

2007

# Action research for continuous quality improvement in aged care

Devi Ranasinghe

*DRs Total Quality Management*

Peter Miller

*Southern Cross University*

---

## Publication details

Post-print of: Ranasinghe, D & Miller, P 2007, 'Action research for continuous quality improvement in aged care', in *Exemplary practitioner research in management: ten studies from Southern Cross University's DBA Program*, Southern Cross University Press, Lismore, NSW. ISBN: 9781875855674

ePublications@SCU is an electronic repository administered by Southern Cross University Library. Its goal is to capture and preserve the intellectual output of Southern Cross University authors and researchers, and to increase visibility and impact through open access to researchers around the world. For further information please contact [epubs@scu.edu.au](mailto:epubs@scu.edu.au).

**Post-print of:** Ranasinghe, D. and Miller, P. 2007, 'Action research for continuous quality improvement in aged care', in Exemplary Practitioner Research in Management: Ten Studies from Southern Cross University's DBA Program, SCU Press, Lismore.

## **Chapter 8: Action research – for continuous quality improvement in aged care**

**Devi Ranasinghe and Peter Miller**

### **Title of the study**

Monitoring and measuring the impact of continuous quality improvement in the aged care sector in Australia

### **Purpose**

There was much confusion and frustration among staff in the aged care industry when the Aged Care Act 1997 introduced compulsory continuous quality improvement, and audits became a major part of the aged care industry. At this time, there were many quality consultants advising the industry, some of whom had never worked in aged care. This posed considerable difficulty in their ability to understand what, when, how and where improvements could be made, let alone the difficulties inherent in the application methods of what they were proposing to implement. Many people did not understand that aged care was a service industry and had many intangible products that were difficult to improve, or that the improvements may be so subtle that they could not be measured. The audit tools used in the industry were neither clinically nor scientifically significant. Some of them were not user-friendly; nor did they gather data to improve. The audit processes were creating an enormous amount of unnecessary paperwork and statistical analysis could not be conducted with the data collected.

Having studied continuous quality improvement as a core subject for a Master of Business Administration degree and continuous improvement processes in healthcare at the certificate level, the researcher knew the weakness of the system. The researcher had been implementing the continuous improvement concept at her workplace to improve resident care and work practices long before it was introduced through legislation.

In 2001, a report of a two-year review of aged care reforms was published and it confirmed the inherent weakness of the accreditation system. The report made seven recommendations, the last of which was to introduce objective measures of continuous improvement to enable assessment of improvement over time.

Thus it was both personal and professional interest that inspired the researcher to undertake this study, in order to make a contribution to the aged care industry regarding continuous improvement.

### **Keywords**

Aged care, service industry, continuous quality improvement, action research

### **Methodology**

Many research methodologies along with personal and professional life factors were considered before choosing action research methodology for this study. The case study or survey method was not suitable as there was no evidence that aged care services were monitoring and measuring the impact of continuous improvement changes. The two-year review of aged care reforms report recommended introducing objective measures of continuous improvement to enable assessment of improvement over time. This was due to the infancy of the continuous improvement system. At the time the research started, the industry was just coming to terms with implementing the continuous improvement concept. There was no particular or uniform data collection tool used to collect data for the Aged Care Outcomes despite the enormous amount of paperwork that was created in the search for continuous improvement.

It was clear the researcher needed a data collection tool to monitor and measure the impact of continuous improvement changes in aged care. During the literature review process, it became apparent that there was no specific tool which could be used to measure and monitor the Australian Aged Care Outcomes in Australia or overseas.

The internationally recognised Minimum Data Set (MDS) quality indicators were not suitable to monitor and measure the aged care outcomes because they could not monitor and measure the impact of continuous improvement. For example, one of the MDS quality indicators was prevalence of problem behaviour towards others. This could have been useful in relation to the Australian Aged Care Outcome 2.13 'Behaviour Management'. The expected outcome of behaviour management is that 'the needs of residents with challenging behaviour are managed effectively'. However, the Aged Care Outcomes of continuous improvement, regulatory compliance and staff education must be integrated into behaviour management. The researcher wanted to find out more than just whether there was a prevalence of problem behaviour towards others; she wanted to know what the process of behaviour management was, namely, what strategies could be implemented for improvement and what system or method staff used to broaden their knowledge and skills in behaviour management. In this context, collecting retrospective data alone cannot measure improvement; one also needs to know the process of care. The researcher needed to know what types of data were required to assess improvement of the process of care. Therefore, the MDS tools were not suitable and the researcher decided to develop new data collection tools which could measure and monitor the continuous improvement changes in aged care.

