpose of a nursing quality improvement program is to improve client outcomes, not to discipline incompetent nurses, and it has been shown from QA studies that problems in health care usually arise not from one deviant individual, but from failures in the system.
The ‘bad apple’ syndrome is only one of several negative results of the traditional Quality Assurance model. Historically, the role of the QA coordinator in the hospital setting and the QA process lacked credibility (Largen 1994). Staff participation on a Quality Assurance committee has always been viewed as an unpleasant obligation, and membership has been avoided. The QA process has not been multi-disciplinary, nor united, and it has usually focused on work based on individuals and not work based on teams. According to Ellis and Whittington (1993), this has had the rather unfortunate effect of ensuring that several Quality Assurance initiatives are monoprofessional. For example, the nursing profession has produced by far the greatest number of Quality Assurance systems and techniques and they are almost exclusively for and about nursing. This can be blamed in part, on the lack of enthusiasm from other professionals to become involved in quality initiatives, but it also indicates the nursing profession’s continuing interest in the pursuit of quality.

Berwick and Knapp (1987) believed that Quality Assurance in the health care system has three lessons to learn from other industries, namely the importance of organisational climate, the multi-dimensionality of quality, and the importance of design. By emphasising the importance of design the authors stress that just as the service industries in particular have recognised that it is vitally important to consult with customers regarding appropriate design parameters, the health care industry must also learn to involve clients in the design and control of the service. Involving clients will help ensure the prevention of poor service. Berwick and Knapp (1987) argued that measures of satisfaction or dissatisfaction are generally used subsequent to the delivery of care which may include substandard instances. Whereas the equivalent of poor goods in product oriented industries can be returned for rejection or recycling, in the health care industry, the care cannot be retrieved.

Masters and Schmele (1991) identified a number of limitations inherent in traditional Quality Assurance programs. Traditional QA programs are too static and are narrowly defined to meet modern health care needs. The focus is generally on departments rather than the organisation and are too often built around external accreditation agency standards which are too narrow. Masters and Schmele (1991) argued that ‘there is little emphasis on error-free work and the sense of ownership or involvement in quality issues by employees or managers’ (p.10). While Quality
Assurance programs can and do deter shortcomings, their ability to achieve and sustain improvement after quality assessment is less certain. Inspectorial methods which assess compliance with conformance have been criticised as discouraging change and improvement. Blake (1994) suggested that traditional methods of Quality Assurance do not meet the needs of either consumers or employees, and further states that quality service has to be supported by quality people.

In health care and nursing practice, Quality Assurance has until recently been the traditional approach to quality management. However, a review of the literature has demonstrated that the QA approach does not necessarily ensure quality, and it has traditionally been an isolated component of the nursing role which focused on obtaining data reflective only of negative occurrences. Given the situation described in this section it has become apparent to health care leaders in recent times that a continual performance improvement approach of all processes of service, delivery, and management is required, with a shift in emphasis from problem identification to problem prevention, and a focus on consumers.

In section 1.1.1, the researcher outlined the transference of the traditional QA approach from nursing practice in the hospital environment to schools of nursing when nurse education was transferred to the higher education industry. The researcher has only anecdotal evidence of existing Quality Assurance practices in schools of nursing, and to this researcher’s knowledge no empirical literature exists which demonstrates whether the traditional QA approach is sufficient for nursing in higher education. The following research question was formulated to identify whether the traditional QA approach meets the needs of nursing in higher education.

3. Is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?

Section 3: Total Quality Management

2.3.1 The concept of Total Quality Management

Systems for improving and managing quality have evolved rapidly in recent years (Dale, Cooper & Wilkinson 1997). The philosophy of constantly seeking better ways
of delivering a quality service to all customers is described in this section. Refer to Figure 2.1 which illustrates the next step that the researcher will take, from Quality Assurance to a more comprehensive quality management process, Total Quality Management.

Total Quality Management (TQM) is a management approach that was first suggested in the United States (Wilkinson et al. 1998). It was further refined and developed in Japan where it became a key management strategy to underpin industrial development over the last four decades. Three authors, W. Edwards Deming, Joseph Juran, and Philip Crosby, regarded as the philosophers or gurus of quality, have been instrumental in diffusing TQM in North America (Jackson 1990), while the government has taken up the TQM initiative in the UK (Lascelles & Dale 1989). More recently, TQM has been adopted by Western firms as a tool to enhance international competitiveness. Total Quality Management calls for continuous improvement with improvement based on both outcome and process (Omachonu & Ross 1994; Gilmour & Hunt 1995).

This management term has been adapted from industrial quality control theory and is based on the key concepts of Deming, Crosby, and Juran. It is widely acknowledged that Dr. W. Edwards Deming, an expert in process and quality control, profoundly influenced the development of Japanese industry in the early postwar years through the application of his quality management principles, and the quality philosophy enunciated by Deming is clearly stated in his now famous Fourteen Point Management Method (Omachonu & Ross 1994; Wilkinson et al. 1998).

According to Deming (1982), the fundamental management principle of TQM is to seek continuous improvement in the quality of improvement of all the processes, products, and services of an organisation. To achieve ‘quality’, managers must focus on the entire process to ensure consistency and improvement in the final output. The message at the core of TQM principles is that quality throughout the organisation leads to higher returns for both the individual and the organisation (Stamatis 1996).
A review of the literature revealed a plethora of TQM definitions. Oakland (1989) defined TQM as an approach to improving the effectiveness and flexibility of businesses as a whole. According to Gardener (1994), Total Quality Management is:

... an amalgam of techniques and approaches guided by a broad management philosophy which aims to install a work of culture centred on quality goods or services, increased personal responsibility for all levels of employees and a systems for process improvement and increased efficiency (p.45).

Masters and Schmele (1991) have defined TQM as a ‘top-down management philosophy that implies an organization-wide continuous commitment to the improvement of quality’ (p.8). When discussing organisational change, Sallis (1993) stated that ‘Total Quality Management is a philosophy and a methodology which assists institutions to manage change, and to set their own agendas for dealing with the plethora of new external pressures’ (p.13).

The philosophy of Total Quality Management also places great emphasis on ‘meeting customer requirements’, and identifying the ‘customer’ (both internal and external) is the first step towards continuous improvement. The concept of customer has been defined by several authors, and the definitions all have a similar theme. Melum and Sinioris (1992) defined a customer as ‘anyone who receives and benefits from the product of an organisation’s labour’ (p.58). Laffel (1993) concurred and added that the assessment of customers’ perceptions of quality must be the driving force behind all markets, systems, and organisations. When discussing the concept of customer in the health care environment, Schmele (1996) defined customer as anyone who is the recipient of another’s work, and stated that ‘customers — patients, providers, payers — are at the core of Quality Management’ (p.314). These definitions include recognition of both internal and external customers. According to Schmele (1996), internal customers are those ‘departments or individuals who are in the line of receiving information or services to carry out key functions, and external customers include clients, referring physicians, payers and regulators’ (p.331). Thus, Total Quality Management is a comprehensive approach to quality which engages all employees in process involvement and the design of services to meet both internal and external customer requirements.
It is evident from the literature that the meaning of TQM is fluid and it has been attached to a diverse range of practices. For example, Crosby (1979) referred to quality as conformance to standards or specifications; Juran (1989) saw quality as fitness for use; Parasuraman, Zeithaml and Berry (1985) focused their definition on the concept of customer, and meeting or exceeding customer expectations; and Peters’ (1989) definition included ‘delighting the customer’. A review of the literature also identified key principles of TQM with some principles receiving more emphasis than others from authors. For example, Hart and Bogan (1992) emphasised a strong customer orientation as a key principle; Caudron (1993) suggested TQM as cultural change; and Brodie (1993) identified the important principles as attention to customer requirements, leadership by example, employee involvement, continuous improvement, and cycle-time reduction. Powell (1995) combined the principles identified by Deming, Juran, Crosby and the American Baldrige Awards. However, Wilkinson et al. (1998) argued that Powell’s approach ‘is something of an ideal type, and provides a template that few organizations could match’ (p.11).

A review of the literature revealed numerous TQM resources including textbooks, applied and theoretical journals and publications, dealing with the development, implementation, and monitoring phases of TQM. A review of the literature also revealed several definitions of Total Quality Management all having similar themes and principles. However, it would appear that the concept of TQM is often defined to ‘fit’ with the activities and practices of an organisation. TQM is viewed in this study in relation to the organisational and environmental context in which it is located, so organisational culture and structure, and the role of human resource management including employee empowerment will be examined. Thus, a specific TQM approach which adequately addresses these factors and the research problem in this study is required. However, to identify and categorise specific TQM aspects, it is necessary to first examine the hard and soft characteristics of TQM.

According to Wilkinson et al. (1998), there are two aspects of Total Quality Management: the hard and the soft aspects with the soft characteristics being central to this thesis. The hard aspects reflect the production-oriented aspects of TQM, which include systems, data collection and measurement, while the soft aspects
reflect the human resource factors in an organisation. The soft qualitative aspects which Wilkinson et al. (1998) claim to have been neglected, include supervision and leadership styles, employee involvement and teamworking, ‘and the interactions between different managerial functions and organisational culture’.

In order to gain a further understanding of the hard and soft aspects of TQM, it is useful to look at the three definitions of TQM put forward by the British Quality Association. The first definition includes the soft characteristics of TQM, the second definition includes the hard characteristics, while the third definition is a combination of both hard and soft aspects of TQM. The first definition emphasises customer orientation, culture of excellence, removal of performance barriers, teamwork, training and employee participation (Wilkinson et al. 1998). This definition which focuses on human resource factors, is seen to be consistent with ‘open management styles, delegated responsibility, and increased autonomy to staff’ (Wilkinson et al. 1998). The second definition emphasises the production-oriented aspects of TQM, the hard aspects, which focus on production and service delivery using statistical procedures. The final definition combines both the hard and soft aspects and focuses on ‘an obsession with quality; the need for a scientific approach; and the view that all employees are to be involved in this process’ (Wilkinson et al. 1998).

An aim of this study was to examine the perceptions of nurse academics to the applicability of TQM in schools of nursing in higher education in Australia, and to identify the principles of TQM that could be applied to suit the nursing culture in a school of nursing. More specifically, the researcher wished to examine the culture and management of human resources in schools of nursing so, for the purpose of this study, only the soft aspects of TQM which focus on human resource management and organisational culture will be explored. An overview of the TQM literature revealed that although several TQM proponents believe that the soft aspects are essential to the success of TQM (Juran 1964; Ishikawa 1985; Deming 1986; Aubrey & Felkens 1988; Dale & Cooper 1992), scant attention has been paid to the human resource factors. According to Wilkinson et al. (1998), most of the TQM work ‘asserts the importance of human resource issues, but does not go beyond general references to a need for more training, enhanced motivation and changed cultures’
Indeed, several authors suggested that TQM failures may be due to a lack of attention to human resource management issues (Binney 1992; Cruise O’Brien & Voss 1992; Kearney 1992; Miller 1992; Wilkinson, Redman & Snape 1993).

In brief, this section traced the origins of TQM and presented several definitions and principles of TQM as an approach to the management of organisations. The literature review revealed that the basic principles of TQM are derived from the work of Crosby (1979), Ishikawa (1985), Deming (1986), and Juran (1989). The review also revealed that although much of the TQM literature focuses on defining and prescribing TQM, there is no single definition of TQM. The hard and soft aspects of TQM were identified, and for the purpose of this study only the soft aspects of TQM were investigated in this thesis.

2.3.2 TQM and organisational culture and change

Having reviewed the literature dealing with the traditional Quality Assurance model and the evolution of Total Quality Management, the following two sections will discuss the relationships between TQM and organisational culture and change, and human resource management. The section will commence with an overview of organisational cultural analysis and change theories before examining organisational culture in nursing in higher education. An examination of the concepts of values and culture is necessary when discussing the development and implementation of TQM as the culture of an organisation needs to reflect a lifelong commitment to improving the organisation’s performance.

Over the last decade, the concepts of organisational culture and change have received much attention in the international management literature, but few publications focus on these concepts in Australia. There is an absence of detailed empirical data on the implications of TQM both for the theory of organisational change and for theories of management (Dawson & Palmer 1995), and research-based studies are also limited on organisational culture in the manufacturing and health care industries in Australia. According to Kotter and Heskett (1992), ‘there is increasing evidence to suggest that the success of TQM lies in the degree to which quality improvement becomes a part
of the firm’s culture’ (p.133), and Atkinson (1990) believed that TQM produces a change in organisational culture.

Theory development into organisational culture has progressed significantly over the past two decades (Schein 1984; Meyerson & Martin 1987; Pedersen & Sorensen 1989; Young 1989). One of the most comprehensive discussions on organisational culture was written by Edgar Schein in the United States in 1984. Schein’s (1984) definition of organisational culture and a summary of his views will form the basis for the following discussion on organisational culture for two main reasons: 1) they provide a framework for understanding why organisational culture and change are major influences in the success of Total Quality Management; and 2) Schein’s cultural paradigm model serves an important role in guiding empirical research and generating theory.

Organisational culture, according to Schein (1985), is a composite of the shared assumptions, values and beliefs which are perpetuated in organisations through the process of socialisation.

Culture is not the overt behaviour or visible artefacts that one might observe if one were to visit the company. It is not even the philosophy or value system which the founder may articulate or write down in various charters. Rather it is the assumptions which lie behind the values and which determine the behaviour patterns and the visible artefacts such as architecture, office layout, dress codes, and so on (Schein 1985, p.56).

Schein (1985) saw culture as very deep-seated, consisting of three levels. First, the visible level includes artefacts and creations such as physical space, behaviour of people in the organisation, and social environment. The second level consists of the values of the organisation, for example, what ‘ought to be’, and how things ‘should be done here’. Gradually, certain core values come to be taken for granted by members of the organisation. This is the third level and the values are transformed into basic underlying assumptions which actually guide behaviour. These assumptions are sacrosanct, may not be debated or confronted, and include beliefs about the relationships between the organisation and the community in which it exists, beliefs about the nature of man, and beliefs about human relationships (Schein
According to Schein (1984), the assumptions which are at the deepest level of culture ‘become patterned into a cultural paradigm’ (p.4), and are the hardest to change (Clements 1994, p.34).

To fully understand organisational culture, Schein (1984) believed it is necessary to analyse the values that govern behaviour and to discover the underlying basic assumptions which, although typically unconscious, determine how employees in an organisation perceive, think and feel. Schein (1985) argued that although assumptions are taken for granted, and indeed tend to fade from consciousness, they nevertheless remain very powerful phenomena.

Within his Cultural Paradigm Model, Schein (1984) has developed a four stage approach to understanding how cultural paradigms evolve in organisations. The four stages are: analysing the process and content of socialisation of new members; analysing responses to critical incidents in the organisation’s history; analysing beliefs, values and assumptions of culture creators; and jointly exploring and analysing with organisational members the anomalies uncovered in interviews. Schein (1984) believed that while the first three stages should complement one another, ‘at least one of them should systematically cover all of the external adaptation and internal integration issues’ (p.13). To discover the underlying basic assumptions, the fourth stage is necessary to help the organisational members uncover their own cultural assumptions.

Schein (1984) suggested therefore that culture is an adaptive and tangible learning process. His model illustrates how assumptions translate into values and how values translate into behaviour. Furthermore, it explains how cultural codes are transmitted throughout an organisation. Finally, Schein (1985) warned against confusing organisational culture with corporate philosophy, which is a result of culture, and to disregard irrelevant cultural artefacts, and focus only on those components which influence organisational success. In brief, the complex nature of organisational culture consisting of assumptions, values and behaviours will need to be addressed during the research undertaken in this study, and also when developing a quality culture within a culture within a school of nursing in higher education.
As well as defining organisational culture, it is also necessary to measure it which is the first step in implementing TQM (van Donk & Sanders 1993). The literature on organisational culture contains several research studies on the assessment of organisational culture including Schein (1985); Cooke and Rousseau (1988); Duncan (1989); Hofstede et al. (1990); Tucker, McCoy and Evans (1990); O’Reilly, Chatman and Caldwell (1991); and Zeitz, Johannesson and Ritchie (1997).

For example, in a recent research study, Zeitz, Johannesson and Ritchie (1997) developed and validated a scale that measures Total Quality Management implementation and related cultural dimensions for use in research and application. A 113-item survey instrument measuring thirteen TQM and ten cultural dimensions was produced and administered to 886 individuals in a wide variety of organisations in the US. The organisations included a manufacturing firm, a nonprofit service agency, and a university. The thirteen TQM dimensions included in the survey instrument were drawn from several TQM writers and existing scales and included quality philosophy, quality planning, quality supervision, management leadership, quality procedures, teamwork, equipment adequacy, supplier relationships, employee suggestions and customer orientation. Ten cultural dimensions were chosen which support TQM implementation and they included communication, conflict resolution, empowerment, innovation, job challenge, commitment, rewards, clarity of role expectation, social cohesion and trust (Zeitz, Johannesson & Ritchie 1997).

Findings from the survey indicated that nearly all of the 23 dimensions were reliable, and following exploratory factor analysis the full instrument was reduced to 56 items and 12 dimensions. In the reduced instrument the seven TQM dimensions included management support, suggestions, use of data, supplies, supervision, continuous improvement, and customer orientation, and, as Zeitz, Johannesson and Ritchie (1997) pointed out, these dimensions were ‘consistent with the thrust of most TQM authors’ (p.422). The cultural dimensions remaining in the reduced instrument are job challenge, communication, trust, innovation, and social cohesion. Once again, these results are consistent with the TQM literature, ‘which has long seen trusting social relationships and communication as key prerequisites for a successful TQM program’ (p.422). According to the researchers (1997), the benefits of using this survey instrument are threefold. First, an assessment can be made to determine if the
culture of an organisation is ready to accept TQM. Second, it can ‘provide baseline measures of the amount of implementation that can be used to track progress’ (p.422); and third, it can measure both culture and TQM.

Diagnostic tools can assist in forestalling some of the problems encountered with TQM implementation which are identified in section 2.4.1, and also act as a follow-up assessment to determine how well TQM is working within an organisation. Van Donk and Sanders (1993) believed that ‘maintaining organisational culture is not a once only activity’ (p.15). According to these authors:

An organisational culture has to be maintained: periodically measuring it elucidates changes and stabilities. So organisational culture is important for both implementing and maintaining quality management (van Donk & Sanders 1993, p.15).

In a discussion on organisational culture in the health care context, Clinton and Scheiwe (1995) stressed that some diagnostic methods are ‘complex research procedures for health service managers to apply to their individual organisations’ (p.232). Caroselli (1992) believed that ‘more immediate results may be obtained by using less formal methods and may serve the user’s purpose more directly’ (p.59). This author also emphasised that while tools can be helpful in assessing organisational culture, ‘knowledge of the culture, values and norms of a group or institution should not be considered a panacea for all problems’ (Caroselli 1992, p.59).

A review of the literature on the application of TQM in health care organisations revealed, not surprisingly, several barriers to the success of TQM which are identified commencing in section 2.4.1. However, it is appropriate in this discussion on organisational culture to note the cultural barriers identified in the literature which impact on TQM implementation in the manufacturing and health care industries.

Several authors have written about the importance of culture when promoting Total Quality Management (Peters 1987; Atkinson 1990; Kanji 1990). Schein (1985) stated that ‘top managers are insufficiently aware of basic issues and values, which support the daily practice in their organization: the organizational culture’ (p.35). Clements (1994) went one step further and pointed out that ‘rather than changing
culture directly, management must work with and through the existing culture to transform the organization' (p.33). Develin and Partners (1989) found that sixty percent of organisations in their survey had experienced problems of cultural change when implementing Total Quality Management. In fact, this was the largest single barrier, and the authors suggested that employees viewed TQM as a major cultural change. According to van Donk and Sanders (1993), 'diagnosing the organisational culture elucidates among other things what organisational members understand by quality and how this quality is accomplished in daily practices' (p.6). In other words, the organisational culture uncovers what members of an organisation understand by quality and how this quality is accomplished. After studying a series of TQM implementations Seddon (1989) concluded that most TQM programs arrive at a plateau only to have a falling-off of activity, and that this is a result of the traditional culture acting as a barrier to further TQM progress.

When making the transition from Quality Assurance to quality management in an Australian hospital setting, Crawford (1994) found that cultural change had not been sufficiently addressed in the planning stage, and that changing the culture was not 'simply a matter of teaching new techniques' (p.47). According to Crawford (1994), the cultural change process included 'management development programs, updating of human resource practices, and assessment of the current cultures' (p.46). In contrast, Gale (1994) found that when applying TQM to a New South Wales hospital, 'the key to success in the early years was the energy and time commitment in establishing the environment, making it conducive to change and having some early wins on the board' (p.106).

Shortell et al. (1995) also identified several cultural barriers related to TQM in health care organisations. According to the authors, health care organisations are by tradition organised on a hierarchical basis, so the existing cultures resist the notion of employee empowerment, and the role of leadership is seen as commanding and controlling. Health care organisations tend to focus more on the needs of health care professionals rather than the needs of external customers. Also, there is often a lack of senior management commitment to TQM, with middle managers resisting the introduction of TQM because it might eliminate their jobs. Zabada, Rivers and Munchus (1998) believed that among all the barriers to the application of TQM in
health care organisations cited in the literature ‘cultural obstacles are the hardest to
remove’ (p.60) and the harsh reality is that the culture of an organisation ‘cannot be
changed easily or quickly’ (Clements 1994, p.34).

Since organisational culture impacts on acceptance of change, a discussion on culture
is not complete without also examining the change process. When preparing for
TQM implementation in an organisation, managers need to take into consideration
that change will occur. In order to initiate change within an organisation one must
first be able to differentiate between artefacts and true assumptions. Both structure
and attitudes, or the behaviours that reflect attitudes, are artefacts. If only the
artefacts are changed without confronting underlying assumptions, the change will
neither last nor be successful (Clements 1994).

Gillies (1989, cited in Parsley & Corrigan 1994) noted that the term ‘change’ is both
a noun and a verb, with the noun referring to an alteration, and the verb referring to
the process of alteration. ‘Change’ is therefore defined as ‘the process of moving
from one system to another’ (Gillies 1989, cited in Parsley & Corrigan 1994, p.104).
When considering the implications of the change process, ‘this definition is useful, as
it requires the change agent to consider input, throughput, output and feedback loops
of both the present system and that which the manager hopes will exist in the future’

The concept of change has been explored using a diverse range of theoretical models,
including the sociological, psychological and organisational perspectives, and a
number of theories have been developed to explain how change occurs (Lewin 1951;
Lippit 1973; Havelock 1973). Some theorists have a behavioural or developmental
view and perceive change as occurring primarily between and within individuals
(Schroeder 1991).

A further perspective on the change process is offered by systems theory which
views change as an interaction within a particular system and its subsystems
(Schroeder 1991). The usefulness of this theory lies in its ability to show that
everything is related in some way to something else (Parsley & Corrigan 1994).
According to Homans (1981):
the state of elements that enter the system and the mutual relationships between them is such that any change in one of the elements will be followed by changes in the other elements, tending to reduce the amount of that change (p.45).

Systems theory remind planners to organise projects in terms of parts and wholes that are important to the changes they propose. Systems analysis is familiar to nurses as the basis of most Quality Assurance programs. For example, in planned change, systems analysis is often conducted in terms of structure and process, and evaluated by outcomes as previously discussed in sections 2.2.2 and 2.2.3.

Classic change theory has its origins in the works of Kurt Lewin (1951), who described change as progressing through three stages: 1) unfreezing, 2) moving, and 3) refreezing. In the stage of unfreezing, the motivation to create change occurs when there is a stressor, unrest, or conflict within a system, or from the realisation that something can be done more easily or better. During the first stage, the process is worked out in detail, and the system is readied for the change. According to Schroeder (1991), this stage ‘essentially means laying the preliminary groundwork for adoption of the change’ (p.257).

The actual changing (moving) is Lewin’s second stage. During this phase, new responses (behaviours) are implemented based on the problem. Lewin (1951) believed that driving forces facilitate the implementation of change while restraining forces impede the change. For this reason, when planning change, a system assessment is needed to determine those factors that can be capitalised on and those that should be counterbalanced (Schroeder 1991).

Lewin’s final stage, refreezing, occurs when a change or innovation is integrated into an organisation’s values. In other words the change agent assimilates the new behaviour into existing practices and continues indefinitely. Thus, for every potential change, there are going to be things that will make it succeed (Lewin’s driving forces) and things that make it fail (the restraining forces). On examining Lewin’s three stage model it appears too simplistic, however, on reflection, this researcher realised that this was its strength. By identifying and analysing the restraining and
driving forces embedded in the nursing culture in a school of nursing in higher education, their relative strengths can be assessed. Strategies to reduce the restraining forces and strengthen the driving forces could then be developed. Thus, Lewin's model will be consciously considered throughout the study as it could potentially assist the researcher in developing a quality culture approach in Chapter 5.

When identifying the driving and restraining forces the degree of change must also be considered. Aungles and Parker (1988) identified minor and major categories of organisational change. According to these authors, minor changes 'are those designed to change immediate work conditions and thus improve the quality of work life' (Aungles & Parker 1988, p.144). For example, minor changes might include job rotation, job enlargement and job enrichment schemes.

In contrast, 'major changes are those designed to radically change organisations' and 'examples are hierarchy reduction, the introduction of shared decision-making procedures or the creation of collective ownership' (Aungles & Parker 1988, p.144). Before the implementation of any 'new' measure is introduced to improve quality it must be balanced against the prevailing organisational culture. The prevailing culture may have significant bearing on whether the intended change will be given an adequate level of support from within that organisation. For example, any attempt to implement a major change can be hindered by entrenched attitudes of those in control of an organisation (Aungles & Parker 1988). These authors stated that:

... where there is a strong belief in 'management prerogatives' it is likely that a formal hierarchical structure will be preferred and the average employee will be regarded as having neither the inclination, nor the knowledge, nor the intellectual capacity to participate in decision-making processes. Under such circumstances if change does occur it will be of a relatively minor nature and usually directed towards changing employee work tasks (Aungles & Parker 1988, p.144).

While some degree of resistance to change is expected from organisational members, Green (1997) advocated that it can be reduced if the change agent 'provides ways for people to see the need for change; embrace it, and to share the vision of the rightness
of the change' (p.145). This should commence in the initial stage of Lewin's model, the unfreezing stage, to help curb growing resistance.

According to Clements (1994), 'attempts at organizational change must consider three key features of organizational life: the organization's culture, the leadership of the change effort, and the existing network of power' (p.33). Clements (1994) argued that although we can measure and identify an organisation's culture, this does not mean it can be changed 'quickly as a prelude to transforming and improving the organization', but rather an organisation's existing culture needs to be fully understood for effective change to occur (p.34). Leadership is also a key feature of organisational life and Clements (1994) believed that leadership in the change effort is 'the key determinant of whether that change will succeed' (p.38), with the three leadership elements being communication, collaboration, and commitment. The researcher believes that these three key features of organisational life will require consideration when developing a quality culture approach in a school of nursing so they are further discussed in section 2.4.6 and Chapter 5.

According to Schmele (1996):

\begin{quote}
a total-quality framework requires transformational leaders who understand the nature of organizations and of the whole system; who promote participative leadership at the top of the organization, as well as complete employee participation, in managing the change; who appreciate culture as a powerful force that can either drive or restrain innovation; and who can function as collaborative teams with ongoing training resulting in learning all phases and processes of Quality Management (p.315).
\end{quote}

Emery (1989) also emphasised the importance of employee involvement and said that 'involvement evokes powerful feelings of psychological ownership and as the interests of those involved have been taken into account, so there are less people to resist the change' (p.11).

In summary, Schein's (1984) account underlines the complex nature of organisational culture which cannot be easily manipulated by management. The three levels of culture: assumptions, values and behaviours need to be addressed for organisational cultural change to occur. The change process is not just a simple
procedure that affects a few employees when introducing a new practice, rather it involves a complex series of interrelationships between a number of forces including driving and restraining forces. If the goal of implementing Total Quality Management into a school of nursing in higher education is to be realised, the forces would have to be identified and analysed effectively in the initial planning stage.

2.3.3 TQM and human resource management

In recent years the emphasis on human resource issues and involvement of employees has increased within the TQM field. According to Dale, Cooper and Wilkinson (1997), this reflects two factors. First, there has been a shift from Quality Assurance to TQM, 'with a consequently greater emphasis being placed on people management issues' (p.74). Second, increasing evidence suggests that TQM has significant problems in the so-called soft areas (Kearney 1992; Cruise O'Brien & Voss 1992).

In undertaking a study on the applicability of Total Quality Management for schools of nursing in higher education, it was important to review and analyse the literature on human resource management (HRM), since TQM proponents suggest there are a number of human forces that can have a profound influence on the success of TQM in an organisation (Guest 1992; Dawson 1994; Wilkinson, Redman & Snape 1993).

A review of the international literature on human resource management revealed that successful organisations employ best practice techniques and share a fundamental philosophy of valuing and trusting their employees (Kotter & Heskett 1992; Collins & Porras 1994). This section will identify best practice techniques employed for human resource management and discuss recent empirical studies conducted on human resource management issues.

During the 1990s, leading organisations have switched their main focus from goal setting to people management with several writers noting that organisations aiming for business success are concentrating on effective people management as their primary concern (Kotter & Heskett 1992; Collins & Porras 1994; Phillips 1997). Effective people management consists of best practice techniques which have been
identified by Oakland and Oakland (1998) as ‘communication, empowerment, training and development, teamwork and employee participation’ (p.185).

When discussing key aspects of effective people management in organisations, several writers have noted the importance of encouraging employee participation and commitment (Collins & Porras 1994; Dale, Cooper & Wilkinson 1997). For example, David Lowe, chairman of ADAC Laboratories, and a 1996 Baldrige Award winner, believes that a key factor in the success of the organisation was ensuring the participation of all employees (Oakland & Oakland 1998). The researcher believes that this would also be an important factor during the development and implementation of a quality culture in a school of nursing. Employee empowerment is also considered an essential key aspect and is closely allied to employee participation (Kotter & Heskett 1992). Appropriate training and development is a further important link between business success and people management. Oakland and Oakland (1998) provided an example of a 1996 Baldrige Award winner, Trident Precision Manufacturing Inc., whose ‘approach to managing and motivating its employees through training typifies the approach of many other successful companies’ (p.186). In this particular company, training and development is provided in quality, job-related skills, general education and safety, and employees are encouraged to diversify their abilities with ‘80% of its employees trained in at least two job functions’ (p.186).

According to Guimaraes (1997), ‘the essence of TQM, much of the processes and resources involved, and much of the results are people oriented’ (p.47). To empirically test human resource management issues surrounding TQM implementation, Guimaraes (1997) conducted a survey among 200 employees in a chemical manufacturing plant in the US. The major purpose of the study was to compare employee turnover intentions and its antecedents before and after the implementation of a TQM program. The TQM program was certification for ISO 9001, and prior to certification a random sample of 200 employees was surveyed on the following variables: role stressors (role ambiguity and role conflict); work-related attitudes (task characteristics, job involvement, job satisfaction, career satisfaction, and organisational commitment); and turnover intentions.
Following TQM implementation and using the same data collection instrument, the 113 respondents to the first survey were surveyed again to assess the impact of changes on employee turnover intentions due to the TQM program. The findings revealed that the TQM program significantly affected the average employee ratings for five of the variables studied. The TQM program resulted in a significant reduction in role ambiguity, and the findings also revealed that following the TQM program, increased job satisfaction and job involvement was reported by employees. According to Guimaraes (1997), 'in terms of human resources management goals and objectives, one is encouraged to think that TQM programs have a positive influence' (p.59). Further research on these variables and other human resource management issues such as employee participation and empowerment, and using a larger sample could contribute to the empirical literature on the impact of TQM on human resource management. Despite this, these findings are important to this study and they will be compared to the findings in this thesis in Chapter 5.

A longitudinal case study within a major UK automobile manufacturer, Land Rover, conducted by Hammersley and Pinnington (1999) studied employees' attitudes to quality management work systems, especially quality circles and continuous improvement groups. In response to a six week strike in 1988, Land Rover implemented a Total Quality Improvement program. A quality circle program for the shopfloor workers was established and maintained until 1997 when Land Rover established continuous improvement groups. This was done by selecting team members and determining tasks and priorities with the explicit intention of increasing management's influence on processes and outcomes. At the end of the 12 month pilot implementation, Hammersley and Pinnington (1999) interviewed the selected members of the continuous improvement groups to determine their attitude towards the new groups, because in the previous quality circle groups the members had greater autonomy in selecting quality circle members, and determining their own tasks and activities.

The main finding from this stage of the longitudinal case study was that the employees 'welcomed the increased structure and management control of continuous improvement groups where it facilitated improvements to quality consistent with Rover Group's business goals' (p.1). Being part of a continuous improvement group
gave employees the opportunity to become more involved in their work and the operations of the entire organisation, and as a result of this human resource management strategy employees believed they could ‘indirectly improve job security by increasing product quality’ (Hammersley & Pinnington 1999, p.1). This research study parallels the soft TQM characteristics being explored in this thesis, thus this finding will be compared to the findings in this study in Chapter 5.

In brief, organisations that are considered successful from a human resource management perspective have ensured good communication links, employee participation and commitment, appropriate training and development, and have facilitated teamwork. The following three sections will examine and evaluate international and national Total Quality Management applications in three industrial environments.

Section 4: Total Quality Management in Three Industries

2.4.1 TQM in the manufacturing industry: An international review

To gain an overall picture of the application of Total Quality Management it is necessary to investigate TQM in the three main industrial sectors in which it has developed, that is, the manufacturing industry, the health care industry, and the higher education industry. This section will discuss the evolution, development, and application of TQM in the international manufacturing industry, followed by an overview of the development of TQM in the Australian manufacturing industry. In the following sections the TQM literature on the health care industry and the higher education industry will be presented. Refer to Figure 2.1 which illustrates the TQM relationship in the three industries.

Despite the attention that TQM has received from the industrial sector in the United States, several authors have commented on the paucity of research-based literature addressing this topic (Dean & Bowen 1994; Waldman 1995; Harris 1995; Ghobadian et al. 1998). According to Waldman (1995), ‘few systematic studies have been done to evaluate TQM empirically and little theory exists to guide TQM implementation’ (p.91). More specifically, ‘few studies aiming to evaluate its success have actually
assessed the extent to which it has been implemented’ (Hackman & Wageman 1995, p.317), and there is also a need to study the effectiveness of different approaches to the implementation of TQM (Ghobadian et al. 1998). Although the TQM literature has been growing rapidly and the TQM philosophy has received wide acceptance in practice, much of the literature focuses on prescriptions of TQM with several companies describing the TQM experience in detail.

The success of TQM programs is evident from the business turnarounds that companies such as Motorola Inc., IBM, Xerox Corporation, Texas Instruments, Proctor and Gamble, Ford Motor Company and Hewlett-Packard have achieved in the US (Grant, Shani & Krishnan 1994). By applying TQM, these companies were able to improve their positions in the business arena by overcoming threats from global competition (Lozier & Teeter 1996) and, as Ruch and Roper (1992) noted, these companies focused on pleasing the customer, and the tangible measures of success have been improved market share, increased profits, higher productivity, and better morale.

However, the success of TQM implementation is far from assured (Harari 1992; Krishnan et al. 1993; Reeves & Bednar 1994) and the barriers to TQM success include lack of top management commitment, grandiose expectations, and a lack of vision, patience, focus and resources (Aquino 1992; Horine 1992; Newhard 1992). Dale, Cooper and Wilkinson (1997) warned that ‘TQM will require a broadening of outlook and skills and an increase in creative activities from that required at the Quality Assurance level’ (p.24).

TQM as a new management philosophy has also attracted criticism from several sources. Fife (1992), Waldie (1994), and Zbaracki (1998) see the TQM movement as a fad, while others hold the view that organisations have unrealistic expectations of TQM (Easton 1993; Tickel 1993; Walter 1993). Crosby (1992) himself, has criticised TQM for failing to redirect management’s attention from financial measures to quality measures.

Grant, Shani, and Krishnan (1994) suggested that TQM initiatives may fail ‘because management simply fails to recognize the extent of change required by TQM’ (p.25).
Researchers reporting on case studies (Dale & Lightburn 1992; Lascelles & Dale 1990) and TQM consultants (Clemmer 1991; Cyr 1992) also cited lack of management commitment as the primary reason for TQM problems and failures. In an analysis of Baldrige Award applicants, Easton (1993) found that senior managers do not realise the extent of the differences between the traditional management philosophy and the TQM philosophy. It is evident that a lack of top management commitment is a major reason for the failure of TQM programs, but Harris (1995) suggested that this is also the reason cited for the failure of other quality improvement programs, for example, quality circles. Harris (1995) suggested that perhaps organisations who have been successful with TQM initiatives ‘acted consistently with their corporate cultures, whereas companies with unsuccessful TQM efforts attempted to change their cultures radically’ (p.101).

A further barrier to the success of TQM is the neglect of middle managers during TQM development and implementation. According to Brigham (1993):

\[ \textit{middle managers are often the forgotten link in TQM implementation, left out of the planning phases but then commanded to learn an intimidating array of new behaviours, and when they receive little or no training for these new skills and behaviours, or subsequent reward for their practice, matters are made worse (p.43).} \]

A final area of concern is the different nature of TQM initiatives across organisations. It was previously noted in section 2.3.1 that the meaning of TQM has been attached to a diverse range of practices. These issues have implications for nurse academics when developing a TQM culture within schools of nursing in higher education and will be discussed in section 2.4.6.

Various measuring instruments have been developed in order to determine the quality of products or service, and one of the first instruments for assessing Total Quality Management was developed by Parasuraman, Zeithaml and Berry (1985). Saraph, Benson and Schroeder (1989) developed a measuring instrument for both service and manufacturing organisations which is based on the work of Crosby, Deming, Garvin, Juran and Ishikawa, and consists of eight TQM factors. Saraph, Benson and Schroeder (1989) proposed that this instrument could be used to produce
a profile of TQM practices in an organisation, however, it contains some items that are related to production processes which are not applicable to higher education, and the measure of customers’ expectations and the perceptions of service quality are limited.

Flynn, Schroeder, and Sakakibara (1994) developed a framework for quality management in a manufacturing organisation and a measurement instrument which was field tested for validity and reliability. This instrument does not mention items related to training and education. Owlia (1996) developed a model for measuring the quality of engineering programs at universities in the UK, in which he derived a set of critical factors. Although the measuring instrument can be applied to the entire institution it does not indicate the degree of importance of each factor. In a discussion on TQM research and theory development, Waldman (1995) argued that ‘more work is needed in the area of measurement in order to help bring TQM research to life’ (p.93).

The rapid interest in TQM in overseas manufacturing and business companies has influenced quality management practices in the Australian manufacturing industry which is discussed in the next section.

2.4.2 TQM in the Australian manufacturing industry

Within the body of international literature, there is an increasingly large number of reported case studies of companies that have successfully implemented quality management practices. This suggests that quality management programs may be appropriate and timely for Australian industry (Eisen, Mulraney & Sohal 1992). This section presents a review of the survey-based research on Total Quality Management in the Australian manufacturing sector.

