Tracking double degree university students’ transitions, career development and professional choices in a rural Bachelor of Nursing program

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Certificate of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, understand that it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that this thesis be accessible for the purpose of study and research in accordance with the normal conditions established by the Executive Director, Library Services or nominee, for the care, loan and reproduction of theses.

Signature

Date 14th November 2013
Acknowledgments

I am indebted to many people for their encouragement, support and assistance.

This thesis would not be possible without the inspirational stories of the participants who kindly gave of their time on numerous occasions and shared their career development journey with me. Their stories are wonderful insights into the world of career choice and nursing for the younger generations of today. For this I am extremely grateful.

To my supervisors who encouraged me and provided guidance on my own research journey covering many years. Firstly, Professor Linda Harrison for her expertise throughout the whole study but especially providing valuable editorial input and also guidance with the quantitative data collection and analysis. To Professor Jennifer Sumsion for her help and guidance with the qualitative data collection and analysis and her editorial input as well. Finally, the support of staff both academic and administrative in the three schools involved in the disciplines of nursing, education and paramedicine was invaluable with the logistics of data collection.

To my family and friends, for their love, support, encouragement and patience over the endless years of study. My husband Michael, the doctoral widower, and Jo-anne, Graeme and Douglas get special mention for being there for the long haul. As well, I have been constantly sustained by my colleagues in academia.

Dedication

This thesis is dedicated to my mother Nancye and my maternal grandmother Nona, who were the healers and carers in our family and set such a great example to follow....

… and to those who share my love of nursing.
Ethics Approval

Ethics approval was sought and obtained from Charles Sturt University Ethics in Human Research Committee, approval number 2006/227
Editorial assistance

Professional editing was limited to formatting, grammar and style (Australian Standard for Editing Practice – ASEP Standard D – Language and Illustrations, ASEP Standard E – Completeness and Consistency) and did not alter or improve the substantive content or conceptual organisation of the thesis. This assistance was provided by Lee-Anne Wilson-Smith. A fee was paid for this service from personal funds.
Publications arising from the doctoral research

Papers (listed in the order in which they appear in this doctoral research)

   Impact factor 0.43

   Impact factor unknown

   Impact factor 0.43

   Impact factor 1.477

   Manuscript accepted for publication 10th March 2013.
   Impact factor 0.67

   Manuscript in submission.
Conference papers arising from this doctoral research


Hickey, N. (2010, November). *Where have all the graduates gone? A focus on mixed methods research to gain a more complete career choice picture.* Poster presentation – 14th International Nursing Research Conference, Hospital del Rey, Universidad de Burgos, Burgos, Spain.


Statement from co-authors confirming the authorship of the PhD candidate

Paper 1

As co-authors of the paper entitled “Nursing double degrees: A higher education initiative in times of nursing shortages”, we confirm that Noelene Hickey has made the following contributions:

- Initial plan and structure of the paper
- Writing draft of the paper
- Relating the content of the paper to the existing literature
- Identifying implications for future research

Furthermore, we agree to the inclusion of the paper in this Doctor of Philosophy thesis submitted for examination.

Noelene Hickey
Date 8/7/13

Jennifer Sumson
Date 8/7/13

Linda Harrison
Date 8/7/13
Paper 2

As co-authors of the paper entitled “Using a socio-ecological framework to understand the career choices of single and double degree nursing students and double degree graduates”, we confirm that Noelene Hickey has made the following contribution

**Construction and design of the quantitative section of the research example**
- Designing the questionnaire item
- Collection of student data
- Entry and coding of data into the statistical software package

**Analysis and interpretation of the quantitative findings**
- Statistical analysis and interpretation of data under the direction of co-author, Linda Harrison

**Construction and design of the qualitative section of the research example**
- Wording of student and graduate interview schedule and student focus group schedule
- Conducting interviews and focus groups
- Transcribing interview and focus group data

**Analysis and interpretation of the qualitative findings**
- Thematic analysis of transcripts under the direction of co-author, Jennifer Sumsion
- Development of thematic maps

**Writing the paper and critical appraisal of content**
- Initial plan and structure of the paper
- Relating results to the existing literature
- Identifying implications for future research
- Writing the paper with direction and feedback from co-authors

Furthermore, we agree to the inclusion of the paper in this Doctor of Philosophy thesis submitted for examination.
Paper 3

As co-author of the paper entitled “Career choices and destinations of rural nursing students undertaking single and double degrees in nursing” I confirm that Noelene Hickey has made the following contributions

Construction and design of the research

- Designing the questionnaire item
- Collection of student data
- Entry and coding of data into the statistical software package

Analysis and interpretation of the findings

- Statistical analysis and interpretation of data under the direction of co-author, Linda Harrison
- Relating results to the existing literature

Writing the paper and critical appraisal of content

- Initial plan and structure of the paper
- Identifying implications for future research
- Writing the paper with direction and feedback from the co-author

Furthermore, I agree to the inclusion of the paper in this Doctor of Philosophy thesis submitted for examination.

Noelene Hickey

Date 8/1/13

Linda Harrison

Date 8/7/13
Paper 4

As co-authors of the paper entitled “Why nursing? Applying a socio-ecological framework to study career choices of double degree nursing students and graduates” we confirm that Noelene Hickey has made the following contributions

**Construction and design of the research**
- Wording of student and graduate interview schedule and student focus group schedule
- Conducting interviews and focus groups
- Transcribing interview and focus group data

**Analysis and interpretation of the findings**
- Thematic analysis of transcripts under the direction of co-author, Jennifer Sumson
- Development of thematic maps
- Relating themes to the existing literature
- Identifying implications for future research

**Writing the paper and critical appraisal of content**
- Initial plan and structure of the paper
- Writing the paper with direction and feedback from co-authors

Furthermore, we agree to the inclusion of the paper in this Doctor of Philosophy thesis submitted for examination.

Noelene Hickey  

Linda Harrison  

Jennifer Sumson
As co-authors of the paper entitled “Transition to work and the career destinations of double degree nurses” we confirm that Noelene Hickey has made the following contributions

**Construction and design of the quantitative section of the research**
- Designing the questionnaire item
- Collection of student data
- Entry and coding of data into the statistical software package

**Analysis and interpretation of the quantitative findings**
- Statistical analysis and interpretation of data under the direction of co-author, Linda Harrison

**Construction and design of the qualitative section of the research**
- Wording of student and graduate interview schedule and student focus group schedule
- Conducting interviews and focus groups
- Transcribing interview and focus group data

**Analysis and interpretation of the findings**
- Thematic analysis of transcripts under the direction of co-author, Jennifer Sumsion
- Development of thematic maps
- Relating themes to the existing literature

**Writing the paper and critical appraisal of content**
- Initial plan and structure of the paper
- Relating results to the existing literature
- Identifying implications for future research
- Writing the paper with direction and feedback from co-authors

Furthermore, we agree to the inclusion of the paper in this Doctor of Philosophy thesis submitted for examination.

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Linda Harrison  
Date 8/7/13

Jennifer Sumsion  
Date 8/7/13
Paper 6

As co-authors of the paper entitled “The experiences of undergraduate students undertaking nursing double degree programs” we confirm that Noelene Hickey has made the following contributions

**Construction and design of the research**
- Wording of student focus group schedule
- Conducting focus groups
- Transcribing focus group data

**Analysis and interpretation of the findings**
- Thematic analysis of transcripts under the direction of co-author Jennifer Sumsion
- Development of thematic maps
- Relating themes to the existing literature
- Identifying implications for future research
- Writing the paper with direction and feedback from co-authors

Furthermore, we agree to the inclusion of the paper in this Doctor of Philosophy thesis submitted for examination.

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Linda Harrison  
Date 8/7/13

Jennifer Sumsion  
Date 8/7/13
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full term</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGPC</td>
<td>Australian Government Productivity Commission</td>
</tr>
<tr>
<td>AHMAC</td>
<td>Australian Health Ministers’ Advisory Council</td>
</tr>
<tr>
<td>AHWAC</td>
<td>Australia Health Workforce Advisory Committee</td>
</tr>
<tr>
<td>AIHW</td>
<td>Australian Institute of Health and Welfare</td>
</tr>
<tr>
<td>AMWAC</td>
<td>Australian Medical Workforce Advisory Committee.</td>
</tr>
<tr>
<td>ANMC</td>
<td>Australian Nursing and Midwifery Council</td>
</tr>
<tr>
<td>BECT</td>
<td>Bachelor of Early Childhood teaching</td>
</tr>
<tr>
<td>BCP</td>
<td>Bachelor of Clinical Practice</td>
</tr>
<tr>
<td>BN</td>
<td>Bachelor of Nursing</td>
</tr>
<tr>
<td>BN/BCP</td>
<td>Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic)</td>
</tr>
<tr>
<td>BN/BECT</td>
<td>Bachelor of Nursing/Bachelor of Early Childhood Teaching (birth to 6 years)</td>
</tr>
<tr>
<td>CAE</td>
<td>College of Advanced Education</td>
</tr>
<tr>
<td>CCLS</td>
<td>Career Choice and Location Scale</td>
</tr>
<tr>
<td>CSU</td>
<td>Charles Sturt University</td>
</tr>
<tr>
<td>DD</td>
<td>double degree</td>
</tr>
<tr>
<td>EC</td>
<td>early childhood</td>
</tr>
<tr>
<td>ECT</td>
<td>early childhood teaching</td>
</tr>
<tr>
<td>EN</td>
<td>enrolled nurse</td>
</tr>
<tr>
<td>FT</td>
<td>full time</td>
</tr>
<tr>
<td>GDS</td>
<td>Graduate Destination Survey</td>
</tr>
<tr>
<td>HWA</td>
<td>Health Workforce Australia</td>
</tr>
<tr>
<td>ICN</td>
<td>International Council of Nurses</td>
</tr>
<tr>
<td>NCDF</td>
<td>Nursing Career Development Framework</td>
</tr>
<tr>
<td>NG</td>
<td>new graduate</td>
</tr>
<tr>
<td>NHPPD</td>
<td>nursing hours per patient day</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>NUM</td>
<td>Nurse unit manager</td>
</tr>
<tr>
<td>PG</td>
<td>post graduate</td>
</tr>
<tr>
<td>PPCT</td>
<td>process-person-context-time</td>
</tr>
<tr>
<td>RCN</td>
<td>Royal College of Nursing</td>
</tr>
<tr>
<td>RN</td>
<td>registered nurse</td>
</tr>
<tr>
<td>RRMA</td>
<td>Rural Remote and Metropolitan Areas</td>
</tr>
<tr>
<td>SD</td>
<td>single degree</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical package for the social sciences</td>
</tr>
<tr>
<td>TAFE</td>
<td>Technical and Further Education (College)</td>
</tr>
<tr>
<td>USA</td>
<td>United States of America</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>Symbol</td>
<td>Term</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of variance</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>Chi-square test</td>
</tr>
<tr>
<td>$F$</td>
<td>$F$-statistic</td>
</tr>
<tr>
<td>$p$</td>
<td>Probability value</td>
</tr>
<tr>
<td>$N$</td>
<td>Sample size</td>
</tr>
<tr>
<td>$SD$</td>
<td>Standard deviation</td>
</tr>
</tbody>
</table>
Abstract

Tracking double degree university students’ transitions, career development and professional choices in a rural Bachelor of Nursing program.

Current predictions of worsening nurse shortages in rural and metropolitan areas of Australia underline the need for registered nurses that can meet the needs of society. The introduction of double degree programs in which nursing is studied along with a similar or dissimilar discipline brought the promise of a new type of multi-skilled nursing graduate with integrative capacity to expand their scope of practice across disciplines. Double degree nursing graduates are therefore well placed to meet the complexities of healthcare systems of the present and future.