Developing and validating the data collection tools needed a proven research method. The data collection process must be robust, valid and reliable. It was also understood that the research method must have rigour to protect against bias and enhance the reliability of findings, and be accepted by the research community. In taking account of all of these considerations, it became clear that action research was better suited for the purpose of the study. One of Lewin's (1946) action research principles is 'helping to solve complex, practical problems about which little is known'. In this situation little was known about monitoring and measuring the aged care outcomes. There was no documented evidence to indicate that any studies had been conducted on the subject. Action research methodology is a flexible, spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time (Dick 2000). Action research is not new to healthcare; it has been used for many years, and many writers (Bowling 1997; Hart & Bond 1995) have stated that action research in healthcare:

- is educative;
- deals with individuals as members of social groups;
- is problem focused, context-specific and future-oriented;
- involves change interventions;
- aims at improvement and involvement;
- involves a cyclical process in which research, action and evolution are interlinked; and
- is founded on a research relationship in which those involved are participants in the change process.

Given that the researcher was working fulltime at the outset, it was obvious that action research methodology was suitable based on Morton-Cooper's (2000) key principles, since it could:

- be practitioner-generated;
- be workplace-oriented;
- seek to improve practice;
- start with a problem shared and experienced by colleagues and/or patients;
- examine key assumptions held by researchers and challenge their validity/adopt a flexible trial-and-error approach;
- accept that there are no final answers; and
- aim to validate any claims it makes by a rigorous justification process.

The researcher believed that this methodology could be implemented in her workplace without facing great difficulties, and staff would be motivated and would enhance their knowledge in continuous improvement.

## **Findings**

There were two aspects to the study findings. Firstly, there was substantial evidence to support the fact that education changed staff's understanding of continuous improvement. Secondly, the findings confirmed that the indicator data collection system is better suited for monitoring and measuring the impact of changes in continuous improvement in aged care.

Action research is qualitative research and the scientific community has often criticised qualitative research for lacking in rigour. The most common criticisms made about qualitative research are that it is (Mays & Pope 1995):

- merely an assembly of anecdote and personal impressions;
- strongly subject to researcher bias;
- lacks reproducibility – the research is so personal to the researcher that there is no guarantee that a different researcher would not come to radically different conclusions;
- lacks generalisability; and
- generates large amounts of detailed information about a small number of settings.

To ensure rigour in action research, the researcher spent considerable time on research design, data collection, interpretation and communication. The study used qualitative analysis through the action research cyclic process as well as quantitative methods to refine the indicator data collection tool and analysis. This combined approach minimised the researcher's bias in the presentation of the findings. The method used for this action research stands independently and other researchers can collect and analyse data in the same way and fundamentally reach the same conclusions. This confirms two things: firstly, both quantitative and qualitative data can be used in the action research approach; and, secondly, action research is a way to investigate professional experience that links theory and practice.

## **Limitations**

There were many limitations to the study. Getting aged care organisations to participate in the study was the biggest limitation. Operations and day-to-day management differ between public and private aged care facilities. Public aged care facilities have better human and physical resources than some private, profit-based aged care organisations. However, the decision-making process is much faster in a small, privately run, for-profit aged care facility. Large, public aged care organisations took a very long time to decide whether to participate in this research, and in the end declined. Aged care organisations tend not to embrace research. They are more sceptical about it as they believe it will create more work and are unwilling to allocate staff to collect data or to pay for education sessions.

Staff knowledge of aged care outcomes and continuous improvement was minimal, and some staff could not understand the concept of improvement.

Due to staff workload it was decided to collect data from the details of 10 residents per facility although it would have been ideal if the sample size had included all residents. For then staff could have identified issues related to all residents as soon as data were collected whereas by collecting data on only 10 residents staff needed to check all the residents' files before taking remedial actions for the issues identified.

Management and staff of participating aged care facilities were not receptive to statistical data analysis. They could not comprehend the t-test relationship or probability levels etc. Nor could they see the benefit of learning about it. They only wanted data to be presented in a graphical format (bar charts or pie charts).