During this decade, leaders of Australia’s manufacturing and service organisations have realised that a dramatic change in the approach to quality management is required if Australian goods and services are to be viable commercial concerns, and Total Quality Management is now being recognised by several manufacturing companies as strategically important for a firm’s economic survival and as a major
tool for lifting Australia’s competitiveness in world markets. This recognition followed in the wake of the American interest with quality leaders such as Deming, Juran, and Crosby being instrumental in the diffusion of quality management in America, Britain and Australia (Dawson & Palmer 1995).

In Australia, quality management was shaped by two influential organisations, namely, the Australian Organisation for Quality Control (AOQC) and Enterprise Australia (EA). In the mid-80s, the Australian Total Quality Management Institute (TQMI) was developed followed by the Quality Society of Australasia (QSA) in 1990, and these four organisations come under the peak umbrella organisation of the Australian Quality Council (AQC), founded in 1993. The role of the Quality Council is to encourage and assist Australian enterprises of all kinds to achieve international competitiveness and world’s best practice through the applications of quality principles and practices, with a major focus on the Australian Quality Awards (Dawson & Palmer 1995).

Although TQM is often described as a successful management practice, there were problems selling the quality message to Australian businesses in the early 1990s. Additionally, the implementation of TQM is still proving difficult for many Australian manufacturing organisations. Since 1990, several studies have addressed TQM implementation (Fisher 1990; Brown 1991; Ramsey, Samson & Sohal 1991; Simon, Sohal & Samson 1992; Barad & Kayis 1995; Terziovski, Sohal & Samson 1996), and much of the published research emphasises four major factors which may act as barriers to the successful implementation of TQM. The four identified factors are increasing demand in customer satisfaction; reducing the cost structure; improving process design, and improving human resource utilisation. Whilst similar findings have been found worldwide, Kayis (1998) suggested that ‘further studies towards exploring these factors for TQM implementation and their relationships with each other for a possible correlation between measures of good quality and organisational performance are needed’ (p.742).

A Total Quality Management research program conducted in the early 1990s explored the conception, introduction and effects of TQM on eight Australian and New Zealand organisations (Dawson & Palmer 1995). The research was conducted
by two teams, with one team directed by Professor Gil Palmer from the Key Centre in Strategic Management at Queensland University of Technology, and the other team directed by Dr Patrick Dawson at the University of Adelaide. The eight organisations comprised Pirelli Cables Australia Limited; State Bank of South Australia; Vicbank; Accom Industries; Laubman and Pank; Alcoa; Tecpak Industries; and Henderson’s Automotive Limited. The case studies were based on qualitative data derived from in-depth interviewing of key personnel, management, union and shopfloor workers, participant observation, and documentary analysis. The interviews covered topics on TQM and the process of change and influence of change agents, and the implications of change for employment and industrial relations with the aim being to monitor organisational changes over a period of time to identify and describe the pathways of TQM programs.

Given the breadth and depth of this longitudinal study, a detailed discussion of the findings is beyond the scope of this thesis, however, findings relating to the research problem and the soft aspects of TQM will be presented. The findings revealed that the eight companies studied selected different TQM elements and adopted them in different ways. The researchers found that ‘TQM represented new forms of improved administered control, but that this increased control was generally accepted by the workforce because it occurred in the context of some employee involvement and was generally seen to increase efficiency’ (Dawson & Palmer 1995, p.171). Improved administration did increase organisational control, but because of improved information the hierarchical management style seemed less oppressive.

However, the study also revealed that ‘most of the companies did not associate their quality management practices with the latest prescriptions for human resource management, except in the areas of training and teamwork’ (p.172). Attempts were made by all case study companies to improve their existing organisational cultures by training, teamwork, and disseminating information from the top levels of management, but the authors point out that these attempts could not significantly change the organisational culture in the timeframe of the research. However, a major finding was that ‘the proposed mechanisms and directions of cultural change under TQM are not sufficiently clear’ (p.173), and the researchers recommended that organisational culture and its relevance in other areas still needed to be explored. The
diversity of the eight organisations studied in the research was given little attention which is acknowledged by Dawson and Palmer (1995).

In another Australian study, Eisen, Mulraney and Sohal (1992) conducted a postal survey to review the quality management practices of a large sample of Australian manufacturing companies. Their objectives were to: establish the extent of adoption of modern quality management practices by manufacturing companies in Australia; determine reasons for their non-adoption of these practices; and identify any barriers and impediments to the adoption of modern quality management practices by Australian manufacturers.

The findings from this survey revealed that 46.3 per cent of respondents indicated the use of TQM practices whilst 27.7 per cent indicated the use of Total Quality Control practices. Sixty-eight per cent of the respondents indicated the existence of a corporate quality mission in their organisation; 45 per cent claimed quality was the responsibility of all employees in their organisation; and 80 per cent of the respondents acknowledged the concept of internal and external customers. A significant proportion (54 per cent) of the respondents indicated that there were no obstacles to the use of quality practices, which the authors questioned. Eisen, Mulraney and Sohal (1992) stated that the survey response to this finding was certainly not the authors’ experience and ‘literature evidence suggests this may not be the actual industrial experience in Australia’ (p.34). The results also suggested that there was no perception of a single major impediment to the adoption of modern quality management practices. Rather, there was a wide range of responses for non-adoption of these practices which included resistance to change, apathy and lack of management commitment.

Kayis (1998) conducted a survey among Australian manufacturers to explore the impediments to current TQM practices and the causes of the impediments. A mail survey questionnaire was distributed to senior/middle managers in 1,078 manufacturing companies. Senior managers were targeted as Barad and Kayis (1995) believed that TQM success ‘depends on the attitudes and perceptions of senior managers’ (p.107). The five-part questionnaire requested information on company background, on-line operations, manufacturing and design-related issues, quality
information, and human resource utilisation; and a correlation analysis was performed to investigate the relationship between the five categories.

The findings revealed the absence of TQM practices in the areas of cost and product leadership, flexibility to integrate technology, and organisational and human aspects of manufacturing, with over 45% of companies indicating problems in all categories except for marketing. The correlation revealed that many of the identified problems were directly related to workforce problems which were a result of inadequate training, lack of improvement teams, lack of technical expertise/leadership, low team participation and team/management conflicts or poor communication (Kayis 1998). The author emphasised the importance of human resources-related issues and suggested that Australian manufacturers may come to a better understanding of TQM if ‘only more awareness is given to human resource issues’ (p.754). This study reiterated the centrality of human resource management within TQM as previously demonstrated in section 2.3.3.

Ghobadian et al. (1998) used a case study approach to examine the principles of TQM; the reasons for introducing TQM; implementation strategies adopted by the leading TQM companies; the impact of TQM; integration strategies; and design of Quality oriented performance management systems. The researchers studied six large organisations from Europe, US, UK, and Australia which were considered by the researchers to be best practice companies, and data collection was obtained through face-to-face interviews with senior management, junior management and operators from each company.

The Australian organisation studied was the National Roads and Motorists’ Association (NRMA), the largest motorists’ service organisation and general insurer in Australia. The quality program at NRMA is known as Customer Focused Quality and is based on the four principles of delighting the customers, continuous improvement, involving everybody in improvement, and control through measurement and statistics. According to Ghobadian et al. (1998), this case is ‘an excellent example of a company that has embarked on a journey of continuous improvement, not as a result of having to respond to stiff competition but because of its vision to provide consistent and ever higher standards of service to its customers’
(p.37). The researchers reported that the key factors for the success of the NRMA program have been a consistent focus on customers, both internal and external, and involving suppliers and subcontractors, a supportive structure, and improved communications. The degree of interdependence between different TQM components was not discussed, and the degree of integration on the effectiveness of TQM needs to be examined empirically which was acknowledged by the researchers (Ghobadian et al. 1998).

In summary, Total Quality Management is being used by a wide range of organisations in North America, Europe, Britain, and Australia which are seeking to improve their international and national competitive position. The literature survey has revealed an abundance of literature that prescribes TQM and describes its successful implementation. However, the literature review also revealed a paucity of empirical literature relating to the causes of success and failure of TQM, and the factors that influence the successful adoption of TQM. While elements of successful TQM prescriptions and applications will assist the researcher in developing a quality culture model for a school of nursing in higher education, the lack of empirical literature on the factors that impede or enhance TQM applications will have to be borne in mind and carefully considered in this study.

2.4.3 TQM in the health care industry: An international review

In the preceding two sections the origins and development of TQM in the manufacturing industry were described. The emphasis on quality in the health care industry is evident in the number of publications written about Quality Assurance, and more recently, Total Quality Management. The literature review in sections 2.2.2 and 2.2.3 demonstrated that quality has always been an essential aspect of the delivery of professional nursing care and this section will explore the development and application of TQM in the health care industry and highlight the nursing profession’s involvement with TQM.

The search for a more effective approach to quality management has led to a recognition that health care organisations can learn from quality management programs that have been implemented within manufacturing organisations
(Klingelsmith Zonsius & Murphy 1995). In the United States there has been an increasing interest in Total Quality Management from health care leaders in response to market issues created by consumerism and the health care financial crisis (Al-Assaf & Schmele 1993; LaRochelle & Shahinpour 1995; Stamatis 1996).

The increased interest in quality management in the US also stemmed from the dissatisfaction with existing traditional hospital Quality Assurance programs (Berwick 1989; Laffel & Blumenthal 1989), with QA professionals forced to ‘seriously re-evaluate their programs’ (Jennison 1991, p.444). In the 1980s, the move towards positive patient outcomes became the focus for quality, and according to Friedrichs et al. (1995), Rush Presbyterian St. Luke’s Medical Center began ‘the cultural change to TQM in 1985, moving away from exclusive use of structure and process audits and eventually leading to interdisciplinary problem solving’ (p.130).

In 1987, the National Demonstration Project was developed to ‘test the applicability and effectiveness of industrial quality management approaches in health care organizations’ (Schmele 1996, p.71). The project was headed by Donald Berwick, Paul Bataldan, and A. Blanton Godfrey who recruited twenty-one health care organisations to work with quality management experts from industry and universities. Each organisation worked on a specific project using quality management tools and a standardised quality improvement method. The study revealed that nearly all of the projects had successful outcomes, indicating to the National Demonstration Project the potential for these quality management methods in health care organisations (Schmele 1996). As a result, Total Quality Management initiatives were developed in several health care organisations, and today a significant number of health care facilities are adopting this management approach.

In a discussion on TQM and health care, Asubonteng, McCleary and Munchus (1996) noted that TQM ‘encompasses a number of strategies designed to improve quality and reduce costs’ (p.11). The strategies include: identifying and meeting customer needs; reducing the cost of noncompliance with standards; striving for zero defects; reducing outcome variability; using statistical methods to identify and monitor process; and continually working for improved quality (Asubonteng, McCleary & Munchus 1996). According to Schmele (1996), this is ‘a paradigm shift
away from monitoring and evaluating individual performance to identifying, analyzing, and improving the key organizational systems that contribute to effective and efficient performance' (p.345).

During this decade, several large teaching hospitals in the United States and Canada have investigated the potential value of Total Quality Management and much has been published about TQM development and implementation in hospitals (Koska 1990; McLaughlin & Kaluzny 1990; Eubanks 1992; James 1992; Baker, Barnsley & Murray 1993; Carefoote 1994; Recker & Oie 1994). A review of the literature also revealed publications relating to the transition from Quality Assurance to Total Quality Management (Johnson 1994; Tindill & Stewart 1993), and the integration of Quality Assurance and Total Quality Management (Kennedy 1992; Sherman & Malkmus 1994; Schmele 1996). There were also case studies reported by Walton (1991) and Berwick, Godfrey and Roessner (1991) that illustrated the advantages of the TQM approach.

TQM implementation models have been developed for individual health care organisations in the US including the Ten Key Lessons for Quality Improvement (Berwick, Godfrey & Roessner 1991), the Quality Improvement Framework (Omachonu 1991), Einstein Consulting Group’s Customer-Driven Management Model (Leebov & Ersoz 1991), and the Ten-Step Model for Monitoring and Evaluating (JCAHO 1992). However, much of the writing of the value of TQM in health care facilities and nursing is anecdotal with very few empirically based studies, and as Zabada, Rivers & Munchus (1998) noted ‘the application and success of TQM have been limited to administrative and other supportive functions only in most health care organisations’ (p.57). This is in contrast to the manufacturing environment where the majority of TQM applications ‘have been directed at the core processes of the firm in areas of greatest strategic priority’ (Zabada, Rivers & Munchus 1998).

In 1986, McClure conducted an in-depth study of 16 of the 41 hospitals identified as magnet hospitals in the United States (Kramer & Schmalenberg 1988). These hospitals were recognised for low turnover, increased job satisfaction, innovation, excellence in practice, and an ability to attract new nurses. It is interesting to note
that although the TQM concept was, until recently, largely confined to industry, these hospitals had already put into practice many of the TQM principles (Arikian 1991). Some of the notable practices included a visible and supportive management, a timely and devolved decision making process, an informal communication style, a willingness to experiment, time for projects and research, and ‘an almost fanatical zeal about the quality of their product, about service reliability, and about staying in touch with the consumer’ (Kramer & Schalenberg 1988, p.19). Magnet hospitals are described as being infused with the values of quality care, autonomy in practice, bringing out the best in each individual, and striving for excellence. According to Kramer and Schalenberg (1988), they are led by nurse leaders and managers who are zealots in promulgating such values. These institutions also have learned to balance the paradoxes: autonomy as a product of discipline and stable expectations, and a family spirit that thrives in a health care industry that is becoming increasingly business oriented.

Given the situation described in section 2.4.1 which identified problems with TQM implementation in the manufacturing sector, it is not surprising that obstacles to the application of Total Quality Management in the health care environment would also arise. Hamilton (1982) reported that health care providers are strongly opposed to consumers becoming involved in the health care system because they believe that patient participation would upset the health care delivery process. This opposition to consumer involvement may stem from the rigid, retrospective and traditional Quality Assurance style of health care delivery discussed in section 2.2.5. According to Zabada, Rivers and Munchus (1998), there are specific problems with the applicability and success of TQM in the health care industry due to several ‘incompatibilities between TQM philosophy and the practices on which health care organisation’s management is currently based’ (p.64). Most of the obstacles are related to the culture of health care organisations and Zabada, Rivers and Munchus (1998) suggested that the barriers can be overcome ‘if enough resources and time are devoted to changing health care organisational culture’ (p.64). Other obstacles identified by Reinertsen (1995) include fuzzy missions, poor communication of organisation purpose and strategies, and lack of commitment to training and learning.
A major study, the International Quality Study of Health Care, was conducted by the American Quality Foundation and Ernst and Young (1992) to determine how quality management was practised in hospitals in four countries, namely, the United States, Canada, Germany and Japan. According to Schmele (1996), the study revealed that ‘the customer is not the driving force behind quality performance; but is defined from the provider’s perspective’ (p.579). The study further revealed that human resource practices are planned with greater emphasis on employee participation in quality improvement and there is evidence of a strategic focus on quality in hospital operations and structures.

In another study, a national survey of quality improvement activities in US hospitals was conducted and funded by the Baxter Foundation (The Quality March 1993). According to Schmele (1996), the purpose of the survey was to determine the hospitals’ responses to the TQM movement, and the study revealed that there were two major barriers inhibiting hospitals from conducting quality improvement activities. First, there was a lack of strong commitment and support from management at the senior level, and second, the infrastructure was inadequate to respond to the quality improvement movement (Schmele 1996). It is not surprising that a lack of management commitment was cited as a major barrier as this has already been identified in this thesis as a major obstacle in the US industrial sector.

In summary, it is evident from the literature in this section that several issues of quality are of concern in the health care environment and health care leaders require a dramatic paradigm shift in thinking when transforming the health care system. The approach to quality care is moving from assuring its presence to continually improving current situations, and quality initiatives in the health care industry are becoming increasingly popular following the lead of manufacturing and business organisations. According to Zabada, Rivers and Munchus (1998), TQM in health care organisations is used mainly for the purpose of cost containment so its application is seen mainly in administrative and support functions. These authors argued that ‘TQM should be applied organisation-wide, throughout all activities and functions; it should be the manifestation of a fundamental and shared belief in total customer satisfaction’ (p.61). Lengnick-Hall (1995) agreed saying that ‘it is a basic philosophy of management’ (p.30).
2.4.4 The application of TQM in the health care industry in Australia

The application of Total Quality Management to the delivery of health care in Australia, especially in the public sector hospitals, is in its infancy. According to Eastman and Fulop (1996), TQM 'has gained widespread acceptance and application in both the private and public sector organizations in Australia yet the public health sector has not kept pace with these developments' (p.2141).

In contrast, and as mentioned previously, traditional Quality Assurance programs have been highly developed and implemented throughout the Australian health care system and at hospital level in clinical departments and units, as a result of government legislation and accrediting bodies. The extensive application of QA has always been considered an integral and essential component of the health care system because it has provided the means whereby standards are maintained and protected. However, the traditional QA approach has lacked a customer perspective and health care leaders and the nursing profession are now incorporating a customer focus into their quality management practices. There are several publications in the Australian health literature on the development and implementation of TQM in health care organisations, and the level of success or failure during implementation (Ryan & Fahey 1992; Fahey & Ryan 1992; Crawford 1994; Hauquitz et al. 1994; Gale 1994; See & Flynn 1994), but scant attention has been paid to empirically evaluating TQM endeavours within the Australian health care industry.

When applying the TQM approach to the health care setting, Schmele (1996) stated that 'in essence, TQM promotes the creation of a culture whereby consumers and health-care professionals are empowered to improve and sustain every facet of the health-care delivery process' (p.539). Williams (1992) advocated the adoption of TQM in health care on the grounds that traditional Quality Assurance programs 'have not been well integrated with other management systems, nor have they provided real incentives to managers to improve work processes and service outcomes' (p.36). However, Berwick (1990) argued that Quality Assurance should be incorporated into the new way and not remain as separate regulatory activities. Eastman (1992) agreed that QA is still relevant in organisations that have adopted
TQM. He suggested that 'rather than rely on inspection to improve quality, [organisations can] use inspection as just one element of total quality management' (p.220). The issue of integrating QA with TQM in health care organisations will be further discussed in section 2.4.5.

Regulatory health bodies are now developing standards that demand behavioural change which embrace the core principles of TQM. The Australian Council on Healthcare Standards (ACHS) in its Accreditation Guide (1993) stated:

Whilst the evolving Accreditation Program effectively demonstrates its objectives of continuously searching for improvement in standards of health care, the ACHS has recognized the need to learn from industry at large. The concepts of Total Quality Management (TQM), and Continuous Quality Improvement (CQI) have a place in health care, particularly in an environment of cost containment, shrinking resources and rising consumer expectations (p.19a).

When discussing the merits of TQM, Parker (1999) suggested that if nurses adopt the TQM approach, it 'can help facilitate an economically responsible and professionally accountable approach to care' (p.20). However, Eastman (1992) warned that 'successful implementation of TQM and sustaining the initiative will require a fundamental paradigm shift in health care management and thinking in Australia' (p.220).

Gale (1994) described the process of TQM implementation in a New South Wales hospital which spanned five years. According to this author, several important lessons were learned during the implementation phase which included: tailoring the TQM initiatives to the cultural maturity of the organisation; choosing TQM strategies which were recognised as important to staff thereby facilitating the change process; ensuring commitment from senior managers; and providing sufficient education on TQM to equip staff members to effect change. As a result of the TQM program, Gale (1994) stated that the hospital 'has met increased growth and complexity with a reduction in its annual budget through improved efficiencies' (p.203).
In a recent Australian journal article, Morey (1996) highlighted the need for the nursing profession to embrace the TQM approach, which would ‘enhance the development of nursing power, leadership and knowledge’ (p.112). The author identifies potential benefits for nurses, when Quality Assurance monitoring within a hierarchical management structure is replaced with a focus on continuous quality improvement by every member of staff. The philosophy of TQM, which conflicts with traditional nursing management practices, emphasises the responsibility for quality services across all areas of an organisation. Morey (1996) argued that when nursing management ‘bonds staff together in a focused performance and stimulates the search for improved practice based on knowledge generated by research, the development of professional nursing will increasingly approach client/value led practice’ (p.115).

In summary, the quality movement in health care both overseas and in Australia has gained considerable momentum in recent years. A review of the literature on the significance, achievements and evaluation of Total Quality Management in the manufacturing and health care sectors has been presented. Although research shows that TQM can be difficult to implement with many TQM programs failing in the early stages, evidence does suggest that Total Quality Management can contribute to organisational success.

Traditionally, Quality Assurance programs have been used to improve selected aspects of quality for meeting external requirements, such as accreditation. Often these traditional programs viewed processes retrospectively, and in recent years Quality Assurance has attracted several criticisms (Berwick 1990; Masters & Schmele 1991; Larrabee 1995). However, some health care leaders are now suggesting that the two processes, Quality Assurance and Total Quality Management can be integrated within an organisation. The following section will discuss the literature on the integration of the traditional Quality Assurance model used in the hospital setting with the Total Quality Management philosophy.
2.4.5 Integration of QA and TQM in the health care industry

The following literature review identifies the reasons why some health care leaders are integrating formal Quality Assurance initiatives within the broader philosophy of Total Quality Management, and the advantages and disadvantages of integrating the two processes are discussed.

According to Schmele (1996), several health care organisations with traditional Quality Assurance programs in place have adopted Total Quality Management during the past five years to improve customer satisfaction and quality. Several authors agree that QA should not be discarded, but rather integrated into a TQM model to achieve an effective and efficient framework for continuous quality improvement in an organisation (Green 1991; Creps et al. 1992; Kennedy 1992; Marker 1992; Sherman & Malkmus 1994). The Joint Commission on Accreditation of Health Care Organizations (JCAHO) also supports the integration of Quality Assurance and Total Quality Management but states that the process is 'doomed to failure if it carries over the negative connotations of QA' (JCAHO 1991, p.26). Kirk (1992) argued that 'measuring, monitoring, and evaluation are only one aspect of total quality and QA representatives, often a single nurse, cannot make or drive a total quality initiative alone' (p.25). Some authors believe that it is cost-effective to integrate Quality Assurance and Total Quality Management (Sherman & Malkmus 1994; Schmele 1996), while others suggested that preplanned integration of Quality Assurance should occur in the early stages of the implementation phase of TQM to prevent duplication of work and reduce confusion among employees (Anderson 1990; Berwick 1990).

Some health care organisations are hesitant about integrating QA functions and the TQM process. Green (1991) suggested that 'without proper integration, QA and TQM efforts parallel each other, duplications occur, and organisations send mixed messages regarding the degree of support for the role of QA' (p.59). According to Tindill and Stewart (1993), confusion reigns among health care managers in distinguishing between TQM and the traditional QA role. Additionally, health care organisations are more familiar with QA and it is required by external accrediting
bodies, but Tindill and Stewart (1993) argued that ‘there is much value in utilising common elements of both processes in order to obtain a TQM culture’ (p.219).

A study by Tindill (1992) which explored the perceptions and attitudes of the Department of Veterans’ Affairs Centre Directors and QA coordinators to total quality improvement revealed that staff supported the integration of QA and TQM programs. Integration of the two processes was necessary to avoid rework, overlap, and misunderstanding among employees. The importance of developing this direction was also to enhance the culture of the organisation (Tindill 1992). One of the most important factors was to broaden the definition and concept of customer, from not only the hospital’s patients, but to include other health care providers, staff members and the community.

The degree of integration of Quality Assurance with Total Quality Management has also received attention. Some health care leaders use parallel systems of QA and TQM with minimal integration, while other health care organisations have subsumed their traditional QA activities into the broader concept of TQM. Schmele (1996) stated that ‘there is no prescribed recipe for integration of the two processes’ (p.373), but suggested that combining the most beneficial aspects of the QA and TQM processes can be complimentary to each other in an integrated process. Kennedy (1992) concurred, describing the integration process as combining the best of QA and TQM. Maintaining integration may not be in perpetuity, because ‘based on successes and failures, the degree of integration may or may not be maintained’ (Schmele 1996, p.362).

An integrated model was developed for the University of Michigan Medical Center Model in 1988 (Creps et al. 1992). According to these authors, the model built on the strengths of its QA program and developed a strong management philosophy that continually improved patient care. A similar integrated model was developed at the Rush Presbyterian St. Luke’s Medical Center and both models are still being used today (Koska 1990).

In summary, the literature has suggested that common ground exists between QA and TQM and the integration of the traditional Quality Assurance model with the
Total Quality Management philosophy has several advantages including a reduction in costs, an improvement in work processes and customer satisfaction, a reduction in work duplication, and an enhancement of the team concept. Schmele (1996) suggested that 'perhaps the most desirable benefit of all, is that the whole will be greater than the sum of the parts' (p.373). While QA and TQM can offer complimentary strengths and together serve as a solid foundation for health care organisations, it is less clear whether the integration of higher education QA programs with the TQM process would enhance the culture of a school of nursing. Thus, the following research question was formulated to examine this issue.

4. Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities which are already in place in higher education?

2.4.6 TQM in the higher education industry

The discussion of the literature so far has examined Total Quality Management in the manufacturing and health care industries. This section will review the literature on TQM in the higher education industry and identify current quality management practices. The literature review in this section will commence with the early TQM writings in higher education and proceed throughout the 1990s to demonstrate to the reader that the degree of TQM development has not kept pace with that of TQM in the manufacturing and health care industries.

Whilst Total Quality Management has been adopted by the manufacturing and health care industries, institutions in the higher education industry have been slow to recognise the importance of this improved management process. Although there is an increasing number of higher education institutions adopting the principles of TQM, with Burkhalter (1996) reporting that 160 universities in the US were actively involved in TQM and 50% of universities had established quality councils, very little empirical literature exists, and the existing research consists mainly of case studies.

In recent years, several textbooks, journal articles and publications on the application of TQM in higher education have appeared in the literature. The electronic literature on TQM in the higher education industry is prolific with journal articles, discussion papers, anecdotal reports, listings of higher education institutions involved in TQM
and TQM organisations, information about graduate studies in quality management, and quality resources. Some of the case studies include Harvey and Langley’s (1995) which explored the applicability of TQM in business schools in higher education, and identified both the restraining and facilitating forces at play. Wolverton (1996) reported on the success of implementing TQM into the classroom at Arizona’s State University, College of Engineering, and a case study which utilised TQM principles in the design and implementation of a graduate course in organisational behaviour at the Northwestern State University of Louisiana was conducted by Durlabhji and Fusilier (1999).

A survey of the literature revealed the potential for TQM application in several areas in higher education institutions, such as administration of university functions, curricula and core learning processes and teaching methods, research activities, and non-academic functions (Hebert, Dellana & Bass 1995; Vazzana, Bachmann & Elfrink 1997). The integration of TQM throughout an entire organisation is a fundamental principle of TQM, however, the fragmented degree of integration within the higher education industry was viewed by some as a piecemeal effort, with Tang and Zairi (1998) reporting that some universities are not adopting TQM ‘fully across all the processes’ (p.544).

In the late 1980s, Stuelpnagel (1989) suggested that universities should become aware of the revolution that is occurring in the TQM field, develop TQM master plans, and work toward developing study and curricula in support of TQM. Saunders and Walker (1991) examined the differences and similarities between the manufacturing and higher education industries and stated that the greatest challenge with implementing TQM in tertiary education ‘is to identify the appropriate management structure that will encourage quality improvement in the light of shared goals without inhibiting the diversity, innovation, and creativity that are the essence of a university’ (p.91). According to Paine, Turner and Pryke (1992), TQM can have a major input into education, ‘as we begin to appreciate that education is not an industry that is somehow unique, different and isolated from other industries’ (p.7). Brigham (1993) suggested that TQM application in the health care industry could serve as a ‘relevant role model for higher education’ (p.42). When evaluating the
appropriateness of TQM in the higher education industry, Porter, Rehder and Muller (1997) stated:

**TQM's concern with the importance and empowerment of an organization's people, its emphasis on the broadening of decision processes, its holistic-systems view of the organization's purpose and context, and its stress on high quality and customer satisfaction can potentially have a positive impact on higher education** (p.18).

Due to the rising costs of higher education in the US and increasing pressure to provide high quality education, TQM was viewed as a management approach that could solve the problems within US institutions of higher education (Bonser 1992; Froiland 1993; Kendrick 1993; Feigenbaum 1994) with Cyert (1993) stating that 'the concept of competitiveness is one that is gripping our society and indeed societies all over the world' (p.10). According to Kanji and Malek (1999), the success of business and manufacturing organisations using TQM 'encouraged many US higher education institutions to adopt it' (p.130).

The introduction of TQM was also proffered as the solution to making higher education more relevant to the needs of society (Bonser 1992; Cyert 1993) whilst also providing for the academic community a 'valuable test-bed for many key areas of management theory, such as leadership, strategy, and employee involvement' (Dean & Bowen 1994, p.392). In 1994, a Baldrige Award survey was conducted among recipients of the award and the survey results indicated four major areas which educators in the US will have to address. According to Weinstein, Petrick and Saunders (1998), the four areas include the 'need for an increased awareness of quality training topics, the reassessment of curriculum, exploration of benchmarking opportunities and proper training' (p.91).

According to Ruben (1995), encouragement and guidance from industry has been a significant influence in many higher education institutions. The Total Quality Forum, sponsored by American Express, Baxter, Ford, General Motors, IBM, Milliken, Motorola, Proctor & Gamble, 3M, and Xerox, 'has been a particularly vocal and constructive force in fostering a dialogue between business and higher education' (Ruben 1995, p.32), with several universities developing formal or informal
relationships with private industry and implementing quality initiatives in partnerships.

In the discussion on Total Quality Management in the manufacturing and health care industries in sections 2.4.1, 2.4.2, 2.4.3, and 2.4.4, cultural and attitudinal barriers to TQM implementation were identified. A literature survey has also revealed similar barriers to the application of TQM in the higher education industry in the US. A major obstacle identified in the literature is the negative attitude of some employees towards the application of TQM within the higher education industry. Cyert (1993) argued that ‘universities have long resisted any effort to increase their productivity in their functions because most faculty members and others in the organisation believe that universities are as efficient as they should be’ (p.13).

While part of the attitudinal problem may stem from academics’ scepticism for management fads (Koch & Fisher 1998), Harvey and Langley (1995) go one step further suggesting that ‘the autonomy of some of the world’s most empowered workers seems in some ways to be threatened by an approach that purports to be founded on employee empowerment’ (p.137). Thus, the TQM philosophy which emphasises employee empowerment might be seen as threatening to some academics due to the ‘difficult reconciliation of empowerment and control as means to pursuing organizational objectives’ (Sitkin, Sutcliffe & Schroeder 1994, p.537). Cultural factors were also cited as potential barriers by Ruben (1995). This author suggested that the cultures of universities generally ‘nurture, recognise, and reward individual accomplishments far more successfully than they do group, organisational, and community achievements’ (p.29).

A further problem adapting TQM to higher education is confusion over the terminology. In education, answers to the questions ‘what is the product?’; and ‘who is the customer?’ are not as crisp as in other industries. While some published articles recognised the student as customer (Saunders & Walker 1991; Cyert 1993; Potocki & Brocato 1994; Durlabhi & Fuselier 1999), Bonser (1992) suggested that faculty members may find it difficult to treat students as customers. According to Harvey and Langley (1995), a concern with treating the student as customer is that students are not always in a position to ‘know what knowledge and skills should be
acquired to optimise their chances of a productive and useful career’ (p.131). Hebert, Dellana and Bass (1995) offered the view that universities might have customers within the three categories of teaching, research, and service. A model developed for higher education in the US based on the principles of TQM considered the student as the product and the employer as the customer (Bailey & Bennett 1996).

According to Narasimhan (1997), TQM was first applied in US higher education at Fox Valley Technical College and, as a result of TQM, this higher education institution has become more efficient in areas such as placement of graduates, employer satisfaction, acceptance of college credits at receiving institutions and improvement in its learning environment (Kanji & Malek 1999). Other universities began applying TQM, including University of Wisconsin, North Dakota University System, Delaware Community College, Oregon State University (Coate 1993), Virginia Commonwealth University (Cowles & Gilbreath 1993), Pennsylvania State University, University of Pennsylvania and Kansas State University (Lozier & Teeter 1996).

The University of Wisconsin in the US applied TQM to education and according to Shalala (1993), TQM was implemented in five areas. The first area to which the university applied TQM was to customer service, namely, the needs of undergraduate students. The university then applied TQM to the graduate school admissions process and Shalala (1993) reported that by making the admissions process more efficient, the graduate school ‘cut costs and provided better service to applicants’ (p.6). TQM was also used to ‘improve the patent approval process’ (Shalala 1993, p.6).

Hebert, Dellana and Bass (1995) conducted a mail survey to determine US business school faculty members’ perceptions of TQM and its integration into the university curriculum. According to the authors, there were no prior studies of ‘persons who would be primarily responsible for teaching TQM’ (p.21). A random sample of 1,000 management professors was selected from the Academy of Management’s Organizational Behaviour division, and a questionnaire instrument was employed using Likert scale questions to obtain participants’ perceptions on TQM and the integration of TQM into the business school curriculum. Of the 319 (32% response
rate) faculty members who returned the survey questionnaire, 62% were employed mainly in management departments in schools of business and consisted of assistant professors, associate professors and full professors.

The study revealed that at the institution level, only 34% of the respondents indicated that their university had adopted TQM, while 29% indicated that there were plans for TQM implementation in the business school. Only a small minority of respondents believed that their business school had been pressured by accrediting boards and university administration to adopt TQM. Correlations were found between the perception of external pressure to adopt TQM and the integration of TQM into the curriculum, and the perceptions of external pressure and faculty familiarity with TQM. The results also found that 96% of respondents were familiar with TQM, while 77% believed that, when compared to traditional management theories, TQM made a contribution to management practice. Sixty-six per cent of respondents reported that their business school was integrating TQM subject matter into the curriculum, 89% indicated that TQM should be incorporated into the core business courses when integrating TQM into the curriculum, and 78% believed there should be a TQM course. Overall, while a high percentage of respondents were familiar with TQM and believed that TQM was being integrated into the curriculum, very few respondents felt little pressure to integrate it into the curriculum.

These findings led the researchers to conclude that if a significant change such as the integration of TQM into the business school curriculum was to occur, then the business community may have to bring pressure on the schools. As Hebert, Dellana and Bass (1995) noted, 'since the faculty and university administration probably will not willingly change, change must come from outside the system, from the primary external customer, the business community' (p.26). This research has illustrated a number of critical factors that influence the integration of TQM into the university curriculum, however, no mention was made whether the hard or soft aspects of TQM, or both, were explored and incorporated into the survey questionnaire.

In UK higher education the progress of TQM has been slow, with only half a dozen higher education institutions responding to the higher education quality study at the University of Central England in 1992 (Holloway 1994). The literature survey
revealed case studies have been conducted at South Bank University, University of Ulster, Aston University, and Wolverhampton University (Doherty 1994). However, since 1993 there has been an increasing interest in TQM and quality systems in higher education in the UK (Kanji & Malek 1999).

The literature survey also revealed barriers to TQM implementation in UK higher education institutions which have been previously identified in the US literature. Negativity towards TQM from the academic community in the UK was also identified as a predominant barrier, with Kanji and Malek (1999) reporting that ‘academics have long been aggressive to external interference on the institution and the introduction of new management techniques’ (p.146).

In a paper presented at the Sixth International Conference on Assessing Quality in Higher Education in 1994, Pro-Vice Chancellor John Rear, who was responsible for Quality Assurance at the University of Northumbria at Newcastle, stated that ‘it may reasonably be asked why it took so long for higher education institutions to appreciate the importance of Total Quality for their own operation’ (p.2). According to Rear (1994), the answer ‘perhaps lies in the mind set of academics, and in particular in their conviction that higher education is a world apart, different from that inhabited by other men and women with less lofty (ie. profit-making) purposes’ (p.2).

There has also been considerable scepticism about the portability of TQM from the manufacturing industry. Rear (1994) believed that many of the key ideas are just as relevant to universities as they are to manufacturing companies. However, Rear (1994) also believed that ‘their acceptance by departments is much more likely if they can be woven into the existing traditions of the university’ (p.1). In the early 1990s and under increased pressures for cost effectiveness generated by the National Advisory Body for Higher Education in the UK, polytechnics gave increased attention to the Total Quality Management philosophy. Rear (1994) argued that Total Quality was attractive not only because it promised direct economic advantages, but because ‘it seemed to offer insights into a different way of thinking about the organization, which would enable quality to be sustained in the face of serious pressures on the staff and their working relationships’ (p.2).
In the early 1990s, Samuels (1991) stated that ‘schools, now more than ever are facing competition, and experiencing an increasing need to attract and satisfy parents and pupils’ (p.412). In a secondary school in the UK in 1991, Samuels (1991) introduced the concept of Total Quality Management first to senior staff, and, progressively to all teaching and non teaching staff. Quality circles were established to review and improve procedures which affected pupils, for example, the homework policy. Samuels (1991) found that in many cases staff and pupils had no clear statement of aims and procedures. The author concluded that TQM does have potential for a school which can be tailored to meet the needs of a secondary school.

Turning from the international context for quality to developments in the Australian context, a literature survey revealed an increase in the number of journal articles and publications appearing in the TQM literature on higher education during the past five years, however, most of the literature is prescriptive. The literature review also revealed that a clear definition of what is meant by quality in higher education has still not been clarified and, according to Marshall (1998), ‘this lack of conceptual clarity has contributed to the relatively slow development of the area as a field of research and investigation’ (p.322).

During this decade in Australia, universities have been increasingly pressured by external factors such as demographic and politico-societal trends, government fiscal restraint and economic performance, and increasing technology, which have resulted in an increasing emphasis on competitiveness and accountability to provide high quality education (Kember & McKay 1996). According to Brennan and Bennington (1998), changes to funding within Australia’s higher education industry have also ‘heightened awareness of quality issues as increased competition between universities and increased marketing activity aim to attract the best students’ (p.2). Today, quality is the most important and pressing issue facing higher education in Australia (Lakomski & Marshall 1998, p.233).

In the early 1990s, an Australian system for Quality Assurance in higher education was established (Baldwin 1991), based on external reviews of institutions which covered teaching, research, and community contributions. However, no agreement
was ever reached on which indicators were to be used in making the assessments (Penington 1998). The Australian Committee for Quality Assurance in Higher Education introduced a ranking system, and recommendations were made for additional incentive funding on the basis of the rankings (Meade 1993). Not surprisingly, 'the process offered significant financial gains to institutions on the basis of demonstrated high performance' (Penington 1998, p.263). Annual reviews of institutions were conducted in 1993, 1994, and 1995, which focused on teaching, research performance, and community interaction, respectively. The results were met with considerable controversy within the academic community and 'the process came to be associated with rapid evolution of internal procedures for self-assessment and quality assurance in universities when institutional standing and very significant additional funding was at stake' (Penington 1998, p.263).