Little is known about the career development and career discipline choices of double degree nursing graduates and the type of students that have chosen double degree programs in nursing. Also unknown is how this new undergraduate pathway may affect the recruitment and retention of nurses. To address this challenge in higher education and the nursing workforce, a Nursing Career Development Framework was developed to apply a broad socio-ecological perspective to the career development and career choices of double degree nursing students and graduates. A mixed method research design with multiple cohorts of undergraduate nursing students and a longitudinal study of double degree nursing graduates was developed. Analyses of the data revealed the type of students who enrol in a nursing double degree to be younger and from a higher socio-economic background than their single degree counterparts, and to want more work options than a single degree can offer. Analysis of the career trajectory of these students showed that, while less than a quarter of first year students were interested in a nursing career, the proportion for final year students was nearly half. The students who were on track to choose a nursing career said they were attracted by the opportunities nursing offers for flexible, secure and varied work. However, results also indicated that one-third of final year double degree students planned to choose a career other than nursing. These students wanted a work style that they perceived nursing would not offer, such as a four-day working week and one-to-one teams. Findings from the graduate cohort showed that, once employed, most graduates remained in a nursing career. This was due to workplace experiences that fostered support and the advancement of their skills and knowledge.
This research has implications for the higher education sector, Government policy, the nursing profession and employers. Stakeholders need to think carefully about the efficacy of double degree programs as a means of meeting pressing goals for sustainability of the nursing profession. If the loss of double degree nursing graduates to other professions is not stemmed, this will add further to the already depleted workforce and impact on the provision of nursing care in the Australian healthcare system.
Introduction
This thesis investigates the career choices of double degree nursing students and the personal factors that affect these decisions. Because career choice decisions are formed by past experiences and relationships with significant people, these and other factors influencing career development and career decisions were also examined. The focus of this thesis is the actual or planned career pathways that double degree (DD) nursing students take and the reasons behind their choices. If DD students choose nursing, their additional knowledge and skills would be a valuable asset in an industry with worrying levels of staff shortages.

What this thesis is about
This thesis seeks to explore the reasons why undergraduate students enrol in a nursing DD (two undergraduate degrees studied concurrently), which of the two potential career paths they prefer, and what influences their career preferences at the beginning, middle and end of their study program and into their first two years of work, post-graduation. This research is timely because there is a chronic shortage of qualified nurses in Australia and the decisions DD students make to either take up or not take up a career in nursing will affect the number of graduates available to enter the nursing workforce and, in turn, the number of appropriately qualified registered nurses for the future. Nursing shortages affect not only patients’ health outcomes and well-being but also cause stress and burnout to staff in areas affected by these shortages.

The focus of the thesis is on tracking DD students’ transitions, career development and professional choices. While this topic is concerned with higher education and nursing workforce issues, the primary focus is on the students and graduates themselves, their perspectives and their experiences. As they are the experts on their own decisions, the study sought to explore career development and professional choices through their eyes.

This research is different from previous studies of nursing career choices in a number of ways. Prior research and reports have concentrated on single degree (SD) nursing students, examined career choices for nursing specialties only and described specialty preferences at the beginning and the end of a nursing degree but not actual career
decisions. Nursing students’ career choices and transitions to work has also not been examined in detail in previous studies. Furthermore, because existing career choice theories have failed to take into account the generational cohorts of today in contemporary society (Price, 2009), this research presents a new approach to theorising career development.

This introductory chapter presents the rationale for, and significance of, researching career development and professional choices in DD nursing students. Information on the background and context of nursing in higher education is discussed. The final section outlines the scope of the study, the guiding theoretical framework, the purpose of the study, the research design and the structure of the thesis.

Rationale and significance of this research
In Australia, the only pathway to become eligible to register as a qualified nurse is via a Bachelor of Nursing or equivalent degree. Double degree nursing students, on graduation, face a unique transition into the world of work. By graduation, these students will need to have decided on one of two possible career pathways because at present, apart from nursing and midwifery, the registering authority for nursing precludes taking on a position with dual professional roles. To date, there is negligible data collected on students and graduates of nursing double degrees, which means that it is not known whether or not DD graduates take up a career in nursing. The Australian Graduate Careers Surveys, which provide aggregated data from all universities, are the only source of graduate information currently available, and yet these reports do not distinguish DD nursing graduates from single degree graduates. The Nurses and Midwives Board of Australia is the registering body that gathers and records workforce data on numbers of new graduates, existing registered nurses and those with post graduate qualifications and, yet again, these records cannot identify the number of registered nurses with undergraduate double degrees. Similarly, no data are available to indicate whether DD graduates stay in the nursing workforce. Therefore, it is not only timely but critical that Governments and the nursing profession are more aware of these particular nursing student populations and the implications of double degrees for the numbers of future graduate nurses.

The shortage of qualified nurses in Australia and overseas is well known and has been discussed at length (Buchan & Calman, 2004; Carrigan, 2013; Chanz, Tam, Lung,
Wong, & Chau, 2013; McCann, Clark, & Lu, 2010; WHO, 2010). Nursing shortages impact negatively on the health outcomes of patients (Buerhaus, Donelan, Ulrich, Norman, Williams, & Dittus, 2005; Duffield & O’Brien-Pallas, 2003; ICN, 2006), cause stress and burnout in the areas with the most shortages (Duffield & O’Brien-Pallas, 2003; Spence Laschinger, Finegan, & Wilk, 2009) and, in rural and remote regions, can affect the viability of communities (AGPC, 2005; ICN, 2008; Ryan-Nicholls, 2004). Clearly, there is a need to gain an understanding of the career preferences and career decisions that double degree nursing students make during their university study and, if they do choose nursing, whether they are able to find a position that combines the knowledge and skills they have gained from both degrees. Another unanswered question is whether they stay in nursing as nurses with advanced skills are required in many specialty areas in nursing. Making career choices is a process that is influenced by students’ personal characteristics, their family and cultural background, past and present experiences, relationships, and contextual factors including preferences for living in a rural or metropolitan location. Little is known about how these factors impact on DD students’ choice of career. In sum, there are many unknowns about the outcomes of these relatively new undergraduate pathways offered, both for the individual as well as for the nursing workforce.

The central problem for higher education and the nursing workforce centres on whether DDs are beneficial or counterproductive in a time of nursing shortages. On the one hand, multiskilled nursing graduates are sorely needed in nursing, especially in rural communities (Yates, Kelly, Lindsay, & Usher, 2013) where many authors have acknowledged the need for rural nurses to have advanced practice competencies (Cant, Birks, Porter, Jacob & Cooper, 2011; Daly & Carnwell, 2003; Por, 2008). As well, graduates with integrative capacity beyond the spheres of single discipline expertise will contribute to the healthcare industry as it faces rising complexity and a shortage of resources. Cant et al., (2011, p. 178) believe that increasingly there is “… a need for nurses to practice beyond their traditional scope”. However, the counter argument is that DD students take up many of the Government funded nursing places at universities but whether they choose a career in nursing is not yet known. If they are not attracted to nursing, then nursing recruitment and retention strategies will need to be adjusted. Furthermore, it will be important to understand the reasons for DD students turning away from a nursing career. This thesis contends that the supply of
graduates into nursing may be threatened by the growing popularity of double degrees.

**Position of self in the research**

The impetus for the study derived from my long-standing personal and professional interest in nursing education and workforce issues. I have been a lecturer in nursing in both a regional and an urban university and prior to that worked as a nurse in city and rural hospitals. My observations led me to believe that the key to ideal nursing care is the supply and maintenance of a sufficient and appropriately educated nursing workforce. I have seen nursing education move from hospital based training to the higher education sector and was involved in the commencement of DDs in nursing. I taught many of these DD students in their first and final years of the course. Over this time, many DD students shared their academic experiences and career choice frustrations with me, saying for example, “I had such a great clinical placement on that paediatric ward I know I will do nursing” or conversely, “Nursing isn’t very exciting but it is something I can do if I can’t get a job”. Many final year students were undecided about which career to choose and asked me for my opinions about a career in nursing. I became interested in what motivated and influenced students to choose one career pathway over the other. Was it because of their enjoyment and interest in doing challenging work? Or was it for more pragmatic reasons to do with pay and conditions? I became increasingly concerned that many were not expressing a preference towards nursing as a career.

I was also interested to see that the response of Australia’s peak nursing body to these changes in educational pathways was minimal. I found that DDs barely rated a mention in reports on nursing workforce and education in Australia and, in a literature search, found only work that quantified the numbers of students enrolled in nursing DDs (Preston, 2009). It became obvious to me that there was a lack of literature in Australia on career transitions in nursing, despite many calls to track undergraduates and new graduates to understand nursing student attrition, graduate retention and career plans (Gaynor, Gallasch, Yorkston, Stewart, & Turner, 2006; O’Brien-Pallas, Duffield, Tomblin-Murphy, Birch, & Meyer, 2005). This contradiction, coupled with the ongoing shortage of nurses (Buchan & Aiken, 2008) and the resulting implications for the nursing workforce in Australia, inspired me to invest in empirical research and explore the specific issue of nursing DDs more fully.
**Historical context and background**

The shortage of qualified nurses in Australia is not a new phenomenon. The recent sustained rises in nursing shortages can be traced to the changes in higher education in the early to mid 1990s (Preston, 2009), which was a time of major rationalisation resulting in the reorganisation of Colleges of Advanced Education (CAE) into the university sector. Nursing education by this stage (in most Australian states and territories) had been offered in CAEs for nearly a decade following the shifting of responsibility for training and funding of nursing education from State to Federal jurisdiction and the transfer of hospital based training to the CAE sector. During this decade there were very large pre-registration nurse education programs where the qualification of a Diploma in Nursing was gained. At this time, there was an oversupply of nurses and when nursing education moved to the university sector there was a substantial reduction in the size of nursing programs and a reduction in the provision of places (Preston, 2009, p. 29). By the turn of the century, the reduced supply of nursing graduates was unable to meet demand and shortages became critical, particularly in rural and remote areas. The overall shortages particularly in areas that require certain skills such as rural nursing (Cant et al., 2011) and emergency nursing (Morphet, McKenna, & Considine, 2008; Hudson & Marshall, 2008) have continued through to the present time. Furthermore, the aging of the nursing workforce means that many registered nurses (RN) are expected to retire by the end of this present decade, which exacerbates the challenge to meet the healthcare industry needs (Preston, 2009).

At the time in the 1980s when nursing education had just transferred to the higher education sector, the Dawkins report (1988) was released by the Commonwealth Government calling for graduates to have “a broad educational foundation” and that the “long term interest of students would be best served by courses that incorporate elements of both ‘vocational’ and ‘general’ education” (p. 9). By the mid 1990s, the options for broadening undergraduate education began to include dual degree programs that combined vocational-specific and general education. By 2002, this resulted in a number of DD combinations that included nursing. In the past decade, DDs have become a popular method of study, particularly for women. Reports suggest that many women are choosing DDs with combinations that traditionally have been in
male dominated professions (Batson, Sharp, Ramsay, & MacKinnon, 2002; Russell, Dolnicar, & Ayoub, 2008).