## **Researcher's retrospective**

### *Genesis of the research*

The majority of people working in aged care have great compassion and empathy for the elderly and look for improvements in care and service delivery. However, even though quality improvement has a long history in organisational change, the Australian aged care industry only embraced it after the introduction of the Aged Care Act in 1997. The Act has changed two important factors in the industry. The first is that it has provided the opportunity for grassroots level staff, who were previously not in a position to make decisions, to be involved in

care and service delivery improvement (empowerment). The second is that it has forced the management of aged care organisations to make an organisational commitment to quality management. This involves: a customer focus; getting employees involved in the processes of improving quality; finding ways to measure quality; setting goals and creating incentives for what has been measured; and constantly identifying ways to improve the care and service delivery to continue receiving Commonwealth government funding.

One of the requirements introduced by the legislation was that aged care organisations must receive the seal of approval from the Aged Care Standards and Accreditation Agency that the organisation is actively pursuing continuous improvement.

The industry became lost in the maze of continuous improvement and many people still do not comprehend what needs to be improved and how to do it. The subjective assessment of the accreditation system confused the industry and continues to confuse it today.

I was working in the industry and was frustrated at the way the continuous improvement process was being conducted at the workplace and became determined to convince the industry regarding better quality improvement processes. Having studied continuous quality improvement as one of the core subjects for an MBA degree and continuous improvement processes in healthcare at a certificate level, I knew the weaknesses of the system. However, convincing management (at my workplace) about what needed to be done with the continuous improvement process was difficult. And this, despite the fact that I had been implementing the continuous improvement concept at my workplace to improve resident care and work practices long before it had been introduced through legislation.

In 2001, the report of a two-year review of aged care reforms was published and it confirmed the weakness of the accreditation system. There were seven recommendations, and the seventh recommendation was to introduce objective measures of continuous improvement to enable assessment of improvement over time. After reading the report, I decided that the only way to prove the value of continuous improvement in aged care was via a higher degree by research.

### *Process*

At the beginning of the doctoral study in 2000, I had a different research question. It was: 'The relationship between the use and non-use of the statistical tools (process control and quality control) in identifying variance of the processes and systems in order to receive maximum benefits of continuous quality improvement projects in aged care'. After studying the core subjects of the DBA and doing the literature review in 2001, the research question was modified to integrate the reform review report's recommendation.

I had many discussions with my supervisor, Associate Professor Peter Miller, and other academic staff before I chose action research as my research methodology. The next step was planning for the action research which involved developing the data collection tool, selecting research sites (aged care organisations/facilities), and getting approval from selected organisations and the university's Human Research Ethics Committee (HREC). These tasks were attended to concurrently to progress the research within the agreed timeframe.

Initially, I decided to approach a variety of organisations such as regional, outer metropolitan, culturally diverse, public and not-for-profit and smaller aged care facilities, totalling 6-8 different organisations. Selecting and getting approval from the aged care organisations and developing the data collection tools were my responsibility, but Peter helped me with the ethics approval application process.

I decided to draft the data collection tools for the aged care outcomes before approaching the aged care organisations. This took more than three months as there are 44 aged care outcomes and each one needs to be monitored and measured separately. During this process, I had many discussions with my colleagues regarding the research question. Some gave very positive feedback while others thought that the aged care continuous improvement process was not mature enough for this type of research.

The next step was to approach the aged care organisations which had to meet two research criteria:

1. They had to be regulated by the Commonwealth Department of Health and Ageing; and
2. They had to be receiving government funding for care and service delivery and, therefore, have been accredited by the Aged Care Standards and Accreditation agency.

I selected a variety of aged care organisations in the Melbourne metropolitan and rural area – some public, some not for profit; some with different sites and some as small as 30 to 60 beds.

Larger organisations took significant time to make a decision, only to let me know that they did not want to be involved in the research. I approached more than 30 aged care organisations before five agreed to participate in this study.

It took five years to complete the research. After studying the core subjects for a year and half it took more than two years to arrive at the final product – the improvement indicators. It took approximately six months for the development of improvement indicators for the 44 aged care outcomes, and a further seven months to refine these. In August 2003, the final version of the indicators was accepted and data collection commenced to validate the improvement indicators. Data analysis and writing took another year and a half.