In Australian universities, institutional quality improvement plans and processes, and evaluative mechanisms are now recognised as criteria for obtaining government funding. For example, the Guidelines for Quality Assurance from the University of New England (1999), state that 'there are strong indications from DETYA that more performance-based funding processes will be introduced, with evidence from teaching outcomes to be used to determine our funding levels in a similar way to the processes used for research funding' (p.1). Today, there is greater emphasis on student-based funding, and, according to Penington (1998), 'market forces in the form of student choice of institution for enrolment are seen as a major incentive for the development and maintenance of evidence of quality of programs offered' (p.264). External inspection, according to Fendt and Vavrek (1992), 'however, is just that — external — and has questionable worth' (p.76). These authors argued that quality does not come from inspectorial methods, but from 'improvement of the process through slow, continual, step-by-step realisation of the institutional mission' (p.76).

In a case study of the University of Western Sydney (UWS), Nepean, Mikol (1996) provided an overview of Quality Assurance at the university since its establishment in 1989. The author discussed the changes that had occurred at system and federated level which have had a significant impact at all levels of the organisation. The progressive development of new Quality Assurance practices were identified.
According to Mikol (1996), UWS Nepean is moving towards a total quality approach which incorporates continuous improvement of the quality related processes and practices, participation of all university members in quality improvement, recognition of customer needs, and a view of quality assessment which facilitates the transfer of authority from government control to internal control. The author further stated that ‘considering the massive changes UWS Nepean has been exposed to, at system and federated level, it is evident that the institution has not only survived but thrived in a market oriented system’ (Mikol 1996, p.29).

In a recent Australian journal publication, several writers examined the issue of developing and maintaining quality in the higher education industry in the 21st century (Harvey 1998; Lakomski & Marshall 1998; Lonsdale 1998; Marshall 1998; Penington 1998). Harvey (1998) discussed quality from both international and local perspectives, and said that despite the degree of government control which varies, ‘the rapid changes taking place in higher education are tending to lead to a convergence towards a dominant model for quality’ (p.238) which is one of delegated accountability, so there has been a shift in focus from improvement to accountability. External quality monitoring which includes accreditation and evaluation of institutions, audit procedures within institutions, and accreditation of programs of study, is the tool for ensuring delegated accountability. Harvey (1998) argued that ‘quality monitoring is in need of a paradigm shift’ (p.250), and external quality monitoring must be linked ‘to an internal culture of continuous quality improvement that focuses on identifying stakeholder requirements in an open, responsive manner for it to be effective in the long run’ (p.250).

In a discussion paper on management and quality in higher education, Lonsdale (1998) suggested that ‘as we approach the 21st century, the past emphasis on the management of quality will need to be replaced by management for quality’ (p.315). He advocated a fundamental change in attitude from review and management of performance to performance management systems, and an emphasis on teams rather than the management of individual performance. Lonsdale (1998) argued that these changes will require significant cultural and policy changes in higher education institutions, sentiments also expressed by quality improvement proponents in the
manufacturing and health care industries (Crawford 1994; Shortell et al. 1995; Schmele 1996).

Marshall’s discussion paper (1998) continued with the theme on quality management practices in higher education in which he emphasised the need for the development and introduction of process-oriented approaches, which reflect organisational and individual commitment to continuous quality improvement and continuous process improvement. Marshall (1998) also suggested significant cultural and policy changes will be required, and that success will rely heavily on the introduction of new approaches to professional development that:

must move beyond the individually focused transmission of expert knowledge and reflection on practice approaches that have been characteristic of higher education institutions to date, to those that embrace an ongoing, coherent, critically reflective approach that is integrated into all aspects of the core business of higher education institutions (p.333).

Interest in quality management practices was recently demonstrated by Professor Heywood at a recent Strategic Directions Forum — Quality Assurance, at the University of New England, New South Wales. Heywood (1999) an evaluator of the Australian Quality Awards, said that universities need to adopt quality management practices from the business sector with a focus on the needs of customers in higher education. According to Professor Heywood, universities have traditionally cared little about the needs of stakeholders, and ‘while many Australian businesses demonstrate world class standards of service delivery, universities need to improve to reach the same level’ (1999, p.2). If the application of TQM in the higher education industry is to be successful two fundamental areas will need to be addressed. First, assessing the culture of higher education institutions and introducing changes in attitudes, values and beliefs will be paramount. Cyert (1993) suggested that the sceptical attitude held by faculty members can ‘be overcome by increased knowledge of TQM and why it works as a philosophy of management’ (p.14). Second, academic members will need to recognise their institution as a system, and view the institution as a system of interrelated parts.
The major focus of this study was on the applicability of Total Quality Management in schools of nursing in higher education and nurse academics’ perceptions of TQM. The *soft* aspects of TQM, that is, organisational culture and change, and human resource management were identified and discussed in sections 2.3.1–2.3.3. This section will discuss the applicability and importance of the *soft* aspects of TQM in schools of nursing and highlight why a paradigm shift will be required of nurse academics if schools of nursing in higher education are to embrace the concepts of Total Quality Management. The relationships between nursing in higher education and TQM, QA, organisational culture and human resource management can be seen in the analytical model presented in Figure 2.2.

*Figure 2.2: A systemic view of the relationship between TQM and nursing in higher education*

![Diagram showing the relationship between TQM and nursing in higher education](image)

Source: Cruickshank 1999

The literature survey revealed that the culture of an organisation and *restraining forces* in the change process can act as barriers to the implementation of TQM, and the researcher believes that these factors would have a major impact on nursing institutions in higher education. This belief is derived from the history of the nurse
educators' transition from the hospital to the tertiary sector, and the traditional QA approach used by nurses in the hospital environment.

First, traditional nursing in health care facilities has been seen as hierarchical with little involvement of employees. In 1994, the transfer of nurse education from the hospital to the tertiary sector was completed in Australia, 'where the promise and rhetoric of increased professional status, internal control, self regulation, peer review and quality control prevailed' (Jenkins 1989, p.193). The move was seen as instrumental for the nursing profession to gain autonomy and academic recognition. However, Booth (1994) argued that the majority of nurses who entered the tertiary sector as leaders were not prepared for their role. According to Booth (1994), 'they continued to administer nursing education within the bureaucracy of the tertiary setting, without the knowledge and skills needed to initiate effective change' (p.335). Reilly and Perrin (1999) also argued that the traditional Bureaucratic-Managerial Model of educational leadership was transferred along with nurse education, into the tertiary sector, and that:

... the rhetoric of increased control over nursing education by nurses, may be translated as an exchange from the domination by medicine and hospital organisational policies, to the inherent danger of nursing being subsumed by a politically more powerful academic bureaucratic structure (p.3).

Second, as the literature review has demonstrated, nurses are accustomed to the traditional Quality Assurance approach which was adopted by health care organisations, and which concentrated mainly on the technical aspects of quality. When nurse educators moved from the hospital to the higher education industry, empirical evidence suggests that within the Bureaucratic-Managerial Model of educational leadership, which was transferred along with nursing education (Reilly & Perrin 1999), the traditional QA practices formed part of that transfer. Thus, nursing institutions may require significant cultural change in order to achieve elements such as total employee involvement, devolved decision-making, and hence, responsibility.

Before developing a Total Quality Management model for a school of nursing in higher education, the issue of cultural change will need to be addressed and several
important factors considered. First, a review of the literature has revealed that emulating the cultural styles of other organisations does not yield satisfactory results, because an organisation's culture is based largely on phenomena which are organisation-specific (Hassard & Sharifi 1989). For example, in each school of nursing the word 'quality' may have a unique meaning. Thus, each nursing institution's culture would have to be measured individually, and this would be conducted in the planning stage of TQM implementation. According to Birnbaum (1992), 'changing the culture of an institution in order to effect deep and lasting change is a long-term effort, and one that requires working within the framework of the existing culture, rather than going to war with it' (cited in Green 1997, p.145).

Second, to achieve successful change, a school of nursing needs to not only seek to change any dysfunctional elements in its culture, but also to preserve aspects of its culture which represent distinctive competencies. Thus the positive and functional elements would be preserved following the measurement of the school of nursing's culture. Third, during the change caused by the gradual adoption of TQM, a school of nursing will be faced with choosing a balance between its old and new cultures. According to Price and Chen (1993), these balances 'occur in all aspects of organizational culture, but particularly in management style, individual contribution, and business tradeoffs' (p.103). Thus, initial planning efforts require setting strategic objectives which will assess the organisation's culture for change, determine leadership willingness to engage in participatory management, and evaluate the functions and processes that are stable enough to begin improvement activities (Schmele 1996, p.336).

In summary, a review of the literature revealed the emerging interest, but paucity of research-based literature on Total Quality Management in the US and UK higher education industries. The transfer of TQM practices from the manufacturing and health care industries to the higher education industry continues to be slow and controversial among the academic community. Some academics view TQM as a new management fad which does not have universal application, while others see it as a major paradigm shift. A literature survey on quality in the Australian context revealed a number of writers contributing to the debate on quality in the higher
education industry but scant attention has been paid to the application of TQM in higher education institutions.

Finally, to this researcher’s knowledge, there is no international or local literature, either prescriptive or empirical, pertaining to TQM in schools of nursing in higher education. TQM proponents believe that TQM creates more effective and efficient business processes, with improvements undertaken on a continuous basis by all employees in an organisation. From the literature review, organisational culture and change, and human resource management have been identified as major considerations when planning for TQM. In some instances, these human factors coupled with the TQM process have required a significant mind shift towards a more systemic view of quality on the part of employees. A survey of the literature has demonstrated that the TQM philosophy together with the human factors have been adopted by nurses in the health care industry, but little is known of nurses’ perceptions of TQM in the higher education industry. Thus, the perceptions of nurse academics to the applicability of TQM in a school of nursing needs to be explored, and TQM principles which could be applied to suit the nursing culture need to be identified.

5. What are nurse academics’ perceptions of the applicability of TQM in schools of nursing in higher education in Australia?

Section 5: Systems Theory

2.5.1 Introduction to systems theory

When exploring the process of using a theoretical framework for the research project, systems theory was chosen as it would lead to an integration of the parts of the study. Systems theory is suited to the research questions as it can provide the structure to examine the research problem as a whole entity, with each of its component parts. More specifically, it could provide a structure for the organisation of the literature review, the presentation of the results, and the discussion.

Systems theory contends that society is a series of interdependent units and systems, whose very existence depends on the nature of various sociable relationships. According to Checkland (1993), the systems paradigm is holistic as it is ‘concerned
with wholes and their properties’ (p.13). Schmele (1996) described organisations as ‘open systems, integrating diverse interrelating elements and subsystems’ (p.316). A systems approach describes the organisation in conceptual terms to shed light on how people accomplish the goals of the organisation. Thus, the essence of systems thinking recognises that people are the functioning unit of an organisation, and without the patterned behaviour of the group, there is no social system and thus no organisation. Flood and Carson (1988) went further and pointed out that ‘a systems approach to problem situations displays systemic (holistic rather than piecemeal) and/or rational systematic (step-by-step rather than intuitive) features’ (p.106).

According to Cummings (1980), ‘systems thinking has been used primarily for systems of tangible, physical objects’, and that ‘the design of engineering hardware systems constitutes the paramount example of systems thinking’ (p.9). This brand of systems thinking was known as hard systems thinking which set out to select an efficient means of achieving a known and defined end (Flood & Carson 1988). Cummings (1980) also noted that ‘other areas, most notably human organisations, have been relatively neglected’ (p.9). In recent years, however, health care organisations have come to acknowledge that a whole-systems framework which integrates both science and practice is ‘needed to attack the complex interdisciplinary, cross-organizational problems that concern health care consumers and practitioners alike’ (Schmele 1996, p.316).

The use of systems theory in understanding organisations blends with the principles of Crosby (1979), Deming (1986), and Juran (1989). Organisations are open systems that function within a larger environment and are influenced by external opinions and measures that require a locus of change within the organisation. Further, when organisations use data and a scientific method to solve problems by assessing the problem, planning responses, taking action, and evaluating the action, then all elements of the system are involved. Thus the behaviour of each element has an effect on the whole. This model underpins the philosophy of Total Quality Management, since the adoption of TQM principles and methods impacts on every employee and every process within an organisation, and thus requires total involvement (Schmele 1996).
2.5.2 Checkland's Soft Systems Methodology outlined

According to Checkland (1993), the Soft Systems Methodology consists of two types of activity. Figure 2.3 depicts stages 1, 2, 5, 6, and 7 as *real world* activities which 'necessarily involve people in the problem situation' (p.163), and stages 3, 4, 4a and 4b are 'systems thinking activities which may or may not involve those in the problem situation, depending upon the individual circumstances of the study' (p.163). Checkland’s (1993, p.165) seven stages are:

- Stages 1 & 2: Expression
- Stage 3: Root Definitions of Relevant Systems
- Stage 4: Making and Testing Conceptual Models
- Stage 5: Comparing Conceptual Models with Reality
- Stages 6 & 7: Implementing *Feasible and Desirable Changes*. 

Each stage will be described in this section to familiarise the reader with Checkland’s Soft Systems Methodology. Stages 1, 2, 3, and 4 are then applied to the research activities undertaken in chapters three and four, and stages 5, 6, and 7 are operationalised in the discussion and recommendations in Chapter 5.

**Stages 1 & 2: Expression**

These stages are called the expression phase ‘during which an attempt is made to build up the richest possible picture, not of the problem but of the situation in which there is perceived to be a problem’ (Checkland 1993, p.163). This expression phrase consists of building a rich picture of the situation being studied which is constantly updated as the inquirers’ understanding of the situation develops. This process is purely a graphical representation of who and what is involved in the situation and the relationships between them.

**Stage 3: Root Definitions of Relevant Systems**

At this stage, a choice is made of relevant systems that the researcher believes will produce insight into the problem situation. The chosen systems are expressed in statements which Checkland has termed root definitions. According to Checkland (1993), a root definition ‘should be a concise description of a human activity system which captures a particular view of it’ (p.167). So, at this stage, the researcher steps back from stages one and two, the picture gathering stages which represent the climate of the situation in the real world, and starts the ‘system analysis which will lead to feasible and desirable changes in the problem situation’ (Checkland 1993, p.223).

The aim of a root definition is to draw out ‘what is to be done, why it is to be done, who is to do it, who is to benefit or suffer from it and what environmental constraints limit the actions and activities’ (Flood & Jackson 1991, p.175). This is achieved by formulating a root definition around the following six elements, known by the mnemonic, CATWOE:

- **C**: Customers — beneficiaries or victims affected by the system’s activities;
- **A**: Actors — the agents who carry out or cause to be carried out the main activities of the system;
Transformation — the means by which defined inputs are transformed into defined outputs;

Weltanschauung — the view of the world that makes the definition meaningful;

Owners — some agency having a prime concern for the system and the ultimate power to cause the system to cease to exist;

Environmental constraints — those constraints in its environment that this system takes as given (Checkland 1993, p.224).

Stage 4: Making and Testing Conceptual Models

Stage 4 ‘consists of making conceptual models of the human activity systems named and defined in the root definition’ (Checkland 1993, p.164). According to Flood and Jackson (1991):

... the root definition from Stage 3 is an account of what the idealised system is, while the conceptual model built directly from the root definition in Stage 4, is an account of the activities which the ideal system must do in order to fulfil the requirements of the root definition (p.176).

Thus, the conceptual model defines how the activity might be achieved in practice by modelling the specific activities that would be required by the root definition if it was to be operationalised. Checkland (1993) said that it is a ‘matter of judgement as to when to stop conceptual model building and move on to a real-world comparison between what exists there and what is in, or is suggested by, the model of systems thought to be relevant to the problem’ (p.177). The elements in the conceptual model should be expressed as verbs because ‘a model of a human activity system will contain a set of activities connected together’ (Checkland 1993, p.286).

Stage 5: Comparing Conceptual Models with Reality

This stage is called the comparison stage because in it ‘parts of the problem situation’, analysed in stage 2, are examined alongside the conceptual model: ‘this should be done together with concerned participants in the problem situation with the object of generating a debate about possible changes which might be introduced in order to alleviate the problem condition’ (Checkland 1993, p.177). Thus, the model is tested against the situation by getting those involved to reflect upon the model and its implications for that organisation.

100
Stages 6 & 7: Implementing Feasible and Desirable Changes

According to Checkland (1993), the purpose of stage 6 ‘is to use the comparison between the conceptual model and what is to generate discussion of changes of any or all of the three kinds which are changes in structure, changes in procedures and changes in attitudes’ (p.181). Checkland (1993) defined structural changes as changes to ‘organisational groupings, reporting structures, or structures of functional responsibility’ (p.180). Procedural changes are changes to the dynamic elements, that is, process and work activities, and changes in attitudes are people’s perceptions of the situation. According to Flood and Jackson (1991), at this stage:

we have ensured that the conceptual model conforms to systemic desirability (since they have emerged from the logic-based stream of inquiry) and we have some idea of whether they are culturally feasible (we have been carrying out cultural inquiry) (p.177).

Thus, culturally feasible and systemically desirable changes to structure, procedure, or attitude may emerge from the discussions and the researcher may then be in a position to take action. Stage 7 then ‘involves taking action to improve the problem situation’ (Checkland 1993, p.164).

In summary, Soft Systems Methodology was developed by Checkland (1993) to investigate ill-defined problems in a human activity system. SSM operates on the basis of never ending learning rather than ad hoc planning sessions that devise schemes that quickly become irrelevant. According to Flood and Carson (1988), SSM allows for ‘continuous checking of new avenues of exploration and backtracking when blind alleys are discovered ... the whole process of exploring alternative ways forward can be done consciously and rigorously’ (p.178).

2.5.3 Justification for using Checkland’s Soft Systems Methodology

When considering a systemic approach to problem-solving the researcher reviewed the soft systems approaches put forward by R.L. Ackoff, C.W. Churchman, and P.B. Checkland (Flood & Jackson 1991). The well tried and tested methodology of Checkland’s was considered appropriate for this study as it could provide a structured approach to dealing with the research problem. Section 2.5.2 has identified the seven stage process of Checkland’s Soft Systems Methodology, and each stage will be applied to the research process in this study, namely the data collection...
methods in chapter three, the data analysis in chapter four, and the discussion and recommendations in chapter five. SSM focuses on bringing about attitudinal and cultural change thus the involvement of the stakeholders, that is, the problem-owners is imperative. In this study, the stakeholders are nurse academics and their involvement is demonstrated through the use of focus group discussions and a survey questionnaire which are presented in the research methodology in Chapter 3. In brief, whilst the process of SSM is suitable for ill-structured, messy situations, the actual structure of the methodology is a logical sequence of stages which is best suited to, and complements the structure of this study.

2.5.4 Conclusion

In summary, this chapter provided an analysis of the literature pertaining to the research problem and major concepts in the thesis. The literature was reviewed from the parent disciplines of the business management and health care industries, and the nursing profession, and the immediate discipline which was recognised as nursing in the higher education sector.

The major focus in the first two sections of this chapter was on Quality Assurance which has traditionally been integrated within the role of nursing management in the hospital setting. An historical overview of QA in the United States and Australian health care systems and nursing was presented, and particular attention was given to the evolution of Quality Assurance as a result of social and government influences. Additionally, the health care system has been forced to closely monitor and document the quality of health care because of the compulsory nature of the accreditation process. The literature review also identified and discussed limitations of the traditional Quality Assurance approach, which resulted in health care organisations looking for a proactive, continuous approach to quality. These findings will influence the direction of the research undertaken in this study as the researcher attempts to establish whether or not nurses in the academic setting also view the traditional QA approach as insufficient to meet the needs of nursing in the higher education sector.

Following on from the discussion on QA, the literature investigation provided a background for the conceptual understanding of Total Quality Management. Total
Quality Management was defined, the historical development was outlined from the origins of TQM principles in manufacturing industries in the US and Japan to the application of these principles to health care organisations in the US, Britain, and Australia. TQM emphasises the role of the customer, the involvement of employees at all levels of an organisation, and the importance of measurement, in pursuit of improvement. It is evident from the literature analysis that although there have been problems with implementing TQM, its principles and philosophy appear sound. The analysis also showed that there have been considerable improvements made as TQM programs reach maturity. These findings are important to this study as the researcher believes that they could provide guidance in the planning and development stages of a quality culture approach for a school of nursing in higher education.

The theoretical discussion introduced the significance of studying Schein’s theory of organisational culture and Lewin’s Force-Field Model of Change, in understanding how these concepts can impact on the implementation of Total Quality Management within an organisation. Organisational culture, as reflected in values, attitudes, beliefs and underlying assumptions, has a significant impact on the management of any organisation. Culture includes both implicit and explicit contracts that include what is expected of members and the rewards or sanctions associated with compliance or noncompliance. When implementing changes in an organisation one needs to be cognisant of the impact that organisational culture will have on the success or failure of the change process. Assessing the culture in a school of nursing will be a crucial and primary step when planning for a quality culture approach, and this will be further discussed in Chapter 5.

Within the health care sector, recent empirical evidence shows that increasingly, quality in health care organisations is being measured from the perspective of patient outcomes, supported by processes of care and established structural standards. The literature review also revealed that the recent perspectives on quality within health care facilities shift the emphasis from problem identification to problem prevention, from Quality Assurance to quality management. Finally, although there is a plethora of literature concerned with Total Quality Management, discussion of TQM development and implementation within higher education is scarce, and the researcher could not find any international literature pertaining to the applicability of
TQM in schools of nursing in higher education. Furthermore, the researcher believes this study to be particularly important for nursing education in Australia as an extensive literature search revealed no QA or quality management studies in nursing education have been carried out in this country. Additionally, there is no evidence in the literature that the views of nurse academics in Australia have been sought in respect of appropriate quality management practices for nursing education.

This chapter has contributed significantly to the overall thesis as it has shed considerable light on Quality Assurance in health care and nursing, the philosophy of Total Quality Management, and the soft characteristics of TQM. Furthermore, it has identified gaps in the nursing literature on quality management practices in nursing education which the researcher aims to rectify by addressing the research questions in section 2.5.5. Issues not dealt with in the empirical literature such as cases of successful and failed TQM applications, and ways of reducing cultural obstacles when planning for TQM, will have to be consciously considered when planning a quality culture approach.

In section five, the Soft Systems Methodology developed by Peter Checkland (1993) was outlined and the seven stages of the methodology were described and diagrammatically expressed. Checkland’s (1993) methodology was considered appropriate for this study as it could provide a structured approach to dealing with the research problem which was ill-structured and complex.

Major concepts identified with Quality Assurance and the soft aspects of Total Quality Management will be incorporated into the two methods employed in the research design in Chapter 3, that is, focus group discussions and a survey questionnaire. Perceptions of quality, QA, organisational culture, and human resource management will form the basis of the structured focus group discussions and open-ended questions in the survey questionnaire, and the values and principles of Total Quality Management will be incorporated into the attitudinal scale in the survey questionnaire. Findings of this research are analysed in relation to this body of literature.
2.5.5 Summary of research questions

This study addressed the following research questions:

1. Do schools of nursing in higher education in Australia have a formal Quality Assurance program? This research question was operationalised into a further question:

2. What are the Quality Assurance activities undertaken by nurse academics in schools of nursing in higher education?

3. Is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?

4. Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities already in place in higher education?

5. What are nurse academics’ perceptions of the applicability of Total Quality Management in schools of nursing in higher education in Australia?

As mentioned above, the literature review shed light on major topics in this thesis yet there remains several unanswerable questions. Tentative answers to the Quality Assurance questions can be made because the researcher believes that QA activities are conducted in schools of nursing in Australia. However, this belief stems from anecdotal evidence and the researcher’s knowledge and experience of working in the higher education system. There is no evidence in the literature of Quality Assurance programs in school of nursing in Australia or QA activities undertaken by nurse academics. A tentative answer to question five on Total Quality Management in schools of nursing in Australia cannot be proffered as neither anecdotal nor empirical evidence exists in the literature.
CHAPTER 3

Methodology

3.1 Introduction

Chapter 2 provided an analysis of the literature relevant to the research problem and identified five research questions. This chapter addresses issues relating to the methodologies used to investigate the research questions. The chapter commences with a justification for the paradigms and research methodologies adopted in this study. Section 1.4 provided an overview of the methodologies which will be described and discussed in detail in this chapter. Using Checkland's Soft Systems Methodology as the theoretical framework, stages 1, 2, 3, and 4 of the seven stage process will be operationalised as discussed in Chapter 2. Methodological limitations are identified and the approach to analysis using a statistical computer program is described. Ethical issues relating to the research are also discussed.

3.2 Justification for the Paradigms

'The development of scientific knowledge is influenced by paradigms, or philosophical viewpoints, which provide an ontological perspective that guides epistemology and research methodologies' (Crookes & Davies 1998, p.24). All paradigms create knowledge that can describe and explain the phenomenon which is being studied. According to Allan (1998), traditional academic research has focused on two paradigms: positivism and interpretivism. When choosing a research design and major methodology for this study, two major factors influenced the researcher's decision. First, the research approach should be viewed in the context of the relevance of the research questions. Second, the paradigm chosen should have the ability to address the soft aspects of the Total Quality Management philosophy. Three philosophical approaches, positivism, interpretivism, and eclecticism were considered together with their limitations.

The positivist philosophy of science emerged in the 19th century and it later became known as logical positivism, a philosophy of science that evolved to extend knowledge (Smith 1997, p.25). This paradigm, also called quantitative and scientific, 'shaped the development of both medicine and nursing as scientific disciplines' (Smith 1997, p.25).
A researcher utilising the positivist paradigm believes that 'anything that is worth knowing can be known objectively (i.e. measured or quantified and typically represented numerically) and verified by independent observers' (Crookes & Davies 1998, p.88). Thus, positivists believe that there is 'a certain objectivity about reality which is quantifiable' and since the collected numerical data can be interpreted by the use of statistics it is said to be quantitative (Allan 1998, p.2). Positivism maintains that 'the object of research can only be understood by reducing it into parts and examining them in detail ... relationships between the parts can then be identified by repeated observation and measurement' (Crookes & Davies 1998, p.88).

Positivists believe variables 'that influence events can be isolated and are not influenced or open to interpretation by the researcher' (Allan 1998, p.2), so the epistemology of positivism demands that the researcher remains independent from the research. This is 'based on the idea that the phenomena will then show themselves as they exist in reality, uncontaminated by any subjective bias that the researcher might bring to the data' (Smith 1997, p.25). As a result, positivists 'expect that the same results will be obtained by different researchers given constant variables and conditions' (Allan 1998, p.2).

Opposing this school of thought and offering an alternative view is the interpretivist paradigm. This paradigm (also called qualitative, interpretive and phenomenological research), 'reflects a particular school of thought on the nature of knowledge, including: what we need to know; what can actually be known; and how best to find out or generate that knowledge' (Crookes & Davies 1998, p.89). Interpretivists reject the notion that there is 'one reality existing irrespective of the influence of individual human beings' (Allan 1998, p.3).

Researchers operating in the interpretivist paradigm study attitudes, perceptions, behaviour and interpretation, and interpretivist research is a process of 'describing, interpreting and seeking understanding and possibilities in order to reach a shared meaning, and not as a search for casual relationship' (Allan 1998, p.3). Thus, interpretivists believe that 'humans need to know far more about themselves and the world in which they live, than can be measured objectively' (Crookes & Davies 1998, p.89), so the kind of knowledge that is considered valid and useful differs between the two paradigms.

While it might be argued by some researchers that quantitative methods are a superior means of data collection, some researchers support the combination of both
qualitative and quantitative research methodologies (Knafl & Howard 1984; Rossman & Wilson 1985; Dzurec & Abraham 1993). According to Dzurec and Abraham (1993), ‘views of research that dichotomize qualitative and quantitative methods and the paradigms in which they are couched reflect a limited interpretation of the process of inquiry’ (p.73). It is not the intention of the researcher to enter the traditional ‘quantitative versus qualitative’ debate or seek to undermine either paradigm. Indeed, there are reasons to reject the traditionally presented dichotomy between the quantitative and qualitative paradigms, with a review of the literature demonstrating notable arguments for utilising an eclectic approach (Allan 1998).

According to Dzurec and Abraham (1993), ‘the traditional dichotomy between quantitative and qualitative methods is evolving toward a more neutral distinction, facilitative of the integration of methods’ (p.73). For example, Knafl and Howard (1984), and Rossman and Wilson (1985) suggested that using both approaches has complementary strengths. Rossman and Wilson (1985) suggested that quantitative techniques are appropriate for ‘corroborating findings initially noted from qualitative methods’ (p.638), and qualitative techniques are used to ‘provide richness or detail to quantitative findings (elaboration)’ (p.638).

Given the above arguments for eclecticism, and rather than basing design selection on a view that some methods are more ‘scientific’ than others, the real issue became ‘how can I best go about answering the research questions?’ Thus, the intention of this researcher was to satisfy herself that the methodology and the research design of the study reflected the nature of the research questions. However, it was determined that no single paradigm could tap all the parameters of the proposed research questions.

Perry (1994) suggested that in a PhD thesis ‘there will usually be only one major methodology which suits the research problem and associated research gaps ...’ (p.20). Bearing in mind that the research orientation, whether positivism, interpretivism, or eclecticism, should be viewed in the context of the relevance of the research questions, a quantitative method was employed in this study as the major methodology as it could provide quantifiable data which were required for the development of a quality culture model for a school of nursing in higher education. However, utilising only the positivist paradigm in the research design was rejected by the researcher and the reasons were twofold.
First, the research questions formulated in Chapter 2 could not be conclusively answered by the researcher, nor had they been empirically tested in the literature. The views of nurse academics to a quality culture in a school of nursing were unknown as were the views of nurse academics to the philosophy of Total Quality Management. Thus, the researcher could not be sure that the numerical data generated from a quantitative method developed by the researcher would be a true representation of nurse academics' views. Following on from this, the researcher believed that employing only the scientific approach would not yield substantive evidence of nurse academics' views on quality issues which could be used in developing a quality culture within a school of nursing in higher education.

The interpretivist paradigm as the major methodology was rejected by the researcher on the grounds that data from a large sample were required in order to obtain a national picture of nurse academics' views to quality management practices. However, since the attitudes and perceptions of nurse academics to the traditional QA approach, and the applicability of TQM in schools of nursing in higher education were unknown to the researcher, this paradigm was adopted in a secondary role to gather preliminary data prior to the quantitative method. According to Perry (1994), 'other methodologies would be used in a secondary role to help formulate research issues (for example, some interviews to help design a survey’s questionnaire)' (p.20). The views of nurse academics were seen as crucial in the preliminary stage, and the interpretivist paradigm has the ability to uncover belief systems and quality management practices employed by nurse academics. Thus it will be utilised as a precursor to the quantitative study in two ways. First, the five research questions were derived as a result of the literature review, and a qualitative method could substantiate the relevance of the research questions from a nurse academic's perspective. Second, this method could obtain preliminary data for the development of the research instrument.

In conclusion, the type of knowledge needed to answer the research questions was the determining factor in the choice of research approach. It was decided that a two stage process employing a qualitative paradigm as a precursor to the quantitative and major method would be utilised in this study. Using a qualitative method would enable the researcher to explore in depth the concept of a quality culture in schools of nursing; to ascertain nurse academics' knowledge of Total Quality Management concepts; and to obtain a holistic picture of Quality Assurance activities in schools of nursing. These data will enhance the validity of the research instrument in the major
quantitative methodology. Both methodologies will be discussed in the following sections.

3.2.1 Justification for the methodologies

When determining the measurement to use in this investigation, two major concerns were considered to be of critical importance to the researcher. First, as Chapters 1 and 2 have demonstrated, there is a lack of empirical information on Quality Assurance practices and other quality management practices in schools of nursing in higher education. Additionally, the literature review revealed a lack of reference to nurse academics’ views on quality management practices in schools of nursing in higher education institutions in Australia. Second, a literature review did not reveal a research instrument which would address the research questions. Acknowledging that ‘to a large extent the success of a study depends on the quality of the data collection methods chosen’ (Beanland et al. 1999, p.294), the researcher carefully considered the following questions which were identified from the research problem and the literature review.

1. What are nurse academics’ attitudes towards Quality Assurance in schools of nursing in higher education? Do schools of nursing have formal QA programs? Do they use the traditional QA approach? What QA activities are undertaken by nurse academics? Is the traditional QA process sufficient for nursing in higher education?

2. Are there cultural characteristics specific to nursing in higher education? Should the introduction of a quality culture in schools of nursing integrate Quality Assurance activities which are already in place in higher education?

3. What are nurse academics’ perceptions of Total Quality Management? How culturally appropriate is a Total Quality Management model for schools of nursing in higher education? What TQM principles could be applied to suit the nursing culture in a school of nursing?

The research questions could not be conclusively answered by the researcher, nor could the researcher be sure that the questions would elicit the desired information from a large-scale survey of nurse academics. For example, it is unlikely that participants would be motivated to respond to the questionnaire if they did not perceive Quality Assurance and quality management practices as important issues in higher education, and therefore worthy of investigation. Although the literature review indicated that Total Quality Management is being adopted by business and service organisations worldwide, no literature was found on TQM applications in schools of nursing in higher education. Therefore it was important to explore these
issues further and obtain preliminary data with a sample of nurse academics before proceeding with the questionnaire development and design.

The focus group technique was chosen as the secondary research method in this study to explore the research questions from a nurse academic’s perspective for relevancy, in order to generate data for the development of the research instrument. McDaniel and Bach (1994) provided a concise yet informative definition of a focus group discussion as ‘a qualitative research technique using discussion among a small group of people, (usually 4–12) in a comfortable, non-threatening environment to obtain perceptions about a given problem, area of interest, or topic of study’ (p.4). According to McDaniel and Bach (1994), the focus group technique which ‘determines the opinions and attitudes of a homogeneous group, can be used to generate constructs, develop models, generate data for instrument development and refinement, or to evaluate new programs and products’ (p.4). Furthermore, this data collection method can provide an understanding of what a research project means to the study population.

A survey of the literature failed to reveal a research instrument which could be utilised for the major data collection method. Thus, the primary purpose of using the focus group technique in this study was to generate data for instrument development and refinement, which would form the basis for the design of the mail survey questionnaire. According to Kumar (1996), ‘this approach to data collection is extremely useful in situations where either in-depth information is needed or little is known about the area’ (p.109). The in-depth information on Quality Assurance and Total Quality Management would assist the researcher in constructing a semi-structured research instrument.

The focus group technique would contribute to the development of the quantitative investigation in this study for two reasons. First, the researcher believed that a discussion on quality issues and Quality Assurance would generate valuable data. Because QA is a familiar concept with the nursing profession, as identified in Chapter 2, nurse academics would have knowledge, opinions and experiences with the traditional Quality Assurance approach, and this could produce a lively group dynamic with subsequent beneficial data. Additionally, Quality Assurance in higher education is controversial because of government funding implications which could also produce varied and interesting information.
Second, the researcher wished to obtain nurse academics’ perceptions and opinions on the applicability of Total Quality Management in nursing in higher education, and to identify the TQM principles that could be applied to suit the nursing culture in a school of nursing. Thus, group discussions would help the researcher to establish a clear picture of participants’ thinking on these issues, and it would also ensure that relevant issues the researcher might have omitted were included in the data collection.

The following practical strengths of using focus group discussions were also seen as a distinct advantage. Data can be collectively obtained over a short period of time and with more than one person, ‘thus the sample size can be increased significantly’ (Patton 1990, p.335). In terms of financial, economic, and geographic restrictions in this study, this data collection strategy proved more advantageous than using individual interviews. However, when compared to individual interviews, the researcher has less control over the data that are generated. To overcome this problem the researcher developed a clear set of predefined questions, presented in section 3.3.4, which Morgan (1988) suggested gives researchers more control over the information that is obtained.

The strength of focus group interviews comes from the opportunity to collect data from group interaction. This data collection strategy was used as a secondary research method in the study to gain insight into how nurse academics view the traditional Quality Assurance approach and the philosophy of Total Quality Management. The in-depth contextual data obtained from the focus group discussions formed the basis of the research instrument.

When deciding on the major method for this study, several factors were taken into consideration. First, the researcher wished to collect data directly from nurse academics currently employed in schools of nursing in higher education in Australia, regarding demographic information and their perceptions and/or opinions on Quality Assurance and Total Quality Management. Second, the research questions asked in this study required an efficient data-gathering method that would discover factual information and ascertain attitudes and opinions from a large population within a relatively short timeframe. In addition, there was a need to choose a method that would describe the characteristics of the target population that were too large to observe directly. Finally, resource constraints had to be considered in the overall picture.
Given the above considerations, survey research was deemed to be the method of choice as it would meet the research needs of this study; also it would offer a high degree of accountability, efficiency and flexibility in terms of the topics covered. An exploratory survey could identify and describe Quality Assurance programs in schools of nursing in higher education. It could also ascertain the perceptions and/or opinions of nurse academics to the applicability of TQM in schools of nursing, and provide a demographic and employment profile of the sample.

When choosing the major method of data collection, the researcher assessed the practicality of using mail surveys, face-to-face, and telephone surveys with a widely dispersed large sample. First, using face-to-face interviews would prove very time-consuming and costly in terms of travel and direct interviewing time. Second, telephone interviews would be expensive and time-consuming, plus it was not possible to access the telephone contact details of the target population of nurse academics. However, the researcher could access the names of nurse academics and their employment addresses from the 1996 university higher education handbooks.

Third, the geographic distribution of nurse academics was an important consideration. A mail survey could be distributed to eight hundred and fifty nurse academics simultaneously in a widely dispersed area. Since the object of the study was to survey as many nurse academics as possible, it was decided that face-to-face and telephone survey methods would not be viable because of economic, geographic, and time constraints. Thus, a mail survey questionnaire was used to obtain data directly from a large population of nurse academics employed at the time of the study in schools of nursing in higher education in Australia.

In conclusion, the research study was undertaken in two stages. Stage 1, which is presented in the following section, was conducted to obtain qualitative data which would assist the researcher in constructing the survey questionnaire for stage 2 of the study. Stage 2, presented in section 3.4, involved the distribution of a mail survey questionnaire to nurse academics in Australia to obtain quantitative data which were used to answer the five research questions formulated in Chapter 2, and to develop a quality culture model for a school of nursing in higher education.
3.3 Stage 1: Focus Group Discussions

3.3.1 Setting and population profile

The focus group discussions were conducted in five schools of nursing in higher education in Brisbane, Melbourne, Adelaide, Perth and Darwin. Although some schools of nursing have been absorbed into Faculties of Health Science or Faculties of Medicine, the term ‘school of nursing’ will be used throughout this thesis for consistency. The population for the focus group discussions consisted of nurse academics employed at the time of the study in schools of nursing in higher education institutions in Australia.

3.3.2 The sampling frame

As a first step in the sampling process, it was important to identify the total population of nurse academics employed in schools of nursing, and the number of schools of nursing in higher education. The sample frame was the population of nurse academics employed at the time of the study in forty schools of nursing in universities in Australia. An initial search for the number of nurse academics in higher education and the number of schools of nursing was conducted using both a manual search of staff profiles listed in the 1995 university higher education handbooks and electronic searches via the Internet.