In addition to these changes in higher education, a further concern is that many young people are no longer interested in a nursing career (Dockery & Barns, 2005; Drury et al., 2008). In the past nursing attracted altruistic young people who had a strong desire to help and care for others and a career in nursing was once seen as a secure job for life (Dockery & Barns, 2005; Eley, Eley & Rogers-Clark, 2010; Newton, Kelly, Kremser, Jolly, & Billett, 2009; Price, 2008). Yet many young people today are tempted by many numerous careers that promise excitement and/or high financial returns (Dockery & Barns, 2005; Staiger, Auerbach, & Buerhaus, 2001). The fact that nursing is not as attractive to school leavers as it once was has also impacted on the shortages of nurses.

**Recruitment, retention and rural nursing shortages**

While there have been ongoing nursing shortages across Australia for nearly two decades, these shortages impact more keenly on communities in rural and remote areas (Hegney, McCathy, Rogers-Clark, & Gorman, 2002; Kenny & Duckett, 2003). The university where this research was conducted is in a regional area and many studies have been found that demonstrate that a student’s demographic background, including a rural upbringing and rural exposure, can influence and effect their choices of career and career destination, and reasons for remaining in a rural area (Nugent, Ogle, Bethune, Walker & Wellman, 2004; Taylor, Henderson, & Neill, 2007). A number of Australian studies have investigated recruitment and retention of doctors, nurses and allied health professionals in rural areas and the factors that influence rural career destination. These include the external factors of rural origin (Schoo, Stagnitti, Mercer & Dunbar, 2005; Somers, 2004; Somers, Strasser, & Jolly, 2006; Wilkinson, Beilby, Thompson, Laven, Chamberlain, & Lawrence, 2000), education in a rural based university (AMWAC, 2002; AMWAC, 2005; Eley & Baker, 2006; Nugent et al., 2004; Somers & Strasser, 2002), rural clinical experiences (Adams, Dollard, Hollins, & Petkov, 2005; Dunbabin & Levitt, 2003) and community relationships (Cutchin, 1997).
Government initiatives

In order to address the problems of nursing shortages in the late 1990s, the Australian Government introduced a number of health policies that called for flexible services and innovative models of Primary Health Care (Australian Health Ministers Conference, 1999). Additionally, following the National Review of Nursing Education (2002), there was a recommendation that inter-disciplinary and cross-professional approaches to education and practice be encouraged and from 2002 to 2008 the number of nursing funded places at universities were increased (Drury, Francis, & Chapman, 2008; Swerisson, 2009). As a consequence the number of universities offering DD nursing programs increased, as did the number of DD students. By 2009, over one-third of nursing students were studying via a DD mode (Preston, 2009). A summary of current undergraduate nursing education programs offered by Australian universities across all the states and territories is presented in Table 1. This confirms that there are many nursing DDs to choose from.

<table>
<thead>
<tr>
<th>Universities by State</th>
<th>Single and concurrent undergraduate double degree programs encompassing nursing</th>
<th>Length of double degree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New South Wales</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Australian Catholic University (Sydney) | Bachelor of Nursing  
Bachelor of Nursing/Bachelor of Business Administration | 3 years  
4 years |
| Charles Sturt University | Bachelor of Nursing  
Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (intake ended 2011 has become the following  
Bachelor of Nursing/Grad Dip Paramedic studies  
Bachelor of Nursing/ Bachelor of Early Childhood Teaching (0-5 years) (intake ended 2010) (Bathurst only)  
Bachelor of Nursing/Bachelor of Midwifery (intake ended 2010) | 3 years  
4 years  
4 years  
4 years |
<p>| Southern Cross University | Bachelor of Nursing | 3 years |
| University of New England | Bachelor of Nursing | 3 years |
| University of Notre Dame (Sydney) | Bachelor of Nursing | 3 years |
| University of Newcastle | Bachelor of Nursing | 3 years |
| University of Tasmania (Sydney) | Bachelor of Nursing | 3 years (or equivalent) |</p>
<table>
<thead>
<tr>
<th>University of Technology</th>
<th>Bachelor of Nursing</th>
<th>Bachelor of Nursing/Bachelor of Arts (International Studies)</th>
<th>3 years 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Western Sydney</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
<td></td>
</tr>
<tr>
<td>University of Wollongong</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
<td></td>
</tr>
</tbody>
</table>

**Northern Territory**

<table>
<thead>
<tr>
<th>Charles Darwin University</th>
<th>Bachelor of Nursing</th>
<th>Bachelor of Nursing/Bachelor of Behavioural Science (ended 2010)</th>
<th>Bachelor of Nursing/Bachelor of Science (ended 2010)</th>
<th>3 years 4 years 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor Institute of Indigenous Tertiary Education</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Queensland**

<p>| Queensland University of Technology | Bachelor of Nursing  | Bachelor of Nursing/Bachelor of Health Service Management (ended 2010) changed to Bachelor of Nursing/Bachelor of Public Health Bachelor of Nursing/Bachelor of Applied Science (Human Movement) Bachelor of Nursing/Bachelor of Health Science (Public Health) Bachelor of Nursing/Bachelor of Behavioural Science (Psychology) Bachelor of Nursing/Bachelor of Health Science (Paramedic) Bachelor of Nursing/Bachelor of Midwifery (intake ended 2010) | 3 years 4 years 4 years 4 years 4 years 4 years 4 years |
|---------------------------------|----------------------|---------------------------------------------------------------|---------------------------------------------------|------------------|
| Australian Catholic University (Brisbane) | Bachelor of Nursing  | Bachelor of Nursing/Bachelor of Paramedic studies Bachelor of Nursing/Bachelor of Business Administration (new) | 3 years 4 years |
| Central Queensland University | Bachelor of Nursing | 3 years |
| Griffith University | Bachelor of Nursing  | Bachelor of Nursing/Bachelor of Health Promotion (intake ended 2010) | 3 years 4 years |
| James Cook University | Bachelor of Nursing Science  | Bachelor of Nursing Science/Bachelor of Midwifery | 3 years 4 years |
| Southern Cross University (Gold Coast/Tweed Heads) | Bachelor of Nursing | 3 years |
| University of Queensland | Bachelor of Nursing  | Bachelor of Nursing/Bachelor of Midwifery | 3 years 3.5 years |
| University of Southern | Bachelor of Nursing | 3 years |</p>
<table>
<thead>
<tr>
<th>Queensland</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Sunshine Coast</td>
<td>Bachelor of Nursing Science</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing Science / Bachelor of Midwifery (new)</td>
<td>4 years</td>
</tr>
<tr>
<td>South Australia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flinders University</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Health Science (Paramedic)</td>
<td>4 years</td>
</tr>
<tr>
<td>University of Adelaide</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td>University of SA</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td>Victoria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian Catholic University (Ballarat)</td>
<td>Bachelor of Nursing</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Arts (intake ended 2010)</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Paramedic studies</td>
<td>4 years</td>
</tr>
<tr>
<td>Australian Catholic University (Melbourne)</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Arts (intake ended 2010)</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Business Administration (new)</td>
<td>4 years</td>
</tr>
<tr>
<td>University of Ballarat</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td>Deakin University</td>
<td>Bachelor of Nursing/Bachelor of Applied Science (psychology)</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Commerce (intake ended 2010)</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Public Health and Health Promotion</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Midwifery</td>
<td>4 years</td>
</tr>
<tr>
<td>La Trobe University</td>
<td>Bachelor of Nursing</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Midwifery</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Public Health (intake ended 2010)</td>
<td>4 years</td>
</tr>
<tr>
<td>Monash University</td>
<td>Bachelor of Nursing/Bachelor of Emergency Health (Para)</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Rural Health Practice (intake ended 2010)</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor or Nursing/Bachelor of Midwifery</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor or Nursing Practice/Bachelor of Midwifery</td>
<td>4 years</td>
</tr>
<tr>
<td>RMIT University</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td>Victoria University</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td>Western Australia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curtin University</td>
<td>Bachelor of Health Science (Nursing)</td>
<td>3 years</td>
</tr>
<tr>
<td>Edith Cowan University</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Science (Nursing)/Bachelor of Science (Midwifery)</td>
<td>4 years</td>
</tr>
<tr>
<td>Murdoch University</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
</tbody>
</table>
The development and design of DDs brought many challenges for universities. First, they needed to ensure that the student graduates met requirements for two separate degrees. Decisions also needed to be made about whether subjects in the two degrees would be studied consecutively or concurrently, how many years of full-time study would be required to complete both degrees and how credit when subject material overlapped was to be determined. For faculties and administering schools there were curriculum issues to be addressed such as the amount of content to be included, timetabling arrangements for lectures, tutorials or laboratory work offered across separate schools, and timetabling to manage practicum requirements for nursing and the other discipline area.

There were also issues for the students to consider, such as weighing up the benefits of graduating with two degrees after a shorter period of time than it would take to study two degrees separately against the limitations of having to study for at least one extra year before being able to graduate and be employed as a nurse or in the other discipline.

**Scope of the study**

This doctoral research reports on the transitions, career development and professional choices of DD university students in Bachelor of Nursing Programs. The following section provides a brief overview of the study; the guiding framework for the

<table>
<thead>
<tr>
<th>University of Notre Dame (Perth)</th>
<th>Bachelor of Nursing</th>
<th>3 years</th>
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</thead>
<tbody>
<tr>
<td><strong>Tasmania</strong></td>
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<td></td>
</tr>
<tr>
<td>University of Tasmania</td>
<td>Bachelor of Nursing</td>
<td>3 years or equivalent</td>
</tr>
<tr>
<td><strong>Australian Capital Territory</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian Catholic University (Canberra)</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Bachelor of Nursing/Bachelor of Paramedic studies</td>
<td>4 years</td>
</tr>
<tr>
<td>University of Canberra</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Other Providers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holmsglen Institute of TAFE</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
</tr>
<tr>
<td>Avondale College</td>
<td>Bachelor of Nursing</td>
<td>3 years</td>
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</tbody>
</table>
research: the purpose of the study and research questions; its design and approach; the methodology including context, recruitment of the sample, data collection and data analysis; ethical issues; and the structure of the thesis.

The Nursing Career Development Framework – a socio-ecological approach

Formulating an appropriate theoretical framework for investigating Australian higher education students’ career choices, development and transitions to the workplace drew on socio-ecological theory as proposed by Bronfenbrenner (2001). This human ecology theory was felt to provide the best theoretical basis for the study because it offered the most differentiated and complete account of contextual influences on development over time. Career choice and career development are very personal in nature and yet it is known that these choices, the same as other major choices in life, are influenced by other people, events and environments. The Nursing Career Development Framework (NCDF) was designed to be used as the guiding framework in all phases of the research. It combined the influences that act at a personal level (e.g., who are the students who enrol in a DD in nursing?) with the influences of the wider environment (e.g., what is it that influenced their career decisions?). It provided a mechanism to examine DD students’ career development and career choices at different times, both during their studies and after graduation. The NCDF was in accord with a mixed method approach because it supports the use of more than one source of evidence and convergence of findings, thus allowing the development of questions for surveys, focus groups and interviews through a sequential process. It accommodated all the complexity inherent in understanding the multiple factors that influence contemporary students’ career choices and consideration of the implications for the future supply of all nurses. This approach used in this thesis was also aligned with pragmatism, a paradigm that appealed because of its capacity to move research beyond the boundaries and restrictions of a single paradigm to develop an explanation tailored to fit particular practical situations (Doane, 2003).

Purpose of the study

This doctoral research aims to address some of the identified knowledge deficits and to increase understanding about the career development and career choices of DD nursing students as they transition through university to the workplace and their first two years of work. Four research questions were developed:
1. a. What type of students enrol in a double degree in nursing and early childhood teaching or nursing and paramedic studies, and what has influenced their decision?
   b. Are their reasons, experiences and influences similar to or different from students commencing a single degree in nursing?