Conducting action research requires a great deal of patience. The outcomes I wanted to achieve were personal and professional goals; the desire to change or improve the situation. However, the research participants did not have the same understanding of the subject as I did, nor did they share the same motivation or commitment to the project. Nonetheless, I needed to rely on employees of the participating organisations to collect reliable and valid data. They were practically second-hand data, and their validity and reliability could be questioned. Therefore, I needed a system to check their validity and reliability.

Qualitative research has been criticised by some academics with respect to research rigour. The basic strategy to ensure rigour in qualitative research is systematic and self-conscious research design, data collection, interpretation and communication. It has been suggested that qualitative researchers should keep an accurate record of method and data which can stand independently, so that other trained researchers could analyse the same data in the same way and come to essentially the same conclusions. This approach will also help to produce a probable and logical explanation of the idea under investigation (Dick 2000; Mays & Pope 1995). At the same time, it can be argued that action research is better for developing data collection tools such as surveys, audit tools and indicators, and in changing work practices, because it can involve as many people as possible to refine the issue being investigated.

In this study, I included a quantitative component to validate the data. However, the management of aged care organisations did not understand the value of statistical reporting when staff knowledge in pre- and post-education of statistical reporting was presented (the t-test was conducted to identify the differences between groups). They could not comprehend inferential statistics. Hence, I used descriptive statistics to simply describe what was going on with the data.

### *Hurdles*

There were many hurdles in this research process. It started with getting aged care organisations to agree to participate in the research. When I approached the management of aged care organisations to participate in the action research, they were extremely reluctant to introduce any data collection system because they had already received accreditation for their quality system which included data collection tools. It didn't really matter whether these tools gathered relevant data or not. At this stage, the accreditation agency was only assessing whether the aged care organisations had an audit schedule and a data collection system.

Every organisation had some form of data collection tool, whether they were collecting appropriate or adequate data or not. Some organisations had developed their own data collection system and others had bought off-the-shelf systems. Larger facilities, such as the public and not-for-profit organisations, had invested a significant amount of time and money on developing or purchasing quality systems. They did not want to be involved in a

research project. Bear in mind that research in aged care was almost nonexistent when this study was conducted (to date, this has not changed a great deal). To them, it was simply more paperwork. And the last thing they wanted was change. There was no pressure to change the current system. The accreditation agency accredited aged care organisations if they collected data and it did not matter whether the data collected were useful or not.

Further, it was extremely difficult to get staff involved in education and training sessions. The education sessions were aimed at enhancing staff understanding of the data collection system as well as the aged care outcomes. At this stage, staff in aged care did not place much emphasis on education and training sessions even though they did not know about the aged care outcomes. Staff were not paid to attend education and training and some staff were working in the morning in one place and going to afternoon duty at another so there was never a good time to conduct these sessions.

English literacy was another obstacle. Some staff, especially grassroots level staff, were lacking in reading and writing skills in the English language even though they were good at performing physical tasks. This was another reason they were reluctant to attend education sessions.

Yet another hurdle was the lack of understanding and interest on the part of the management of the aged care organisations. They believed that continuous improvement was the grassroots level staff's responsibility. They were not allocating adequate resources, such as time for staff to attend education sessions or to conduct data collection.

In addition to the site issues, the study had procedural issues to deal with, such as the fact that action research is a qualitative research methodology. It is a well-known fact that qualitative research is often criticised for lacking in scientific rigour. The sample size and method was a hurdle to overcome. I knew that the whole population of the aged care organisations needed to be used as a sample to be theoretically comprehensive because the populations were very small (30 beds). However, this was not practical given the difficulties of organisational issues.

### *Outcomes*

While I needed to make an explicit account of the theoretical framework and methods used at every stage of the research, it was difficult to decide what to include and what to exclude in the body of the thesis. For example, during the early stage of the study, I discussed many issues with colleagues, authorities and people in the industry to get an idea about what individuals believed continuous improvement in aged care to be, as it was new to the industry. Some of these conversations were informal and unstructured while others were formal and structured. Should these conversations be included in the thesis? What benefit would be gained? In the end, it was decided to leave them out.

Out of personal interest, I used the simplest inferential test, such as the t-test, to compare the average performance of the two cycles on a single measure to see if there was a difference. However, for action research it is not necessary to conduct an inferential statistics report and so, with some regret, I decided not to include inferential statistics on data collected to validate the improvement indicators for this research.