3.3.3 Focus group sample

To ensure a school of nursing from each state and territory in Australia was represented, the selection technique for the focus group discussions was a simple random sample of the forty schools of nursing. Only one school of nursing was selected from each of the territories and one from each state. Thus, eight schools of nursing were selected and stratified random sampling of the nurse academic population in each school of nursing was then conducted according to employment status, that is, professor, associate professor, senior lecturer, lecturer and associate lecturer. This method of sampling was deemed the most appropriate as it was essential to obtain the views and opinions of nurse academics at all employment levels so that the data obtained from each level would be represented in the design of the questionnaire.

The researcher wrote to the eight selected Heads of School requesting permission to conduct the focus group discussions and to obtain a list of names of nurse academics
and their employment level. The letter outlined the purpose of the research, the participation required from the nurse academics, and ethical considerations were also addressed (Appendix 1). Permission to conduct the discussions was granted by five Heads of School of nursing in Queensland, Victoria, South Australia, Western Australia, and the Northern Territory. Ethical clearance to conduct the focus group discussions was obtained from James Cook University of North Queensland. A school of nursing in New South Wales and one in Tasmania required the researcher to make submissions to their university ethics committee before being granted approval. Due to time constraints, the researcher did not proceed with the submissions, nor were other schools of nursing in NSW or Tasmania invited to participate in the focus group discussions. Thus, five schools of nursing participated in the focus group discussions.

Following the selection of the schools of nursing, the researcher randomly selected five subjects from each school of nursing according to employment status, that is, professor, associate professor, senior lecturer, lecturer and associate lecturer. The variable, that is, employment level, was chosen as a criterion for stratifying the sample as the researcher wished to ensure representativeness at each level of employment. The researcher wrote to the twenty-five randomly selected subjects outlining the purpose of the study and requesting their participation in the focus group discussions (Appendix 2). The subjects were informed that the researcher was a nurse academic and employed in the School of Nursing at James Cook University. They were informed also that the focus group discussions were part of a PhD research project examining Quality Assurance and Total Quality Management in nursing in higher education.

Subjects were given the researcher’s contact details should they wish to discuss their participation or any matter concerning the focus group discussion. Approximately one week later, each potential participant was contacted by telephone to inquire whether they would participate in the study. After confirming their interest, a date, time, and venue were arranged. Each participant also received written confirmation of the date, time and venue scheduled for the discussion.

Two nurse academics from one school of nursing, a lecturer and an associate lecturer, were unable to participate so they were replaced with another two nurse academics randomly selected from the appropriate stratum, and who agreed to participate in the study. However, on the scheduled day of the focus group
discussion, the lecturer was absent on sick leave, and the associate lecturer was on compassionate leave.

The school of nursing in one of the territories consisted of ten nurse academics only. The positions of professor and associate professor had not been filled, so the discussion group consisted of a senior lecturer who was the Head of School, a lecturer and an associate lecturer. Since there was only one school of nursing in higher education in this territory, the researcher believed it was important that the views of the nurse academics in this school of nursing be represented in the focus group analysis.

Taking into account the two nurse academics on leave, and only three participants in one focus group discussion, the total number of nurse academics who participated in the discussions at the time of the data collection was twenty-one, and the number of focus group discussions conducted totalled five.

3.3.4 Data collection procedure

The focus group interviews were conducted in July 1995, approximately sixteen months before the mail survey questionnaire was distributed. At the participants' request all five focus group discussions were conducted at the participants' workplace. At the time of the focus group discussions, all the informants were both registered nurses and nurse academics, and, with one exception, they were female. The informants were between the ages of thirty and sixty years.

At the commencement of each focus group discussion, the researcher introduced herself and thanked the subjects for agreeing to participate in the discussion. The researcher once again informed the participants of the purpose of the group discussion before an informed consent was obtained from each participant (Appendix 3). Prior to commencing the focus group discussion permission was obtained from participants for it to be audio-taped. Participants were encouraged to make additional comments beyond their own original responses to questions asked by the researcher. It was also emphasised by the researcher that there was no right or best answer to the focus group questions, only perceptions and/or opinions regarding Quality Assurance and the themes addressed during the discussion. Furthermore, the participants were not required to reach a consensus. As Patton (1990) pointed out 'the object is to get high-quality data in a social context where people can consider their own views in the context of the views of others' (p.335).
Each participant was also asked to complete a demographic information sheet at the commencement of the discussion (Appendix 4). Each participant was given a participant code number on the demographic information sheet to protect their confidentiality. The demographic data obtained included participants’ qualifications and number of years working in nursing in higher education, gender, age, full-time or part-time employment, and employment status. Employment status was divided into: professor, associate professor, senior lecturer, lecturer, and associate lecturer. The demographic sheet finished with questions regarding total number of staff members, number of undergraduate and postgraduate enrolments, and total student enrolment.

During each focus group discussion, the researcher aimed to address the five research questions formulated from the literature review. Each research question had additional trigger questions to assist in eliciting information pertaining to each research issue, and these will now be presented.

**Research question one: Do schools of nursing in higher education have a formal Quality Assurance program?**

Does the school of nursing where you are presently employed have a formal Quality Assurance program?

Is the program entered into independently by staff members?

Is the program entered into as a result of external influences?

Are staff members involved in measuring and monitoring their own productivity and quality against defined targets?

**Research question two: What are the Quality Assurance activities undertaken by nurse academics in schools of nursing in higher education?**

Can you give some examples of QA activities you have employed to address your departmental needs?

Are all nurse academic staff members aware of Quality Assurance activities undertaken in this school of nursing?

Does this school of nursing have a QA coordinator?

Does this school of nursing have a QA team?

**Research question three: Is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?**

Do you believe the traditional Quality Assurance approach we have used in nursing practice is sufficient for nursing in higher education?
Did nurse academics implement new quality management practices in schools of nursing when nurse education transferred from the hospital to the higher education sector?

Do you think a more comprehensive approach for increasing quality and productivity is needed in nursing in higher education?

**Research question four: Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities already in place in higher education?**

If nurse academics wished to develop and implement a quality culture model in a school of nursing, should they integrate the QA policies initiated by the university? Should nurse academics integrate QA activities already in place in a school of nursing?

**Research question five: What are nurse academics’ perceptions of the applicability of Total Quality Management in schools of nursing in higher education in Australia?**

The discussion commenced with the topic of organisational culture, followed by the concepts of quality and Total Quality Management. Participants were asked to share their perceptions of the concepts and to consider what key strategies, if any, would be required in making a paradigm shift from Quality Assurance to Total Quality Management.

Do you think there are cultural characteristics that are specific to nursing in higher education?

Do you believe there are differences in nursing cultures among schools of nursing?

Does management in this school of nursing actively seek employee input in decision making?

Do staff members have the opportunity to set up teams to improve processes?

Is the value of teamwork consistently emphasised and promoted?

Are staff members provided with ongoing performance feedback?

Would you see empowering employees as a principle of a total quality program?

Have you heard of the concepts, internal and external customers?

Is this school of nursing actively involved in seeking feedback from its customers?
Although the researcher approached each focus group discussion with the five research questions in mind the participants were encouraged to discuss issues on quality perceived to be important to them. This meant that in some cases the researcher spent more time on particular points than on others and in most of the discussions there were other topics on quality that the interviewees initiated.

The length of time required for each of the five focus group discussions ranged from one to two hours. Following each focus group discussion, the audio-tape was played to allow the researcher to note discussion climate, and to identify any concepts or issues that required further elaboration which could be addressed at the next discussion. At the completion of the last focus group discussion, the audio-tapes were transcribed, verbatim, yielding sixty-six pages of data. The transcript was reviewed with the audio-tapes by the researcher to check for accuracy of transcription. The responses which emerged were evaluated across the focus groups to determine the frequency of perceptions and/or opinions that participants had proffered. The quantifiable responses gathered in stage 1 of the research are summarised in Appendix 5, and qualitative responses are presented in Appendix 6.

In summary, the results of the focus group discussions revealed that respondents employ a wide range of Quality Assurance activities mainly in the teaching arena and consisting of evaluative strategies. Respondents believe that the QA approach traditionally used by nurses in the hospital setting was adopted for nursing in higher education when nursing education was transferred from the hospital setting to the tertiary sector in the early 1990s. The results also revealed that the traditional QA approach is not viewed by respondents as sufficient to meet the needs of nursing in the higher education industry.

The majority of respondents was aware of the concept of Total Quality Management and examples were given of TQM applications in health care facilities, with the benefits noted. The concept of customer was also known to the respondents but a consensus was not reached on identifying who the customer is in a school of nursing. Participation and commitment of all employees at all levels of an organisation were considered important when making a paradigm shift from Quality Assurance to Total Quality Management.

The results of the focus group discussions were important for two reasons. First, the literature review showed that nurses in health care facilities are taking an increasing interest in TQM, but nurse academics’ knowledge of TQM was not identified in the
literature review. The results revealed that the respondents were familiar with the TQM philosophy, thus it was anticipated that the incorporation of TQM principles into the survey questionnaire would not be foreign to the study population.

Second, respondents raised several issues which were identified also in the literature as important TQM considerations. For example, various definitions of TQM were proffered, participation and commitment of all employees were perceived as important, and identifying the customer in a school of nursing context was met with mixed reactions. Thus, the results of the focus group discussions provided the researcher with sufficient information to proceed to stage 2 of the research plan, and utilise the data generated from the discussions to develop the research instrument which is described in section 3.4.3.

In the next section, stages 1, 2, 3, and 4 of the Soft Systems Methodology will be operationalised. To remind the reader of the seven stage process of Checkland’s Soft Systems Methodology presented and described in Chapter 2, each stage of the methodology will first be expressed in the form of a diagram followed by the researcher’s application of each stage operationalised in words and illustrated with a figure when required.

3.3.5 Application of Soft Systems Methodology

Stages 1 & 2: Expression of the Problem
The first two stages of Soft Systems Methodology involve the examination of the background of the problem. According to Checkland (1993), stages 1 and 2 are an expression phase ‘during which an attempt is made to build up the richest possible picture, not of “the problem” but of the situation in which there is perceived to be a problem’ (p.163). Figure 3.1 depicts stages one and two in the following diagram.

Figure 3.1: Stages 1 & 2: Expression of the problem

1. The problem situation: unstructured

2. The problem situation: expressed

Source: Checkland 1993
The *situation* in this study is expressed in the form of the *rich picture* and can be viewed in Figure 3.3. The information summarised in the *rich picture* in Figure 3.3 was obtained from three sources:

1. the literature review presented in Chapter 2;
2. the results of the focus group discussions from stage 1 of the research plan; and
3. the researcher's knowledge and experience of working in both the health care system and the higher education system.

**Stage 3: Selection of a Root Definition**

In stage 3, Figure 3.2, a choice is made of relevant systems that the researcher believes will produce insight into the problem situation, and is depicted in the following diagram.

**Figure 3.2: Stage 3: Root definitions of relevant systems**

![Diagram showing root definitions of relevant systems](image)

Source: Checkland 1993

A root definition for this study to determine the applicability of Total Quality Management in schools of nursing in higher education was formulated followed by a CATWOE analysis of the root definition.

**Root Definition:**

A school of nursing education system operating within a tertiary institution with the objective of applying the principles of Total Quality Management by: knowing about TQM, knowing about human resource management and identifying the culture of a school of nursing, selecting the principles of TQM to be utilised, implementing those principles in a school of nursing, and monitoring the progress of the TQM program in order to benefit nurse academics and nursing students in an environment of teaching and learning, research, and scholarship (Cruickshank 1999, after Checkland 1993).
Figure 3.3: The rich picture

Canberra

Rising Health Care Costs

Consumerism

Nurse Training

Traditional Quality Assurance

Quality Assurance Coordinator

External Accreditation Standards

Lack of Customer Focus

Is Quality Assurance sufficient for nursing in higher education?

Do I need to examine culture in schools of nursing?

School of Nursing

University

Traditional Quality Assurance

Peer Review

Academic & Student Evaluation

University Review

External Accreditation Standards

Definition of Customer Required

Source: Cruickshank 1999 (after Checkland 1993)
CATWOE Analysis:
C = Nurse academics and nursing students
A = Researcher who wishes to promote a TQM program
T = Quality activities transferred into TQM
W = TQM can provide an organisation-wide continuous commitment to the improvement of quality in a school of nursing
O = School of nursing in higher education
E = University system; National Nursing Accreditation Bodies.
   (Cruickshank 1999, after Checkland 1993).

Stage 4: Model Building — the Conceptual Model

At this stage, a Conceptual Model was developed on the basis of the root definition setting out what the system must do to accomplish the task defined in the root definition, and, according to Checkland (1993), 'the step from root definition to Conceptual Model is the most rigorous in the whole methodology, the nearest to being technique' (p.170). Modelling poses the question: 'What activities, in what sequence, have to occur in order to do the transfer?' (Checkland 1993, p.170). Stage 4 of Checkland's Soft Systems Methodology is identified in Figure 3.4.

Figure 3.4: Stage 4: Making and testing conceptual models

The Conceptual model in Figure 3.5 was developed for this study and it represents a human activity system that will now be used to create an evaluation of the state of the real world. This will be achieved by comparing the ideal situation with nurse academics' perceptions of 'what is the present situation' of quality management practices in schools of nursing in higher education. Identifying the present situation
Figure 3.5: A Conceptual Model of the *ideal situation* in a school of nursing education system

Understanding of School of Nursing Education System

- Identify the existing culture in a School of Nursing
- Know about TQM
- Communicate knowledge with application system

Application System

- Define criteria for implementing TQM
- Select suitable methods for implementing TQM
- Develop the operational procedures for TQM implementation
- Implement TQM

Monitoring System

- Maintain TQM
- Set measures of performance for this system
- Monitor and control the system

Source: Cruickshank 1999 (after Checkland 1993)
will be achieved by a survey of 850 nurse academics employed at the time of the study in forty schools of nursing in higher education in Australia, and this will be described in the next section. The remaining stages of Checkland’s Soft Systems Methodology, stage 5: ‘Comparing the conceptual model with reality’, and stages 6 and 7: ‘Implementing feasible and desirable changes’ will be operationalised in Chapter 5.

In the following section the unit of analysis for the survey questionnaire which includes the sample, instrument design and development, and data collection method will be described.

3.4 Stage 2: Survey Questionnaire

3.4.1 Setting and population profile

The survey was conducted throughout forty schools of nursing in higher education in the five states and two territories of Australia. The population for the survey consisted of nurse academics in Australia. At the time of the study, the nurse academics were employed in schools of nursing in Australian universities. No exclusion criteria were set, that is, all nurse academics from different employment levels, different speciality areas and employed either on a full-time or part-time basis were included.

Since there was a time lapse of sixteen months from the time the focus group discussions were conducted and the initial distribution of the questionnaires, a second search for the names and workplace addresses of nurse academics in higher education institutions was conducted. This included a review of the staff profiles listed in the 1996 university higher education handbooks and electronic searches via the Internet.

3.4.2 Sample

The sample for the survey was obtained using convenience sampling. The subjects for this study were convenient and accessible to the researcher for the purpose of finding out more information about nurse academics’ perceptions and/or opinions on Quality Assurance and Total Quality Management in schools of nursing in higher education. When considering the most appropriate type of sampling for this study, two main concerns were taken into consideration. First, the researcher wished to survey nurse academics from the five employment levels in higher education, that is,
professor, associate professor, senior lecturer, lecturer, and associate lecturer, but the number of nurse academics was not evenly distributed between each level. Because nursing education was relatively new in the tertiary sector at the time of the study, the proportion of nurse academics at the two highest levels, professor and associate professor, was very low, so using either random sampling or stratified random sampling would not have generated a representative sample at these two levels.

Second, although the subjects being studied were homogeneous with regard to type of employment, that is, nurse academics employed in higher education institutions, there were common extraneous variables such as age, gender, and employment status within the population. Thus, a larger sample size was required to accurately represent the variability within the population and so add weight to the researcher's claims to some degree of generalisability. The researcher recognises that the convenience sample, although the most common, is the weakest form of sampling strategy with regard to generalisibility, and this was borne in mind when analysing and interpreting the data.

3.4.3 Research instrument design and development

This section discusses methodological issues which arose during the design and development of the questionnaire. Following a review of the literature which revealed that there were no satisfactory instruments which could be used to answer the proposed five research questions, the researcher designed and developed a self-administered and context specific questionnaire, containing fifty-six items. When designing the research instrument, the researcher addressed the following issues: the general characteristics of the subjects, questionnaire response format, composition of questions, assembling the questionnaire, and pilot testing the completed instrument.

The questionnaire was comprised of the following elements: 1) covering letter; 2) instructions to respondents; 3) questions and fixed alternative statements; 4) response categories and precoding; and 5) demographic items. Each of these elements will be discussed. The results of the pilot test undertaken to establish the validity and reliability of the questionnaire are also described.

A review of the literature and consequent identification of Total Quality Management concepts, results from the focus group discussions, initial selection of measurement items, pilot testing of the instrument, and finalisation of the
measurement items were used to construct a fifty-six item questionnaire for the major data collection (Appendix 7).

The semi-structured questionnaire comprised of four sections which sought information on: 1) formal or informal Quality Assurance programs in schools of nursing in higher education; Quality Assurance activities traditionally used in the nursing profession and the effectiveness of these activities; and, perceptions of, and/or opinions on a 'quality culture' from nurse academics in schools of nursing in higher education; 2) perceptions/opinions on Total Quality Management in schools of nursing in higher education; and 3) demographic information of nurse academics employed in schools of nursing in higher education in Australia. The fourth section of the questionnaire invited nurse academics to make further comments on quality issues and/or Quality Assurance in schools of nursing in higher education, or related issues which were not directly covered by the questionnaire. The instrument contained open and closed-questions and fixed alternative statements and was presented in language that the study population understood.

The questionnaire was designed to obtain information from the respondents in order to provide a contextual understanding related to the research questions. Lydeard (1991) listed a number of steps necessary for developing a questionnaire to use as a research tool which are as follows: 1) define the area of investigation; 2) formulate the questions; 3) choose the sample and maximise the response rate; 4) pilot and test for validity and reliability; and 5) recognise sources of error.

Measurement validity and measurement error were also addressed. According to Kervin (1992), additional sources of error that have to be considered in questionnaires are: '1) respondents' faulty memory and incomplete knowledge; 2) response set biases including acquiescence, position bias, and social desirability; and 3) negative respondent states including fatigue, boredom, and discouragement' (p.342). These issues will be addressed throughout this section.

Initially, the area of investigation was defined by reviewing the relevant literature. The questions were formulated from a number of sources, including the literature review and data obtained from nurse academics in the focus group discussions. The questionnaire was divided into four main sections and each section will now be discussed in detail.
Section One — Quality Assurance. This section consisted of three open-ended questions which asked participants for information on Quality Assurance in the school of nursing where they were currently employed. Participants were asked whether the school of nursing had a formal QA program in place, and to describe any Quality Assurance activities within the school. The second open-ended question focused on the traditional Quality Assurance approach used by the nursing profession and its applicability to nursing in higher education. The third question addressed the incorporation of Quality Assurance activities into a quality culture in schools of nursing.

The researcher believed that it was advantageous to place the topic of Quality Assurance in the first section of the questionnaire for three reasons. First, the literature review in Chapter 2 demonstrates that the majority of nurses identify strongly with QA, so this section was designed to ask participants factual questions on a familiar topic. The researcher believed that this might increase the response rate and reduce measurement error, as the topic of Quality Assurance was familiar to nurses. It was anticipated that this would make them feel comfortable when first reading the questionnaire; they would view the questions as pertinent to the study, and thus be motivated to answer the questions. To further reduce memory-induced measurement error, specific questions on Quality Assurance were asked.

Second, because the order in which questions are asked can influence what answers are given to subsequent questions, or whether respondents will answer the questionnaire, it was important to have a logical order of questions, beginning with a broad concept such as Quality Assurance, and narrowing it down to precise, specific concepts related to Total Quality Management. Third, because nurse academics in the focus group discussions had highlighted the importance of Quality Assurance programs and their effectiveness in nursing practice and nursing in higher education, the researcher wished to determine if their views were generalised to the nurse academic population.

In terms of response format, the three questions in this section were designed as open-ended questions to allow participants free responses rather than responses that were limited to or guided by given alternatives as in section two of the questionnaire. Each open-ended question had a response set of eight blank lines. Using open-ended questions on a familiar topic such as Quality Assurance would provide greater depth than closed-ended questions thereby eliciting extensive responses from subjects. The responses can 'provide a rich context for the research description and support and
expand on summary findings’ (Shi 1997, p.257). The researcher was also aware that open-ended questions can cause low response and completion rates because they require greater effort and time on the part of the respondent; thus the number of open-ended questions were kept to a minimum.

Section Two — Perceptions and Opinions on a Quality Culture. Participants were asked to identify a response on a five point Likert scale to forty-two written statements which best represented their own perception and/or opinion. The statements were representative of the variables identified from the focus group discussion analysis and the Total Quality Management literature. The statements included the concepts of quality, culture, customer, teamwork, management support, and empowerment of employees, with each statement expressing only one concept. This section consisted of structured ‘fixed alternative’ statements using a Likert response scale in which subjects were asked to choose one of the following response categories: Strongly agree (SA); Agree (A); Neither agree nor disagree (N); Disagree (D); and Strongly disagree (SD).

Once the statements were developed, reviewed and evaluated, thirty per cent of them were reversed so that a disagreement on a reversed statement was consistent with an agreement on a nonreversed item. When considering the possible structure of this section of the questionnaire, the use of fixed alternative statements offered a major advantage to the researcher. Statements that were standardised with fixed alternatives meant that the responses of the subjects could be compared. For a response category, the Likert scale was considered the most appropriate response scale because the researcher wished to: 1) obtain the opinions/attitude of subjects, and 2) measure different dimensions of particular concepts. There has been controversy over the use of the uncertain or neutral category, which allows respondents to avoid making a clear choice of positive or negative statements, and researchers who use the forced choice version consider an item that is left blank as a response of uncertain. However, the researcher included the Neither agree nor disagree (N) category as responses of uncertain are difficult to interpret, and if a large number of respondents leave an item blank, the data may be seriously affected. A coding column was included in this section and in the questionnaire instructions respondents were asked to ignore the coding column as it was for coding purposes only.

When designing this section of the questionnaire it was important to avoid response set bias. According to Shi (1997), response set is ‘the tendency for respondents to be very agreeable or stick to a particular pattern of response’ (p.253); also it can be a
source of measurement error in questionnaires. Kervin (1992) identified three types of systematic response sets: acquiescence, position bias, and social desirability (p.335). In this section the following strategy was employed for reducing response set measurement errors. When measuring the same concept, the researcher used two different statements, opposite in meaning, and then compared responses to these statements to see whether they were answered differently.

Section Three — Demographic Information. In this section participants were asked to supply demographic information. In addition to data collection for the major study variables, data were also collected on demographic variables to describe the study sample and to examine relationships between the subject characteristics. The demographic items included: current level of appointment as a nurse academic; number of years at current level of employment; full-time or part-time appointment; gender and year of birth; highest level of nursing qualification gained; highest level of academic qualification gained and discipline; and current studies being undertaken for a university degree/award.

The demographic variables were collected using closed-ended questions. The questions on personal and demographic data were purposefully put towards the end of the questionnaire rather than in section one to avoid a dull beginning and to decrease participant intimidation.

Section Four — Additional Comments. In this final section, entitled ‘Additional Comments’, respondents were invited to make any further comments they had regarding quality issues and/or Quality Assurance in schools of nursing in higher education, or related issues that participants thought were relevant and not directly covered by the questionnaire. This section had a response set of nineteen blank lines.

The rationale for including an ‘Additional Comments’ section was twofold. First, using fixed alternative statements in section two only offered respondents the choice of forced responses. Including an open section allowed respondents to clarify or add new information having reflected on the fixed alternative statements. Second, it gave participants the opportunity to make narrative comments as a supplement to their responses to the overall questionnaire items. In brief, this was an important aspect of the questionnaire which could potentially provide valuable data which may not have been elicited by the open-ended questions and/or the fixed alternative statements.
Measures to improve response rate in the data collection process were identified by Shi (1997). They include a cover letter with the questionnaire, method of questionnaire return, follow-up measures, and questionnaire coding. Several strategies were employed in this study to reduce measurement error and nonresponse. First, the questionnaire was kept to a minimum length of five pages and it was divided into four logical sections with each section clearly labelled. Second, repetitious questions were avoided; factual questions on Quality Assurance were kept to a minimum of three open-ended questions in section one, and only forty-two fixed alternative statements were included in section two. Because the response format changed with each section, respondents were provided with instructions on how to proceed with answering the specific section. For the three open-ended questions in section one, specific instructions were given for each question. For example, only one response was possible and this was clearly indicated. The instructions were carefully tested by the pilot subjects. The questions and statements were also examined and tested for appropriateness, content, wording, and order, during the pilot study. Third, adequate space was provided for answers and comments in sections one and four of the questionnaire.

A cover letter accompanied the questionnaire outlining the purpose and significance of the study, the approximate time it should take to complete the questionnaire, and the return method for the questionnaire (Appendix 8). In writing the cover letter it was important to ensure that respondents understood the purpose of the study and believed the study was relevant to themselves as nurse academics. These strategies were employed to try and minimise respondents’ negative states including fatigue, boredom, and discouragement (Kervin 1992).

A pre-pilot study was conducted by interviewing two nurse academics during the questionnaire design stage to reveal early problems, such as ambiguous questions. The researcher asked the interviewees the questions in the draft questionnaire and then recorded their answers. It was found that eight of the fixed alternative statements in section two were either double or triple barrelled and these were rewritten for clarity, prior to the pilot study.

3.4.4 Pilot study

Because the questionnaire was designed specifically for the purpose of this study it was imperative to pilot test it in terms of clarity of questions and statements, choice of words, missing items, effectiveness of instructions, completeness of response sets, length, and amount of time it would take to complete. According to Beanland et al.
(1999), the purpose of the pilot analysis is ‘to determine the quality of the instrument as a whole (reliability and validity), as well as the ability of each individual item to discriminate between respondents (variance in item response)’ (p.310).

Although there is a plethora of literature on Total Quality Management, there is a paucity of data collection tools relevant to this topic, therefore only self-evident validity measures were used. The questionnaire had face validity in that the questions made sense and they elicited the desired information. Face validity of the questionnaire was also estimated through consultations with academics familiar with the concepts of Quality Assurance and Total Quality Management. A panel of two nurse academic experts in Quality Assurance evaluated section one on QA questions, and one academic, familiar with Total Quality Management, evaluated the fixed alternative statements in section two of the questionnaire. The researcher believes that the instrument had high content validity as the items were generated from the responses of nurse academics in the focus group discussions, and from the literature on the topics of Quality Assurance and Total Quality Management. Expert review of the questionnaire also contributed to the study’s credibility.

Instrument reliability ‘can be established through stability, equivalence and homogeneity’ (Brink & Wood 1983, p.117). At this stage of the research, only equivalence could be addressed in establishing reliability of the survey instrument used in this study. The questionnaire was evaluated by a statistical consultant at James Cook University who suggested the following changes to section two of the questionnaire. Fixed alternative statements in section two were reversed so that a disagreement on a reversed item was consistent with an agreement on a nonreversed item. Because reversed items for every statement would make the instrument extremely long, only thirty per cent of the valence of items were reversed. To further check for reliability of response, some fixed alternative statements were reworded to be slightly different. The statistical consultant also recommended moving the demographic items from section one to section three of the questionnaire, as it was thought that it might be less intimidating for potential respondents. Cronbach’s coefficient alpha, which is a measure of the internal consistency of test items, was calculated for the forty-two fixed alternative statements in section two of the questionnaire, and the results of this reliability analysis are presented in Chapter 4.

A pilot study of the questionnaire was conducted using a purposive sample of twelve nurse academics currently employed in schools of nursing in higher education in Australia. A cover letter outlining the importance of the pilot questionnaire was
attached (Appendix 9). The participants in the pilot study were chosen because they had similar knowledge to the target population on the issues being investigated. They did not form part of the group to be surveyed. The purpose of the pilot study was to test the data collection instrument for face validity, and in particular to check that the questions elicited appropriate responses. Verbal consent to participate in the pilot study was obtained from the purposive sample of subjects.

Respondents were asked to note how long it took to complete the questionnaire, if they felt uncomfortable answering any questions, if there were any questions they found difficult to understand, and they were also given the opportunity to make comments regarding the content of the questionnaire. Respondents were also asked to comment on ambiguity of questions. Of the twelve questionnaires distributed, all of them were completed and returned.

Results of the pilot study indicated the need for some changes to be made. Comments from the pilot questionnaire are in Appendix 10. The two main concerns were: 1) failure to understand some questions and statements; and 2) inappropriate choice of words. Also some participants had written comments in the margin. Minor alterations in wording were done to increase the clarity of several of the questions. The results of the pilot study have not been included in the final results.

3.4.5 Data collection procedure

Once the sampling frame was obtained, questionnaires were distributed by mail to nurse academics employed in schools of nursing in higher education in the five states and two territories of Australia on 19 November 1996. A cover letter was attached to the questionnaire explaining the purpose of the study and the method for returning the questionnaires. Each questionnaire was accompanied by a self-addressed, post paid envelope and participants were given three weeks to return the completed questionnaire. A total of 850 questionnaires was distributed.

At the end of the three weeks, the researcher checked the returned questionnaires with their codes against the names in the sampling frame. Nurse academics identified from this procedure, who had not returned their questionnaires, were sent a reminder letter (Appendix 11), a second copy of the questionnaire and a second self-addressed, post paid envelope on 16 December 1996. Participants were asked to return the completed questionnaires at their earliest convenience. A total of 581 follow-up questionnaires was distributed.
3.4.6 Response rate

A total of 850 initial questionnaires was distributed by mail to nurse academics currently employed in schools of nursing in higher education in the five states and two territories of Australia. The number of responses from the initial and follow-up questionnaire distributions was 445 which yielded a response rate of 52%.

In the initial distribution, 850 questionnaires were distributed and 269 responses were received. A total of 581 reminder letters plus a second copy of the questionnaire were mailed three weeks after the initial distribution. The number of responses received from the follow-up distribution was 176.

In the final sections of this chapter, limitations of the methodology will be identified and discussed, and the computer program used to analyse the data will be described.

3.4.7 Limitations of the major methodology

There are two methodological limitations to this study. First, the survey questionnaire participants were part of a convenience sample so the ability to generalise the findings is limited. The researcher wished to survey the views of nurse academics to specific quality issues. Representation from the five employment levels in higher education, that is, professor, associate professor, senior lecturer, lecturer, and associate lecturer, was important to determine if there was an association between the variables: employment level, and attitudes towards quality issues. However, the proportion of nurse academics at the two highest levels, professor and associate professor, was very low at the time of the study, so it was decided that using a convenience sample might increase the number of responses from these two levels. A random sampling method was used in the selection of participants for the focus group discussions and this method of selection increased the validity of the items in the survey questionnaire.

Second, the concepts of quality and quality culture incorporated into the fixed alternative statements in section two of the questionnaire were deliberately designed in an abstract way which might be perceived by readers as a limitation. The aims of the research were to examine the perceptions of nurse academics to the applicability of TQM in schools of nursing in higher education in Australia, and to identify TQM principles that could be applied to suit the nursing culture in a school of nursing. The views of nurse academics on quality issues were seen as crucial in developing a quality culture for a school of nursing in higher education. Thus, the researcher
withheld definitions of the terms quality, quality culture, or TQM. In addition, the traditional approach to QA was not clarified by the researcher, nor was a preamble on quality and quality culture placed on the front page of the questionnaire. The researcher believed that providing definitions and information on quality could be leading, and therefore influence certain responses. Thus, the subsequent development of a quality culture model for a school of nursing might not be a true reflection of the views of nurse academics in Australia.

3.4.8 Computer program used to analyse data from survey questionnaire

The statistical computer program used for the questionnaire data analysis was SPSS 8.1 (Statistical Package for the Social Sciences). This comprehensive program provides a number of choices as to the way information is entered and the way results are obtained from this information. SPSS was used to obtain frequency distributions in the four sections of the questionnaire. Analyses of Variance (ANOVA) were conducted to determine the relationship between Quality Assurance variables and attitudes towards Total Quality Management. Between groups Analysis of Variance (ANOVA) was also conducted to assess if there was a relationship between demographic variables and attitudes to TQM. Kendall’s tau_b correlation was used as a statistical method to determine associations between TQM variables. Thus, SPSS was used to obtain descriptive, univariate, and nonparametric statistics.

3.5 Ethical Procedures

The conduct of this study for both the focus group discussions and the survey questionnaire received approval from the James Cook University Human Ethics Committee in 1995. There were several ethical considerations in this study which are discussed separately for the focus group interviews and the survey questionnaire.

3.5.1 Ethical considerations for participants in the focus group discussions

The rights of the subjects in the focus group discussions were protected in several ways. Permission to conduct a focus group interview was obtained from the heads of schools of nursing at the selected universities. The researcher then contacted potential participants to inform them of the purpose and plan of the study and to obtain verbal consent for participation in the study. Voluntary participation was stressed and no one was coerced to participate in the study.
Verbal consent was obtained from the participants three weeks before their enrolment within the study. The researcher considered the timeframe an important ethical consideration as it allowed participants time to reflect on the information given to them. Pence (1990) suggested 'a minimum reflection time of 24 hours should be allowed by the researcher to give the person time to think about and formulate questions they may wish to raise about the study and their participation in it' (p.55). On initial communication with the participants, the researcher’s employment address, telephone number and email address were supplied so participants had the opportunity to ask questions or seek clarification on issues relating to their participation in the focus group discussions.

There were no inherent risks to the participants, and at the commencement of each discussion, a plain language statement was supplied to ensure that participants were aware of the study purpose, processes and potential outcomes. Written consent was obtained from each participant in the focus group discussion. Participants were assured they could withdraw from the focus group interviews at any time without penalty or prejudice.

3.5.2 Ethical considerations for participants in the survey questionnaire

The rights of the subjects in the survey were also protected. First, in the covering letter attached to the questionnaire, participants were informed of the purpose of the study, the study processes and potential outcomes. Second, confidentiality was adhered to by asking participants not to identify themselves by name or workplace on the questionnaire. Third, participants were informed that a number in the top right-hand corner on the first page was for collation purposes only, and in the final presentation of data, and subsequent reports and publications, collated data only would be used and individual respondents would not be identified. The identification number also assisted the researcher in determining whether participants would be sent a follow-up questionnaire. Consent was implied when a respondent returned the questionnaire.

Another major consideration was storage of data during and after the study. The forms of data collected from the focus group discussions included a hard copy of participant informed consent and respondent demographic information, audio-tapes of the focus group interviews, and a hard copy of transcribed interview data. The forms of data collected from the survey questionnaires included a hard copy of respondents’ questionnaires and computer disks containing data from the questionnaires.
Data were stored in a locked filing cabinet in the office of the researcher. Data on audio-tape, computer disk and hard copy will remain in the possession of the researcher and be accessed only by the researcher and her supervisor. Data will be kept for a period of five years in accordance with the National Health and Medical Research Council, Australian Health Ethics Committee guidelines (1995), after which they will be destroyed.

In summary, the procedures of the study were designed to protect the privacy and confidentiality of the participants from both the focus group discussions and the survey questionnaire.

3.6 Conclusion

Anecdotal evidence plus the focus group discussion findings suggest that the traditional Quality Assurance approach used by nurses in the hospital setting is being utilised in schools of nursing in higher education today. Furthermore, the findings from the focus group discussions revealed that the traditional QA approach is not sufficient to meet the needs of nursing in higher education. Recently, health care organisations and nurses have made a paradigm shift from Quality Assurance to Total Quality Management, and the researcher wanted to explore the appropriateness of a similar paradigm shift being made in schools of nursing in higher education.

Thus, the aims of the study were to first identify QA programs in schools of nursing and assess their appropriateness in meeting the needs of nursing in higher education. The second aim was to examine the perceptions of nurse academics to the applicability of TQM in schools of nursing, and to identify TQM principles which could be applied to suit the nursing culture in a school of nursing. Despite the prolific literature on TQM in the manufacturing and health care industries, there is a paucity of empirical literature on TQM applications in the higher education industry. Furthermore, no evidence was found of TQM applications in schools of nursing in higher education.

Thus, the research plan was designed to address these issues. The chapter commenced with a justification of the paradigms and methodologies selected as part of the research plan. The positivist paradigm was selected as the major methodology on the grounds that it could provide objective, quantifiable data which were required for the development of a quality culture model for a school of nursing in higher education. However, since little is known of quality management practices in schools
of nursing, the views of nurse academics were viewed as crucial in discovering in-depth, preliminary data which would aid the major methodology. Thus, the interpretivist paradigm was adopted in a secondary role and as a precursor to the major quantitative methodology.

Accordingly, the research study was undertaken in two stages. Stage 1 employed the focus group technique and discussions were conducted in July 1995. The aims of the focus group discussions were to identify QA activities in schools of nursing, and to examine nurse academics’ perceptions of the applicability of TQM in schools of nursing. Qualitative data obtained from the discussions identified QA activities in schools of nursing and nurse academics’ perceptions of quality management practices. This information assisted the researcher in constructing the research instrument for stage 2. At the end of this stage, Checkland’s Soft Systems Methodology was introduced and stages 1, 2, 3, and 4 of the seven stage process was operationalised.

The survey questionnaire contained 56 items and included open and closed-ended questions and fixed alternative statements. Face and content validity were established through a pre-pilot and a pilot study. Validity was increased by using data generated from the focus group discussions, and consultations with experts to evaluate the content and clarity of the research instrument.

The second stage involved the distribution of a mail survey questionnaire to nurse academics in Australia in November 1996. Four hundred and forty-five nurse academics (52% response rate) from a sample of 850 nurse academics, working in schools of nursing in higher education in Australia, participated in the study. The quantitative data obtained from stage two will be used in Chapter 5 to answer the five proposed research questions and develop a quality culture model for a school of nursing in higher education.

The methodological limitations were identified and discussed, and the statistical computer program used for the questionnaire data analysis was described. Ethical issues relating to the focus group participants and the survey participants were presented. In conclusion, this chapter provides a basis for the results of the analyses that are presented in the following chapter.
CHAPTER 4

Analysis of Data

4.1 Introduction

This chapter presents the results of the survey questionnaire commencing with a justification for the data analysis techniques used in this thesis. Following the seven stage process of Checkland’s Soft Systems Methodology, the results of the study will identify the present situation of quality management practices in schools of nursing in higher education. In the following chapter, the present situation will then be compared to the ideal situation developed in the conceptual model in Figure 3.5, Chapter 3. Univariate analysis which was conducted as a major component of the descriptive analysis is presented as the first data analysis technique, followed by a presentation of bivariate analysis using nonparametric statistical tests.

The descriptive analysis provides a description and summary of the data from the sample used in this study. Frequency and percentage distributions and measures of central tendency were used, and categories of data in tables and graphs are presented to provide a pictorial description of the sample. Descriptive analyses were also employed as an analytic technique to provide numerical data following the quantitative content analysis of unstructured data obtained from four open-ended questions, and a summary of statistics and percentages for the forty-two Likert scale items in section two of the questionnaire.