2. a. Do double degree nursing students change their career preferences during their program of study?
   b. When do they do this and what has influenced the changes or confirmation?

3. Does the experience of a rural background or a program of study at a rural university influence career development, choices and destination of double degree nursing students?

4. a. Where do double degree nursing graduates work in their first two years post-graduation?
   b. What is it in their transition from 4\textsuperscript{th} year student to their 1\textsuperscript{st} and 2\textsuperscript{nd} post graduate years that influences this choice?

**Design and approach of the study**

The four research questions (page 5) provided the guiding parameters from which paradigmatic and methodological decisions were made. In order to investigate and gain a deeper understanding of the career development and career choices of DD nursing students and graduates, a sequential explanatory mixed method study was conceptualized. In designing a study that would generate the type of information required, a number of sequential phases occurred. A cross-sectional cohort study of all nursing undergraduate students was conducted, with follow-up interviews and focus groups with first and final year undergraduate DD students. A longitudinal cohort study of DD graduates in their first two years was also conducted. Data collection sought to build a picture of nursing students’ and graduates’ career development and choices over time and the influences on their decisions at different levels and from different contexts.
Methodology
The context and sample
The context for this study was a regional university in NSW that draws a large proportion of its students from the surrounding rural areas. This university was the ideal site for the study because it was one of the first in Australia to develop DD programs in nursing: a Bachelor of Nursing /Bachelor of Early Childhood Teaching (birth to 5 years) (BN/BECT) and a Bachelor of Nursing /Bachelor of Clinical Practice (pre-hospital care) (BN/BCP). These programs commenced in 2002. The university also offered a single degree (SD) Bachelor of Nursing program. A convenience, non-probability sampling technique was used to gather data. Sample 1, participants in a quantitative cross-sectional cohort study, consisted of 209 undergraduate nursing students in both the DD and the SD programs across all years. Sample 2, participants in qualitative one-on-one interviews and focus groups, were recruited from Sample 1 and consisted of 12 first year and 22 final year DD students. Sample 3, participants in a longitudinal cohort study, consisted of 34 DD graduates who were interviewed by telephone.

Data collection
The data were collected during 2008 and 2009 using four methods: a questionnaire, one-on-one interviews, focus groups and telephone interviews. The interviews and focus groups took approximately 40 – 60 minutes, were audio taped (except for field notes of the first three graduates) and then transcribed verbatim. Additional audit data were obtained from official Charles Sturt University (CSU) records and contained Graduate Destination Survey (GDS) employment results over a four-year continuous period for a total of 86 graduates.

Analysis of the data
The quantitative data from the repeated cross-sectional survey questionnaires were entered into SPSS (Version17, SPSS Inc., Chicago, IL, USA) for analysis. Descriptive statistics (for example means, percentages) were calculated. As well, group comparisons were conducted using chi square ($\chi^2$) tests and analysis of variance (ANOVA). Quantitative demographic and career destination data collected from the graduate interviews were also entered into SPSS and analysed. For the qualitative data, the transcriptions (and three sets of field notes) were entered into the data management program NVivo Version 8 (V8) and this was invaluable in managing the coding and thematic analysis of the data from the 68 interview transcripts and the four
focus groups. Data were analysed thematically using a ‘theoretical’ or ‘deductive’ approach. Themes were identified at a semantic level and were driven by my interest in the career development and career and location choices of DD students.

**Ethical issues**
Every attempt was made to ensure individual confidentiality and guarantee anonymity because of the nature of the data collection from one university site. Voluntary informed consent was gained from each participant prior to collecting data. All completed questionnaires were given a number, as were interview transcripts, and these numbers were kept separate from students’ and graduates’ names. Anonymity was ensured by the use of pseudonyms when quoting verbatim and all data collected from both students and graduates were analysed by this researcher. I was known to some of the students and graduates because I had been involved in teaching nursing subjects at this university, but approvals and data collection were undertaken after I had resigned from my position and moved to another university.

**Structure of the report**
This doctoral thesis is presented as a mixture of text/chapters and journal articles. Five manuscripts have been published by Australian or international peer reviewed journals and the sixth is ready for submission. The first five manuscripts are presented in their entirety and each reports a distinct stand-alone study, hence the style, spelling and referencing may vary slightly. Each manuscript (see Table 2) contains a review and discussion of the relevant literature and provides a description of the methods employed in the research and the key findings.

The thesis is structured as follows. This introductory chapter has given a general overview of the literature and background on the issue of career transitions for contemporary nursing students in the changing Australian higher education system. It has sought to identify knowledge gaps relating to the career choices of DD nursing students. This section has provided a preliminary understanding of the multidimensional nature of the phenomena of interest, and serves as an introduction to the topic of the doctoral research. As well, this introduction provides an overview of the theoretical framework and a brief outline of the research design and methodology that guided the whole of the doctoral research. The thesis is presented, in the main, as a series of manuscripts that are identified below (Table 2).
Finally, the brief synopsis given in this introduction provides a structured map for the thesis, which is presented in three sections. Part 1 consists of two discussion papers. Paper 1 reviews current nursing workforce shortages, new trends in the Australian nursing education context and the possible impact of nursing DD programs, and provides a context for the empirical research. Paper 2 reviews the adequacy of prior development theories for conceptualizing this research and details the development of the Nursing Career Development Framework (NCDF). The NCDF is then illustrated through a brief outline of how it was utilized in this mixed methods research study. Part 2 describes the methodology of the study, beginning with an explanation of pragmatism as the guiding paradigm. It details the design of the doctoral research as a sequential explanatory mixed method design, which enabled the research questions about the career development of DD nursing students and graduates to be answered. Part 3 consists of three published papers and a manuscript that present different aspects of the research results. Paper 3 presents the quantitative results of the cross sectional cohort study that identified and compared the location and career preferences of single degree \((n = 77)\) and DD nursing students \((n = 139)\). Paper 4 presents the qualitative results of a thematic analysis of interview data provided by beginning DD nursing students, focus group data from completing DD nursing students and telephone interview data from DD nursing graduates in their first and second graduate years. These data and analyses explored the career development, aspirations and choices of DD nursing students and graduates. Paper 5 presents results from a mixed method study that investigated the transition to work and career destinations of DD nurses. Two types of data from the same university were drawn on: (1) audit data from Graduate Destination Survey (GDS) reports for DD nursing graduates and (2) data from a recruited sample of DD nursing students and graduates. Paper 6 presents the results of a qualitative study that used thematic analysis to analyse focus group data provided by final year DD nursing students to understand their experiences of studying via DD programs. Part 4 presents an overall discussion of the findings reported in the four research papers. It is presented as an interpretive perspective of the findings in relation to the ecological systems approach outlined in the NCDF and to related literature. Part 4 brings this material together to provide a broad consideration, understanding and explanation of the complex influences affecting nursing students’ career development and career choices. The final section
of Part 4 re-examines the major findings of this study and focuses on the relevance of these research findings to propose a series of recommendation for nursing education and the recruitment and retention of appropriately educated nursing professionals for the present and future workforce.

Table 2. Aims and Methods of the Papers Presented in this Doctoral Research.

<table>
<thead>
<tr>
<th>Paper title</th>
<th>Aims</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Nursing double degrees: A higher education initiative in times of nursing shortages</td>
<td>To review the literature and identify the issues associated with nursing double degree (DD) programs in Australia and current knowledge about the impact of these DD programs on nursing shortages</td>
<td>Review</td>
</tr>
<tr>
<td>2) Using a socio-ecological framework to understand the career choices of single and double degree nursing students and double degree graduates</td>
<td>1) To examine previous research into the educational preparation and career development of nursing students 2) To review prior development theories and their use for understanding the career choice of single and DD nursing students of today 3) To examine Bronfenbrenner’s socio-ecological model of development and to explain its adaption into the Nursing Career Development Framework (NCDF) 4) To explore and demonstrate the usefulness of an ecological systems approach for understanding career transitions and trajectories of nursing students</td>
<td>Review and illustrative study using the NCDF</td>
</tr>
<tr>
<td>3) Career choices and destinations of rural nursing students undertaking single and double degrees in nursing</td>
<td>1) To identify and compare the location and career preferences of students enrolled in single and DD nursing programs at a rural university 2) To gain an understanding of what influenced and motivated these students to enrol in nursing</td>
<td>Questionnaires completed by 77 SD and 132 DD BN students. Descriptive statistics, chi square ($\chi^2$) tests and analysis of variance (ANOVA) of responses</td>
</tr>
<tr>
<td>4) Why nursing? Applying a socio-ecological framework to study career choices of double degree nursing students and graduates</td>
<td>To investigate the career development, aspirations and choices, particular to nursing students and graduates enrolled in double degree programs</td>
<td>Thematic analysis of: interviews with 12 first year DD BN students, focus groups with 22 final year DD BN students, repeated interviews with 34 DD BN graduates</td>
</tr>
<tr>
<td>5) Transition to work and the career destinations of double degree nurses</td>
<td>1) To identify the career preferences of DD undergraduate nursing students and graduates during the transition from university to work, and to investigate why a nursing career is chosen or not chosen 2) To identify their career locations either rural or city</td>
<td>1. Questionnaires completed by 78 final year DD BN students, analysed using, descriptive statistics, chi square ($\chi^2$) tests and ANOVA</td>
</tr>
</tbody>
</table>
2. Thematic analysis of: focus groups with 22 final year DD BN students, repeated interviews with 34 DD BN graduates
3. Audit data from Graduate Destination Survey (GDS) reports comparison

| 6) The experiences of undergraduate students undertaking nursing double degree programs | 1) To explore the nature of UG nursing students’ experiences of studying in a DD mode.  
2) To better understand what experiences impact on students during their degree and how these experiences might influence students’ career development | Thematic analysis of data from four focus groups with a combined total of 22 final year DD BN students |

**References**


Yates, K., Kelly, J., Lindsay, D., & Usher, K. (2013). The experience of rural midwives in dual roles as nurse and midwife: "I'd prefer midwifery but I chose to live here". Women and Birth, 26 (1), 60-64.
PART 1

Background and development of a theoretical framework

In Part 1 of this doctoral thesis, two published papers are presented to introduce the key issues of concern and the concepts that guided the development and design of the research.

The first is a comprehensive discussion paper that identifies the current issues surrounding the introduction of undergraduate nursing double degrees into the higher education sector and the possible impact of these programs. It explains the evolution of nursing double degrees in higher education, sets out what is currently known about nursing and double degrees, and explores their potential to address current and future nursing workforce shortages. The concerns this paper addresses are that the numbers of Bachelor of Nursing graduates taking up a career in nursing have not been sufficient to meet the growing demands of industry and that double degree programs are now a popular mode of study for Bachelor of Nursing students, but the impact of this new undergraduate pathway on the recruitment and retention of nurses is not yet known. The paper exposes inadequacies in current knowledge about nursing double degrees and argues there is an urgent need to gather baseline data on double degree students and graduates and their career choices. As an introductory position paper, it raises many unanswered questions regarding the introduction of nursing double degrees and the impact these may have on nursing shortages. It also provides a context for the design of the empirical research.
Nursing double degrees: A higher education initiative in times of nursing shortages

Nursing double degrees: a higher education initiative in times of nursing shortages

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ABSTRACT

Objective
The aim of this paper is to raise awareness of nursing double degrees (DD) and pose questions about their possible impact on nursing shortages.

Setting
Nursing education in the Australian higher education sector.

Primary argument
DDs that include nursing are now offered in 13 universities in Australia with over one third of undergraduate nursing students studying by DD mode. The paper argues that the nursing profession should be alert to the growing presence of DD nursing students and graduates and consider the implications of DDs as part of future workforce planning.