### *Relationships*

At the beginning of the research, my relationship with Peter was somewhat distant as I did not keep in touch with him on a regular basis. This was due to a lack of understanding on my part of the role of the supervisor. Learning through distance education has its ups and downs. Face-to-face contact with Peter would have been more beneficial to iron out many hurdles. It was not clear to me how often, or at what stages, I should contact my supervisor. Family, friends and colleagues provided the necessary moral support but feedback on the quality of my academic progress could come only from my supervisor. At the beginning of the research, my ideas were merely personal impressions about a collection of anecdotes. As the research progressed, Peter gave me different opinions which were at times hard to accept but which were necessary because I was emotionally too close to the issues.

It was difficult to establish close relationships with the research participants at the start. It took some time to get to know them well, build trust and convince them that their involvement in the research was worthwhile and that they would get something of value out of it. As the research progressed, I managed to build close relationships with them.

My relationships with fellow doctoral students were very important in the research process even though our areas of research interest were different. Fellow students give significant moral strength via discussion groups or just by having a cup of tea and discussing issues related to one's supervisor or workplace or the mechanics of writing the thesis.

### *Reflection*

My overall research experience was sensational and I feel that I achieved my goals. What I liked about this study was that it opened up a whole new world of learning, namely, action research. As McNiff et al. (2004) state, research is about creating new knowledge, finding ways of testing its validity and sharing the knowledge for specific purposes. Finding a solution to a problem is a very satisfying feeling. It increased my self-esteem. Through this study I became even more aware of the importance of improvement in the process of care and service delivery.

The research gave me an insight into the dynamics of project planning, design, implementation and evaluation. It broadened my knowledge and understanding of the subject, analytical skills and confidence in speaking about my ideas.

If given the opportunity, I would be more than happy to conduct another research project. The study kept my intellectual curiosity alive. It kept me looking for unanswered questions that I could be the first to answer. It motivated people I worked with and enhanced their ability to think a little more laterally.

There are a few things I would do differently the next time round. I will definitely use a combination of qualitative and quantitative research methods to collect data and will have a better understanding of selecting research sites and sampling size. I will also pay more attention to data triangulation to achieve internal validity.

The satisfaction achieved through finding a new way of doing things far outweighs the frustrations along the way. My only regret is that I could not complete the research within the three years that I had originally planned to complete it in.

### **Supervisor's comments**

#### *Genesis of the research*

As is the experience of many doctoral candidates, the research problem was initially very clumsy and unfocused and was formulated by an extensive process of examining the literature, negotiation and discussion. Problems and questions often do not become clear until the research is well underway. As a practitioner in the industry, Devi was very close to the problem she was investigating and it took some time to remove the 'emotion' and objectively examine the issues to be investigated. As with most professional doctorate programs, having practitioners as candidates brings both positives and negatives to the research project. Most candidates, as in this project, are immersed in workplace issues and problems and hope that their research project will assist in some way to overcome some of the issues they face on a day-to-day basis. The initial training in methodologies provides the candidates with the language to better articulate what it is they intend to research.

#### *Process*

Over time in the program and after many meetings with me, Devi focused the research questions. I think the most productive times were when we were able to meet face to face rather than the endless emails and phone calls which often do not provide the dynamics necessary for a smooth intellectual discussion at this level.



Devi had produced a very rough quality process control tool which was the genesis of the final validated tool. The early versions of the tool were both clumsy and simplistic but all research must start somewhere and, as her confidence rose as the research progressed and with the aid of her workplace knowledge, the action research cycles did their job to inform the direction and development of the instrument. The action research methodology is very suited to longitudinal projects which are aimed to bring about change and are emancipatory. Most professional doctorate candidates are in a hurry to bring the research to a conclusion and often the action research process works against strict timetables and each new cycle raises new issues and informs the next.

### *Hurdles*

The aged care industry raise particular issues for researchers which are not part of the usual business research project. Staff in aged care are often not very literate, and there are extreme cost pressures and staffing issues as the profits for aged care institutions are usually quite low. My own experience is that business concepts and tools that have been around for years in other industries are often not known or adopted in the aged care industry.

This research also had a large education and training component. Staff were not aware of, or trained in, quality control processes. This meant that a large effort needed to be made by Devi to educate and train the staff to a level where they were able to use quality control tools and understand basic statistical techniques in order to improve processes. Once again, the action research methodology is useful when these issues are encountered.