Univariate analyses of variance (ANOVA) were performed, and bivariate analysis was conducted using nonparametric statistical tests including cross-tabulation and a rank-order coefficient, Kendall’s tau. Cronbach’s coefficient alpha as an internal consistency measure of reliability was used to determine the average covariance among pairs of items in the Likert scale used in section two of the questionnaire. Data display techniques for the results of the statistical tests were also employed to visually enhance communication of the findings.

The findings were based on 445 usable questionnaires (52% of the total sample) returned from nurse academics and the raw data were directly entered into SPSS (Statistical Package for the Social Sciences).
4.1.1 Justification for data analysis techniques

A data analysis plan was developed to guide the analytic activities of this study. The plan for data analysis was derived from the five research questions, the research design, the method of data collection, and the level of measurement of the data. Kumar (1996) posited that the development of a framework of analysis should occur throughout the research process and should include the type of analysis to be undertaken and the appropriate statistical tests. In developing a framework of analysis the researcher considered the following questions proposed by Kumar (1996): Which variables will be analysed and how should they be analysed? What cross-tabulations will be required? Which variables will be combined to measure a more comprehensive variable? What types of statistical tests will be applied to certain variables? (p.219). These questions will be addressed throughout the chapter.

Descriptive statistics were used as the first analytic technique to reduce the raw data from the completed survey questionnaires into a summary format. This analytic technique was used for three specific reasons. First, descriptive statistics were computed to summarise the sample’s characteristics including age, gender, years of employment as a nurse academic, level of employment, employment status, nursing and academic qualifications, and further study. Second, they were used to obtain summary statistics and percentages for the Likert scale items in section two of the questionnaire. Measures of central tendency were calculated including mode, median, and mean. Frequencies and percentages were calculated and displayed in the form of tables. Third, descriptive statistics assisted the researcher in examining the extent of missing data for all the research variables.

An analysis strategy was required for three open-ended questions in section one of the questionnaire, and one open-ended question in section four, which would provide a systematic means of measuring the frequency, order and occurrence of categories in the four questions. The researcher wished to identify themes from the unstructured questionnaire data and then analyse the content numerically, and quantitative content analysis was deemed the most appropriate method. The content analysis was performed manually rather than using a qualitative data analysis software package, and the reasons were twofold. First, there was only a small amount of unstructured questionnaire data to be analysed from the four open-ended questions, and second, by manually analysing the data the researcher gained meaningful insight into the respondents’ comments. The responses from the three open-ended questions in section one, and the one open-ended question in section four of the questionnaire were examined, themes were identified and named, and categories developed.
Frequency tabulations were developed for the categories for each of the four open-ended questions.

The researcher wished to address the important issues of: whether or not a relationship existed between the independent and dependent variables in sections one, two, and three of the questionnaire; the degree of internal consistency among the forty-two attitudinal items; and the strength and direction of variables in section two. Therefore, there was a need to go beyond the simple tabulation of frequency distributions and the calculations of averages.

Section two of the questionnaire, the attitudinal section, consisted of forty-two scaled items on nurse academics' perceptions of Total Quality Management in schools of nursing in higher education. A Likert scale was used to measure the forty-two variables and it provided a format of five possible responses. In the initial development of the multiple-item attitudinal scale, three independent categories were derived from the research literature on Total Quality Management and the findings from the focus group discussions. The three categories which comprised the forty-two variables were labelled quality culture, concept of customer, and employee empowerment. Face validity was established for the items in each category.

To assess the reliability of the multiple-item attitudinal scale used in section two of the questionnaire, a reliability analysis was conducted using an internal consistency test. According to Bryman and Cramer (1990), 'internal consistency raises the question of whether each scale is measuring a single idea and hence whether the items that make up the scale are internally consistent' (p.70). Cronbach’s coefficient alpha was considered an appropriate test of internal consistency as it would compare each item in the scale simultaneously with all other items. According to Polit (1996), Cronbach’s alpha is ‘an index that summarises the correlation between all items in a scale and the scale total, considered simultaneously’ (p.249). Since Cronbach’s alpha can be interpreted as a correlation coefficient, it ranges in value from 0 to 1.

The computer software program, SPSS, also provides a standardised item alpha which is the value that would be obtained if all the items were standardised. Since items usually possess comparable variances there is little difference between these two alphas. Burns and Grove (1997) stated that for a newly developed instrument, a reliability of .70 is considered acceptable. Nunnally (1978) concurred but added that it is better to have the alpha closer to .80. This criterion implies that a relationship exists between the reliability of a test and the validity of the research findings.
To further establish covariations between pairs of variables a correlation coefficient was required which would quantify linear relationships between the variables. When considering an appropriate correlation coefficient for this study the researcher took into account that a Likert scale represents data at the ordinal level only, thus the type of correlation used must be designed for such data. Due to the fact that the Likert scale represents data at the ordinal level only, Factor Analysis (parametric) was not possible. Instead, nonparametric correlations between variables were conducted to test correlation of ranks.

A measure of rank correlation, Kendall’s tau_b, was considered an appropriate nonparametric statistical test as it would examine the degree of association or dependence between two variables (Pett 1997). Kendall’s tau is a coefficient that can vary from -1.00 to +1.00, ‘with the value of -1 suggesting a perfect inverse relationship between two variables, 0 the lack of a relationship, and +1 a perfect direct relationship’ (Pett 1997, p.266). The closer tau is to 0, the less the association or relationship between the variables.

The dependent variables under investigation in this study were nurse academics’ perceptions of Total Quality Management, and the independent variables were Quality Assurance and the demographic items. Since nurse academics’ perceptions of Total Quality Management in schools of nursing in higher education were the major concept under investigation in this study, these were classified as the dependent variables, with Quality Assurance and demographic items acting as the independent variables.

To determine the associations between Quality Assurance variables (section one of the questionnaire), Total Quality Management variables (section two), and demographic variables (section three), the researcher utilised analyses of variance (ANOVAs). Analyses of variance (ANOVA) were considered the most appropriate statistical techniques to determine a relationship between these three sets of variables. In the development of the analysis of variance a number of assumptions are made. The assumptions for ANOVA are ‘the dependent variables should be a continuous variable that is normally distributed, the groups should be mutually exclusive, and the groups should have equal variances (homogeneity of variance requirement)’ (Munro 1997, p.140). According to Ferguson (1976, p.235), an advantage of the analysis of variance is that ‘reasonable departures from the assumptions of normality and homogeneity may occur without seriously affecting the
validity of the inferences drawn from the data", and this was an important consideration when deciding on an appropriate statistical procedure.

An analysis of variance (ANOVA) was conducted to determine a relationship between Quality Assurance variables and attitudes towards Total Quality Management. A one-way analysis of variance (ANOVA) was also conducted with the demographic variables and attitudes to TQM. Quality Assurance and demographic variables served as the independent variables, with attitudes towards TQM serving as dependent variables.

For the data analysis, computer technology was used as a tool in coding, filing, applying analytical techniques, and retrieval of information. There was a need for a statistical analysis package that allowed for storage and retrieval of data, an ability to generate descriptive statistics, and an ability to perform bivariate procedures. The tools used to assist analysis were SPSS (Statistical Package for the Social Sciences) and the word processor package Microsoft Word 98.

4.2 Subjects

Subjects of this study were nurse academics employed in higher education institutions in Australia at the time of the study. The sample consisted of 445 nurse academics, with all participants being registered nurses. The majority of participants was female (85.5%). Twelve participants did not specify their gender. The subjects’ ages ranged from 29 to 65 years. Fifty-four per cent of the sample was below 48 years of age, and 46% was older than 49 years of age. Of the 92% who held full-time appointments in higher education, 5% were professors, 4% were associate professors, 23% were senior lecturers, 61% were lecturers, and 7% were associate lecturers. Participants were asked to indicate how long they had been at their current level of appointment. Forty-eight per cent of the participants had been working for six to ten years, and 45% for less than five years. Table 4.1 illustrates the demographic characteristics of the responding nurse academics.

As noted in Table 4.1, the majority of respondents was female, constituting 85% of the sample. Twelve respondents did not list their gender and there were no reasons cited for this omission.
Table 4.1: Demographic characteristics of nurse academics (n = 445)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>85.5%</td>
</tr>
<tr>
<td>Male</td>
<td>14.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>29–33</td>
<td>0.7%</td>
</tr>
<tr>
<td>34–38</td>
<td>11.1%</td>
</tr>
<tr>
<td>39–43</td>
<td>18.8%</td>
</tr>
<tr>
<td>44–48</td>
<td>23.1%</td>
</tr>
<tr>
<td>49–53</td>
<td>22.2%</td>
</tr>
<tr>
<td>54–58</td>
<td>16.1%</td>
</tr>
<tr>
<td>59–63</td>
<td>5.7%</td>
</tr>
<tr>
<td>63 &gt;</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>91.9%</td>
</tr>
<tr>
<td>Part-time</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of employment</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Lecturer</td>
<td>7.5%</td>
</tr>
<tr>
<td>Lecturer</td>
<td>60.5%</td>
</tr>
<tr>
<td>Senior Lecturer</td>
<td>22.7%</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>3.9%</td>
</tr>
<tr>
<td>Professor</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current appointment</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–5 years</td>
<td>44.9%</td>
</tr>
<tr>
<td>6–10 years</td>
<td>47.8%</td>
</tr>
<tr>
<td>&gt;10 years</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

Forty-five per cent of the respondents were between the ages of 44–53 years; 31% constituted the second largest group in ages ranging from 29–43 years, and 22% of respondents were aged from 54–63 years. The variable ‘age’ shows a greater number of nurse academics in the middle-aged categories with a progressive decline in numbers with ageing. When considering the number of questionnaires to which a response was not made, the researcher was aware that a substantial proportion of those who chose not to respond may have been from the older age categories. The researcher was unable to determine whether these age category proportions corresponded with those actually employed in schools of nursing in higher education.

The interaction of age with gender could be considered a potential problem in validity in biasing the response of people in the survey. Although males were represented in small numbers in the survey, this may not be a concern if there is no
further bias in conjunction with age. A view of the relationship between age and gender is presented in Table 4.2.

Table 4.2: Cross-tabulation of survey respondents by age and gender (n = 445)

<table>
<thead>
<tr>
<th>Ages</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>Gender Female</th>
<th>Gender Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>29–33</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0.8%</td>
<td>0%</td>
<td>0.7%</td>
</tr>
<tr>
<td>34–38</td>
<td>40</td>
<td>8</td>
<td>48</td>
<td>10.8%</td>
<td>12.7%</td>
<td>11.1%</td>
</tr>
<tr>
<td>39–43</td>
<td>68</td>
<td>14</td>
<td>82</td>
<td>18.4%</td>
<td>22.2%</td>
<td>18.9%</td>
</tr>
<tr>
<td>44–48</td>
<td>78</td>
<td>24</td>
<td>102</td>
<td>21.1%</td>
<td>38.1%</td>
<td>0.6%</td>
</tr>
<tr>
<td>49–53</td>
<td>86</td>
<td>9</td>
<td>95</td>
<td>23.2%</td>
<td>14.3%</td>
<td>21.9%</td>
</tr>
<tr>
<td>54–58</td>
<td>66</td>
<td>4</td>
<td>70</td>
<td>17.8%</td>
<td>6.3%</td>
<td>16.2%</td>
</tr>
<tr>
<td>59–63</td>
<td>21</td>
<td>3</td>
<td>24</td>
<td>5.7%</td>
<td>4.8%</td>
<td>5.5%</td>
</tr>
<tr>
<td>63+</td>
<td>8</td>
<td>1</td>
<td>9</td>
<td>2.2%</td>
<td>1.6%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Total</td>
<td>370</td>
<td>63</td>
<td>433</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

In the 34–38 age category there was a slightly higher proportion of males, with 12.7% of males compared to 10.8% of females. In the age category 39 to 43, there was also a higher proportion of males to females, with 22.2% of males in this age category compared to 18.4% of females. The most notable difference between the female and male proportions was in the 44 to 48 age category, with 38.1% of males compared to 21.1% of females. By comparison, in the next category, it was 23.2% of females as compared to 14.3% of males. The proportion of females was also higher in the age categories from 54 to 63 plus years. The low male representation in comparison to females in these categories arose from the fact that the nursing profession has, until recent decades, been a predominantly female occupation.

The interaction of gender with employment level was also explored. The level of employment consisted of five levels, namely associate lecturer, lecturer, senior lecturer, associate professor, and professor. Over 60% of respondents were at lecturer level. To determine the relationship between gender and employment level, a cross-tabulation is presented in Table 4.3.
Table 4.3: Cross-tabulation of survey respondents by gender and employment level (n = 432)

<table>
<thead>
<tr>
<th>Employment level</th>
<th>Female</th>
<th>Male</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Lecturer</td>
<td>27</td>
<td>6</td>
<td>33</td>
<td>7.5%</td>
</tr>
<tr>
<td>Lecturer</td>
<td>225</td>
<td>36</td>
<td>261</td>
<td>60.5%</td>
</tr>
<tr>
<td>Senior Lecturer</td>
<td>83</td>
<td>16</td>
<td>99</td>
<td>22.7%</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>12</td>
<td>5</td>
<td>17</td>
<td>3.9%</td>
</tr>
<tr>
<td>Professor</td>
<td>22</td>
<td>0</td>
<td>22</td>
<td>5.4%</td>
</tr>
<tr>
<td>Total</td>
<td>369</td>
<td>63</td>
<td>432</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

Examination of Table 4.3 shows that more than two thirds of respondents at associate lecturer, lecturer and senior lecturer levels were female. At the associate professor level, twelve were female, and five were male. Twenty-two professors were females, with no males represented at this level.

4.2.1 Highest nursing qualifications

At the time of the study, the highest formal nursing qualifications ranged from a certificate in nursing to a PhD in nursing. These courses varied from certificates in specialisations of nursing practice to tertiary degrees undertaken to increase qualifications. Thirty per cent of respondents had a Bachelor of Nursing degree and 29.5% had a Master of Nursing degree. Fifteen per cent of the respondents had a Certificate in Nursing; 8.8% had a Diploma in Nursing; and 8.8% had a Speciality Certificate in Nursing. Only 0.5% of the respondents had attained a Professional Doctorate in nursing and 6.7% of respondents had earned a PhD in nursing (see Table 4.4).

Table 4.4: Proportion of survey respondents by highest nursing qualifications (n = 445)

<table>
<thead>
<tr>
<th>Nursing qualifications</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate in nursing</td>
<td>15.1%</td>
</tr>
<tr>
<td>Diploma of nursing</td>
<td>8.8%</td>
</tr>
<tr>
<td>Specialty certificate</td>
<td>8.8%</td>
</tr>
<tr>
<td>Bachelor of nursing</td>
<td>30.4%</td>
</tr>
<tr>
<td>Master of nursing</td>
<td>29.5%</td>
</tr>
<tr>
<td>Professional doctorate</td>
<td>0.5%</td>
</tr>
<tr>
<td>PhD in nursing</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data
Thirty-eight respondents held one or more speciality certificates. Three respondents held three speciality certificates each, seventeen respondents held two speciality certificates each, and twenty-seven respondents had obtained a single speciality certificate. Respondents indicated that they had participated in a wide range of speciality certificate courses with topics including: midwifery, critical care, psychiatry, coronary care, maternal and child health, cardiothoracic, gerontology, primary health care, community health, health administration, accident and emergency, infectious diseases, developmental disability, neonatal critical care, orthopaedics, ophthalmology, stomal therapy, and neurosurgical nursing. It was interesting to note that the highest number in a speciality area was twenty-six respondents who had undertaken a speciality certificate in midwifery. This was followed by nine respondents who had undertaken a speciality certificate in critical care, and eight respondents who had obtained a speciality certificate in psychiatry.

In recent times, nursing as a profession has undergone several rapid changes, and one area which has changed significantly has been the transfer of nurse education into the higher education sector. So it is not surprising that a large majority of nurse academics (63%) received their highest nursing qualifications in the tertiary sector. Table 4.5 summarises the respondents on this demographic characteristic and they can be seen to fall into four broad categories of university, hospital-based programs, colleges of advanced education (CAE), and the TAFE sector.

Eight respondents had gained their highest nursing qualifications in institutions which did not fall within the four categories as listed in Table 4.5. Four of them gained their nursing qualifications from the Royal College of Nursing, Australia, and the other four respondents obtained their qualifications from overseas institutions.

Table 4.5: Proportion of survey respondents by nursing qualification location (n = 445)

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital-based program</td>
<td>24.5%</td>
</tr>
<tr>
<td>University</td>
<td>62.6%</td>
</tr>
<tr>
<td>CAE</td>
<td>10.2%</td>
</tr>
<tr>
<td>TAFE</td>
<td>0.9%</td>
</tr>
<tr>
<td>Other</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data
4.2.2 Highest academic qualifications

Of note was the number of respondents who held academic qualifications. Respondents were asked to indicate the highest level of academic qualification they had earned (in nursing or in any other discipline). The majority of respondents (43%) had completed a Masters in coursework. Eleven per cent had gained a Bachelor degree at pass level, three per cent had gained a Bachelor degree with Honours, 0.2% held a Graduate Certificate, 9% held a Graduate Diploma, and 19% had completed a Masters by research. Sixty-three respondents (14%) had gained a PhD, and 0.2% had gained a Professional Doctorate as noted in Table 4.6.

Table 4.6: Proportion of survey respondents by highest academic qualifications (n = 445)

<table>
<thead>
<tr>
<th>Academic Qual.</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor/Pass</td>
<td>10.5%</td>
</tr>
<tr>
<td>Bachelor/Honours</td>
<td>3.2%</td>
</tr>
<tr>
<td>Graduate Certificate</td>
<td>0.2%</td>
</tr>
<tr>
<td>Graduate Diploma</td>
<td>9.4%</td>
</tr>
<tr>
<td>Masters/Coursework</td>
<td>43.4%</td>
</tr>
<tr>
<td>Masters/Research</td>
<td>18.7%</td>
</tr>
<tr>
<td>Professional Doctorate</td>
<td>0.2%</td>
</tr>
<tr>
<td>PhD</td>
<td>14.4%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

In addition to the highest level of academic qualification, respondents were asked to indicate the discipline in which they had studied. Forty-one per cent of respondents obtained their highest academic qualifications in the nursing discipline; 29% received theirs from the education discipline; 4% from the psychology discipline; and 3% of respondents had completed their highest level of academic qualifications in sociology (Table 4.7).

Table 4.7: Proportion of survey respondents by academic discipline (n = 445)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing</td>
<td>41.2%</td>
</tr>
<tr>
<td>Education</td>
<td>29.1%</td>
</tr>
<tr>
<td>Psychology</td>
<td>3.7%</td>
</tr>
<tr>
<td>Sociology</td>
<td>2.8%</td>
</tr>
<tr>
<td>Other</td>
<td>23.3%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data
It was interesting to note that 23% of respondents had gained their highest level of academic qualification in ‘other’ disciplines. The most commonly cited disciplines included public health, science, management, humanities, and philosophy. Twenty respondents had studied public health, 12 nurse academics had studied science, seven respondents had studied business management, four respondents had studied in the humanities discipline, and four nurse academics had studied philosophy. The remaining respondents indicated that they had studied in a wide range of other disciplines including: administration, bioethics and law, physiology, community medicine, anthropology, epidemiology, economics, applied computing, and museum studies.

4.2.3 Further academic study

Respondents were asked whether they were currently a candidate for a university degree. Fifty-three per cent of respondents indicated participation in further academic study as indicated in Table 4.8.

<table>
<thead>
<tr>
<th>Further academic study</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>52.5%</td>
</tr>
<tr>
<td>No</td>
<td>47.5%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

Of note was the number of responding nurse academics currently undertaking a PhD. Fifty-five per cent indicated they were studying for a PhD, with 3% studying for a Professional Doctorate. Twenty-five per cent of respondents were enrolled in a Masters by coursework and 14% were studying for a Masters by research. The remaining 3% were candidates for Bachelor degrees, Graduate Diplomas, and Graduate Certificates.

4.3 Patterns of Data for each Research Question

4.3.1 Research question one. Do schools of nursing in higher education in Australia have a formal Quality Assurance program?

In section one of the survey questionnaire three specific open-ended questions were formulated to gain respondents’ views about Quality Assurance activities and quality
culture in schools of nursing in higher education. The more flexible format was expected to allow for a greater range of responses and to be less prescriptive as to what responses would follow. Quantitative content analysis was performed on the three open-ended questions to identify content categories and to analyse the content numerically. As a tabulation, the number of times a topic was mentioned was summed, with one count per individual. The results of the quantitative content analysis for the three open-ended questions are presented in the following section. A comprehensive exploration of the results incorporating qualitative insights will be included in the discussion in the following chapter.

The first open-ended question was: does the school of nursing where you are presently employed have a formal Quality Assurance program? Participants were asked to tick a yes, no, or unsure box and to describe the Quality Assurance activities if applicable. Of the 445 respondents completing the survey, 425 or 93% answered the first question. Of the nurse academics who answered this question less than half (45%) said that the school of nursing in which they were currently employed had a formal Quality Assurance program. Thirty-four per cent said that they did not have a formal Quality Assurance program, and 21.4% of respondents were unsure as noted in Table 4.9.

Table 4.9: Proportion of survey respondents' knowledge of a formal Quality Assurance program in a school of nursing (n = 445)

<table>
<thead>
<tr>
<th>QA program</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>44.5%</td>
</tr>
<tr>
<td>No</td>
<td>34.1%</td>
</tr>
<tr>
<td>Unsure</td>
<td>21.4%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

4.3.2 Research question two. What are the Quality Assurance activities undertaken by nurse academics in schools of nursing in higher education?

Content analysis was performed on the positive responses to the first open-ended question. Of the 44.5% of respondents who indicated that their school of nursing had a formal Quality Assurance program, 44% took the opportunity to describe the QA activities in the school of nursing in which they were currently employed. Respondents who indicated that they had a formal Quality Assurance program frequently cited common QA activities also found in other schools of nursing. The fact that the majority of respondents who answered this question also chose to list the
Quality Assurance activities is an indication of the importance of QA to respondents. In essence, five major categories emerged and they were labelled: course review; unit review; staff performance and peer review; Quality Assurance committee/QA coordinator; and departmental review. The responses were classified into the five categories and frequency tabulations were developed.

By far the most common Quality Assurance activity conducted in schools of nursing in higher education was course review. Of the 44.5% of respondents who indicated that their school of nursing had a formal Quality Assurance program, 32% stated that their school of nursing conducted some form of course review. In most cases the curricular review was conducted by nurse academic staff members, nursing students enrolled in the course throughout the three year undergraduate degree, and external bodies. The external bodies varied from other faculties within the university, to the regulatory nursing accreditation bodies within each state or territory of Australia, to employers such as hospitals and clinical agencies. Only seven respondents mentioned that nurses were asked to evaluate the curriculum following their graduation from the university.

The second Quality Assurance activity which commonly occurred in schools of nursing was unit review with 26% of respondents mentioning that units across the three year nursing curriculum were reviewed at the completion of each unit, by nursing students. In this category, nurse academic staff members also reviewed the structure and content of units plus students' results at the completion of each unit. This was closely followed by the third category which was nurse academic staff performance and peer review. Twenty-one per cent of respondents identified staff performance and peer review as another important Quality Assurance activity. Several respondents indicated that staff performance included teaching evaluation by nursing students, and teaching and research achievements by the head of school. Also mentioned was staff performance and peer review at faculty and university level.

The fourth category focused on a formal Quality Assurance committee, a QA coordinator, and/or a Quality Assurance policy manual within schools of nursing. Only 11% of respondents indicated that the school of nursing in which they were currently employed had in place a Quality Assurance committee, a QA coordinator, and/or a Quality Assurance policy manual. The final category, schools of nursing review, attracted comments from only 10% of respondents. According to respondents
in this category, schools of nursing were reviewed by the head of school, nurse academic staff members, and university review teams.

4.3.3 Research question three. Is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?

Question 1.2 in section one of the questionnaire was a Yes/No question followed by a comments section. Of the 445 respondents completing the survey, 355 or 80% answered this question. The majority of respondents (82%) indicated that the Quality Assurance approach traditionally used by the nursing profession is not sufficient for nursing in higher education as noted in Table 4.10.

Table 4.10: Proportion of survey responses to the traditional Quality Assurance approach used by the nursing profession (n = 445)

<table>
<thead>
<tr>
<th>Traditional QA</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18.3%</td>
</tr>
<tr>
<td>No</td>
<td>81.7%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

There were numerous commonalities among the responses in the comments section, and from content analysis, three mutually exclusive categories were developed. These categories were labelled culture, traditional Quality Assurance deficiencies, and other quality management practices. Frequency tabulations were developed for the three categories.

Of the 82% of respondents who indicated that the traditional Quality Assurance approach used by the nursing profession is not sufficient for nursing in higher education, 48% took the time to express reasons for their responses. This indicates that more than half of the respondents have concerns with adopting the traditional Quality Assurance approach to schools of nursing in higher education. A common sentiment expressed by respondents was that although the Quality Assurance approach traditionally used by nurses in the hospital setting may have been sufficient, this did not mean that nurse academics could successfully apply it to an educational culture when nursing education moved from the hospital setting to the tertiary sector.
For the first category, culture, 47% of respondents indicated that the traditional Quality Assurance approach was not sufficient for nursing in higher education because the organisational cultures are different between schools of nursing and hospitals where the traditional Quality Assurance approach is practised. Several respondents noted the importance of each school of nursing assessing its own quality culture and developing quality initiatives.

The second category, deficiencies in the traditional Quality Assurance approach used by the nursing profession, attracted comments from 39% of respondents. There were several common deficiencies noted. By far the most common deficiency mentioned was that the traditional QA approach used by nurses in nursing practice focused only on clients and their level of satisfaction of care. According to respondents, it does not consider other stakeholders in the higher education industry such as students, employers of graduate students, and academic staff. Other common problems identified by respondents were that QA activities concentrate on measuring defects only, it is retrospective, and it is inspectorial and not conducive to an open and honest account of activities. Finally, several respondents noted that QA has traditionally focused on what has been done rather than examining the processes that surround the work.

The final category for this research question was other quality management practices. Fourteen per cent of respondents chose to offer an alternative to the Quality Assurance approach traditionally used by nurses, and terms such as Total Quality Management, Continuous Quality Improvement, Quality Improvement, customer focus, best practice, and benchmarking were used in their qualitative responses, which are presented in Chapter 5.

4.3.4 Research question four. Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities already in place in higher education?

Question 1.3 of the survey questionnaire was also a Yes/No question, and participants were asked to provide a rationale for their answers. The majority of respondents agreed that the introduction of a quality culture in schools of nursing should incorporate Quality Assurance activities already in place in higher education, constituting 95.8% of the sample. The findings are noted in Table 4.11.
Table 4.11: Proportion of survey responses to the integration of a quality culture with Quality Assurance in schools of nursing (n = 445)

<table>
<thead>
<tr>
<th>Integration of QA</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>95.8%</td>
</tr>
<tr>
<td>No</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

Of the 445 respondents completing the survey questionnaire, 361 or 79% answered this question. Of the 95.8% of respondents who agreed that the introduction of a quality culture in schools of nursing should incorporate Quality Assurance activities already in place in higher education, 50% provided additional comments to their answers. Content analysis revealed two categories from the comments to question four, and frequency tabulations were developed for the two categories. The categories were labelled higher education culture, and standards in higher education.

For the first category, seventy-four per cent of respondents indicated that the introduction of a quality culture in schools of nursing should incorporate Quality Assurance activities already in place in higher education because schools of nursing are part of the higher education culture, thus QA activities which apply to higher education must be adhered to by schools of nursing. Furthermore, it was thought that integration of QA activities would foster an academic culture and provide consistency across faculties in higher education institutions. Overall, respondents believed that nursing is an integral part of a university and should therefore be measured by QA activities established in the higher education sector.

The second category, standards in higher education, attracted comments from 26% of respondents. Maintaining standards in schools of nursing was seen as an important reason to incorporate Quality Assurance activities already in place in higher education. Respondents believed that schools of nursing should be able to demonstrate that they are providing academic programs that meet accepted university standards and the learning needs of students. Thus, they should be judged by the same standards. Additionally, schools of nursing should have similar standards to ensure credibility with other disciplines in the tertiary sector, to ensure they are adhering to guidelines of education as well as nursing, and to avoid duplication of QA activities.
4.3.5 Research question five. What are nurse academics' perceptions of the applicability of Total Quality Management in schools of nursing in higher education?

Section two of the survey questionnaire consisted of Likert scale items which sought to establish nurse academics' perceptions towards Total Quality Management in schools of nursing in higher education. There were forty-two items in this section numbered from 2.1 to 2.42. The direction of some of the statements to be investigated were changed during the development of the questionnaire to ensure respondents did not just circle the same positive response, as there is a tendency for agreement on attitudinal items. For analysis purposes, the negative statements were reversed prior to analysis. Summary information for the forty-two statements in this section can be viewed in Appendix 12.

While no statistical conclusions could be drawn from the attitudinal scale, there were qualitative responses in section four of the questionnaire which were directly related to some of the scaled items. Thus the quantitative content analysis from the Additional Comments will be included in this section to highlight where necessary the Likert scale responses. Qualitative insights related to QA and TQM will be presented in the discussion section in the following chapter.

Section four of the questionnaire, consisted of one open-ended question and was entitled Additional Comments. It asked respondents to expand on any of their responses regarding quality issues and/or Quality Assurance in schools of nursing in higher education, or to comment on related issues that respondents thought were relevant and not directly covered by the questionnaire. This was considered an important component of the questionnaire as it could provide valuable data which may not have been obtained from the three open-ended questions in section one, or the fixed alternative statements in the attitudinal scale in section two. Of the 455 respondents who completed the survey questionnaire, 136 or 31% provided additional comments. Content analysis was performed on the responses which revealed three categories, and frequency tabulations were developed for each category. The three categories which emerged from the content analysis were labelled quality culture, collaboration, and the concept of customer.

The Likert scale response choices available to respondents were Strongly agree (SA), Agree (A), Neither agree nor disagree (N), Disagree (D), and Strongly disagree (SD). The distribution of response choices across the surveys completed is listed by counts and percentages and can be viewed in Appendix 13.
The most common choice by respondents for twenty-five statements was Agree. There were eighteen statements where Strongly agree was the mode. Item 2.8 was the statement which respondents agreed with most strongly, judging by the fact that more than two-thirds chose Strongly agree and nearly 25% chose Agree, constituting 98.8% of the sample. This high level of agreement was for the statement: ‘quality should be an integral part of an organisation’s culture’.

As mentioned previously, the first category in the quantitative content analysis was labelled quality culture and is related to item 2.8. Eighteen per cent of respondents indicated that a quality culture was important in a school of nursing, but they saw that restraints within their workplace hampered the quality process. A number of respondents believed that achieving quality was a continuous process but said this was sometimes hindered by a lack of recognition of nurse academics’ efforts and achievements, a lack of decision-making by nurse academics at the school level, and a lack of management support. Several respondents also mentioned that funding cuts resulting in employee insecurity, downsizing of schools of nursing and staff redundancies made it difficult for nurse academics to remain positive and create proactive quality programs within their schools of nursing. Quality of work output was strongly associated with an individual’s sense of satisfaction but this was placed in jeopardy when an unstable and unpredictable environment existed in some schools of nursing.

There were five other statements relating to a quality culture which had a very high level of agreement as indicated by at least 95% of respondents strongly agreeing or agreeing. These were: item 2.1 on the importance of nursing cultures instilling the belief that quality is everyone’s continual concern; 2.3 stating that a quality culture should provide a way of working in which everyone strives to improve the quality of output to the customer; 2.15 on linking commitment to a quality culture as a professional responsibility; 2.22 referring to a quality culture which emphasises the improvement of the processes for everyone rather than identifying only the problems; and 2.40 linking a commitment to quality to the function of an organisation.

Four items identifying a quality culture had a result of over 50% of respondents choosing Agree to each of the following items. The items were: 2.18 which links a quality culture with employee empowerment; 2.27 which states that quality should be an integral part of each nurse academic’s mind set; 2.29 on using customer
feedback to identify problems; and 2.32 on the importance of a sense of ownership in quality issues by nurse academics.

Two statements to which there was also a high level of agreement were: 2.16 on the importance of nursing management employing practices which encourage employee involvement; and 2.42 which stated that 'the value of teamwork amongst nurse academics should be consistently emphasised and promoted'. Both items were related to the second category, labelled collaboration, which emerged from the quantitative content analysis.

This category attracted comments from nine per cent of respondents. Respondents said that to promote quality more emphasis should be given to collaboration and teamwork within schools of nursing in the areas of teaching, research and scholarship, and community work. However, while collaboration was seen as an integral part of a quality culture, the respondents believed that it had been largely replaced in schools of nursing with nurse academics' individual advancement. According to respondents, collaboration in schools of nursing was almost non-existent because of the push for nurse academics to achieve higher qualifications, obtain research grants, conduct research, and establish a reputable list of publications.

Fourteen statements in the attitudinal scale included the word 'customer' and four per cent of respondents made additional comments in the final category of customer focus. Responses varied but were mainly focused on the definition of customer in schools of nursing in higher education. Some respondents said that schools of nursing served many customers such as the nursing profession, students, employers of graduates, the university, industry, and the public. Patients receiving nursing care were considered to be external customers by several respondents. Other respondents were not sure who they would classify as the customer in the higher education setting, while a small minority said that quality in higher education cannot be captured in market terms, that is, customer focus and customer satisfaction.

As indicated, the overall response to the statements was positive, however there were some items which attracted a less enthusiastic response. Of note was the Neither agree nor disagree response choice in which over 15% of respondents indicated neutrality to nine statements. Thirty-two per cent of respondents indicated Neither agree nor disagree to item 2.36 which proposed that a focus on satisfying customer needs leads to increased trust. For item 2.20 thirty per cent of respondents indicated
Neither agree nor disagree. This response was to the statement 'quality programs in nursing in higher education should not be built around external accreditation standards.' The ratio of respondents indicating agreement or disagreement with this item was similar, with 35% of respondents agreeing, and 35% of respondents disagreeing. The third highest response to the neutral category was from item 2.30 which proposed that schools of nursing should focus on productivity improvement. The remaining six highest neutral responses accounted for fifteen to twenty-five percent of respondents.

The item attracting the most negative response was 2.17, which proposed that a quality culture should emphasise error free work. Only 48% of respondents indicated agreement with over 30% disagreeing with the statement.

4.3.6 Additive index

Prior to the commencement of the principal analyses, the preliminary task of reducing the forty-two items to three composite indexes by using an additive indexing process was conducted. According to Babbie (1973), the 'primary reason for index construction is the development of a method for classifying respondents in terms of some variable' (p.261), and 'good indexes provide an ordinal ranking of respondents on a given variable' (p.270). Each composite index consisted of items which were thematically linked to a specific concept of Total Quality Management, so each composite index represented only one dimension. This alone however, was not considered a sufficient justification for item inclusion in a composite index. Thus a series of correlations was conducted to confirm item combinations. Composite index scores were calculated averaging the scores on the defining variables for each composite variable. The three composite indexes were then used individually for further analysis.

Thus, the forty-two items that formed the attitudinal section of the questionnaire were reduced for a more effective analysis. When items are combined they must make conceptual sense following good sound logical reasons to validate the combination. The basic argument is that the forty-two items are in essence measuring different aspects of a more comprehensive variable. A series of nonparametric correlations was conducted to identify combinations. Strong combinations were readily apparent and formed three composite measures. The three composite variables were labelled COMVAR1F: Characteristics of a Quality Culture; COMVAR2F: Employee Empowerment; and COMVAR3F: Concept of Customer.
The first composite index, COMVAR1F was ‘Characteristics of a Quality Culture.’ This index consisted of items 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.15, 2.17, 2.18, 2.20, 2.21, 2.22, 2.27, 2.28, 2.30, 2.33, 2.37, and 2.40. The twenty items have, as their common theme, characteristics which are thought relevant for a quality culture in schools of nursing.

COMVAR2F was the second composite index comprising ten items on employee empowerment in schools of nursing in higher education. This index consisted of items 2.11, 2.12, 2.14, 2.16, 2.26, 2.31, 2.32, 2.35, 2.39, and 2.42.

The third composite index, COMVAR3F, consisted of eleven variables which were thematically linked to the concept of customer in schools of nursing. This composite measure consisted of items 2.10, 2.13, 2.19, 2.23, 2.24, 2.25, 2.29, 2.34, 2.36, 2.38, and 2.41. Table 4.12 presents summaries of central tendency and dispersion for the three composite indexes.

| Table 4.12: Summary statistics for composite indexes |
|-------------------------------------------|---------------|----------|---------|-------|-------|--------|
| N  | Range | Min   | Max | Mean  | Std Dev | Mode |
| COMVAR1F | 445 | 38.000 | 19.000 | 57.000 | 32.324 | 7.424 | 37.000 |
| COMVAR2F | 445 | 21.000 | 10.000 | 31.000 | 17.490 | 4.549 | 20.000 |
| COMVAR3F | 445 | 25.000 | 11.000 | 36.000 | 20.218 | 4.812 | 21.000 |

Source: Analysis of survey data

In summary, an additive index was formulated from the forty-two items in the multiple-item attitudinal scale in section two of the questionnaire. Three composite indexes were developed, and each composite index consisted of a specific number of variables. The three composite indexes were subjected to further complex analysis.