Conclusions
To take account of DD graduates who do not choose to take up a career in nursing, there needs to be an increase in Australian Government funded nursing places and more incentives to remain in nursing. Additionally, where a DD includes a second professional qualification (e.g. teaching, paramedicine) there needs to be some relaxation of cross professional regulations and scopes of practice so that DD graduates can practice in both disciplines.

KEY WORDS
Double degrees, nursing shortages, nursing education.
INTRODUCTION

The increasing shortages of nurses is well documented globally and locally (Buchan and Aiken 2008; Buchan and Catman 2004; Hegney et al 2002; ICN 2004; WHO 2003). These shortages have a negative impact on the health outcomes of patients. They can also lead to stress and burnout in nurses and then consequently to problems with recruitment and retention (Buchan 2006; Hegney et al 2006b; Morrison et al 2001; van den Tooren and de Jonge 2008). Recruitment and retention issues are not just confined to metropolitan areas but they are also found in rural areas where they can adversely affect the health and sustainability of whole communities (AgPC 2005; ICN 2008; Mahnken 2003; Ryan-Nichols 2004; WHO 2003).

Australia faces a predicted shortfall of between 10,000 to 12,000 registered nurses (RNs) by 2010. To meet this shortfall, at least a doubling of current graduate completions per annum is required (AHWAC 2004). In 2008 the numbers of graduates fell far short with only 7,011 students completing a nursing degree (Preston 2009). Addressing the shortage of graduates presents challenges for the higher education sector, which shares a responsibility with the Federal, state and territory governments, and the nursing profession for ensuring sufficient numbers of qualified nurses to meet present and predicted vacancies (Crowley and West 2002).

Undergraduate double degrees with nursing in Australia

A key initiative from the higher education sector has been the introduction of nursing DDs. DDs involve studying two undergraduate degrees concurrently. DDs can also be termed dual, combined or joint degrees; there is no common terminology used in Australian universities (Batson et al 2002; Russell et al 2008). Over 33% of nursing students study by DD mode (Preston 2009). This proportion is much higher than the 13% of all students who are enrolled in DD programs (GDS 2008). DDs involving nursing are taught conjointly and can be either within a similar discipline area eg Bachelor of Nursing/ Bachelor of Rural Health Practice or across two separate discipline areas eg the Bachelor of Nursing/ Bachelor of Behavioural Science (Psychology). DDs range between four to six years in length depending on the university requirements and the degree of similarity in the combined disciplines. For example, all Bachelor of Nursing/Bachelor of Midwifery DDs are four years but a Bachelor of Nursing/Bachelor of Arts in International Studies is five years.

An example of typical DD programs are two offered at Charles Sturt University (CSU), a regional university in New South Wales, Australia. Enrolling nursing students can choose between the three year Bachelor of Nursing or two four-year DD programs: the Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (BN/BCP) and the Bachelor of Early Childhood Teaching (birth to five years)/Bachelor of Nursing (BECT/BN). As in many other DD programs students choosing these concurrent DDs complete two separate three-year degrees in a four year period and gain knowledge, experience and skills from two disciplines. The BECT/BN gives graduates a very broad understanding of the child, both sick and well, from the hospital to the community setting to child care, while the BN/BCP equips graduates to work in both pre-hospital as well as hospital care areas.

While the growth and popularity of nursing DD programs suggests they may be a positive development, little is known about their impact on the numbers of nursing graduates who choose to work as a nurse. There is a lack of knowledge about why increasing numbers of students are interested in DDs or what their experiences are like while studying two degrees concurrently. Similarly, we know little about their career pathways, whether their career preferences change during their studies, and which career they eventually choose. Indeed they may not intend to do nursing. It is possible therefore that the DD initiative may not provide the panacea that was hoped for.

The purpose of this article is to identify some of the issues and unanswered questions associated with nursing DD programs and to consider their potential
to address the current nursing shortages. The article consists of three sections. The first section provides an overview of the main reasons for the nursing shortages to establish a context for considering the possible impact of DDs. The second section outlines the Australian nursing education context as a key factor influencing the supply of nurses. The third section makes a number of recommendations concerning the necessity to gather baseline data and increase funded places in nursing.

DISCUSSION

Reasons for nursing shortages
This section briefly discusses five main reasons for the current workforce shortages. Difficulties include balancing supply and demand through funding mechanisms; recruiting suitable students into nursing courses; and retaining new graduates and experienced nurses. These difficulties are exacerbated by the changing nature of the nursing workforce and expanding career opportunities for nurses outside of nursing.

Balancing supply and demand
Balancing the supply and demand of nurses through funding mechanisms is an ongoing policy challenge. There was a rapid growth in the number of qualified nurses from the 1960s through to the 1980s as a result of increasing demand arising from the expansion of health services (Preston 2009). The recession in the early 1990s led to sudden cutbacks in expenditure by state governments and consequently in the employment of nurses (Preston 2009). Nurses who couldn’t find work moved into other areas and, in response to the glut of nurses, governments reduced the numbers of funded places in nursing education (Preston 2009). By the late 1990s when vacancies and replacement requirements began to increase, the supply of nursing graduates was insufficient to meet demand.

A decade later the supply of nursing graduates is still not able to keep up with current demand. The problem is exacerbated by the retirement of large numbers of nurses who entered the profession from the 1960s to the 1980s (ANF 2006; Preston 2009).

Some argue, however, that the problem is not so much a lack of supply of graduates but rather a reluctance of many RNs to take up nursing and to continue to work as nurses in the present conditions (Buchan and Aiken 2008). Whether the growing availability and popularity of DDs will ameliorate or exacerbate the shortage of nurses is unknown.

Recruitment of suitable students into nursing courses
To address the nursing shortages one strategy of the Australian Government has been to increase funded places in universities for nursing students. Following increases in the number of funded places from 2002 to 2008 (Drury et al 2008), the Royal College of Nursing Australia (2009) reported there were more nursing students being educated in Australian universities than ever before. Many of these places have been taken up by mature age students and increasingly DD students. Mature age students make up over one third of BN student recruits (Drury et al 2008). They are high achievers and have less attrition rates than the younger traditional students (Kevern et al 1999). While mature age students can help to relieve some of the current workforce shortages their likely shorter career spans, and decreased working hours per week (AHWAC 2004) will intensify the shortages predicted in the next decade (Drury et al 2008; Crowley and West 2002).

Nursing shortages are further exacerbated by the reluctance of school leavers to consider nursing as a career, a trend that has been identified in Australia and overseas (Buerhaus et al 2000; Dockery and Barns 2005; Drury et al 2008). The main reasons cited are a decline in young females interested in jobs traditionally seen as ‘women’s work’ and expanding career options for females (Dockery and Barns 2005; ION 2008; Staiger et al 2001). Many studies have identified the types of students who choose nursing, and what motivates and influences their decision (Boughn 2001; Dockery and Barns 2005; Larson et al 2003; Newton et al 2009). Although school leavers are attracted to DD programs (Batson et al 2002; Russell et al 2008) as yet, no study appears to have investigated why students enroll in a nursing
DD program or whether they take up a career in nursing after graduation.

Retaining new graduates
Nursing shortages can negatively affect graduate transition programs and the experience of new graduates. To maximise employment options, the large majority of nursing graduates in Australia seek to undertake a graduate transition year in a healthcare facility of their choice. Hospitals generally have an official graduate transition or mentoring program that consists of the graduate rotating through wards or areas with support from a program educator, mentor or preceptor. Because of the insufficient numbers of experienced nurses who are able to take on a mentoring role, many facilities have a limited capacity to accept new graduates. The difficulties associated with inadequate orientation to clinical areas and the lack of ongoing support in transition programs contribute to the high attrition of new graduates in that first year (Hayman-White et al 2007; Hegney et al 2002; McCabe et al 2005; Mills et al 2007; Newton et al 2009).

A further problem is horizontal violence in the form of aggression and marginalization by other staff members which is reported to be disproportionately directed towards new graduates (Hegney et al 2002; Lea and Cruickshank 2007). Blame for the high attrition rate is also attributed to universities because of the alleged unpreparedness of graduates (Crowley and West 2002; Kenny and Duckett 2003).

Retaining experienced nurses
Experienced RNs report the inability to provide quality nursing care as the main cause of their dissatisfaction, burnout and decision to leave or reduce their hours of work (Hegney et al 2002; Hegney et al 2003; Morrow 2009). This inability is related to overwhelming workloads caused by the increased intensity of nursing activities and the increased acuity of patients serviced with no matching increase in staffing levels. The other reasons commonly given are the lack of autonomy, the inappropriate skill mix of staff and workplace violence perpetrated by patients, visitors and other staff (Aiken et al 2009; Hegney et al 2008a; Jackson et al 2003).

The changing nature of the nursing workforce
Changes in the nature of the nursing workforce also contribute to the shortage of nurses. Almost one third (30%) of RNs are not currently in the nursing workforce (Preston 2009) and of those who are, almost half (43%) work part time (AIHW 2009; ANF 2006). Moreover, 49% of nursing graduates entering the workforce are mature-age (over 25 years of age), as previously mentioned, the age profile of graduates exacerbates the challenges associated with an aging workforce (Drury et al 2008; Gaynor et al 2007; Tindle and Lincoln 2002). Other factors include RNs changing careers (Kelly and Ahearn 2008) and the 7% "out" migration of the mostly young RNs to work and travel overseas (Preston 2009). Collectively, these factors lead to a net loss in the nursing workforce.

Expanding career opportunities outside nursing
The growing labour market for nurses outside their traditional employment options also contributes to a loss of qualified RNs and warrants careful consideration in the context of the growth of nursing DPs. Technological advances mean more health services are provided at home and in the community (Swerisson 2009). As well, there are increased career opportunities and demands for nurses in generic management positions (ICN 2008). In addition, approximately 15% of nurses in Australia work in related occupations that are not officially designated as 'nursing' (Preston 2009). On the periphery of the healthcare system, for example, are early intervention programs such as Families First and Brighter Futures that promote the safety and well being of children and young people at risk (NSW Government 2009). While these programs do not require staff with nursing qualifications, a DD nursing graduate with the second degree in early childhood teaching is well qualified to work in these programs.

Restrictive and arguably outdated regulations that place artificial constraints on nurses' capacities to practice nursing outside traditional employment options may also exacerbate shortages. This problem is evident when nurses requalify in order to move into paramedicine in the ambulance services, another area that attracts nurses. RNs who wish to change
to paramedicine can do so relatively easily because they gain advanced standing in recognition of prior learning. Therefore RNs may fast track into a higher level in the ambulance service than paramedics in training with no prior qualifications (Reynolds and O’Donnell 2009).

DD graduates with qualifications in nursing and paramedicine may also work in the ambulance services. A study conducted in the Central West of NSW identified that the rural ambulance service would be keen to employ multiskilled nursing and paramedic DD graduates but that within the ambulance service, DD graduates would be limited to working as paramedics (Hickey 2005). Regulations would prohibit them from using their nursing competencies. This anomaly could indicate that the healthcare industry may not be ready for these DD professionals. Regulations in Australia whilst protecting titles and professional autonomy on the whole do not allow cross professional care even though it could improve workforce efficiencies (Swersson 2009).

The nursing education context
Nurse education has seen a number of dramatic changes over the last 25 years. This section focuses primarily on the development of DDs in nursing against a backdrop of DDs in general.