Devi's use of pre- and post-testing of staff knowledge in the quality control areas when effecting the training intervention was a clever way to capture this data, and it added to the research project in terms of quantitative data and analysis. My view is that examiners mostly like to see a mixed methods approach to research projects and the use of both quantitative and qualitative methods develops the triangulation that a rigorous research design should have.

### *Outcomes*

Research of this type usually produces endless amounts of data. This often means decisions on what should be developed and what should be left out. These issues were discussed at length, with the deciding factor usually being what would constitute a 'Contribution to Knowledge' and, therefore, meet this criterion in the examination process.

The main game in any doctoral project is the thesis, otherwise there will be no doctorate awarded. Research papers published along the way, or at the end, are useful, but the focus should be kept on the thesis at all times. The data collection instrument that was eventually produced was quite sophisticated and showed good validity and reliability. Interest in the instrument has been shown by commercial parties. This sort of interest is another measure of the impact and potential impact of practitioner research.

### *Relationships*

Devi and I mostly communicated by email and phone calls. However, as I indicated earlier, the most useful discussions were when we met in person, when Devi was required to present work-in-progress reports at our twice-yearly doctoral symposia. The opportunity for candidates to see what other candidates are doing, especially in terms of methodological issues, is a big factor in candidate confidence. With all my doctoral candidates, the relationship often ends up more like friends than just professional colleagues, and I trust Devi regards me as her friend for life!

### *Reflection*

I regard the supervision of doctoral candidates as a privilege. My own supervisory style is somewhat dependent on the strengths of each candidate. However, I try to remember that the research is the candidate's project and not mine. While I endeavour to influence the project's direction when I consider it is necessary, I like to let

candidates have room for intellectual discovery, even if it takes them off the right track occasionally which is part of the journey.

This research has cemented my view of the aged care industry as a hot spot for research possibilities and of the usefulness of both quality control and continuous improvement for positive organisational outcomes, as well as the action research methodology for making positive change in organisations.

I am very satisfied with the outcomes of the research, the awards that Devi has received as a result of it and the fact that the outcomes have a commercial value.

### **References**

- Bowling, A (1997) *Research Methods in Health: Investigating Health and Health Services*. Buckingham, Philadelphia: Open University Press.
- Dick, B (2000) 'Cycles within cycles'. Available on line: <http://www.scu.edu.au/schools/gcm/ar/arp/cycles.html> [accessed 29 June 2002]
- Hart, E & Bond, M (1995) *Action Research for Health and Social Care*. Buckingham, Philadelphia: Open University Press
- Lewin, K (1946) 'Action research and minority problems', *Journal of Social Issues*, vol. 2, no. 4, pp34-46
- Mays, N & Pope, C (1995) 'Qualitative research: rigour and qualitative research', *BMJ*, vol. 311, no. 8, pp109-12
- McNiff, J, Whitehead, J & Lomax, P (2004) *You and Your Action Research Project*, UK: RoutledgeFalmer.
- Morton-Cooper, A (2000) *Action Research in Health Care*. Oxford: Blackwell Science Ltd

### **Researcher's profile**

Devi Ranasinghe works as a Quality Consultant to the aged care sector and is a Principal Advisor to DRs Total Quality Management Training Service Pty Ltd. She has held numerous managerial positions in private, public and not-for-profit health and aged care organisations for more than 20 years. Devi has served on various professional committees and is a panel member to the Department of Health and Ageing Administrator and Advisor Panel. She has developed many quality tools to monitor quality improvement processes and manage risks, including an incident reporting system for aged care organisations. She completed her DBA with Southern Cross University in 2005, for which she developed an indicator system to monitor and measure the impact of continuous quality improvement in aged care in Australia. Devi's professional efforts were recognised by the Minister for Health and Ageing, when she received the Minister's Award for Excellence in the Aged Care Industry 2003 for Professional Development (Individuals).

### **Supervisor's profile**

Peter Miller is presently an Associate Professor in management at the Graduate College of Management, Southern Cross University. He is the Director of the College's Doctor of Business Administration program. Peter has had over 25 years management experience in public sector, private sector, VET, aged care and tertiary educational organisations. His research interests include managerial competencies, organisational learning and competency assessment, management development, leadership, organisational change and development, managerial and organisational performance and human resource development.