4.3.7 Reliability analyses

An internal consistency measure of reliability, Cronbach’s alpha, was used to determine the average covariance among pairs of items in the three composite indexes. To gain a picture of the interrelationships between the variables in each composite index, correlation matrices were calculated. The item-total summary statistics for the three composite indexes are presented in three tables and the inclusion or exclusion of items is then examined and discussed. Table 4.13 shows the reliability analysis of the first composite index, COMVAR1F.
Table 4.13: Reliability analysis of COMVARIF — Scale (Alpha) (n = 19)

<table>
<thead>
<tr>
<th>Item-</th>
<th>Scale Mean if Item</th>
<th>Scale Variance if Item</th>
<th>Corrected Item Total Correlation</th>
<th>Squared Multiple Correlation</th>
<th>Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistics Deleted</td>
<td>Deleted</td>
<td>Correlation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>30.9236</td>
<td>51.1878</td>
<td>.3882</td>
<td>.3392</td>
<td>.8535</td>
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<tr>
<td>2.2</td>
<td>30.6315</td>
<td>48.8909</td>
<td>.5050</td>
<td>.3920</td>
<td>.8488</td>
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<td>2.3</td>
<td>30.8764</td>
<td>50.3158</td>
<td>.5139</td>
<td>.4030</td>
<td>.8493</td>
</tr>
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<td>2.4</td>
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<td>47.8056</td>
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<td>.3821</td>
<td>.8470</td>
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<tr>
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<td>30.2225</td>
<td>48.4617</td>
<td>.4199</td>
<td>.2976</td>
<td>.8540</td>
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<td>30.7483</td>
<td>49.4906</td>
<td>.5141</td>
<td>.3310</td>
<td>.8486</td>
</tr>
<tr>
<td>2.7</td>
<td>30.8382</td>
<td>51.5008</td>
<td>.3315</td>
<td>.2412</td>
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<td>2.8</td>
<td>31.0562</td>
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<td>.4549</td>
<td>.3895</td>
<td>.8523</td>
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<td>30.8652</td>
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<td>.8516</td>
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<td>.8493</td>
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<td>2.22</td>
<td>30.8315</td>
<td>51.1179</td>
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<td>.3302</td>
<td>.8515</td>
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<tr>
<td>2.27</td>
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<td>.6090</td>
<td>.4638</td>
<td>.8468</td>
</tr>
<tr>
<td>2.28</td>
<td>30.5236</td>
<td>48.3491</td>
<td>.5315</td>
<td>.3685</td>
<td>.8475</td>
</tr>
<tr>
<td>2.30</td>
<td>30.0697</td>
<td>47.9704</td>
<td>.4873</td>
<td>.3510</td>
<td>.8500</td>
</tr>
<tr>
<td>2.33</td>
<td>30.6809</td>
<td>50.5646</td>
<td>.3814</td>
<td>.2167</td>
<td>.8540</td>
</tr>
<tr>
<td>2.37</td>
<td>30.6607</td>
<td>50.3778</td>
<td>.5304</td>
<td>.3615</td>
<td>.8489</td>
</tr>
<tr>
<td>2.40</td>
<td>30.8067</td>
<td>50.6427</td>
<td>.4691</td>
<td>.3028</td>
<td>.8508</td>
</tr>
</tbody>
</table>

Reliability Coefficients 19 items
Alpha = .8578 Standardised item alpha = .8705

Source: Analysis of survey data

An examination of the items comprising COMVAR1F entitled ‘Characteristics of a Quality Culture’ indicated that item 2.20 had the lowest corrected item-total correlation and squared multiple correlation. The Cronbach’s alpha for the overall scale was equal to .8328. If item 2.20 was removed from the scale, the ‘alpha if item deleted’ column shows that overall reliability would increase significantly. When the unreliable item was deleted and the reliability coefficient recalculated, Cronbach’s alpha was raised to .8578. Therefore deletion of item 2.20 was considered appropriate. Table 4.14 presents the summary statistics on the first composite index, COMVAR1F.
Table 4.14: Summary statistics for COMVAR1F — Alpha (n = 19)

<table>
<thead>
<tr>
<th>Statistics for Scale</th>
<th>Mean</th>
<th>Variance</th>
<th>Std Dev</th>
<th>N of Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32.3236</td>
<td>55.1158</td>
<td>7.4240</td>
<td>19</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

Cronbach’s alpha was tested on the second composite index, COMVAR2F, which consisted of ten items. Items 2.14 and 2.26 were negatively worded and were recoded prior to analysis. Table 4.15 shows the results of the reliability analysis for COMVAR2F.

Table 4.15: Reliability analysis of COMVAR2F — Scale (Alpha) (n = 10)

<table>
<thead>
<tr>
<th>Item-total</th>
<th>Scale Mean if Item</th>
<th>Scale Variance if Item</th>
<th>Corrected Item Total</th>
<th>Squared Multiple</th>
<th>Alpha if Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics</td>
<td>Deleted</td>
<td>Deleted</td>
<td>Correlation</td>
<td>Correlation</td>
<td>Deleted</td>
</tr>
<tr>
<td>2.11</td>
<td>15.8584</td>
<td>17.1218</td>
<td>.4302</td>
<td>.2408</td>
<td>.7776</td>
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<td>2.12</td>
<td>15.8921</td>
<td>17.1820</td>
<td>.5213</td>
<td>.3513</td>
<td>.7672</td>
</tr>
<tr>
<td>2.14</td>
<td>15.8584</td>
<td>17.5677</td>
<td>.3142</td>
<td>.1600</td>
<td>.7942</td>
</tr>
<tr>
<td>2.16</td>
<td>16.0067</td>
<td>18.1418</td>
<td>.4408</td>
<td>.2677</td>
<td>.7772</td>
</tr>
<tr>
<td>2.26</td>
<td>15.3236</td>
<td>16.0077</td>
<td>.4512</td>
<td>.2786</td>
<td>.7788</td>
</tr>
<tr>
<td>2.31</td>
<td>15.5618</td>
<td>16.7963</td>
<td>.4805</td>
<td>.3410</td>
<td>.7712</td>
</tr>
<tr>
<td>2.32</td>
<td>15.8472</td>
<td>17.5892</td>
<td>.5400</td>
<td>.3043</td>
<td>.7676</td>
</tr>
<tr>
<td>2.35</td>
<td>15.4045</td>
<td>16.6468</td>
<td>.5038</td>
<td>.2934</td>
<td>.7682</td>
</tr>
<tr>
<td>2.39</td>
<td>15.9079</td>
<td>17.5613</td>
<td>.5177</td>
<td>.3175</td>
<td>.7691</td>
</tr>
<tr>
<td>2.42</td>
<td>15.7483</td>
<td>16.8734</td>
<td>.5468</td>
<td>.3431</td>
<td>.7637</td>
</tr>
</tbody>
</table>

Reliability Coefficients 10 items
Alpha = .7914  Standardised item alpha = .8037

Source: Analysis of survey data

The item internal consistency, as measured by Cronbach’s alpha and based on the ten items in this composite index, was .7914. Item 2.9 had the lowest corrected item-total correlation and squared multiple correlation. The Cronbach’s alpha for the index, including item 2.9, was .7804. Deletion of this item would slightly increase reliability and following recalculation of the reliability coefficient, Cronbach’s alpha was raised to .7914. Item 2.14 has the second lowest corrected item-total correlation and squared multiple correlation. However, deletion of this item would not significantly increase reliability, thus it was not considered appropriate to delete the item. Table 4.16 presents the summary statistics on the second composite index, COMVAR2F.
Table 4.16: Summary statistics for COMVAR2F — Alpha (n = 10)

<table>
<thead>
<tr>
<th>Statistics for Scale</th>
<th>Mean</th>
<th>Variance</th>
<th>Std Dev</th>
<th>N of Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17.4899</td>
<td>20.6919</td>
<td>4.5488</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

The third composite index consisting of eleven items was also tested using Cronbach’s alpha. Item 2.41 was negatively worded and was recoded prior to analysis. Table 4.17 presents the results of the reliability analysis for COMVAR3F.

Table 4.17 Reliability analysis of COMVAR3F — Scale (Alpha) (n = 11)

<table>
<thead>
<tr>
<th>Item- total Statistics</th>
<th>Scale Mean if Item Deleted</th>
<th>Scale Variance if Item Deleted</th>
<th>Corrected Item Total Correlation</th>
<th>Squared Multiple Correlation</th>
<th>Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10</td>
<td>18.5506</td>
<td>20.1039</td>
<td>.4835</td>
<td>.2744</td>
<td>.8087</td>
</tr>
<tr>
<td>2.13</td>
<td>18.2382</td>
<td>19.7855</td>
<td>.3357</td>
<td>.1325</td>
<td>.8254</td>
</tr>
<tr>
<td>2.19</td>
<td>18.2517</td>
<td>18.9275</td>
<td>.5203</td>
<td>.2944</td>
<td>.8047</td>
</tr>
<tr>
<td>2.23</td>
<td>18.3730</td>
<td>18.6578</td>
<td>.5858</td>
<td>.4270</td>
<td>.7981</td>
</tr>
<tr>
<td>2.24</td>
<td>18.3685</td>
<td>18.7242</td>
<td>.5796</td>
<td>.4216</td>
<td>.7988</td>
</tr>
<tr>
<td>2.25</td>
<td>18.3506</td>
<td>18.2687</td>
<td>.6690</td>
<td>.5007</td>
<td>.7899</td>
</tr>
<tr>
<td>2.29</td>
<td>18.4854</td>
<td>20.2458</td>
<td>.5156</td>
<td>.3446</td>
<td>.8072</td>
</tr>
<tr>
<td>2.34</td>
<td>18.3618</td>
<td>19.1819</td>
<td>.5981</td>
<td>.3830</td>
<td>.7984</td>
</tr>
<tr>
<td>2.36</td>
<td>17.9416</td>
<td>19.1497</td>
<td>.4686</td>
<td>.2418</td>
<td>.8102</td>
</tr>
<tr>
<td>2.38</td>
<td>18.4427</td>
<td>20.2923</td>
<td>.3919</td>
<td>.1708</td>
<td>.8161</td>
</tr>
<tr>
<td>2.41</td>
<td>18.8157</td>
<td>20.9299</td>
<td>.2995</td>
<td>.1209</td>
<td>.8233</td>
</tr>
</tbody>
</table>

Reliability Coefficients 11 items
Alpha = .8221  Standardised item alpha = .8258

Source: Analysis of survey data

The item internal consistency, as measured by Cronbach’s alpha and based on all eleven items in this composite index, was .8221. It was not considered appropriate to delete any items as exclusion would not significantly increase the overall reliability. Table 4.18 shows the summary statistics on the third composite index, COMVAR3F.

Table 4.18: Summary statistics for COMVAR3F — Alpha (n = 11)

<table>
<thead>
<tr>
<th>Statistics for Scale</th>
<th>Mean</th>
<th>Variance</th>
<th>Std Dev</th>
<th>N of Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20.2180</td>
<td>23.1573</td>
<td>4.8122</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data
In summary, the item internal consistency, as measured by Cronbach’s alpha for the three composite indexes, was .8578, .7914, and .8221 respectively, indicating reliability of the multiple-item attitudinal scale. In each composite index the items correlated highly with each other and for a newly developed instrument this exceeds the acceptable level of .70 proposed by Burns and Grove (1997) and Nunnally (1978).

4.3.8 Correlational analyses

The researcher wished to provide additional evidence of the high correlation between items in each composite index, and also provide information on the strength and direction of the relationships between two variables, so the data were subjected to further analysis. To provide the evidence and estimates, correlation coefficients were calculated using Kendall’s tau_b. Information regarding the correlations for the three composite indexes, COMVAR1F, COMVAR2F, and COMVAR3F will be highlighted in descriptive summaries. Correlations were significant at the point .001.

For COMVAR1F, all correlations were significant at the .000 level. The correlations for this composite index ranged from .0619 for items 2.17 and 2.1 to .5117 for items 2.40 and 2.27. Table 4.19 illustrates the correlations between COMVAR1F and the single items that make up the composite index.

Table 4.19 Kendall’s tau values for composite index — COMVAR1F

<table>
<thead>
<tr>
<th>Item (n=19)</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 2.1</td>
<td>.3824 **</td>
</tr>
<tr>
<td>Item 2.2</td>
<td>.4800 **</td>
</tr>
<tr>
<td>Item 2.3</td>
<td>.4847 **</td>
</tr>
<tr>
<td>Item 2.4</td>
<td>.5421 **</td>
</tr>
<tr>
<td>Item 2.5</td>
<td>.4020 **</td>
</tr>
<tr>
<td>Item 2.6</td>
<td>.4901 **</td>
</tr>
<tr>
<td>Item 2.7</td>
<td>.3343 **</td>
</tr>
<tr>
<td>Item 2.8</td>
<td>.4056 **</td>
</tr>
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<td>Item 2.15</td>
<td>.4678 **</td>
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<tr>
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<td>.3937 **</td>
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<tr>
<td>Item 2.18</td>
<td>.4890 **</td>
</tr>
<tr>
<td>Item 2.21</td>
<td>.4941 **</td>
</tr>
<tr>
<td>Item 2.22</td>
<td>.4499 **</td>
</tr>
<tr>
<td>Item 2.27</td>
<td>.5486 **</td>
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<td>Item 2.28</td>
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<td>.4795 **</td>
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<tr>
<td>Item 2.33</td>
<td>.4157 **</td>
</tr>
<tr>
<td>Item 2.37</td>
<td>.5006 **</td>
</tr>
<tr>
<td>Item 2.40</td>
<td>.4953 **</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data
Correlations ranged from .5486 between COMVAR1F and item 2.27, to .3343 between COMVAR1F and item 2.7. It is to be expected that high correlations would occur between all items as they make up COMVAR1F.

For the second composite index, COMVAR2F, all correlations were significant at the .000 level. The correlations ranged from .1078 for items 2.31 and 2.14 to .5402 for items 2.12 and 2.11. Table 4.20 presents the correlations between COMVAR2F and the ten items that make up the composite index.

Table 4.20: Kendall’s tau values for composite index — COMVAR2F

<table>
<thead>
<tr>
<th>Item (n=10)</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
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</tr>
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<td>Item 2.12</td>
<td>.5255**</td>
</tr>
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<td>Item 2.14</td>
<td>.4332**</td>
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<td>.4398**</td>
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<tr>
<td>Item 2.26</td>
<td>.5311**</td>
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<td>Item 2.31</td>
<td>.4981**</td>
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<td>Item 2.32</td>
<td>.5654**</td>
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<td>Item 2.35</td>
<td>.5336**</td>
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<tr>
<td>Item 2.39</td>
<td>.5253**</td>
</tr>
<tr>
<td>Item 2.42</td>
<td>.5473**</td>
</tr>
</tbody>
</table>

Source: Analysis of survey data

Correlations ranged from .5654 between the composite variable and item 2.32, to .4332 between the composite variable and item 2.14.

The third composite index, COMVAR3F, consisted of eleven items. All correlations were significant at the .000 level. The correlations ranged from .1397 for items 2.41 and 2.13 to .5958 for items 2.25 and 2.24. Table 4.21 illustrates the correlations between COMVAR3F and the eleven items that make up the composite index.

The composite index correlations ranged from .4123 between the composite variable and item 2.41 to .6507 between the composite variable and item 2.25.

In summary, Kendall’s tau_b coefficient was used to examine the degree of association between variables in each composite index. The results of this analysis indicate that pairs of variables within each composite index correlated highly with each other.
Table 4.21 Kendall’s tau values for composite index — COMVAR3F

<table>
<thead>
<tr>
<th>Item (n=11)</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.5069**</td>
</tr>
<tr>
<td>Item 2.13</td>
<td>.4207**</td>
</tr>
<tr>
<td>Item 2.19</td>
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</tr>
<tr>
<td>Item 2.23</td>
<td>.5944**</td>
</tr>
<tr>
<td>Item 2.24</td>
<td>.5925**</td>
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<tr>
<td>Item 2.25</td>
<td>.6507**</td>
</tr>
<tr>
<td>Item 2.29</td>
<td>.5042**</td>
</tr>
<tr>
<td>Item 2.34</td>
<td>.5736**</td>
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<td>Item 2.36</td>
<td>.4758**</td>
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<tr>
<td>Item 2.38</td>
<td>.4394**</td>
</tr>
<tr>
<td>Item 2.41</td>
<td>.4123**</td>
</tr>
</tbody>
</table>

Source: analysis of survey data

4.3.9 Analyses of variance (ANOVAs)

Prior to analyses, variables were examined with regard to skewness. A number of variables was slightly negatively or positively skewed. Attempts to improve normality by various transformations, including square root transformation and logarithm transformation, failed. The decision was made not to perform transformation on the variables that were slightly skewed because 1) it had the potential to create problems of interpretability of the data, and 2) analysis of variance (ANOVA) has been shown to be fairly robust in the face of violation (Pett 1997).

A one-way analysis of variance (ANOVA) was conducted with the attitudes towards TQM as the dependent variable, and the Quality Assurance scores as the independent variables. There was no significant correlation between attitudes to TQM and Quality Assurance. An ANOVA was conducted also to assess for an association between TQM and the demographic variables, with TQM as the dependent variable, and the demographic items as the independent variables. No significant correlation was found.

4.4 Conclusion

This chapter has presented the results of this study commencing with a justification for the data analysis techniques used. Descriptive analyses were conducted on the four sections of the questionnaire. First, a descriptive analysis provided a description and summary of the data from the sample used in this study. The demographic
characteristics included in the analysis were age, gender, years of employment as a nurse academic, level of employment, employment status, nursing and academic qualifications, and further study. Second, descriptive statistics were computed following the quantitative content analyses of three open-ended questions in section one of the questionnaire, and one open-ended question in section four. Third, a descriptive summary was used to obtain a summary of the statistics and percentages for the Likert scale items in section two of the questionnaire.

The unstructured data in section one of the questionnaire were analysed using quantitative content analysis and were directly related to the first four research questions in this study. Section four of the questionnaire which invited additional comments from respondents, was analysed also using quantitative content analysis.

In summary, the majority of the sample who responded to the survey questionnaire were females with the majority of respondents aged between 44 to 48 years of age, and employed at lecturer level. The Bachelor of Nursing degree was the highest nursing qualification held by the majority of respondents, with 43% of respondents having a Masters in coursework as the highest academic qualification. More than half of the respondents were undertaking further academic study with the majority studying for a PhD.

The results indicated that less than half of the respondents had a formal Quality Assurance program in the school of nursing where they were currently employed, and the QA programs that did exist consisted of four major components. They were course review, subject or unit review, nurse academic staff performance and peer review, and a Quality Assurance committee and coordinator, and/or a Quality Assurance policy manual.

The study also revealed that an overwhelming majority of respondents did not believe that the Quality Assurance approach traditionally used by the nursing profession was sufficient for nursing in higher education. The three main factors which contributed to the negative responses were 1) different cultures exist between schools of nursing in higher education and hospitals where the traditional Quality Assurance approach has been practised; 2) deficiencies exist in the traditional Quality Assurance approach; and 3) alternative approaches such as Total Quality Management should be considered.
In addition, the majority of respondents agreed that the introduction of a quality culture in schools of nursing should incorporate Quality Assurance activities already in place in higher education. From the additional comments, respondents proffered three main reasons for their acceptance of Quality Assurance activities. First, schools of nursing are already part of the higher education culture and therefore should adhere to the QA activities required by the higher education industry. Second, the integration of Quality Assurance activities across higher education institutions provides consistency. Third, higher education Quality Assurance activities can assist in maintaining standards in schools of nursing, and duplication of QA activities is avoided.

Research question five was addressed in section two, the multiple-item attitudinal scale of the questionnaire, which consisted of forty-two items. For a more effective analysis, an additive index process was used and three composite indexes were created for the purpose of measuring the strength of relationships among the items. A reliability coefficient, Cronbach’s alpha, was used to determine the internal consistency for each composite index. The item internal consistency, for each of the three composite indexes, was above .80 for COMVAR1F and COMVAR3F, and above .70 for COMVAR2F. This meets the acceptable value of .70 for a newly developed instrument (Nunnally 1978; Burns & Grove 1997).

In order to provide further assessments of the closeness of a covariation among the pairs of variables in the three composite indexes, the data were subjected to a more complex analysis. Using nonparametric statistics, an index of rank-order correlations, Kendall’s tau was used to indicate the magnitude and direction of a relationship between the ordinal level data. The results of this analysis indicate that there is a high level of correlation among the variables within each composite index.

One-way analyses of variance (ANOVAs) were conducted to assess associations between Quality Assurance and TQM, and demographic variables and TQM, but no significant relationships were found. Thus, there were no statistical differences found between the respondents’ perceptions of Total Quality Management and QA and demographic variables. Whether or not the sample of nurse academics is neutral in regard to TQM in schools of nursing could not be established through the quantitative analyses, so the strongest conclusions drawn from this study will be from the qualitative data presented in sections 5.2 and 5.3.
The following chapter will provide a discussion of the findings for each research question and conclusions about the research problem. The remaining stages of the Soft Systems Methodology, stages 5, 6, and 7 will be applied to the discussion. Chapter 5 also will provide the theoretical implications of the research; implications for policy and practice; and implications for further research.
CHAPTER 5
Discussion and Conclusions

5.1 Introduction

This thesis has explored the concepts of Quality Assurance and Total Quality Management in relation to the nursing profession, focussing specifically on nurse academics' quality management practices in schools of nursing in the higher education industry. As previously noted in Chapter 2, Quality Assurance policies and procedures in the hospital setting have been traditionally adhered to by practising nurses. When nursing education moved from the hospital setting to the higher education sector the hospital QA approach was also transferred and became embedded in the cultures in schools of nursing. While the traditional QA approach has in recent times been widely acknowledged by nursing professionals as unsatisfactory because of its inspectorial, reactive nature, it has continued to be used as the main monitoring method in schools of nursing. This is probably due to the fact that although QA is viewed unfavourably, schools of nursing have to meet both internal and external regulatory requirements and QA can accomplish this. Furthermore, when the transfer of nursing education took place, there was scant information available on alternative quality management practices, especially in the health care industry.

Recently, several health care organisations and practising nurses have made a paradigm shift from Quality Assurance to Total Quality Management with nurses advocating the implementation of Total Quality Management or Continuous Quality Improvement in health care facilities. This shift has resulted in discarding the negative elements of the traditional QA approach while the positive elements have been integrated into the new quality management practice. Consequently, the situation is now emerging of a division in quality management practices between nursing in the hospital setting and nursing in the higher education sector. To bridge the gap, the researcher wished to explore the possibility of a similar paradigm shift being made in schools of nursing in higher education.

Thus, the aims of this study were to first identify Quality Assurance activities in schools of nursing and assess their appropriateness in meeting the needs of nursing in
higher education. The second aim was to examine the perceptions of nurse academics to the applicability of Total Quality Management in a school of nursing in higher education in Australia, and to identify the principles of TQM that could be applied to suit the nursing culture in a school of nursing.

This chapter first provides a review of the findings for each research question followed by the major conclusions reached about the research problem. Continuing with the theoretical framework of Checkland’s Soft Systems Methodology (1993), stage 5 is integrated and operationalised in this section. Implications for schools of nursing, policy and practice are then identified within stages 6 and 7 of Checkland’s (1993) SSM. The principles of Total Quality Management applicable to a school of nursing in higher education are identified, explained and justified. Ways in which the proposed TQM principles can be integrated within a school of nursing are determined and a quality culture model for a school of nursing in higher education is developed. The model is developed within a Total Quality Transformation Process and can be viewed in Figures 5.4 and 5.5. This chapter concludes with recommendations for further research into this field of study.

5.2 Conclusions about each Research Question

At this stage it is appropriate to compare the research findings between the QA and TQM approaches as a means to clarify for the reader the contributions this study has made, and how a quality culture in a school of nursing can be developed. The issues are summarised in Table 5.1.

The following two sections will delineate the issues identified in Table 5.1 and how they are approached differently in traditional Quality Assurance and Total Quality Management.

Five research questions were identified from the research problem. In the following section, the conclusion about each research question will be presented and explained ‘within the context of this and prior research examined in chapter two’ (Perry 1994, p.25), and also within the context of the focus group discussions conducted in stage 1 of the research plan. As noted in the previous chapter, no strong statistical conclusions can be drawn from the results of the study, thus qualitative conclusions will form the basis of the discussion.
Table 5.1: Comparisons found between QA and TQM and research conclusions

<table>
<thead>
<tr>
<th>Quality Assurance</th>
<th>Total Quality Management</th>
<th>Research Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on individual performance. Practised by individual employees.</td>
<td>Focus on participation of all employees.</td>
<td>The need for a transparent, participatory environment in a school of nursing.</td>
</tr>
<tr>
<td>Improvement through inspection and discipline.</td>
<td>Continual improvement of processes and outcomes for better efficiency and greater effectiveness.</td>
<td>The need for a long-term commitment from management to integrate a continuous quality monitoring process.</td>
</tr>
<tr>
<td>Focus on a limited set of activities.</td>
<td>Focus on all system activities.</td>
<td>The need for education and training in quality monitoring for all employees.</td>
</tr>
<tr>
<td>Quality monitoring is retrospective and reactive. Conducted to meet nursing education and external accreditation requirements.</td>
<td>Quality monitoring is concurrent and proactive. Conducted to meet all internal and external customer requirements.</td>
<td>The need for an ongoing, proactive quality monitoring system to suit the internal culture of a school of nursing.</td>
</tr>
</tbody>
</table>

Source: Cruickshank 1999

5.2.1 Research question one. Do schools of nursing in higher education have a formal Quality Assurance program?

The survey found that only 44.5% of respondents indicated that the school of nursing where they were currently employed had a formal Quality Assurance program. Four respondents identified schools of nursing having a QA formal program who were also working towards ISO 9000 certification. A formal QA program was defined by many nurse academics as the inclusion of a QA policy and guidelines in the strategic plan; a course advisory committee to examine the process and outcomes of programs conducted at the undergraduate and postgraduate levels; unit reviews by nursing students and peers; and a school of nursing review by a committee of university and external individuals.

The findings revealed that at the time of the study not all schools of nursing had adopted the recommendation made by the National Review of Nurse Education in
the Higher Education Sector in 1993. The recommendation stated that all schools of nursing ‘develop and maintain course advisory committees’, and ‘these committees should be actively consulted in relation to program and curriculum development, evaluation and review, quality assessment, and course accreditation’ (Commonwealth Department of Human Services & Health 1994, p.16).

However, respondents who did acknowledge the inclusion of a course advisory committee in a formal QA program indicated that these committees included representatives from both internal and external agencies.

The course advisory committee meets twice a year and consists of representatives from the Nurses Registration Board, this school of nursing and another higher education nursing institution, other faculties, hospitals, and the nursing student body.

All courses are reviewed by employers, students and professional organisations.

The courses are independently assessed by an accreditation panel consisting of educators from other departments, nurse academics, and external agencies, and the results are collated by a university evaluation team.

These responses appear to meet the criteria for the second part of the review recommendation which states that the committees ‘would normally include representatives of registering authorities, employers of nurses, professional organisations, community or consumer organisations, nursing academics from other institutions, and nursing students’ (Commonwealth Department of Human Services & Health 1994, p.16).

Twenty-one per cent of respondents were unsure whether the school of nursing where they were employed had a formal Quality Assurance program, or whether the evaluative procedures that were in place would come under the umbrella term of Quality Assurance.

I don't think we would identify the procedures we have in place as necessarily a Quality Assurance program, but we have mechanisms such as the Assessment Committee, as well as other meetings to ensure the quality of our courses.

Although subjects are usually evaluated by students and staff, at times this appears haphazard as each lecturer uses a different format.
Although there are some activities such as teaching evaluations, these are not formalised into a whole to reflect accountability to the university or students, rather they are predominantly used for indicators when seeking promotion, and so are used on an individual basis.

Thirty-four per cent said that they did not have a formal Quality Assurance program, with several respondents stating that the school of nursing where they were employed followed the broad QA guidelines set by the university. It could be assumed that if QA programs were not made visible to staff members then respondents in this category would be unaware of their existence. However, the research question explicitly asked whether a school of nursing had a formal QA program. Thus, the researcher believed that most respondents would be aware of an established QA program. These findings are supported by the results of the focus group discussions which found that less than half the participants identified a formal QA program in the school of nursing where they were employed. The remaining participants were unsure or stated that they did not have a formal QA program.

In summary, the findings demonstrate that at the time of the study a relatively low number of formal Quality Assurance programs was in place in schools of nursing in higher education. Furthermore, not all schools of nursing had developed a course advisory committee recommended by the National Review of Nurse Education in the Higher Education Sector (1994). More than half the respondents indicated that either they did not have a formal QA program or were not sure, yet the majority of schools of nursing not having a formal QA program adhered to QA guidelines set by the particular university. While it is evident that few schools of nursing have a formal QA program in place, QA activities are frequently conducted by nurse academics as demonstrated in the following section. When developing a quality culture model, it will be important to identify and assess the existing QA activities in a school of nursing and determine how they will be integrated within the Total Quality Transformation Process.

5.2.2 Research question two. What are the Quality Assurance activities undertaken by nurse academics in schools of nursing in higher education?

Quality Assurance activities commonly conducted included course-curricular review, unit review, nurse academic staff performance and peer review. Schools of nursing review or departmental review were also cited as QA activities. The quantitative content analysis showed that QA activities focus mainly on course, unit and peer review within schools of nursing with more than two-thirds of the respondents indicating that course, unit and peer evaluations were conducted on a frequent basis.
Undergraduate and postgraduate course and unit reviews were conducted by nurse academics, nursing students, and external regulatory bodies such as other faculties within the university, nursing accreditation bodies, and hospital agencies. Nurse academic staff performance and peer review consisted of two evaluative strategies. Teaching evaluation was conducted by nursing students, and teaching and research reviews were conducted by the head of school and other faculties within the university.

The findings from this research question support the findings from the focus group discussions. That is, evaluation procedures of nursing programs and teacher effectiveness are conducted extensively by nurse academics as a professional nursing responsibility and as a requirement of the external accreditation bodies.

However, the analysis revealed that externally imposed standards are viewed as insufficient or irrelevant by some nurse academics and are subsequently met with resistance. The following sentiments are similar to concerns expressed by Fendt and Vavrek (1992) and Harvey (1998).

*I think the accreditation bodies try hard, but they do go overboard and are far too pedantic to the point they lose credibility.*

*Accreditation bodies do not provide a satisfactory external evaluative mechanism — they are often unrealistic and incorporate irrelevant issues — schools of nursing are not sure of requirements as they are vague and forever changing.*

These responses are similar to the findings from the focus group discussions which demonstrated that more than half the participants believed that nurse academics’ involvement in QA activities was a direct result of external regulatory requirements.

Less emphasis was placed on a formal Quality Assurance committee and a Quality Assurance coordinator with only a small minority of nurse academics identifying these with QA programs. While the literature review demonstrated that a QA coordinator and a QA committee were considered essential components of the QA approach (Schroeder 1994; Schmele 1996), it also revealed that staff participation on a hospital QA committee was often avoided and viewed as an irritating obligation (Largen 1994). Nurse academics in the study also viewed the formal components of a QA program as an additional and unfavourable obligation which would account for this finding. The following response further exemplifies this:
If QA is seen as an additional function of one’s daily role, rather than an integral part of a school of nursing, then the extra demands on individual time and work will result in a negative response and attitude.

Jennison (1991) also emphasised the lack of employee interest in QA programs and stated:

Typically, the reaction to activities of a QA program is to avoid them. Viewed as a threat to well-being or as an irritating distraction, traditional health care quality programs suffer from inattention and resistance by the workforce (p.450).

In light of this statement, the lack of emphasis on a QA coordinator and a QA committee in schools of nursing could stem from nurse academics prior QA involvement within the hospital setting. The limitations of the traditional QA approach identified in the following section further account for the negativity to QA portrayed by nurse academics.

In summary, the study found that while evaluation procedures of nursing programs and teacher effectiveness constituted the main QA activities, they were conducted mainly on an individual level to meet the requirements of the external accreditation bodies, and to fulfil a professional responsibility. As an external monitoring system, the nursing accreditation process drew some critical remarks from both the focus group and survey respondents, but no solutions or alternatives were proffered. To transform nurse academics views of the accreditation process from a constraining force to a distinctive strength, it will be necessary to address this cultural assumption in the initial planning stage of a quality culture process. It will be crucial to talk to staff members to ascertain their perceptions of the mandatory nature of the nursing accreditation process, and include them in decisions about integrating external regulatory requirements into the new quality program.

In contrast to the traditional Quality Assurance approach found in the hospital setting, little emphasis was placed on a QA committee, a QA coordinator, and a QA policy manual in schools of nursing. Thus, it would appear that only specific QA activities have been adopted by nurse academics in the higher education industry.
5.2.3 Research question three. Is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?

Important to this research study, is the finding that the overwhelming majority of respondents indicated that the Quality Assurance approach traditionally used by the nursing profession is not sufficient for nursing in higher education. The study revealed that nurse academics do not believe that the traditional QA approach used in the hospital setting should be adopted in schools of nursing in the tertiary sector. A belief commonly expressed by respondents was that while the Quality Assurance approach was traditionally used by nurses in health care agencies, this did not mean that it could be transported from the hospital setting to schools of nursing in the higher education sector. The major reason for this belief was that the organisational culture in schools of nursing in the higher education industry and the hospital setting are vastly different. Because nursing is now part of the higher education industry nurse academics believed that schools of nursing should reflect a university quality culture.

Further reasons why the traditional QA approach should not be adopted by schools of nursing were offered by respondents. For example, Quality Assurance is retrospective and does not consider all customers, such as students, employers of graduate students, and academic staff.

*QA is retrospective, and we need proactive activities.*

*QA has traditionally focused on what has been done, and it doesn’t examine whether or not work that is done is really necessary.*

*In higher education, there are many more stakeholders to consider — student, client, employer of students, academic staff, etc.*

*We need to think of our students as our ‘clients’. We also need to do much more than throw a few evaluation forms around. We need to use ‘best practice’ and ‘benchmarking’, and we don’t.*

In addition, the traditional Quality Assurance approach has focused on finding problems and fixing them, and nurse academics viewed this approach as superficial and inadequate.

*Nursing QA has traditionally been related to negative patient outcomes in a clinical setting.*

*The Quality Assurance approach traditionally used by nurses was mainly concerned with safety concerns and the need to avoid litigation. In higher education, QA should be concerned about the quality of teaching and research.*
Traditionally QA was inspectorial and was not conducive to an open and honest account of activities. More recently, the emphasis has been on process and cycles of constant improvement.

An educational basis is required rather than the traditional audit/checklist approach.

The QA used in nursing is now outdated and outmoded. Emphasis should now be placed on areas and attributes that were not even considered important in the traditional approach.

Often, QA measures were imposed by managers resulting in 'compliance' problems. We need to be careful not to import many of nursing's obsessions with regulation into higher education — we seem to have a need to be regulated.

It was also found that Quality Assurance programs in schools of nursing do not involve all nurse academics. Furthermore, they focus on what has been done rather than examining the processes that surround the work.

Not all nurse academics are involved in our QA practices, and anyway, the whole QA program is retrospective.

What was traditionally used for nursing included the use of quality audits which did not seem to go anywhere. Also, there were always attempts to get 'ready' for accreditation from the ACHS [Australian Council on Health Care Standards] six months prior to the process. In other words, it was 'window dressing'. It often looked good but lacked real process, and we are still doing the same in schools of nursing.

Nursing in higher education is plagued by a very traditional view of quality and in my opinion, after ten years' teaching in higher education in nursing, very little has changed. We are still looking at what we have done in the past, rather than looking forward.

The findings of this research question support those of Berwick (1990), Masters and Schmele (1991), Marquis and Huston (1992), and Bull (1994) who identified limitations of the traditional QA approach in the health care industry. Nurse academics in the study agreed that traditional QA practices utilised in schools of nursing are fraught with limitations, and the limitations parallel those found in the literature review.

Fourteen per cent of respondents identified alternative approaches to the traditional Quality Assurance, and terms such as Total Quality Management, Continuous Quality Improvement, Quality Improvement, best practice, customer focus, and
benchmarking were used when commenting about other quality management practices.

*I think nursing is moving to a continuous quality improvement approach rather than an assurance approach, and this would be a suitable approach for nursing in higher education.*

*QA in the hospital setting has traditionally been punitive and management driven. Alternatively, the TQM approach which I believe is the most effective, requires a culture which promotes quality at all levels, and requires a flat, decentralised democratic approach to leadership and management.*

*If we are to retain and attract the ever decreasing pool of students we will need to develop a customer focus and quality programs to meet market needs. The strategic plan in a school of nursing should include quality issues and processes.*

*Quality improvement is better, it looks at the whole system, not just parts, whereas QA puts ‘blame’ on individuals and departments.*

In summary, nurse academics believed that the Quality Assurance approach traditionally used by the nursing profession in health care agencies was not sufficient for nursing in higher education. Furthermore, the traditional QA approach should not be adopted by schools of nursing as nursing education needs to reflect a higher education quality culture. Additionally, limitations of the traditional QA approach, identified in the literature as well as in the focus group discussions and survey responses, were seen as a further reason why schools of nursing should not adopt the traditional QA approach. While only a small number of respondents offered alternative approaches such as Total Quality Management, the fact that nurse academics viewed the traditional QA approach as insufficient and inappropriate for nursing education indicates the need for nurse academics to reassess their quality management practices. These findings will have a significant impact on the development of a quality culture model presented in section 5.5.

5.2.4 Research question four. Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities already in place in higher education?

As outlined above, the survey found that nurse academics collectively agreed that the Quality Assurance approach traditionally used by the nursing profession was insufficient for nursing in the higher education industry. In contrast, the findings further revealed that integrating higher education Quality Assurance activities into a quality culture in schools of nursing would be appropriate. While studies on the
benefits of integrating QA and TQM have focused on the health care industry (Green 1991; Creps et al. 1992; Kennedy 1992; Marker 1992; Sherman & Malkmus 1994; Schmele 1996), there are similarities in the findings from this research question.

The majority of respondents indicated two main reasons for integrating higher education Quality Assurance activities into a quality culture in schools of nursing. First, because schools of nursing are part of the higher education culture they should adhere to the QA policies and procedures required by the university:

A school of nursing would be expected to adhere to the same procedures that apply to any other school within the university if the procedures have been implemented as a university-wide measure.

If nursing is to continue to maintain its place in the higher education sector it must also ascribe to the expected policies and processes applying to other professional disciplines.

The discipline of nursing is not only answerable to the nursing profession but also to the higher education sector where it now functions.

Nursing should not be seen as a separate entity within a university.

While several respondents agreed that higher education QA activities should be integrated into a quality culture in schools of nursing, they also indicated that adopting the most beneficial QA activities was desirable:

We have to be part of the wider university organisation — but that does not mean that we cannot do many things differently, in addition to what may be required by the university.

We should critically examine current QA activities and adopt the best, and supplement as necessary.

Nursing is a member of the higher education community but that does not mean that nursing should limit itself to only those QA activities.

Nurses should avail themselves of all possible resources and then select what is most applicable and useful.

These responses reflect the writings of JCAHO (1991), Kennedy (1992), and Schmele (1996) who suggest that combining the most beneficial aspects of the QA and TQM processes could be complimentary to each other in an integrated process.

According to respondents, the second main reason for integrating higher education QA activities within a quality culture in schools of nursing is to ensure consistency
across faculties within a university. Many respondents stated that there was no point in duplicating work, or having several QA programs in a higher education institution:

*There is no sense in reinventing the wheel.*

*We need to incorporate QA activities already in place as well as those specific to the school of nursing. This contributes to the overall quality of a higher education institution and provides consistency.*

These findings support those of Tindill (1992) and Green (1991), with the latter author suggesting that without proper integration of QA and TQM, ‘organisations send mixed messages regarding the degree of support for the role of QA’ (p.59).

A final reason for integrating higher education QA activities was that it would assist in maintaining standards within a school of nursing:

*There are standards of practice in higher education which apply to all departments and are necessary to ensure professional practice. QA programs are designed to ensure ‘best practice’ where standards are maintained.*

In summary, nurse academics believed that integrating higher education Quality Assurance activities into a quality culture in schools of nursing would be appropriate. According to the focus group participants and the survey respondents, schools of nursing should adhere to the QA policies and procedures required by the higher education sector. Additionally, they saw that the integration of higher education QA activities would assist in maintaining consistency and standards. However, nurse academics also believed that they should not limit themselves to only higher education QA activities, but should use the most appropriate and beneficial quality practices as necessary. Findings from this research question will impact on the quality culture model from a cultural perspective. Quality Assurance activities required by the higher education sector will be already integrated within the culture in a school of nursing as they constitute a cultural assumption according to Schein’s (1984) Cultural Paradigm Model. Thus, the integration of higher education Quality Assurance activities will be reflected in the quality culture model.