Changes in the delivery of undergraduate courses
In Australia as in many other developed countries the supply of nurses is inextricably linked with initiatives in higher education. While there are a number of different entry points eg. school leavers, enrolled nurses (Division 2), a Bachelor of Nursing (BN) degree has been the only pathway to becoming a registered nurse since nursing education was transferred from hospitals to tertiary institutions in the late 1980s (Russell 1990; Swerisson 2009). In an effort to make nursing courses more attractive Universities have become more flexible in their delivery of these courses by providing prospective students with many choices. Nursing students can now undertake part time study, distance education BN courses, online BN courses, enrolled nursing (Division 2) pathways, as well as DDs of varying lengths combining a BN with another undergraduate degree. A search of university websites indicated that in 2008 there were 18 of these DDs on offer and in 2010 it had risen to 29. There has been an exponential growth in nursing DDs and the impact of DD students on Bachelor of Nursing programs and tertiary educators is unknown.

Who do nursing double degrees attract and why?
As mentioned previously, we know little about the students who enrol in nursing DDs, or why they are attractive to them. Broader studies of DD students (i.e. across all discipline areas) indicate that DDs tend to attract a different type of student than do single degrees. DD students are more likely to have enrolled straight after completing high school (school leavers); their tertiary entrance scores generally are higher than the scores required for entry to equivalent single degrees; and there are more females than males (Batson et al 2002; Russell et al 2008). These studies indicate that students perceive the advantages of DDs as being a less costly and time efficient method of gaining an additional degree. They receive a reduction in completion time due to credits across disciplines and they gain a broader education with increased skills and options to those of single degree students (Batson et al 2002; Russell et al 2008). It would seem reasonable to assume that DDs that encompass nursing appeal to students for similar reasons, but in the absence of empirical data about nursing DD students, we can only speculate about who is attracted to a DD with nursing and the advantages seen. There can be little doubt, though, that nursing needs high achieving students and talented multiskilled professionals who are able to work across disciplinary boundaries.

RECOMMENDATIONS
The issue for universities and the nursing profession is whether multiskilled nursing DD graduates are choosing to enter nursing or a role that involves nursing, or whether they are looking elsewhere. As this paper has highlighted, there are many other related, unanswered questions about DD nursing students and graduates. These questions are related to their dual career pathways. For example,
do students decide on their preferred career choice before they enrol? Do their experiences of studying by DD mode confirm or change their career preferences in relation to nursing? If they change their career preference during their university experiences is this important? What is it that makes them change to or away from nursing? Is there something that nursing is not offering that they desire? As graduates, do they look for work in one discipline area or in a position that combines the knowledge and skills acquired through their DD? Are they highly mobile in their careers, in the sense of wanting multiple career options and the ability to move between careers associated with their dual career pathway? Are they less likely to stay on a single career path? In light of so many unknowns, the paper concludes with two recommendations: 1) the need to obtain baseline data on DD nursing students and graduates; and 2), given the many unknowns about the career outcomes of DD graduates, the need to increase funded places for nursing education in Australian universities and relax regulations concerning cross professional employment.

Obtain baseline data on DD nursing students and graduates

As a matter of urgency, baseline data needs to be obtained on DD nursing students’ characteristics, completion rates, graduate locations, career choices and retention rates as this is vital information for the future planning of the nursing workforce. Given that many cohorts are now graduating, it is timely to undertake investigations of DD students and graduates. While Graduate Destination surveys give an overall picture that DD graduates have higher employment rates and higher salaries as compared to single degree graduates (GDS 2008), they are not sensitive enough to give data on discreet DD combinations, such as nursing DDs. This is also true of the registering authorities in each State. Data is kept on numbers of RNs and those with post graduate degrees, but again these records cannot identify the specific numbers of DD graduates who register and are or are not employed as registered nurses. There is an urgent need for research that provides data on these students and graduates and insights into their career decision making.

Increase funded places for nursing and relax regulations concerning cross professional employment

Despite the increase in government funded nursing places in universities since 2002, the number of places still falls far short of the present and predicted industry requirements. With the increased intake of students including DD students there is an arguably unrealistic expectation that there will be more ‘work ready’ RN graduates. To take into account DD graduates who do not choose nursing, there needs to be an increase in Federal Government funded nursing places and more incentives for those who enter and remain in nursing. Additionally, there needs to be some relaxation of cross professional regulations and scopes of practice so that DD graduates can practice in both of the disciplines in which they have gained qualifications. If regulations were relaxed, these multiskilled graduates might not be lost to the nursing workforce; rather they would be seen as an asset.

CONCLUSION

In conclusion at a broad structural level the future focus on addressing nursing education, workforce planning, recruitment and retention strategies must take into account the significant presence of DD nursing students and graduates. DD students are filling undergraduates nursing funded places at Universities but if they choose not to do nursing after graduation this needs to be identified. Should this prove to be the case, in order for DDs to contribute to addressing the nursing shortage, targeted strategies will need to be developed to retain DD nursing graduates.

REFERENCES


Paper 2 focuses on the search for, choice of, and development of a suitable theoretical framework to guide the empirical research to address the problems identified in Paper 1. It reviews a range of past and present career development theories and concludes that these are inadequate for a study of contemporary nursing students. The paper argues that limitations of the reviewed theories can be addressed by an application of Bronfenbrenner’s socio-ecological framework to career development in higher education students. The approach is conceptualized in an adapted model, the Nursing Career Development Framework (NCDF) to facilitate an understanding of the complex issues affecting undergraduate nursing double degree students at a micro and macro level. The NDCF is explained as a means through which empirical research can understand, examine, and build a picture of the many influences that can affect nursing students’ and graduates’ career development and career choices. The paper further argues that this approach is appropriate for addressing some of the challenges facing nursing today that are associated with nursing recruitment, education and career choice. The usefulness of the NCDF is demonstrated by a brief illustration of how it has informed the design of the present research.
Using a Socioecological Framework to Understand the Career Choices of Single and Double-Degree Nursing Students and Double Degree Graduates

Review Article

Using a Socioecological Framework to Understand the Career Choices of Single- and Double-Degree Nursing Students and Double-Degree Graduates

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Untested changes in nursing education in Australia, such as the introduction of double degrees in nursing, necessitate a new research approach to study nursing career pathways. A review of the literature on past and present career choice theories demonstrates these are inadequate to gain an understanding of contemporary nursing students’ career choices. With the present worldwide shortage of nurses, an understanding of career choice becomes a critical component of recruitment and retention strategies. The purpose of this paper is to demonstrate how an ecological system approach based on Bronfenbrenner’s theory of human development can be used to understand and examine the influences affecting nursing students’ and graduates’ career development and career choices. Bronfenbrenner’s socioecological model was adapted to propose a new Nursing Career Development Framework as a way of conceptualizing the career development of nursing students undertaking traditional bachelor of nursing and non-traditional double-degree nursing programs. This Framework is then applied to a study of undergraduate nurses’ career decision making, using a sequential explanatory mixed method study. The paper demonstrates the relevance of this approach for addressing challenges associated with nursing recruitment, education, and career choice.

1. Introduction

The overall effectiveness of any healthcare system depends on a viable nursing workforce to provide optimum population health outcomes [1]. Yet that viability is under increasing threat as the recruitment and retention of nurses both in Australia and overseas reaches a crisis point [2–4]. At the time of writing, estimated shortages in Australia stand at approximately 10,000 registered nurses [5]. Furthermore, research from several comparable western countries has shown that between 30% and 61% of new graduates intend to leave nursing within their first year [6, 7]. Supply of new graduates from university bachelor of nursing (BN) programs is not able to keep up with demand [8, 9].

In 2002, in an attempt to address this problem, the Australian Federal Government increased the number of funded places for nurse education in universities [10, 11]. Many of these places became situated in new double-degree programs that combine a bachelor of nursing (BN) with another undergraduate degree. Double degrees (DDs), also known as joint, dual, or combined degrees are well established in Australia [12–14] and are slowly on the rise in Europe [15]. These DDs involving nursing are studied conjointly and can be either within a similar discipline area, for example, bachelor of nursing/bachelor of midwifery, or across two separate discipline areas, for example, the bachelor of nursing/bachelor of commerce. In 2009, over 33% of nursing students in Australia were enrolled in DDs [9, 11]. Despite their increasing popularity and rising enrolments, double degrees may bring further challenges to the recruitment of suitable people into nursing. DD nursing students’ course progression and the career paths chosen by graduates are as yet unknown.

Understanding the career decisions of graduates with a BN degree is an essential component of recruitment and retention strategies [16–18]. It is well recognised that career
decisions can be shaped by students’ course experiences [19, 20] as well as nonuniversity factors such as family background, family commitments, support from significant people [21, 22], and employment opportunities [23]. To date, however, limitations identified in the extant literature about nursing students’ and new graduates’ career decisions preclude a more in-depth understanding of the influence of these factors in the contemporary Australian context. These limitations are fourfold.

Firstly, few studies have taken account of the constellation of contextual factors that are relevant to the decisions individuals make when choosing to enter into a career in nursing. Secondly, much previous research on students’ progression through their higher education into work has been criticized for lacking a strong, explicit, theoretical basis [24, 25]. This criticism has also been made of the literature on nursing students’ progression through their university studies and into work [17, 26]. Moreover, as argued by Price [18, page 268], existing career choice theories have provided limited understanding of career choice in nursing because they fail to capture the unique characteristics of upcoming generational cohorts. Thirdly, many studies in nursing education have been limited methodologically, are descriptive rather than analytical, and lack a systematic approach [18, 27]. Fourthly, despite the large and growing proportion of students enrolled in DDs including nursing in Australia, there has been almost no attention to the career decisions of DD nursing students and graduates [9, 11].

Given the seriousness of the nursing workforce shortages and the need to address recruitment and retention problems, the limitations of the existing literature are of particular concern. Theoretically informed approaches are needed, therefore, to identify and understand how the career decisions of single- and double-degree nursing students are influenced by a constellation of personal characteristics, experiences, development, and transitions as well as contextual factors such as those mentioned above. It is timely to identify a framework that, at a number of levels, can explain the complexities involved in the development and career choices of undergraduate nursing students. The purpose of this paper is to demonstrate how an ecological system approach based on Bronfenbrenner’s [28, 29] “process-person-context-time” (PPCT) theory of human development can be used to understand and examine the influences affecting nursing students’ career development and career choices.

The paper consists of three sections. The first section examines the limitations of previous research into the educational preparation and career development of nursing students. It also includes an overview of prior development theories and their inadequacies for understanding the complexity inherent in the career choice of single and DD nursing students of today. The next section presents Bronfenbrenner’s sociocological model which was adapted by the first author to provide a framework for researching nursing students’ career development and career choice over time. The framework and the potential of an ecological system approach for understanding career transitions and trajectories of nursing students are explained. The third section illustrates the utility of Bronfenbrenner’s framework through its application to a study of nursing career development and career choices in a sample of single- and double-degree nursing students and graduates in Australia.

2. Limitations of Previous Research

2.1. Lack of Attention to the Many Factors Relevant to Nurses Career Decision Making. Nurses’ career choices are influenced by a variety of individual, cultural, developmental, social, and environmental variables, many of which are unforeseen and unpredictable [30]. Previous studies have identified several influences on the decision to choose nursing as a career. These include family members and a desire to care for others [16, 31], exposure to healthcare environment through caring for a loved one, or prior hospital and/or work experience [31, 32]. However, these studies have taken a narrow focus either on students’ characteristics, their decision, and influences at one particular time or on influences from the past. Few have included broader contextual factors such as socioeconomic status, academic achievement, demography (rural or urban background), and social ties to friends, family, and/or a lifetime partner.

2.2. Lack of a Strong, Explicit Theoretical Basis for Researching Career Decision Making. The phenomenon of career choice has been studied extensively for more than a century, generating a vast array of literature on career development and career decision-making theories and models [18, 33]. The major and most frequently cited theories on career development and career choice are based on a variety of developmental, social-cognitive, personality, and person-environment fit perspectives [18]. There have been many critiques of these theories [34, 35] and of studies investigating the influences of developmental stage on career choice [36].

A major critique of many of the most influential theories of career development, including, for example, Personality Development and Career Choice Theory [37], Career Development Theory [38], Career Typology [39], and Social and Cognitive Career Theory [40], is that they were developed within the context of Western industrialized society and therefore cannot be assumed to be universally applicable [33]. Moreover, because they were developed primarily with reference to white middle class males, mostly adolescents and up to and including the final year of schooling [41, 42], they are likely to have little relevance for university students, who have left school and taken the first steps towards a career. Gottfredson’s [43, 44] Developmental Theory of Occupational Aspiration, Circumscription and Compromise endeavored to address the gender bias of previous studies and to extend previous developmental stages work by considering the influences of gender, career prestige, and interest on the compromises individuals must make when formulating career aspirations and choices. However, the focus is on what Gottfredson called the four stages of cognitive development (which included career choices) from preschool to late adolescence, rather than on adults’ career decisions.

A second major criticism is that commonly used career choice theories of the past failed to capture the challenges,
complexities, and uncertainties of the 21st century workplace for the upcoming generation of nurses and lacked comprehensiveness [18]. In her extensive critical review of career choice theories and nursing, Price commented that many extant development theories were outdated and would not be able to examine "differences in developmental experiences among newer generational cohorts" nor issues "...relevant to contemporary workplaces... especially in healthcare settings" [18, page 270].

A further criticism, also noted by Price [18], is that past theories lend themselves to examining an individual's career choice at one point in time and do not take into account social and environmental contextual factors and their multiple influences. Robinson and Boroholt's [25] Pathways Theory sought to address the limitation of past developmental theories. This theoretical framework was used to inform an investigation of contemporary higher education pathways and student progression in Australia [24]. Robinson mapped university students' progression pathways and outcome behaviors over time, using the categories of continuing, completing, or withdrawing from a course and transferring between courses or dropping out. Despite the emphasis of their framework on the centrality of the student, as well as the reciprocity between the students, the university context, the course context, and the changing nature of the latter two contexts over time, reasons for dropping out or transferring to another course were not revealed. Moreover, the students' perspectives were not heard. Emotions such as anxiety and uncertainty influence decisions, and the role of affect and emotions needs to be better understood and incorporated into contemporary theories of career choice [45].

2.3. Lack of a Systematic Approach to Researching Nurses Career Decision Making. Numerous studies related to career choice in nursing education literature have included a focus on reasons for choosing a career in nursing [46, 47], attrition and retention of undergraduate students [27, 48], the socialization process in nurse education and career choice [49, 50], clinical specialty area choices [20, 51, 52], and outcomes of nursing education programs for graduate attrition and retention [2, 53].

Many of the above studies were included in Gaynor et al.'s [17] systematic review of literature from 1996 to 2005 that quantified and examined the factors that were associated with attrition of single-degree undergraduate nursing students in preregistration programs and the retention of graduate nurses in the workforce. Of the 73 diverse studies they identified, Gaynor et al. found no high-quality studies that focused on the retention of new graduates or discussed career choices. Moreover, only four studies that met the inclusion criteria were high-quality primary analytical studies. Of the four, two studies—Deary et al. [34] from Scotland and Harvey and McMurray [35] from Australia—found the attrition rate of students at 12 months was 25–27%. The third study [36] found that nursing students from 14 colleges in the USA in 1995 were less likely to leave compared to those in 1983 (a decrease from 12% to 4%), while the fourth study [57] revealed an attrition rate of 19.3% over two years in a rural university in Australia. Overall, Gaynor et al. [17] concluded that there has not been a systematic approach to research into why students leave or continue in nursing programs and that any claims needed to be treated with caution because of methodological limitations. Gaynor et al. stated that studies "...slept on small convenience samples... and assessed intentions rather than actually measuring attrition or retention as outcomes" [17, page 28]. Moreover, as the most recent of these studies was undertaken in 2003, the findings may not be relevant to current generational cohorts and contemporary organizations and workplaces.

Over the last two decades, there have been numerous studies to identify which area nursing students were most likely to choose to work in after graduation. In the main, these focused on nursing clinical specialty areas, such as aged care [19, 58, 59] and mental health [20, 51, 60, 61]. The majority of this research into career specialty choices and/or preferences has used longitudinal designs to identify if students' attitudes, and/or choices for popular areas (pediatrics) and unpopular areas (aged care and mental health) changed between the commencement and completion of their nursing programs. Stevens and Dulhunty [62, 63] and Stevens and Crouch's [59] seminal work in Australia identified little change in students' lack of interest in the unpopular areas. In contrast, medical-surgical and the highly technical areas of nursing became more popular over time. Later studies in Australia [20, 64] and overseas [19, 65] confirmed this finding. A number of studies identified factors that influenced these preferred career areas [20, 65], including contact with student peers, new graduate and other registered nurses, academic staff, and service users [66–68]. Hence it was a combination of curriculum theory and clinical experiences which could be either positive or negative. These studies did not extend to the postgraduate (PG) years. Further limitations included their focus on identified preferences and attitudes but not actual choices and on single-degree nursing students only. They examined specialty choices within nursing only and did not make explicit their theoretical framework.

2.4. Lack of Attention to Double-Degree Students' Career Decision Making. When it comes to career aspirations, career mobility, and the wider context of work, the present generation of young people demonstrates distinct differences from their predecessors [18, 69]. They are more likely to enter university at an older age (>19 years), remain in full-time education for a longer period than their parents did, and, on graduation, to be faced with a transition to a highly differentiated skills market with an increasing range of options [10, 52, 70]. In contrast, studies of undergraduate students enrolled in double-degree programs reveal that these students tend to be school leavers (<19 years on enrolment). They also have higher tertiary entrance scores than single-degree students and are more likely to be female (60% versus 51% in single-degree programs) [13, 14, 71]. It is unknown if these characteristics are also true of nursing DD students and whether this might impact on their nursing career aspirations. The study by Russell et al. [14] was
the only study found that focused on DD students’ and graduates’ career decision making. It was conducted in an Australian university where 1344 DD students were enrolled in 25 different DD program combinations. No theoretical framework was evident, but by using a mixed method approach the authors were able to identify the characteristics, motivations, and career transition experiences of students enrolled in DDs. They found that 75% of respondents chose a DD to improve their employment prospects and the students reported many advantages including social benefits from exposure to two sets of different people and programs. The advantages, however, were “...countered by formidable workloads, conflicting expectations and administrative difficulties” [14, page 582]. While this study is useful, there remains a paucity of studies on DD students [14, 71], and none could be found specifically on nursing students. Hence, too little is known about this group of contemporary nursing students and what is influencing their career choices.

Given the cumulative effect of these limitations, there is an urgent need for a new-theoretical framework for understanding not only single-degree nursing students of today but also those in DD programs and new graduates from these programs.

3. Bronfenbrenner’s Socioecological Theory of Development

Urie Bronfenbrenner’s socioecological theory of development [28, 29] was chosen to address the limitations cited above. This human ecology theory, also called “Development in Context” or “Ecological Systems Theory,” specifies four types of nested environmental systems which each contain roles, norms, and rules that shape development. Development is seen as a process of bidirectional influences within and between these systems. The phenomenon of development is its primary concern. The proposition is that throughout the life course a person’s development occurs through ongoing reciprocal interaction between that person and the other “...persons, objects, and symbols in its immediate environment.” To be effective these interactions “...must occur on a fairly regular basis over extended periods of time” [72, page 164]. Hence, this theory is ideal for investigating and explaining the career development of nursing DD students as they interact within the new university environment or work environment over a period of three or more years.

3.1. Contexts in Which Socioecological Theory Has Been Used. Bronfenbrenner’s theory of development has been particularly influential in child development. Yet, his framework can be applied to different populations and is increasingly used in studies of university students. For example, Bryan and Simmons [73] examined how the family and other levels of influence played a role in the Postsecondary educational success of first-generation Appalachian American university students; Renn and Arnold [74] studied peer influences on learning and development of university students as well as how the interactions amongst the student’s immediate environments create the forces of campus peer culture, and Chin and Young [75] used Bronfenbrenner’s socioecological approach to understand the characteristics of beginning teachers in the Alternative Certification Programs in California.

3.2. Advantages of a Socioecological Theory in Nursing Research. Bronfenbrenner’s socioecological model offers a developmental theory that allows for the complexity of career development to be emphasized; yet to date, it appears to have been untapped in nursing career research. The starting supposition of Bronfenbrenner’s model is that students’ developmental pathways can vary, that development arises from interactions among individuals, their activities, and their environments, and that the outcomes of professional preparation (e.g., career choice) are dependent on the development process which is always contextualized within specific environments. Bronfenbrenner’s socioecological developmental theory [28, 29], therefore, provides a useful framework for understanding the transition of undergraduate nursing students through university to graduation and a career. This approach can acknowledge the complexity inherent in understanding the multiple factors that influence a student’s career choice and the diversity that exists within groups as well as between groups of students. It can be applied to adult populations and as such is well suited to present day research into nursing students’ career choices. It is dynamic and takes into account a wider context that can influence decisions but models this through a person-oriented approach.

3.3. Components of the Socioecological Model. Bronfenbrenner’s socioecological model has five interrelated components; hence, it is often referred to as the “process-person-context-time model” (PPCT). The first component is the developmental process which “...involves the fused and dynamic relation of the individual and the context” [76, page xv]. The second component is the person (i.e., the student) who has their own biological, cognitive, emotional, and behavioral characteristics. The third component comprises the context where the human development occurs. It is seen as a set of nested systems—the microsystem, the mesosystem, the exosystem, and the macrosystem. The last component is time “...ontogenetic time, family time, and historical time—constituting the chronosystem that moderates change across the life course” [76, page xv]. The Nursing Career Development Framework presented in Figure 1 is adapted from Bronfenbrenner’s model to depict the four nested systems.

3.4. The Person. In the context of nursing education, at the centre are the students and graduates themselves (see Figure 1, centre circle), including their personal characteristics or attributes and what they bring to their university studies and the university context, such as their age, gender, motivations, academic history, and any past experiences of healthcare settings/organizations through work or illness. In the model, the person is seen as an “active agent” who can
make decisions by interpreting and manipulating the outside world about his or her own career preferences. Each nursing student may have similar experiences at university, but it is how they personally interpret these settings and the strategies they employ that contributes to his or her development.

3.5. The Microsystem. The microsystem "... is a pattern of activities, roles, and interpersonal relationships experienced by the developing person in a given face to face setting" containing physical and material features as well as the other persons with their own characteristics [29, page 147].

Three key settings are typically identified in depictions of sociocultural contexts shaping development—family, school, and neighborhood which includes personal friends and community [77]. In young adults, romantic attachments or lifetime partners are a further microsystem for some, as is their regular place of work. In relation to nursing students, the contexts of influence depicted by boxes located in the second circle of Figure 1 are depicted as five microsystems: family, romantic partners, neighborhood, work, and university, each of which include the persons, objects, and resources they encounter in each of these settings. The university microsystem, for example, comprises the subjects which the students are studying, the teaching and learning experiences, new campus peer groups and friendships that are formed through studying, and role models that are provided by their lecturers, and/or clinical supervisors.