5.2.5 Research question five. What are nurse academics’ perceptions of Total Quality Management in schools of nursing in higher education?

Following an identification and examination of Quality Assurance practices in schools of nursing, the researcher wished to explore the possibility of making a
paradigm shift from Quality Assurance to Total Quality Management in a school of nursing. Thus, the aims were to examine the perceptions of nurse academics to the applicability of Total Quality Management in a school of nursing in higher education in Australia, and to identify the principles of TQM that could be applied to suit the nursing culture in a school of nursing.

To meet these aims the researcher tailored this stage of the investigation to specifically examine the principles of TQM related to organisational culture and human resource management, the so-called soft aspects of TQM. Accordingly, the forty-two items in the attitudinal scale of the research instrument reflected these aspects of TQM. The findings from the attitudinal scale in the survey questionnaire demonstrated a high level of agreement among respondents, with only two items showing any level of disagreement. While no statistical conclusions can be drawn, qualitative data which illustrate nurse academics’ perceptions of the applicability of TQM in schools of nursing will also be incorporated in this section.

Statements which respondents highly agreed with focused on the theme of a quality culture. For example, the majority of respondents agreed that ‘quality should be an integral part of an organisation’s culture’. Other statements attracting a high level of agreement included the themes of employee involvement, teamwork, and a proactive quality management program.

Several respondents commented on the terms ‘quality’ and ‘organisational culture’ and the importance of defining a quality culture for a school of nursing was emphasised.

I think we need to define and agree on what a school of nursing means by the term ‘quality’.

We need to assess the culture in schools of nursing before we embark on any quality path, because there may be rituals that we have brought from the hospital setting which could act as barriers to the development of a quality culture.

The issue of quality and reduced resources is an issue in any quality improvement program. Quality in a school of nursing involves all the participants, academics, students, the university and other industries. Working in a quality culture requires standards, processes, and outcomes in order to achieve quality.

Organisational culture is important in achieving quality. Quality improvement is a continuous process and needs to be incorporated with practice and not as an additional task. The issues for quality
in a school of nursing are ‘what do we measure?’ and ‘how do we determine quality?’.

While respondents emphasised the importance of developing a quality culture for a school of nursing, they also highlighted restraints within their workplace which could potentially hinder its development:

The traditional values of the hospital system permeate the higher education system — busy is emphasised, and it seems the focus is on technical competence rather than quality practice.

Of course quality is important, but it’s not emphasised much in higher education. Quality is only measured by the number of publications a department gets, but it can only be a matter of time before this changes, and the ‘real’ world catches up with us.

I believe that schools of nursing have to be valued more, that adequate monies should be allocated to nursing schools so that academics can have the time and energy to develop an academic culture, which could then facilitate the development of a culture which addresses concerns in a school of nursing.

Sadly, I do not think we place enough importance on quality in our school of nursing. Things are too disjointed and not followed through — developing a quality culture must come from the top.

There is no commitment to a quality culture in schools of nursing that I can see. The notion of individual accountability to the quality process should be highlighted. It goes hand in hand with ownership and empowerment.

There are impending redundancies with no support at the senior level, so the fearful and distrusting atmosphere does not permit the freedom to focus more appropriately on student satisfaction and growth.

Collaboration in schools of nursing was also seen as an important characteristic of a quality nursing culture:

There is an important professional responsibility for nurse academics to work collaboratively towards a quality nursing culture.

It is not the responsibility of the higher education sector to create a quality nursing culture but rather, nurse academics should, by working on a collaborative basis.

While respondents noted the importance of collaboration, teamwork and commitment in the areas of teaching, research and scholarship, and community
involvement, they also expressed concerns about the declining focus on teamwork and collaboration in schools of nursing:

The collaborative and team approach has been slowly strangled as a ‘dog-eat-dog’ mind set for individual advancement has occurred and is well and flourishing. This singular focus of advancement has been at the cost and loss of quality.

Collaboration between nurse academics — the culture of teamwork, is being weakened by the ‘push’ for research and publications. Individual achievements are valued more than teamwork.

Nurse academics are focused on improving their own qualifications and on juggling ever-increasing workloads.

Staff collaboration and commitment is often not recognised as part of the overall workload.

Trust is needed, plus collegiality and openness. Less top down violence is needed before quality issues can be taken seriously.

Teamwork is important, but academic culture does not support teamwork well.

The current emphasis on work hours in schools of nursing means loss of trust and collaboration between staff.

These findings revealed a lack of collaborative and teamwork processes. In contrast, studies by Guimaraes (1997) and Hammersley and Pinnington (1999) revealed that the application of TQM in manufacturing organisations had resulted in job satisfaction, job involvement and commitment. Other writers also noted the importance of encouraging employee participation and commitment when identifying key aspects of effective human resource management (Collins & Porras 1994; Dale, Cooper & Wilkinson 1997).

The concept of customer in the higher education sector attracted mixed comments. The qualitative responses from the survey questionnaire were very similar to the focus group responses and included both negative and positive comments:

I believe it is misleading to talk about the customer in higher education — the customers are many and the use of the term ‘customer’ tends to suggest a uniform customer.

Nurse academics serve many customers: the profession, employers, individual practising registered nurses, the public, as well as students in the higher education sector.
The definition of customer should include the patient and the community.

These mixed reactions to the concept of customer in a school of nursing mirror those reported in the higher education industry by Bonser (1992), and supported by Heywood (1999), who said that while many academics were still uncomfortable talking about customers, higher education institutions needed to adopt approaches that focus on the needs of the stakeholders.

In summary, no statistical conclusions could be drawn from the findings of this research question. Nonetheless, the qualitative responses from nurse academics have highlighted the centrality of human resource management issues to Total Quality Management, an area which has been relatively neglected in TQM empirical studies. While several authors acknowledge the importance of people management issues when planning for TQM, little attention has been paid to the soft aspects of TQM (Wilkinson 1994; Dale, Cooper & Wilkinson 1997; Wilkinson et al. 1998).

The qualitative findings from this research question have shown that nurse academics' perceptions of quality encompass human resource issues and organisational culture. They recognise that assessing the existing culture in schools of nursing and defining quality for a school of nursing are prerequisites for developing a quality culture. However, restraints within the workplace, and difficulty with defining the customer in higher education were identified as potential barriers to change. Thus, factors that both aid and hinder the organisational introduction of TQM would need to be identified in the planning stage of the change process. Conclusions about the research problem will be presented in the following section.

5.3 Conclusions about the Research Problem

This study has produced several major findings which are as follows:

1. Not all schools of nursing in higher education have established a formal Quality Assurance program. Despite this, QA is viewed by most nurse academics as an integral part of their roles in meeting external nursing accreditation requirements and as a professional responsibility. Accordingly, QA activities are frequently conducted on an individual basis with evaluation procedures of nursing programs and teacher effectiveness being conducted extensively by nurse academics. In contrast, QA initiatives such as a QA coordinator and a QA committee are almost non-existent in schools of nursing. The combination of
QA activities conducted by nurse academics on an individual basis, and the lack of formal QA guidance could account for fragmentation of quality programs in schools of nursing. To overcome this, the proposed Total Quality Transformation Process would be management led but with each employee in the school of nursing responsible for the quality of his or her own performance and for improving the quality of the work. Involvement and empowerment of employees could be demonstrated through encouraging direct participation, and setting up appropriate channels for involvement and empowerment to occur and seeking feedback.

2. The Quality Assurance approach traditionally used by the nursing profession is not sufficient to meet the needs of nursing education and should not be adopted by schools of nursing. The reasons for rejecting the traditional QA approach were twofold. First, nurse academics believed that because nursing is now in the higher education system it should form part of the higher education culture, and no longer depend on QA policies and procedures which were specifically established to suit the nursing culture in the hospital setting. Second, the limitations of the QA approach were seen as a barrier to the development of a quality culture in schools of nursing. The proposed quality culture model will allow for the creation of an environment that integrates the functional elements of Quality Assurance into the Total Quality Transformation Process.

3. Nurse academics believed that it is appropriate to integrate higher education Quality Assurance into a quality culture in schools of nursing in order to meet the requirements of the higher education sector. Furthermore, it was thought that the integration of higher education QA activities with quality initiatives in schools of nursing would assist in providing consistency across the university, and maintain standards in a school of nursing. Thus, the integration was seen as fostering the development of a higher education culture for schools of nursing. This would be further enhanced by incorporating into the quality culture model a clear, long term strategy of continuous improvement integrated with higher education QA policies and procedures.

4. No statistical conclusions can be drawn from nurse academics' perceptions of the applicability of Total Quality Management to schools of nursing in higher education. However, qualitative findings from the focus group discussions and the survey questionnaire indicated that nurse academics recognise the impending need to examine the culture of schools of nursing and address human resource
issues. Overall, nurse academics agreed that the development of a quality culture in schools of nursing is required, but restraints within their workplace were seen as a barrier that could hinder the development of a comprehensive approach to quality. Prior to the development and implementation of a quality culture model it will be imperative to identify and assess workplace restraints to determine their impact on a quality program.

The conclusions from the survey questionnaire, the focus group discussions and the literature review portray the *actual* situation as painted in the *rich* picture. The Conceptual Model in Figure 3.5 which represents the *ideal* situation can now be compared with the *actual* situation. According to Checkland (1993), in stage 5 the Conceptual Model is ‘brought into the real world, and set against the perceptions of what exists there’ (p.164) and ‘it is the comparison stage which embodies the basic systems hypothesis that systems concepts provide a means of teasing out the complexities of reality’ (p.178). Figure 5.1 represents stage 5 of Checkland’s Soft Systems Methodology (1993). Refer to section 2.5.2 for the Soft Systems Methodology diagram.

**Figure 5.1: Stage 5: Comparing the conceptual model with reality**

![Comparison of 4 with 2](image)

Source: Checkland 1993

It is clear from the literature review, the focus group discussions, and the survey findings that Quality Assurance is not a neglected practice within the nursing profession, nor is it a neglected activity in schools of nursing in higher education in Australia. Indeed, the majority of nurse academics from this study believe that QA is a key element in their teaching activities, and the standards which are set and monitored in schools of nursing. In addition to course and unit evaluations, they cite further QA activities including peer review practices that are applied in the contexts of research funding, publication and program development; peer moderation of assessment; and regular school reviews.
Many nurse academics commented that a concern with quality has always epitomised the work of nurses in higher education, and as the study revealed, this concern evolved from both internal and external forces. First, the nursing profession has always viewed QA as a professional responsibility, and nursing education in the hospital environment followed QA policies and procedures. Thus, when nursing education moved into the higher education sector, certain practices such as QA activities were also transferred. In addition, nurse academics adopted and adhered to QA policies required by the particular university.

Second, QA policies and guidelines were followed by schools of nursing as a requirement of the external accreditation nursing bodies in Australia, and as the study revealed, imposing external standards on course requirements and evaluation has been met with resistance by some nurse academics. It could be argued that the resistance results from conflicting values imposed on schools of nursing. QA is embedded in the internal culture of schools of nursing as a direct result of nurse academics’ values and assumptions placed on nursing education. As part of their professional responsibility, nurse academics employ QA practices to assist them in delivering a quality education. However, QA is imposed as a mandatory requirement by the external monitoring systems and the inspectorial methods embedded within the external accreditation culture are in direct conflict with the professional and educational values of the internal culture.

While it is evident that QA is considered important in nursing education, the survey found that not all schools of nursing in higher education in Australia have adopted formal Quality Assurance programs. Furthermore, few schools of nursing have in place a QA committee or a QA coordinator with many nurse academics following internal and external QA policies and procedures on an individual basis. Thus, while the emphasis on QA varies among schools of nursing it is evident that individual nurse academics frequently employ QA procedures to meet their own work requirements.

The study revealed that the Quality Assurance approach traditionally used by the nursing profession is not sufficient for nursing in higher education, and this would account for the fragmented, informal, and individual use of QA as noted above. Nurse academics believe that nursing education is now part of the higher education culture, and the QA approach traditionally used by nurses in the hospital setting does not meet the needs of nursing education. Concerns with the traditional QA approach have been well documented in the literature, and were further supported in this study.
by the qualitative responses obtained from the focus group discussions and the survey questionnaire.

The study also revealed that integrating Quality Assurance activities from the higher education sector into a quality culture in schools of nursing was appropriate. Nurse academics agreed that schools of nursing should adhere to higher education QA guidelines, but they also indicated that adopting other quality practices in addition to the QA guidelines was appropriate. Qualitative responses reflected Schmele’s (1996) suggestion of combining the most beneficial aspects of the QA and quality management processes which can be complimentary to each other in an integrated process.

In summary, the conclusions from this study indicate that nurse academics are dissatisfied with the traditional QA approach in schools of nursing. The transference of the traditional QA approach from the hospital setting to the higher education sector has not been satisfactory as it is viewed as restrictive and inadequate. Furthermore, the retrospective, inspectorial nature of the traditional QA approach where blame is apportioned on an individual basis, is seen as a conflicting force against the culture of schools of nursing. This reactive approach encourages negativity and hostility towards quality initiatives in schools of nursing which was also evident in nursing practice in the hospital environment. In the ideal situation, employees ‘see breakdowns as possibilities in disguise rather than events to be covered up or blamed on other parties’ (Kaufman & Zahn 1993, p.87).

Deficiencies identified with the traditional QA approach have fostered the conduct of quality practices at an informal and individual level. This has the potential to result in fragmentation when a number of quality initiatives are conducted at the same time. In contrast, the ideal situation would emphasise an encompassing, continuous quality environment with a focus on all system activities. According to Kaufman and Zahn (1993):

>> Many individual improvement initiatives never meet their full potential because they are seen and operated in isolation rather than integrated within a strategic plan and a quality management process (p.46).

In addition, the study revealed that human resource management issues are linked to and integrated with a quality culture. Nurse academics believe that a greater emphasis on human resource issues, specifically collaboration and teamwork, is required when developing a quality culture. The traditional QA approach has focused
on technical aspects while people management issues have been relatively neglected. In addition, teamwork has not been encouraged within the academic community and traditionally academic members have mainly focused on individual advancement. According to Lewis and Smith (1994), ‘faculty members are expected to work alone and even compete for limited resources, such as grant money’ (p.191).

In the *ideal* situation, schools of nursing move from the traditional supervisory approach to quality towards ‘a situation where employees themselves take responsibility’ (Dale, Cooper & Wilkinson 1997, p.73). Employees inspect their own work and are involved in improving quality under their control on a continuous basis. Further, members of a team participate in decision-making; they develop a sense of ownership towards their work because they are committed to the goals they helped establish, and they are encouraged to develop skills. Lewis and Smith (1994) believe that: ‘the productive outcome is synergistic, and the accomplishments often even exceed the original goals of the task’ (p.191).

The aforementioned concerns and barriers levelled at the traditional QA approach would indicate that a broader, more explicit approach to quality management may be timely for schools of nursing in higher education. Overall, the *ideal* situation would include the introduction of systems and processes designed to ensure that services are delivered with a greater conformity and standardisation, rather than through the efforts and commitment of some members of staff only.

However, the implementation of a more explicit focus on quality management practices in schools of nursing is likely to be met with resistance. It can be reasonably anticipated that a move from QA which has traditionally focused on the *hard* technical aspects, will require a mind shift on the part of some nurse academics towards a more comprehensive view which encompasses the *soft* aspects of quality management practices. However, bearing in mind the dissatisfaction with the traditional QA methods, it can also be reasoned that a change in quality practices would be welcomed by many nurse academics. The implications for making such a paradigm shift are discussed in the following section.

The classification model of Total Quality Management in a school of nursing in higher education (Figure 1.1) was developed from the research problem and represents the *soft* aspects of TQM which were explored in this thesis. Following a survey of the literature, the model was refined and Figure 2.2 shows a systemic view of the relationship between nursing in higher education, the integration of QA and
TQM, organisational culture and human resource management. The model was further modified as a result of the research findings and it can be viewed in Figure 5.2. As advised by Perry (1994), the modifications have been marked in bold on the figure.

Figure 5.2: A Modified Classification Model of Total Quality Management in a school of nursing in higher education

Figure 5.2 represents an analytical model of Total Quality Management in a school of nursing in higher education. The model depicts a school of nursing in higher education as the system in which the soft aspects of TQM are the major foci. The school of nursing education system is encompassed within an overall Total Quality
Management environment, and impacting on the quality environment are the following factors: the health care industry, government and university funding, external nursing accreditation bodies, the Nurses Registration Board, the Royal College of Nursing, Australia, the Australian Council on Healthcare Standards (ACHS), the World Health Organisation (WHO), and rituals and traditions embedded within the nursing culture. The factors were identified from the literature review, the rich picture and the research findings. The model will be consciously considered during stage 6 of the Soft Systems Methodology: recommendations for change; and stage 7: the implementation stage, so that perceived problems identified by the rich picture and the research findings are addressed. Stage 6 is operationalised in the following section.

5.4 Implications for Theory

Within this section ‘the full picture of the research’s findings within the body of knowledge’ (Perry 1994, p.26) is provided. That is, ‘it provides the theoretical implications of the research’ (p.26). The findings of this study identify several implications for schools of nursing which are discussed within stage 6 of Checkland’s Soft Systems Methodology (1993).

Stage 6, ‘Implementing Feasible and Desirable Changes’, is a discussion of possible changes, which can be changes in structure, changes in procedures and changes in attitudes. A discussion of possible changes should meet two criteria. According to Checkland (1993), the changes:

... must be arguably systemically desirable as a result of the insight gained from selection of root definitions and conceptual model building, and they must also be culturally feasible given the characteristics of the situation, the people in it, their shared experiences and their prejudices (p.181).

Checkland (1993) does concede that the possible changes do not always meet both criteria.

As noted in section 2.5.3, Checkland (1993) defined structural changes as changes to ‘organisational groupings, reporting structures, or structures of functional responsibility’ (p.180). Procedural changes are changes to the dynamic elements, that is, process and work activities, and changes in attitudes are people’s perceptions of the situation. Structural and procedural changes are more easily implemented than changes in attitude. According to Checkland (1993), changes in attitude include

191
such things as changes in influence, and changes in the expectations which people have of the behaviour appropriate to various roles, as well as changes in the readiness to rate certain kinds of behaviour good or bad relative to other — changes' (p.181). Figure 5.3 represents stages 6 and 7 of Checkland’s Soft Systems Methodology. Refer to the Soft Systems Methodology diagram in section 2.5.2.

Figure 5.3: Stages 6 and 7: Implementing Feasible and Desirable changes

Source: Checkland 1993

Flood and Jackson (1991) contend that by this stage:

... we have ensured that the conceptual model conforms to systemic desirability (since they have emerged from the logic-based stream of enquiry) and we have some idea of whether they are culturally feasible (we have been carrying out cultural enquiry) (p.177).

Thus, the comparison stage finally confirms which changes are indeed culturally feasible and desirable in an organisation at the present time, and the researcher was cognisant of this criterion when making recommendations for change in a school of nursing in higher education. In the following sections, problems identified from the research findings are discussed and recommendations are made within the three categories of attitudinal change, structural change, and procedural change.

5.4.1 Attitudinal change

**Recommendation 1. A culture that values quality is nurtured and promoted in a school of nursing in higher education.**

With increasing costs and competition among universities at both national and international level, the quest for quality has become more and more apparent. According to Schmele (1996), 'quality management and excellence in service are no
longer being judged solely on a regional or even a national level; but it is becoming increasingly important for organizations to compete in these areas on an international level, as well’ (p.190).

When planning for Total Quality Management in a school of nursing, internal culture characteristics must be considered. Dale, Cooper and Wilkinson (1997) believed that ‘existing ways of doing things constitute the main barriers to TQM’s successful adoption in the first place’ (p.184). Each school of nursing has its own history of organisational culture, particular management styles, and certain expectations regarding staff performance. There may be different expectations for reporting and monitoring of ongoing processes, various requirements of staff for ongoing quality measures, and different policies on quality. Additionally, nurse academics have strong views about the concept of quality, quality practices and the definition of customer as indicated in this study.

In order to address these issues, it is imperative that a school of nursing assess the current status of its culture before developing and implementing plans for change. An assessment of the culture will identify values which ‘will determine congruency between personal and organizational beliefs and subsequent behavior patterns’ (Schmele 1996, p.319). It must also be emphasised to staff members that cultural change is an ongoing process rather than a prerequisite for Total Quality Management.

The literature on TQM provides examples of several organisations that have experienced problems of cultural change when implementing Total Quality Management (van Donk & Sanders 1993; Crawford 1994; Shortell et al. 1995; Zabada, Rivers & Munchus 1998). Thus it can be reasonably anticipated that a school of nursing will also experience this problem. In addition, this study revealed that the traditional QA approach conflicts with the values and beliefs, the culture of schools of nursing. Nevertheless, the QA philosophy is embedded in the culture and has been since nursing education moved into the higher education sector, so it has become a basic assumption. Basic assumptions, identified by Schein (1985) and discussed in Chapter 2, lie at the deepest level of culture and are the hardest to change. Making a cultural change at the deepest level requires ‘a long-term effort by senior management’ (Dale, Cooper & Wilkinson 1997, p.182). Thus, developing an organisational culture based on teamwork and individual responsibility for quality will take time and be met with some resistance. An initial examination of the cultural
characteristics can help the change agent in recognising potential resistance in the planning stage, which may minimise long-term resistance.

Additionally, the cultures of schools of nursing need to be measured individually as adopting cultural styles from other organisations has proven unsuccessful. The culture of an organisation is based largely on phenomena which are specific to that organisation. For example, values and beliefs of employees in one school of nursing may be different to that of employees in other schools of nursing. Once the cultural characteristics are ascertained, the principles of TQM can then be tailored to adapt to the needs of a school of nursing. Thus, when considering the introduction of TQM in a school of nursing, it is not appropriate or sufficient just to emulate the best approaches, or simply graft TQM onto the existing nursing structure. TQM is a philosophy which needs to be built into the culture of a school of nursing. According to Schmele (1996):

A distinguishing quality of successful organizations is a visible belief system — a culture shared by staff and managers alike. A living, quality culture is created when thoughts, ideas, attitudes, and deliberate behaviors become automatic reactions to opportunities to solve problems for the purpose of continual improvement (p.319).

To achieve successful change, a school of nursing will need to identify both functional and dysfunctional elements in its culture. The elements will be identified from an assessment of the cultural characteristics, and staff members will need to choose a balance between the old and new cultures. Aspects which represent positive and distinctive strengths need to be preserved and integrated into the new culture. For example, nursing education in the higher education sector is regulated by internal and external monitoring systems, and as this study revealed, while the mandatory requirements are met, there is some resistance to the external nursing regulatory bodies. The researcher acknowledges that some form of external regulation is required, and Yoder-Wise (1999) stated that ‘it is naive to suggest the total abandonment of periodic inspection’ (p.181). Despite this, the accreditation process is viewed as a constraining force and conflicts with the professional and educational values of the internal culture. To help transform this view, the requirements of the external regulatory bodies should be woven into the new culture and not kept as a separate quality initiative. Jennison (1991) provides an example from the manufacturing industry where the ‘demands of external regulation are met as a by-product of the true mission of the quality program’ (p.451).
To facilitate change, management will also need to set in place a transparent and consultative system which emphasises openness, trust in the integrity of staff members, devolution of responsibility and decision-making at all levels, and reliance on prevention rather than on inspection. According to Lewis and Smith (1994), management is solely responsible for the transformation of the social system, which is basically the culture of the organisation. Thus, leadership is a vital element in a major organisational change effort, and it is important that management in a school of nursing be visible with open communication channels.

In addition, Total Quality Management itself is a management system, and because an organisation cannot run with two management systems, a Total Quality Management approach can only work with total commitment from senior management. Finally, it is anticipated that integrating the TQM philosophy into a school of nursing will require the creation of an environment where employees are motivated to want to change and to improve on a continuous basis. ‘If managers cannot create this environment then any system, tools, techniques or training employed will be ineffective’ (Dale, Cooper & Wilkinson 1997, p.66). Thus, management must, as a prime obligation, give genuine commitment to creating and maintaining a quality culture.

In summary, when nursing education transferred from the hospital environment to the higher education sector, many rituals and practices were also transferred. Assessing the culture of a school of nursing to identify its functional and dysfunctional elements, and determining the best way to proceed with change would be primary objectives in the TQM development stage. Before the development and implementation of a quality management model and regardless of what quality terms a school of nursing adopts, one needs to be cognisant of the impact that organisational culture will have on the success or failure of the change process.

Based on the literature review, plus the findings from the focus group discussions and the survey questionnaire, the researcher contends that assessing the culture of a school of nursing would need to be the prescribed starting point when developing a Total Quality Management program.

**Recommendation 2.** A culture that values all employees in a school of nursing is nurtured and promoted.

In section 1.1.3, the soft aspects of Total Quality Management were introduced and further described in sections 2.3.2. and 2.3.3. A review of the literature revealed that
TQM proponents believe human resource issues are important to the success of TQM. However, little attention has been paid to people management issues with several authors suggesting that TQM failures may actually be due to a lack of attention to human resource management (Binney 1992; Cruise O’Brien & Voss 1992; Kearney 1992; Wilkinson et al. 1998). Dale, Cooper and Wilkinson (1997) believed that human resource management issues are central to TQM implementation and suggested that because TQM developed from Quality Assurance it has mainly focused on the hard technical aspects such as production/operation performance (p.72). Thus, while the soft aspects are acknowledged as critical to the success of TQM, little is known about how human resource issues, such as continuous involvement and commitment from staff, can be achieved.

When planning for a cultural change in a school of nursing, human resource management issues should be considered in the early planning stages. The study revealed that nurse academics’ perceptions of quality are closely aligned with human resource issues. In addition, the literature review demonstrated that when developing a total quality environment, empowered employees and team-motivated leaders are two fundamental requirements. Thus, a school of nursing in higher education should be viewed as a system comprising many processes, and a framework needs to be established to promote employee involvement, teamwork, and collaboration. Furthermore, hierarchical and traditional ways of management are no longer effective. Leadership boundaries need to be expanded beyond the traditional hierarchical approaches, and team-based strategies are required which can result in improved quality. Al-Assaf and Schmele (1993) believed that a successful management strategy for organisational transformation is when:

Management empowers and supports all members of the organization so they can fully participate in the TQ system, within teams and as individuals. They place great value on both personal and mutual, team-based development, recognizing that human capital is the most important asset of the organization (p.218).

Clearly, an important aspect of securing a total quality environment lies in the improvement of communications and the development of teamwork. Implementing Total Quality Management has the potential to further enhance interdepartmental team relationships and team responsibilities; it can also provide an opportunity for staff to voice their opinions on issues which need improvement, and to suggest strategies for achieving improvement. According to Jennison (1991):
Key processes are targeted for improvement, and teams, armed with operational measurement and improvement techniques, are assigned the task of solving problems. They are charged by and accountable to the highest levels of the organization (p.455).

As a result, staff may become more confident in proposing changes and improvements, and it is anticipated that this increased empowerment would be welcomed by most nurse academics. Establishing a team approach can improve communications, and staff can focus more on aspects of the work process rather than on the traditional approach of blaming an individual when something goes wrong. Kaufman and Zahn (1993) believed that:

Teams must learn to avoid responding to breakdowns by engaging in conversations about who is at fault or to blame. These conversations about fault and blame only serve to elicit higher levels of defensiveness and do not serve to identify what can be learned from the breakdown (p.87).

Encouraging teams to develop such a work ethos will only eventuate if the culture is continually monitored and dysfunctional elements are removed. For example, the study has shown that the culture of schools of nursing has included reactive aspects of Quality Assurance. When problems occurred, the emphasis was on blaming an individual or a group of individuals. A culture that values all employees in a school of nursing will promote a proactive, team-based approach to problems.

In summary, embracing a Total Quality Management philosophy will require a reexamination of employee roles and responsibilities. Employees would be encouraged to participate in the decision-making process, especially at the lower levels of the organisation. Job descriptions and work groups may need to be redesigned to meet or exceed customer needs, and employees would be provided with strategic information in the initial planning stage. By empowering employees, creativity and innovation are encouraged which can result in increased work satisfaction and staff stability.

5.4.2 Structural change

Recommendation 3. There is an ongoing organisational commitment to Total Quality Management formalised in a school of nursing Mission Statement.
Clare (1994) has identified four fundamental concepts central to an organisation's ongoing commitment to Total Quality Management. First, a concern for quality is associated with every aspect of the organisation and applies to all staff, not just to the academic staff. Second, every individual employee is first and foremost responsible for the quality of his or her own work. Third, the drive for quality must be backed by appropriate resources and staff development. Fourth, the commitment to continuous improvement must come from the top.

It is fundamental to the TQM philosophy that the responsibility for quality is not allocated to specific individuals, for example, employees on a Quality Assurance committee. The QA approach traditionally used by the nursing profession allocated responsibilities for quality to a QA coordinator and a QA committee, so only certain individuals were aware of QA activities. As a result, the outcomes of QA programs were often not known by the majority of nurses.

In contrast, TQM emphasises the total involvement of all employees towards continuous improvement. The principle of ongoing change and continuous improvement may at first be viewed as a threat to established working relationships which could produce resistance. However, involving all staff members in a school of nursing in the planning process could reduce the restraining forces identified in Lewin's (1951) Force-Field Model. Dale, Cooper and Wilkinson (1997) suggested that the best way of reducing resistance to change 'is to involve those whom it is going to affect in the decision making process' (p.180). This reflects the fundamental TQM belief of employee involvement.

The decision-making process should commence in the planning stage with the formulation of a quality policy statement in which all employees are encouraged to participate. A quality policy statement for a school of nursing could incorporate the following concepts: a high level of quality awareness; defining and meeting internal and external customer needs; continual quality improvement; and ownership by staff of the quality policy and process. To avoid the TQM process being viewed as a separate entity from the overall goals and objectives of a school of nursing, the quality policy statement should form part of the school's strategic plan. The statement should emphasise that every individual member of the academic and support services is responsible, within the available resources, for the quality of her or his own work and for continuously striving to improve it.
Finally, maintaining, monitoring and controlling TQM practices is important if there is to be an ongoing commitment to Total Quality Management. Dale, Cooper and Wilkinson (1997) suggested that:

... if a process of continuous improvement is to be sustained and its pace increased, it is essential that organizations monitor on a regular basis which activities are going well, which have stagnated, what needs to be improved and what is missing (p.55).

5.4.3 Procedural change

Recommendation 4. That the school of nursing establish a formal program of TQM Awareness Education and Training.

The literature on the technical training and development for the hard aspects of TQM is prolific, but there is little emphasis on the training and development required for the soft aspects of TQM.

It was previously identified in section 5.4.1 that the development of a quality culture first requires a culture change, and as discussed in Chapter 2, the culture change should be accompanied by staff development and training. Chaston (1994) argued that 'the importance of such activities is clearly supported by experiences of industrial organizations who have sought to implement TQM' (p.132.) According to Dale, Cooper and Wilkinson (1997), the reasons for education and training are twofold. First, education and training can ensure employees are aware of quality management concepts, and that their attitudes and skills are congruent with the TQM philosophy. Second, it 'also provides a common language throughout the business' (Dale, Cooper & Wilkinson 1997, p.30). Redefining quality from a narrow, technical definition to 'an internally focussed, value-based definition' (Schmele 1996, p.320) requires a paradigm shift which can be accomplished with a comprehensive education program.

Providing an awareness education and training program early in the planning stage can assist employees to accept the need for change. According to Lewin's (1951) unfreezing stage in his Force-Field Model, established methods and patterns of behaviour have to be broken down before any change can occur, but 'without education, behaviour and attitude change will not take place' (Dale, Cooper & Wilkinson 1997, p.30). Employees may not be aware of established procedures and rituals until their attention is drawn to them. Following the recognition of procedures, employees can then examine them for their effectiveness. According to Dale, Cooper
and Wilkinson (1997), employees will only willingly participate in the change process if it can be demonstrated that certain procedures are no longer effective, and a change is required. Implementing an education and training program in the planning stage would assist in moving employees into the unfreezing stage. Once employees’ behaviours and attitudes are unfrozen it then becomes possible to work on the change process.

A format for a TQM education and training program could follow a basic training in quality, knowledge about the principles of TQM, and training in teamwork and problem-solving. During this period of education and training, employees would be encouraged to participate in defining and measuring quality, and to identify opportunities for improvement.

Providing education and training on the principles of TQM will also assist nurse academics to determine who their customers are, and to determine their customers’ requirements and expectations. If notions of customer responsiveness and quality are to be taken seriously, then they rely heavily on nurse academics being open to constructive criticism about their standards of performance even if they reject market notions of the customer. There is also a need to consider the relevance of overall organisational effectiveness and efficiency, and to assess and assure quality from the perspective of all employees within schools of nursing. Education and training in quality practices for all employees could address these needs.

**Recommendation 5.** That the Quality Assurance policies and procedures recommended by the university and the existing Quality Assurance activities in the school of nursing be integrated into a Total Quality Management program.

The study revealed that the introduction of a quality culture in schools of nursing could incorporate QA activities already in place in higher education. However, quality initiatives in nursing have traditionally come under the umbrella of Quality Assurance, and a paradigm shift from QA to the TQM philosophy may be viewed with suspicion by some nurse academics. As Parsley and Corrigan (1994) pointed out, ‘the implementation of the quality improvement process can prove enormously threatening because it implies criticism of traditional quality management methods’ (p.304). Moreover, it may be seen by staff members as a threat to their autonomy and their jobs. TQM should not be viewed as a radical change in standards, nor as an additional work requirement, but more as a continual refinement in service delivery. It should be emphasised also that TQM is not just an extra work requirement to fix
short term problems, but rather a long term conviction of the way to work. These characteristics of TQM would be fully explained during the education and training program discussed under recommendation five.

The study revealed that nurse academics do not believe that the QA approach traditionally used by the nursing profession is sufficient for nursing education. Nevertheless, QA has been the major quality monitoring mechanism, and nurse academics do utilise certain QA procedures in their individual work activities. Thus, nurse academics could feel threatened that a new quality management program would require major changes to their existing QA activities. According to Dale, Cooper and Wilkinson (1997), the emphasis should be on how ‘to make existing processes work better rather than on altering those processes in the first place’ (p.184). Kaufman and Zahn (1993) suggested that by linking each quality initiative ‘to an ideal vision and the educational mission objective, integration and synergies may be realized’ (p.46). Thus, the importance of integrating the school of nursing’s QA activities and higher education QA requirements with the new quality management program would be emphasised, with the focus on ‘process improvement with measurable results in outcomes’ (Jennison 1991, p.455).

Existing Quality Assurance activities need to be incorporated into a system ‘rather than an assemblage of unrelated parts’ (Schmele 1996, p.102). Parsley and Corrigan (1994) concurred and said that a TQM approach can ‘offer an umbrella under which to pull all of the different quality initiatives and ensure they are managed in a systematic way’ (p.304). The quality system must relate to the school of nursing as a whole, with all employees aware of and participating in the system.

In summary, a major challenge for a school of nursing will be the need to redefine its culture if it is to achieve total staff participation and commitment towards Total Quality Management, devolved decision-making and thus empowerment of employees. Culturally feasible and systemically desirable changes to structure, procedure and attitude have emerged from the discussion in this section and the researcher is now in a position to take action which is discussed in the final stage of Checkland’s Soft Systems Methodology.

5.5 Implications for Policy and Practice

Stage 7 of the SSM, the implementation stage, requires taking action to improve the problem situation. ‘Taking action means implementing changes that are both
desirable and feasible' (Flood & Jackson 1991, p.177). Stage 7 of the SSM is represented in Figure 5.3.

In this section the feasible and desirable changes recommended in the preceding section were developed into a Total Quality Transformation Process for a school of nursing in higher education. The model consists of three stages: planning, implementation, and evaluation, and the Total Quality Transformation Process for a school of nursing can be viewed in Figure 5.4. Strategies for implementing the process were then discussed within an awareness phase, a transition phase, and a transformation phase. Implementation of the Total Quality Transformation Process for a school of nursing in higher education can be viewed in Table 5.2.

When developing the process the researcher considered the approach proposed by Dale, Cooper and Wilkinson (1997) which consisted of developing 'a vision, values, objectives, a policy, an approach, a route map for continuous improvement and the means of deploying the philosophy to all levels of the organization' (p.54). The researcher also bore in mind that when developing a Total Quality Management process, participation of all employees, with everyone having a share in the quality problem, and management commitment to TQM principles are the keys to its success.

In summary, the recommendations made for a Total Quality Transformation Process in section 5.4 and then developed in section 5.5 could be applied to a school of nursing in higher education. This model has the potential for quality values to become integrated throughout a school of nursing from its mission statement through to the day-to-day activities. The key aspects of implementing the Total Quality Transformation Process in a school of nursing will be through participatory leadership, creation of a supportive structure, regular and effective communication, and awareness training and education. These key aspects can foster employee involvement. Furthermore, a relentless focus on these key aspects has the potential to create a teamworking culture which is committed to long term quality improvement.

In the context of human resource management, the proposed model allows for the synthesisisation of personal growth and organisational growth. This includes the need to acknowledge interdependencies between staff members as well as systematically linking individuals and processes within a school of nursing.
Figure 5.4: The Total Quality Transformation Process for a school of nursing in higher education

<table>
<thead>
<tr>
<th>Planning</th>
<th>Implementation</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ensure management commitment</td>
<td>1. Implement quality improvement projects</td>
<td>1. Evaluate results</td>
</tr>
<tr>
<td>2. Commence transformation of the culture</td>
<td>2. Monitor ongoing progress</td>
<td>2. Evaluate team effectiveness</td>
</tr>
<tr>
<td>4. Identify customers and their requirements</td>
<td></td>
<td>4. Identify future quality improvement projects</td>
</tr>
<tr>
<td>5. Develop a quality mission statement with incorporation of higher education QA activities</td>
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<td></td>
</tr>
<tr>
<td>6. Identify opportunities for improvement</td>
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</tbody>
</table>

Source: Cruickshank 1999
In the context of organisational culture, changing the culture in a school of nursing will be an evolving process that takes planning and time. In the planning stage, management will need to gain an insight into the effectiveness or lack of effectiveness of the existing culture in a school of nursing. Input from employees and internal and external customers in the form of surveys and focus group discussions, can help provide information on the existing culture. This information can then be related to the mission, goals, and values of the school of nursing. Changing the culture in an organisation is a long term process and the implementation of a Total Quality Transformation Process should not be viewed as a ‘quick fix’ mechanism to short term problems.

This thesis has examined the soft aspects of TQM and its behavioural implications for a school of nursing. For the soft aspects of TQM to be successfully implemented in a school of nursing there would need to be a concerted effort from all employees to work together towards the development of a culturally appropriate quality model in order to realise its full potential.

Table 5.2: Implementation of the Total Quality Transformation Process for a school of nursing in higher education

<table>
<thead>
<tr>
<th>Awareness Phase</th>
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<tbody>
<tr>
<td><strong>Step One</strong></td>
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<tr>
<td><strong>Action:</strong></td>
</tr>
<tr>
<td><strong>Process:</strong></td>
</tr>
<tr>
<td>1. Identify organisations and individuals (internal and external) who can be sources of advice on the application of Total Quality Management.</td>
</tr>
</tbody>
</table>

| **Step Two** |
| **Action:** | Establish a formal program of education awareness and training on the principles of TQM. |
| **Process:** |
| 1. Plan education and training program on a needs basis. |
| 2. Encourage staff to become involved in the quality transformation process. |
| 3. Provide education and training to all employees in the school of nursing on the principles of Total Quality Management. |
Transition Phase

Step Three

**Action:** Identify the purpose of a school of nursing and the departments within the school.

**Process:**
This action has 6 main tasks:
1. Review the university’s Strategic Plan, and align the purpose of the school of nursing with that of the university’s goals and strategies.
2. Review the mission statement and goals of a school of nursing.
3. Identify and define key internal and external stakeholders.
4. Identify requirements and working relationships between the departments in a school of nursing and its customers.
5. Identify the necessary activities in the school of nursing to assess what is being done and why, and to determine whether each activity is warranted.
6. Identify any existing Quality Assurance programs/activities in the school of nursing and determine how they will be integrated within the mission statement.

Transition Phase cont.

Step Four

**Action:** Develop a quality mission statement. Once the culture of a school of nursing has been identified a quality statement can be formulated. This statement will provide:

1. An identity to the school of nursing as a whole and employees at all levels in the quality management program.
2. Definitions of quality and TQM appropriate for the school of nursing.
3. A clear long-term strategy for the process of continuous improvement integrated with QA policies and procedures, and other departmental policies.

**Process:**
Communicate definitions and long-term strategy to all members of the staff.

Step Five

**Action:** Identify quality improvement opportunities.

**Process:**
1. Employees in the school identify quality improvement projects that reflect the mission statement.
2. Prioritise quality improvement initiatives.
3. Develop objectives and strategies incorporating TQM principles.
4. Form teams for each TQM project.
5. Select measures of performance for selected TQM projects.
Transformation Phase

**Step Six**

**Action:** Implement quality improvement projects.

**Process:**
1. Measure process performance measures.
2. Monitor results.

**Step Seven**

**Action:** Monitor and control the system.

**Process:**
1. Evaluate results of TQM projects to date.
2. Evaluate team effectiveness and team satisfaction.
3. Communicate results of projects to members of the school of nursing.
4. Maintain progress, and continue the culture change.
5. Identify further opportunities for quality improvement.

Source: Cruickshank 1999

5.6 Further Research

The findings from this research study indicate that the Quality Assurance approach traditionally used by nursing practitioners is not sufficient to meet the needs of nursing in the higher education sector to the needs of nursing in the higher education sector. Despite this, there is no indication from either the literature review or anecdotal information that alternative quality practices have been developed or adopted in schools of nursing. Rather, QA procedures and policies that were transferred from the hospital to the higher education setting continue to be used on an informal and individual basis to meet internal and external monitoring requirements.

This situation is notably different with nursing in the hospital setting. As previously noted in chapter two, practising nurses have traditionally played a pivotal role in monitoring client care. In recent times, health care agencies have recognised the potential of quality management programs that have been implemented within the manufacturing industry. Deficiencies identified with the traditional QA approach, escalating costs and consumerism have led health care agencies to reexamine their existing quality practices. This interest in quality management is evident also from Continuous Quality Improvement publications written by practising nurses as noted in Chapter 2.
In contrast, schools of nursing in higher education have not kept pace with nursing practice in regards to the development of quality management practices, with the concepts of Total Quality Management and Continuous Quality Improvement still relatively new to many members of schools of nursing. This, coupled with the dissatisfaction of traditional QA, indicate a need to review quality practices in schools of nursing and explore other alternatives. Thus, schools of nursing would benefit from research that investigates quality management practices from several perspectives.

First, there is a need to explore quality management applications in health care organisations. Factors that benefit or impede the application of such practices from a nursing perspective could help nurse academics better understand the quality transformation process. Second, research that examines in more detail human resource management and culture in a school of nursing could help identify strategic factors which would enhance continuous improvement. Understanding the culture of a school of nursing would uncover what quality means to staff members and provide opportunities for linking quality management to the culture. Further studies on the culture of a school of nursing would assist in the successful application of quality management practices.

Third, identification of customers in a school of nursing is also required if quality management practices are to be successfully developed and implemented. Although it was not the purpose of this study to specifically explore the concept of customer in the context of nursing education, there were indications in some of the qualitative responses given that the term 'customer' could not be easily defined or agreed on, nor could the internal and external customers in a school of nursing be adequately identified. These findings were not surprising as the concept of customer in higher education has been met with confusion and scepticism by the academic community as previously noted in Chapter 2. However, the confusion is further compounded in schools of nursing due to the number of customers the nursing profession serves in both the educational and clinical contexts. Most nurse academics would agree that when satisfying their customer needs the focus must be on the nursing student in both the higher education and health care industries. Furthermore, the concept of customer in the health care industry extends beyond the nursing student to encompass stakeholders including recipients of nursing care, the clients, plus health care organisations and employees. These issues need further exploration and insight during the cultural transformation process if schools of nursing are to satisfy the needs of all their customers.
The theoretical framework for this study used Checkland's Soft Systems Methodology, a systemic approach to problem-solving, and a problem-solving approach appropriate to human activity systems. The methodology moves between the *real* world and the *ideal* world of pure systems thinking, thus allowing a comparison between the *actual* situation and a *desirable* one. A major benefit of the methodology is that a SSM user can move flexibly through the seven stages or use it only as a point of reference to identify what is being done in the real world. Further studies which explore complex, unstructured and poorly defined situations related to quality practices in schools of nursing, either in the Australian higher education sector or overseas higher education institutions, could utilise the Soft Systems Methodology as it provides an effective and efficient way to carry out a systems analysis of processes.

### 5.7 Conclusion

The quality of nursing care provided in the health care system is of vital interest to the nursing profession. In recent times, there has been an increasing recognition both of the progress made in system-wide quality improvement, and of the concerted effort needed to improve quality of care further. In nursing education, the emphasis on improving quality practices with a genuine commitment to quality has not been seen as a vital component of nurse academia. Traditional Quality Assurance policies and procedures continue to be used in schools of nursing. However, the study found that nurse academics generally agreed with the principles of Total Quality Management and its applicability to schools of nursing. In addition, the study demonstrated that, overall, nurse academics believe it is timely for schools of nursing to adopt an alternative quality management practice.

This study has been concerned primarily with quality management practices and policies in the context of organisational culture and human resource management in schools of nursing in higher education in Australia. This chapter first provided a review of the findings for each research question followed by the major conclusions reached about the research problem. Information derived from the findings and conclusions was categorised and recommendations made for attitudinal, structural and procedural change within Checkland’s (1994) Soft Systems Methodology. The development of structures for managing quality practices in nursing education should

208
not be a difficult task. However, if the governance of nursing education in Australia is to result in improved outcomes for the nursing profession and its customers, far more than structural change is required. A change in the culture of nursing education and management is essential. Such a culture change will mean identifying quality practices embedded in the nursing culture; ensuring a genuine commitment to quality from all school of nursing staff members; providing transparent mechanisms of accountability; valuing the input of both internal and external customers; and initiating system-wide quality activities.

Following the recommendations, the development of a coherent model for managing quality in a systematic way for a school of nursing in higher education was developed. The model outlined in this thesis was developed following an extensive literature review, opinions obtained from nurse academics participating in focus group discussions and findings from a survey questionnaire. This model provides an opportunity for nurse academics to become involved in shaping a quality system within nursing education. It identifies a process which can be continually evaluated and, with the benefit of experience, can be further developed and improved. However, as has been previously emphasised, the application of the model at the school of nursing level cannot succeed without the active involvement of nurse academics.

Following an examination of quality management practices in nursing education, and an acknowledgement that there is not a single best approach to implementing the TQM philosophy, an approach unique to the needs of a school of nursing was developed. This original contribution to the literature will have a significant impact on the nursing profession, specifically in the domains of nursing education, nursing practice, and nursing management. An understanding of cultures in schools of nursing will assist nurse academics to plan and implement quality initiatives congruent with the mission statement, goals, and values of the school of nursing. Furthermore, using Checkland’s (1993) Soft Systems Methodology as a structured systemic approach to problem-solving will provide a template for future use by nurse academics in national and international higher education institutions.
As previously mentioned in section 5.1, several health care organisations and practising nurses have made a paradigm shift from Quality Assurance to Total Quality Management. While there is no indication that such a shift is occurring in schools of nursing, the proposed quality culture model in this thesis could assist in bridging the gap between quality management practices between nursing in the hospital setting and nursing in the higher education sector. This would have the long term effect of reducing role conflict for graduate nurses as similar quality practices would be utilised in the domains of nursing management, nursing practice, and nursing education.

A unique contribution of this study is that it collected data to identify measures which are appropriate for discussing and assessing quality management practices for schools of nursing. It identifies a model which can now be further tested and refined using a larger and more representative sample of nursing schools in Australia as well as overseas.

The development of a quality culture employing the principles of Total Quality Management for a school of nursing has been advocated in this study. It is hoped that this research will stimulate other nurse academics to critically examine the quality activities and practices currently conducted in schools of nursing, and raise additional questions. It is also hoped that as a professional body, nurse academics will collectively learn more about modern quality management approaches and the benefits they can offer schools of nursing in higher education.
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224

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APPENDIX 1

Letter to Heads of Schools of Nursing

Wednesday 17 May 1995

Dear

I am a full time nursing lecturer in the Department of Nursing Sciences at James Cook University, and I am currently studying for my PhD degree in management at this university.

The title of my PhD is: 'Developing a Quality Culture within a School of Nursing' and the aim of my study is to examine the perceptions of nurse academics to the applicability of Total Quality Management in schools of nursing in higher education in Australia, and to identify the principles of TQM that could be applied to suit the nursing culture in a school of nursing. I intend to obtain this information from a national mail survey questionnaire of nurse academics in 1996.

Before I can develop and design my questionnaire I need to conduct focus group discussions with a sample of nurse academics currently employed in schools of nursing, to obtain their perceptions of quality and Total Quality Management. The data I obtain from the discussions will aid in the survey instrument development process.

I have randomly sampled schools of nursing in seven capital cities of Australia and your school of nursing has been selected. I am therefore writing to ask your permission to conduct a focus group discussion with a random sample drawn from your department at each level of employment if possible, that is, professor, associate professor, senior lecturer, lecturer, and associate lecturer.

If this meets with your approval, could you please forward me a list of the names of the nurse academics currently employed in the school of nursing, their level of employment, and telephone numbers. I will conduct a further random sample from your list and then contact the selected members to inform them of my project, obtain their permission, and negotiate a suitable time and venue to meet with them. I intend to conduct this preliminary stage of the study during July 1995.

I will adhere to strict confidentiality with respect to all information obtained from your staff during the focus group discussion. No data obtained from the group will ever be identified with an individual, and participants will be coded by number. Furthermore, a participant may refuse to answer particular questions and may also withdraw at any time without prejudice.

I will be happy to send you a summary of my findings when completed. Please don't hesitate to contact me on 077 81 5311 if you require further information. If you feel that it would be more appropriate or convenient for me to speak with another member of your department I will be more than happy to do so.

Yours sincerely,

Mary Macarty, Lecturer
Department of Nursing Sciences
James Cook University of North Queensland
Townsville, Qld. 4810.
Appendix 2

Plain Language Statement for Focus Group Participants

July 1995

Telephone: 077 81 5311
Fax: 077 88 9877
Email: Mary.Macarty@jcu.edu.au

My name is Mary Macarty and I am a full-time lecturer in the Department of Nursing Sciences at James Cook University of North Queensland. I am currently studying for my PhD Degree in Management at this university. The title of my study is 'Developing a Quality Culture within a School of Nursing'.

AIM OF THE PROJECT
The aims of my study are to examine the perceptions of nurse academics to the applicability of Total Quality Management in schools of nursing in higher education in Australia, and to identify the principles of TQM that could be applied to suit the nursing culture in a school of nursing.

In order to achieve this, I am researching current quality management practices in nursing institutions in higher education, and will also gather nurse academics perceptions on Total Quality Management. This will be achieved through focus group discussions with a sample of nurse academics from each employment level where possible, that is, professor, associate professor, senior lecturer, lecturer and associate lecturer. The information received from the focus group discussions will generate in-depth contextual data which will be tested in a subsequent mail survey questionnaire of nurse academics in 1996.

PROCEDURE
I have randomly sampled schools of nursing in seven higher education institutions in Australia, and the school of nursing where you are currently employed has been selected. I am therefore writing to ask if you would be willing to participate in a focus group discussion.

ETHICAL CONSIDERATIONS
Participants will be asked to sign a consent form prior to the focus group discussion. With permission from the participants the discussion will be audio-taped. I will adhere to strict confidentiality with respect to all information obtained from participants during the discussion. No data obtained from the group will ever be identified with an individual, and participants will be coded by number. Furthermore, a participant may
refuse to answer particular questions and may withdraw at any time without prejudice. I will transcribe the tapes and they will be stored in a locked filing cabinet. The storage of the audio-tapes and the transcriptions will be according to James Cook University policy.

FURTHER INFORMATION
I will be happy to send you a summary of my findings when completed. Please don't hesitate to contact me if you wish to make any changes or additions to what you said during the discussion.

Yours sincerely,

Mary Macarty, Lecturer
Department of Nursing Sciences
James Cook University of North Queensland
Townsville, Qld. 4810.
APPENDIX 3

Participant Consent for Focus Group Discussion

I have read the Plain Language Statement provided by the researcher, Mary Macarty, which outlines the title of the research project, the aim of the study, and my role as a participant in the focus group discussion. I understand that Mary Macarty is conducting research as part of her studies at James Cook University. I further understand that the data collected will be for the purpose of research only, and that any information I supply will be treated in strictest confidence and will only be discussed with Professor Alan Buttery who is supervising her studies.

I am aware that I will be interviewed with other nurse academics in this school of nursing. I am also aware that the discussion will be audio-taped by the researcher.

Mary Macarty has informed me that there are no foreseeable risks associated with my participation in the focus group discussion. I am aware that my participation in the focus group is voluntary and that I may withdraw from the discussion at any time without prejudice.

I can request a summary of the findings at the completion of the project.

I voluntarily consent to participate in the focus group discussion.

Signature of Participant

Date

Signature of Researcher

Date

243
APPENDIX 4

Focus Group Discussion Demographic Data

Name of Institution: ________________________________

Participant Code Number: __________________________

Qualifications: ____________________________________

<table>
<thead>
<tr>
<th>Sex:</th>
<th>Male ( )</th>
<th>Female ( )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td>25 – 30 ( )</td>
<td>31 – 35 ( )</td>
</tr>
<tr>
<td></td>
<td>41 – 45 ( )</td>
<td>46 – 50 ( )</td>
</tr>
<tr>
<td></td>
<td>56 – 60 ( )</td>
<td></td>
</tr>
</tbody>
</table>

Number of years working in nursing in higher education: ( )

Are you working in this school of nursing:

Full-time ( ) Part-time ( )

Employment status:

Professor ( ) Associate Professor ( )
Senior Lecturer ( ) Lecturer ( )
Associate Lecturer ( )

Total Number of Faculty: ____________________________

Total Number of Staff: _____________________________

Undergraduate Enrolment: __________ Postgraduate Enrolment: __________

Total Student Enrolment: __________

Thank you for your participation.

Mary Macarty, Lecturer
Department of Nursing Sciences
James Cook University of North Queensland
Townsville, Qld. 4810.

*July 1995*
APPENDIX 5

Table A5: Stage 1: Focus Group Discussion Results (n = 21)

The focus group discussions carried out with 21 nurse academics in Stage 1 yielded the following responses to the quantifiable questions. Responses to the qualitative questions can be viewed in Appendix 6.

Table A5.1
Do schools of nursing in higher education have a formal Quality Assurance program?

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the school of nursing where you are presently employed have a formal Quality Assurance program?</td>
<td>9</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>2. Is the program entered into independently by staff members?</td>
<td>7</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>3. Is the program entered into as a result of external influences?</td>
<td>13</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4. Are staff members involved in measuring and monitoring their own productivity and quality against defined targets?</td>
<td>19</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Table A5.2
What are the Quality Assurance activities undertaken by nurse academics in schools of nursing in higher education?

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are all nurse academic staff members aware of Quality Assurance activities undertaken in this school of nursing?</td>
<td>15</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2. Does this school of nursing have a QA coordinator?</td>
<td>2</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>3. Does this school of nursing have a QA team?</td>
<td>0</td>
<td>20</td>
<td>1</td>
</tr>
</tbody>
</table>

Table A5.3
Is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you believe the traditional Quality Assurance approach we have used in nursing practice is sufficient for nursing in higher education?</td>
<td>2</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>2. Did nurse academics implement new quality management practices in schools of nursing when nurse education transferred from the hospital to the higher education sector?</td>
<td>2</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>3. Do you think a more comprehensive approach for increasing quality and productivity is needed in nursing in higher education?</td>
<td>12</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>
Appendix 5 continued:

Table A5.4
Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities already in place in higher education?

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If nurse academics wished to develop and implement a quality culture in a school of nursing, should they integrate the QA policies initiated by the university?</td>
<td>18</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. Should nurse academics integrate QA activities already in place in a school of nursing?</td>
<td>17</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Table A5.5
What are nurse academics perceptions of the applicability of Total Quality Management in schools of nursing in higher education?

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you think there are cultural characteristics that are specific to nursing in higher education?</td>
<td>15</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2. Do you believe there are differences in the nursing culture among schools of nursing?</td>
<td>18</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>3. Does management in this school of nursing actively seek employee input in decision-making?</td>
<td>7</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>4. Do staff members have the opportunity to set up teams to improve processes?</td>
<td>11</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>5. Is the value of teamwork consistently emphasised and promoted?</td>
<td>6</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>6. Are staff members provided with ongoing performance feedback?</td>
<td>4</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>7. Would you see empowering employees as a principle of a total quality program?</td>
<td>18</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>8. Have you heard of the concepts, internal and external customers?</td>
<td>20</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9. Is this school of nursing actively involved in seeking feedback from its customers?</td>
<td>15</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>
APPENDIX 6

Focus Group Qualitative Results

The focus group discussions carried out with 21 nurse academics in stage 1 also yielded qualitative responses which were categorised under the two main headings of Quality Assurance and Total Quality Management.

Quality Assurance
The focus group discussions revealed that the schools of nursing from which nurse academics were interviewed have a wide range of Quality Assurance strategies. The respondents gave many examples of QA activities undertaken by nurse academics, with evaluation of individual subjects and programs conducted on a regular basis being an important component of their QA activities. Several respondents also noted staff and student evaluation as QA activities. Indeed, all the respondents spoke extensively about evaluation procedures and the question of too much evaluation was only raised by one school of nursing. At this point of the research study, a tentative conclusion could be drawn that evaluation is an important factor in the culture of some schools of nursing. Respondents noted that QA has always been part of the nursing profession and nurse academics have implemented QA strategies in schools of nursing as part of their responsibilities:

Nursing has been doing QA in higher education for some time, and other academics are impressed. We are already doing what the university is now saying is part of quality – it’s always been part of our profession.

The accreditation process from both internal and external bodies which was identified in the literature as a questionable inspection method, was also raised by several respondents:

We were evaluating everything, every aspect of the program, and we were having to submit our courses for external accreditation, and then the university decided that it also wanted external experts to look at everything as well as the nurses accreditation body, and it just seemed to go a bit over the top.

QA activities are heavily influenced by audit approaches being used through the university, and that is in response to the DEET requirement.
When discussing the QA approach traditionally used by the nursing profession the majority of respondents agreed that it was not sufficient for nursing in higher education, and several reasons were noted:

- *We have done QA for a lot of years and we’re not so sure it’s the right way now because we are being challenged to look at other ways of doing things within an economy that is beginning to dictate to us how we practice.*

Some respondents believed that the traditional QA approach was too static:

- *You can’t just say ‘we will review quality now’ – it has to be an ongoing process. With this approach we only act when a problem arises. I think we must be continually looking at what we’re doing, can we do it better, in what way – it’s a frame of mind as much as anything.*

Other respondents believed that nurse academics had brought quality management practices from the hospital setting to the higher education sector when nursing education was transferred, and which was acknowledged in the literature:

- *I think in some schools of nursing that the head of school is equated to being the Matron, and so I think that this is part of the culture or history of nursing, that we have in fact brought many of our management practice from the hospital environment to the academic environment, and they are not always suitable. But nor are all the processes offered at a university level, so we just go on what feels right for us from our past experiences.*

**Total Quality Management**

The discussion on Total Quality management commenced with the topic of organisational culture, followed by the concepts of quality and TQM. Participants were asked to share their perceptions of the concepts and to consider what strategies, if any, would be required in making a paradigm shift from Quality Assurance to Total Quality Management.

The majority of respondents were aware of the concepts of TQM and Continuous Quality Improvement. The TQM concept received several comments, with some respondents defining it as:
A level of excellence.
Being effective and utilising the resources to provide the best and most effective service.
Producing the best possible product you can with the resources you have available.
It's the big picture – it's related to the buildings, it's related to the people in those buildings, the students that we select, the kinds of graduates that we produce, the community perception of all that, but it needs to be structured in some kind of way strategically, so that all of those things can be measured, so that at the end of the day you come up with notion of a total quality management program, and it doesn't matter if it's in a tertiary setting or in business, we're running a business these days.

Some respondents cited examples of TQM applications in health care facilities, and benefits of TQM were also noted:

To me continuous improvement is more dynamic.
TQM permeates throughout the whole establishment in what we accept in terms of coming in and what we accept in the process, and what we accept in moving forward.
I've heard about TQM and my impression of that is that it's more participatory for people, and I know of small nursing units who are implementing TQM strategies, and people feel that they have more of a say in what happens in a unit, and being part of the decision-making processes, so I think that, in that way it's empowering people.
I know a Director of Nursing who introduced TQM in two nursing homes for which she was responsible. She evaluated it and the feedback from the staff was that they loved it, they loved being involved, it motivated them to, you know, to improve their performance.

The concept of customer raised both negative and positive comments which are similar to those raised in the TQM literature in the health care and higher education industries. Several respondents had difficulty in using the term customer in the health care and higher education contexts:

The word 'customer' is just not part of our language.
It's just that I have so much trouble with the whole application of marketing belonging to health care.
Well, I wouldn't use the term customer, because we're not buying and selling, we're caring.
I think probably a big majority of Australian nurses would have difficulty with that, it really seems to put a monetary value on the person you're caring for. I certainly wouldn't ever refer to one of my patients as a customer, but perhaps that's part of my nursing culture.
Some respondents were more positive and attempted to define customer from a nurse academic perspective:

If I put my educator’s hat on, then the customers are my students. If I put on my professional hat, then it’s the clients in hospitals..., and another,
Initially, I suppose our customer is our student, and the wider community.
I don’t have a problem with it – I see us in a market for selling, we’re selling a product here and the product is our courses, and the customers of our courses are our students, but in the long-term the customer is the patient.

Participants were also asked what strategies, if any, would be required in making a paradigm shift from Quality Assurance to Total Quality Management. Several respondents discussed employee commitment:

I think it would have to be a total commitment by everyone. Everyone would have to be committed to a total quality program because you would have to apply those principles to every single thing you did.
The situations I know where TQM has been implemented has been in places where people are fairly autonomous, such as nursing homes, so it really needs to be at all levels otherwise it’s a waste of time.
I think participation is really important, participation all the way down the levels, and involving the students as best as we possibly can, so participation and commitment are important.
I agree that commitment is important, but one of my concerns is that people in management use these terms, and the people who are actually the ‘doing’ people don’t seem to understand enough about it to see how they can apply it to their jobs.

Several respondents believed that nursing in higher education must keep abreast of current practices. As one respondent noted:

We’ve got to keep moving with the times, we’ve got to embrace the changes, and weigh up which are the beneficial ones.
APPENDIX 7

Developing a Quality Culture Within a School of Nursing in Higher Education

This questionnaire is presented in four sections and will take approximately 15 minutes to complete. Please do not write your name or the name of the school of nursing at which you are employed on the questionnaire. Please complete each page (back and front) of the questionnaire.

Section One pertains to Quality Assurance in schools of nursing in higher education.

Section Two seeks your perceptions/opinions on the implementation of quality procedures and quality characteristics which could be applied to suit the nursing culture in a school of nursing in higher education.

Section Three asks you to provide demographic information. I need to obtain demographic information to describe the study sample, so I would appreciate it if you would answer questions in this section.

Section Four asks you to make any further comments you may have regarding quality issues and/or Quality Assurance in schools of nursing in higher education, or related issues which were not covered by the questionnaire.

When you have completed the questionnaire, please return it to me in the attached addressed and post paid envelope by 9 December 1996.
SECTION ONE - QUALITY ASSURANCE

Please answer the following questions.

1.1  Does the school of nursing where you are presently employed have a formal Quality Assurance program?  □  YES  □  NO  □  UNSURE

If yes, please describe the Quality Assurance activities.

1.2  In your opinion, is the Quality Assurance approach traditionally used by the nursing profession sufficient for nursing in higher education?  □  YES  □  NO

Why or why not: _____________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

1.3  Should the introduction of a quality culture in schools of nursing incorporate Quality Assurance activities which are already in place in higher education?

□  YES  □  NO

Why or why not: _____________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
**SECTION TWO - PERCEPTIONS AND OPINIONS ON A QUALITY CULTURE**

For each of the statements listed below, please circle the response which best represents your own perception/opinion. Please ignore the code column as this is for coding purposes only.

*SA (Strongly agree) A(Agree) N(Both agree nor disagree) D(Disagree) SD(Strongly Disagree)*

<table>
<thead>
<tr>
<th>Code</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>2.1 Nursing cultures in higher education should instil the belief that quality is everyone's continual concern.</td>
</tr>
<tr>
<td>A</td>
<td>2.2 A quality culture suitable for nursing in higher education institutions should be client orientated.</td>
</tr>
<tr>
<td>N</td>
<td>2.3 A quality culture should provide a way of working in which everyone strives to improve the quality of output to the user or customer.</td>
</tr>
<tr>
<td>D</td>
<td>2.4 A quality process is a proactive effort to determine our customer’s expectations, compare those to our offerings and see if there is a match.</td>
</tr>
<tr>
<td>SD</td>
<td>2.5 Greater collaboration between nurse academics will result in more customer focused provision of nursing education.</td>
</tr>
<tr>
<td>A</td>
<td>2.6 A quality culture should emphasise a preventive approach to management i.e. one that addresses problems before they arise.</td>
</tr>
<tr>
<td>N</td>
<td>2.7 Teamwork is an important aspect of a quality culture.</td>
</tr>
<tr>
<td>D</td>
<td>2.8 Quality should be an integral part of an organisation's culture.</td>
</tr>
<tr>
<td>SD</td>
<td>2.9 Developing quality standards is not a major responsibility of nurse academics.</td>
</tr>
<tr>
<td>A</td>
<td>2.10 Customer feedback should be used to design and plan improvements.</td>
</tr>
<tr>
<td>N</td>
<td>2.11 It is one of the fundamental functions of nursing management in higher education to facilitate quality performance of all staff.</td>
</tr>
<tr>
<td>D</td>
<td>2.12 The commitment to quality is one in which there is an allegiance to quality from every employee in an organisation.</td>
</tr>
<tr>
<td>SD</td>
<td>2.13 Internal customers are the students within an academic program.</td>
</tr>
<tr>
<td>A</td>
<td>2.14 It is not important that schools of nursing in higher education focus on employee empowerment.</td>
</tr>
<tr>
<td>N</td>
<td>2.15 Commitment to a quality culture in nursing education is a professional responsibility.</td>
</tr>
</tbody>
</table>

253
2.16 Nursing management in higher education should employ practices which encourage employee involvement.

2.17 A quality culture should emphasise error free work.

2.18 A characteristic of a quality culture is empowering employees to identify problems.

2.19 A focus on satisfying customer needs leads to working as partners.

2.20 Quality programs in nursing in higher education should not be built around external accreditation standards.

2.21 A fundamental characteristic of a quality culture is a customer orientation.

2.22 A quality culture should emphasise the improvement of the processes for everyone rather than identifying only the problems.

2.23 Quality is meeting valid customer requirements, for all customers.

2.24 A quality culture should provide a way of working in which everyone strives to improve the productivity of output to the customer.

2.25 A quality process is a continuous effort to satisfy customers' needs.

2.26 Greater collaboration between nurse academics will not result in more cost effective provision of nursing education.

2.27 Quality should be an integral part of each nurse academic's mindset.

2.28 Clearly defining what quality is should be a major responsibility of nurse academics.

2.29 Customer feedback should be used to identify problems.

2.30 Schools of nursing in higher education should focus on productivity improvement.

2.31 Collaboration between nurse academics will result in better provision of nursing education.

2.32 A quality culture should emphasise a sense of ownership or involvement in quality issues by nurse academics.
2.33 The characteristics of a quality culture do not include taking action on identified problems.

2.34 A fundamental characteristic of a quality culture is customer satisfaction.

2.35 It is important that schools of nursing in higher education focus on self-directed work teams for continuous quality improvement.

2.36 A focus on satisfying customer needs leads to increased trust.

2.37 A quality culture requires building quality in the prevention of defects, rather than merely the detection of defects.

2.38 External customers include employers of the students.

2.39 A quality culture should emphasise the value of empowering employees.

2.40 A commitment to quality is central to the function of an organisation.

2.41 It is not necessary for nurse academics to consider customer satisfaction.

2.42 The value of teamwork amongst nurse academics should be consistently emphasised and promoted.
SECTION THREE - DEMOGRAPHIC INFORMATION

Please answer the following questions.

3.1 What is your current level of appointment as an academic in your present school of nursing?
   - Associate Lecturer
   - Senior Lecturer
   - Professor
   - Lecturer
   - Associate Professor

3.2 For how many years have you been at your current level of appointment as an academic in your present school of nursing?
   - [ ] Years

3.3 Do you hold a full-time or part-time appointment as an academic in your present school of nursing?
   - [ ] Full-time
   - [ ] Part-time

3.4 Are you:
   - [ ] Female
   - [ ] Male

3.5 When were you born?
   - [ ] Before 1936
   - [ ] 1941-1945
   - [ ] 1951-1955
   - [ ] 1961-1965
   - [ ] After 1970
   - [ ] 1936-1940
   - [ ] 1946-1950
   - [ ] 1956-1960
   - [ ] 1966-1970

3.6 What is your highest level of nursing qualification you have gained?
   - [ ] Certificate in Nursing
   - [ ] Diploma of Nursing
   - [ ] Specialty certificates in Nursing
   - [ ] Bachelor of Nursing
   - [ ] Master of Nursing
   - [ ] PhD
   - [ ] Professional Doctorate

3.7 Where did you complete your highest level of nursing qualification?
   - [ ] Hospital-based program
   - [ ] College of Advanced Education
   - [ ] University
   - [ ] TAFE
   - [ ] Other (please specify)

3.8 What is your highest level of academic qualification (in nursing or in any other discipline)?
   - [ ] Bachelor/pas
   - [ ] Graduate Diploma
   - [ ] PhD
   - [ ] Bachelor/Honours
   - [ ] Masters/Coursework
   - [ ] Professional Doctorate
   - [ ] Graduate Certificate
   - [ ] Masters/Research

3.9 In what discipline (eg nursing, education, psychology) did you complete your highest academic qualification?

256
3.10 Are you currently a candidate for a university degree/award? □ Yes □ No
If yes, what is the degree/award?
□ Bachelor/pall □ Graduate Diploma □ PhD
□ Bachelor/Honours □ Masters/Coursework □ Professional Doctorate
□ Graduate Certificate □ Masters/Research
SECTION FOUR - ADDITIONAL COMMENTS

Please add any further comments you may have regarding quality issues and/or Quality Assurance in schools of nursing in higher education.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Thank you for your time, opinions and comments.

Please return the completed questionnaire to me in the attached addressed and post paid envelope by 9th December 1996.

Mary Macarty, Lecturer
Department of Nursing Sciences
James Cook University of North Queensland
Townsville. Qld. 4810.
APPENDIX 8

Cover Letter to Survey Questionnaire Participants

19 November 1996

Dear Colleague,

As you are undoubtedly aware, one of the most important challenges facing academics in higher education is how to manage for quality. Recent pressures to maintain quality, access and equity in the face of ever-decreasing resources are requiring universities to re-examine their quality management practices.

As part of my studies towards a Doctor of Philosophy in management at James Cook University, I am undertaking a survey which is designed to obtain nurse academics' perceptions of a quality culture in nursing in higher education. I also wish to identify quality characteristics which could be applied to suit the nursing culture in a school of nursing.

The questionnaire included with this letter is being distributed, together with an addressed and post-paid return envelope to nurse academics in schools/faculties of nursing in higher education in Australia. Your participation is important to my survey and involves completing the questionnaire and returning it in the attached addressed and post-paid return envelope by 9th December 1996. The questionnaire will take you approximately 15 minutes to complete.

Confidentiality will be strictly adhered to. Please do not identify yourself by name or university on the questionnaire. The identification number on the questionnaire is only for collation purposes and in the final presentation of data, individual respondents will not be identified.

On the final page of the questionnaire you are invited to write further comments on a quality culture or Quality Assurance in schools of nursing in higher education, or related issues which were not covered by the questionnaire.

I look forward to your response by 9th December 1996.

Thank you in advance for your support.

Yours sincerely

Mary Macarty, Lecturer
Department of Nursing Sciences
James Cook University of North Queensland
Townsville. Qld. 4810.
APPENDIX 9

Cover Letter to Pilot Study Participants

Telephone: 077 81 5311
Fax: 077 88 9877
Email: Mary.Macarty@jcu.edu.au

Dear Colleague,

As you are undoubtedly aware, one of the most important challenges facing academics in higher education is how to manage for quality. Recent pressures to maintain quality, access and equity in the face of ever-decreasing resources are requiring universities to re-examine their quality management practices.

As part of my studies towards a Doctor of Philosophy in management at James Cook University, I am conducting a national survey of nurse academics. The purpose of this research is to obtain nurse academics' perceptions of a quality culture in higher education and to identify quality characteristics which could be applied to suit the nursing culture in a school of nursing. Additionally, Quality Assurance programs in schools of nursing will be investigated.

Before I distribute the questionnaire to nurse academics, I wish to conduct a pilot study. The purpose of the pilot study is to test the data collection instrument, and in particular, to check that the questions elicit appropriate responses. I am therefore writing to ask you to contribute to the piloting of this questionnaire, and I would appreciate it if you could do the following:

1. Please note how long it takes you to complete the questionnaire and write this on the front page.
2. Comment on any unclear directions, unclear questions or any ambiguities you find in the questionnaire.
3. Comment if any questions seem too difficult to answer or makes you feel uncomfortable to answer.
4. Please add any comments you feel would improve the questionnaire in any way.

Because you have agreed to be part of the pilot study, you will not form part of the national survey, nor will the pilot results be included in the final data results.

You may be assured of complete confidentiality and your responses will only be utilised in the revision of the questionnaire. The questionnaire has an identification number for mailing purposes only, so I can check your name off the mailing list when your questionnaire is returned. It would be appreciated if you could return the completed questionnaire in the prepaid envelope by the 19 October 1996.

Any questions regarding the project may be directed to myself or to my supervisor, Professor Alan Buttery, Head of the Department of Management, telephone number (077) 81-4614.

Thank you in advance for your contribution to this study.

Yours sincerely,

Mary Macarty, Lecturer
Department of Nursing Sciences
James Cook University of North Queensland
Townsville. Qld. 4810.

260
### APPENDIX 10

Results of Pilot Study (n = 12)

<table>
<thead>
<tr>
<th>Time taken to complete questionnaire</th>
<th>Section 1 Open ended questions</th>
<th>Section 2 Fixed alternative statements</th>
<th>Section 3 Demographic questions</th>
<th>Section 4 Additional comments</th>
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<tr>
<td>15 minutes</td>
<td>No problems</td>
<td>No problems</td>
<td>No problems</td>
<td>No problems</td>
<td>Interesting to do. Clear instructions.</td>
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<tr>
<td>20 minutes</td>
<td>Question 1.1 should have an &quot;unsure&quot; option</td>
<td>Statement 2.4 is double-barrelled.</td>
<td>No problems</td>
<td>No problems</td>
<td>No questions were discomforting to answer.</td>
</tr>
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<td>18 minutes</td>
<td>Question 1.1 needs to be more specific</td>
<td>Statement 2.11 unclear</td>
<td>No problems</td>
<td>No problems</td>
<td></td>
</tr>
<tr>
<td>15 minutes</td>
<td>No problems</td>
<td>Statement 2.4 is double-barrelled</td>
<td>No problems</td>
<td>No problems</td>
<td>Questions were clear and to the point</td>
</tr>
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<td>Statement 2.11 and 2.12 unclear</td>
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<td>No problems</td>
<td></td>
</tr>
<tr>
<td>15 minutes</td>
<td>No problems</td>
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<td>No problems</td>
<td>No problems</td>
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<tr>
<td>15 minutes</td>
<td>No problems</td>
<td>No problems</td>
<td>No problems</td>
<td>No problems</td>
<td>Flowed well</td>
</tr>
<tr>
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<td>Statement 2.12 unclear. Spelling error in 2.9 and 2.1</td>
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<td>Spelling error in 2.9 and 2.33. Statement 2.12 is unclear</td>
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<td>No problems</td>
<td>Questions were not too difficult to answer</td>
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<td>15 minutes</td>
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<td>Statement 2.4 is confusing</td>
<td>List of nursing qualifications is required for question 3.6</td>
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<td>Instructions are clear</td>
</tr>
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<td>No problems</td>
<td>Questions easily understood</td>
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</tbody>
</table>

261
APPENDIX 11

Reminder Letter to Survey Questionnaire Participants

16 December 1996

Dear Colleague,

In November I wrote inviting you, as a nurse academic, to participate in a national survey I am conducting as part of my PhD Degree in management at James Cook University of North Queensland.

I realise how busy nurse academics are, however, your opinions and perceptions on a quality culture in nursing in higher education are extremely important to my final results, and also for nurse academics who wish to access the information at a later date.

I would be most appreciative if you could return your completed questionnaire at your earliest convenience. I have enclosed a copy of the questionnaire in case you have misplaced the original one. If you have recently returned the questionnaire, please accept my thanks and disregard this notice.

Thank you in advance for your contribution to this study.

Yours sincerely,

Mary Macarty, Lecturer
Department of Nursing Sciences
James Cook University of North Queensland
Townsville. Qld. 4810.
APPENDIX 12

Table A12: Summary Statistics for Likert Scaled Items (n = 445)

<table>
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</table>
## APPENDIX 13

Table A13: Percentages for Likert Scaled Items (n = 445)

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<th></th>
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<td>0.5%</td>
<td>100%</td>
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<td></td>
<td>% 46.5%</td>
<td>40.5%</td>
<td>10.0%</td>
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<td>% 43.6%</td>
<td>41.7%</td>
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<td>6.2%</td>
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