3.6. The Meso System. The mesosystem is the interrelationship between two or more microsystems in which the developing person participates. In other words it can be said that the mesosystem is a system of microsystems [78]. In relation to nursing education, it comprises the linkages and processes taking place between the settings that are important to and affect the developing student. For example, there are overlapping influences between home and university and the workplace and the university. These interrelationships are depicted by arrows between settings in the second circle in Figure 1.

3.7. The Exosystem. The exosystem "... consists of one or more settings that do not involve the developing person as an active participant but in which events occur that affect, or are affected by what happens in that setting" [28, page 237]. With respect to nursing education, the exosystem consists of policies and events in the wider university arena that indirectly affect the student. Depicted in the third circle of Figure 1, these include faculty curriculum requirements, industry requirements for clinical practicum, and the relationships between industry and the university. The exosystem also includes external features such as staff shortages and job vacancies in nursing, as well as marketing forces both from nursing and other professions. For example, some professional organizations such as state ambulance services have very effective marketing campaigns, and these could have a profound impact on students' ability to gain a graduate position and the promise of interesting work in a place of one's choice. In relation to DD students, cross-faculty relationships are also an exosystem influence as communication and accommodation for double-degree
program scheduling across faculties can affect students' university experiences.

3.8. The Macrosystem. The macrosystem refers to the overriding beliefs, values, ideology, practices, and policies that exist within a cultural group [28]. In nursing education, macrosystem influences that are outside the determination of the student or the university include urban or rural culture, the socioeconomic climate, global nursing shortages, accreditation boards, and government healthcare policies (Figure 1, outer circle). For example, in Australia the federal government's policies related to funding of universities and financial aid to students indirectly affect students' daily lives in terms of the amount of work required to pay university costs (accommodation, books) and anxiety related to finances. Who attends what university might seem to be an individual or family-based decision; however, the factors, for example, living in a rural or a metropolitan area, which govern university-choice decisions are positioned in the macrosystem and only made manifest locally. People living in rural areas may be restricted in their choice of universities or choice of degrees due to costs, distances, or both unless they qualify for government subsidies. In Australia the other major influences in the macrosystem are the accreditation or licensing boards such as the Nurses and Midwives Board. Whilst protecting titles and professional autonomy, these boards do not allow cross-professional or multidisciplinary care even though the graduate may be licensed to practice in two disciplines, for instance, nursing and paramedics. This means that the utilization of the graduates' skills or scope of practice is restricted and they are forced into choosing one career or the other [11].

3.9. The Chronosystem. The chronosystem or element of time is essential to the ecological model portrayed in Figure 1. It denotes that environments change; they are not fixed identities. Historical contexts also change as do dominant discourses in society. The characteristics of the people in them and the activities of individual students are also constantly changing over time [28]. The era in which students' attend university can in part shape career choice. For example, national and global events such as the financial crisis in late 2010 are time-bound influences that can affect a student's choice of career. The chronosystem at the top of Figure 1 depicts the four years of undergraduate study and the two years following graduation as the overarching timeframe for students' and new graduates' career choices and decision making in the study outlined in the following section.

To summarize, Bronfenbrenner's process-person-context-time theory of human development has informed the development of a framework that can give researchers a broad lens for conceptualizing and examining the career development of nursing students. It allows a modeling of how factors in the immediate as well as the wider context influence their career choices as they interact with individuals and social, educational, and clinical healthcare environments over time. The Nursing Career Development Framework presented in this paper is person centered, making it possible to build a picture of single- and double-degree nursing students and graduates and their career decisions over time.

4. Applying the Nursing Career Development Framework to Investigate Nurses' Career Choice

This section illustrates how the Nursing Career Development Framework can be applied to capture the process of nursing students' development and career decision making during their university program and transition to work. The framework guided the development of a research design, the central goals of which were to characterize and compare single and double DD BN students and graduates, identify and understand why undergraduate students enroll in a DD program, and explore the influences that affect career development and career choices during their study program and their first two years postgraduation.

The context was a regional university in Australia that offered a traditional BN program and two nontraditional DD programs that included nursing: a bachelor of nursing/bachelor of early childhood teaching (birth to 5 years) (BN/BECT) and a bachelor of nursing/bachelor of clinical practice (Paramedic) (BN/BCP). This university in New South Wales was chosen as it was the first in Australia to have cohorts of DD graduates who were in the workforce. In order to capture the process of development over time, all students enrolled in the BN/BECT and BN/BCP double degrees and the single DD degree in all years of the program, as well as two cohorts of DD graduates, were invited to participate. The framework provided a dynamic structure that could encompass the developmental pathways of these distinct cohorts of students and graduates at different stages of their career trajectory and career decision making on enrollment, on completion, and the first and second years of work. Ethics approval was granted by this university in late 2007, and informed consent was obtained from the participating students and graduates.

A sequential, explanatory mixed methods' design was chosen, collecting and analyzing first quantitative data and then qualitative data in consecutive phases [79, 80]. The collection of mixed data within one study strengthens the research by bringing together different but complementary data, as neither method is sufficient in itself to capture the trends in career choices [81], and provides the detailed contextual information necessary for exploring the nested systems in the framework (see Figure 1). Furthermore, in a sequential mixed method study, quantitative and qualitative data collection methods are not completely independent because one builds upon and informs the other [82]. For example, in this study analysis of a survey of the cohort of newly enrolled students generated a schedule of questions to be used in face-to-face interviews with a smaller number of DD students.

A cross-sectional cohort study of undergraduates was designed, with data collected at regular intervals using different cohorts. The data were entered into SPSS (version
In analyzing the quantitative and qualitative data, priority was given to identifying consistencies across groups of students and common influencing factors, for example from any of the ecological systems such as the micro-, meso-, exo-, and macrosystem. In brief, the survey results demonstrated that these DD nursing students were different to SD nursing students as they were younger; were more likely to be male; and came from a higher socioeconomic background. In regards to career preferences by the final years only one-third of DD students were interested in a career in nursing and less than half of all the students from rural backgrounds intend to work as a graduate nurse in a rural location.

Individual and focus group interviews were analysed thematically. Themes were identified at a semantic or explicit level building a picture of the students at various stages in their degree or graduate employment and the reasons for any changes in career choice. Analyses then examined how these reasons might be related to influences at the level of systems: micro-, meso-, exo-, and macrosystem. Findings showed that career choices were influenced by pay and conditions and location (rural versus metropolitan) which are features of the macrosystem, work-based practice experiences (an ecosystem influence), and family, their own work, and university experiences (microsystem influences). Additionally, students’ and graduates’ personal motivations such as enjoyment or preferences for interesting and challenging work were identified.

When analyzing the information provided by DD graduates interviews in the longitudinal study, the Nursing Career Development Framework provided a clear basis for understanding and explaining graduates’ actual career choices, why it was that they chose that particular career, their intent to stay or leave, and the factors influencing their decisions. For example, the analysis of these data revealed factors that strongly influence the retention of registered nurses, including proximal factors acting in the microsystem such as family, work location, and work satisfaction and enjoyment, as well as indirect factors at the level of the macrosystem, for example, government policies regulating pay and work and opportunities to work as a nurse in overseas countries. Please see Hickie et al. [83] for a report on findings of this illustrative study.

In sum, the Nursing Career Development Framework provided a basis for identifying personal, interpersonal, and external influences at different levels (meso-, exo-, and macrosystems) and the degree to which these contributed to each individual’s cycle of experience and career decisions and trajectories. Previous studies have not identified this type of information.

5. Conclusion

In summary when nursing-funded places were increased in Australia, DDs in nursing were introduced as a new undergraduate pathway for students interested in combining a nursing qualification with another discipline. Students’ motivation for choosing a DD and the educational preparation at tertiary level for two careers are situated within the particular policy context that allowed for diverse alternative
pathways to a nursing career in Australia. Bronfenbrenner’s sociocultural theory has been applied to develop a Nursing Career Development Framework for exploring and understanding the complex issues inherent in career development and career choice for nursing students enrolled in single or double degrees in nursing. The application of this framework through a sequential explanatory mixed method design provides an illustration of a new approach for collecting and analyzing data that recognized the multiple and intersecting contexts described by Bronfenbrenner. This new approach can lead to a more thorough understanding of career development and career choice processes in undergraduate and PG nursing students, which in turn has the potential to inform strategies that can enhance recruitment and retention of future nursing professionals. Ecological approaches to studying nurses in tertiary programs in general and for double-degree programs in particular, such as the one described here, are essential in this time of nursing shortages.

Authors’ Contribution

N. Hickey was responsible for the study conception and design. N. Hickey performed the data collection. N. Hickey performed the data analysis. N. Hickey was responsible for the drafting of the paper. N. Hickey, J. Sumson, and L. Harrison made critical revisions to the paper for important intellectual content. J. Sumson and L. Harrison supervised the illustrative study.

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References


Part 2  
Methodology, Research Design and Methods

2.1 Introduction

The purpose of this research, as outlined previously, was to identify and understand the career pathways of double degree nursing students at a time of increasing nursing shortages in Australia. As with all research, the design of the research is determined by the kinds of research questions being asked. Hence Part 2 gives an account of the research design and method used to measure and explore in depth double degree nursing students’ transitions and career choices from enrolment to their first two years in work to expose possible workforce issues that will impact on nursing graduates numbers and available graduates for the future. In this part of the doctoral thesis, the research paradigm, the design of the project, the sequences of the study, sampling, methods of data collection, data analysis, ethical consideration and rigour will be described. The previous section (Part 1) detailed the theoretical framework that was an important guiding influence in the overall research study.

2.2 Pragmatism

Research paradigms are philosophical worldviews and can be defined as “a shared set of rules and beliefs about how a discipline functions, including what counts as knowledge, how it can be generated and how and by whom it can be generated” (Rolfe, 1996, p. 232). Paradigms are therefore patterns of belief and practices that regulate inquiry within a discipline by providing lenses, frames and processes through which investigation is accomplished (Weaver & Olsen, 2006). These paradigmatic viewpoints influence or guide how research should be done, what should be studied and how the results should be interpreted and understood (Bryman, 2008).

The choice of research paradigm is driven by (a) the current state of knowledge about a particular phenomenon, (b) the purpose of the research and (c) the related research question/s (Creswell, 2003). In this present study, an examination of a wide body of literature from the disciplines of nursing, education and psychology revealed that the developmental journey that leads to a career choice, especially for those studying nursing, is a complex process. The approaches and methodologies employed by
researchers to examine and understand undergraduate nursing students’ career choices limited the amount and type of data collected and, for DD nursing students no research was found that examined their career development. It was these issues that provided the guiding parameters from which paradigmatic and methodological decisions were made. Career choice is a complex human phenomenon and understanding the career development of DD nursing students was challenging. In order to respond to the inherent challenges, it was necessary to engage with multiple perspectives, ways of understanding and varied ways of studying and representing DD students’ career trajectories. As a nurse with many years of clinical experience, it also seemed logical to combine different perspectives and approaches in a single study as nurses use multiple forms of data to better understand their patients.

Therefore, for this research the pragmatist approach was selected as the most appropriate perspective because neither a positivist, i.e. quantitative (the dominant paradigm of the West that facilitates control and instrument action), nor the interpretivist or constructivist, i.e. qualitative (a practical interest in understanding the meaning of social action), by themselves could address this doctoral research aims. When these are both used in the one study they can be powerful and were ideally suited for this research. Pragmatism as a term is derived from the Greek word for action, from which the words ‘practice’ and ‘practical’ originate (Barnhart, 1995). A pragmatic approach stresses critical analysis of facts, practical applications and the use of pluralistic approaches to derive knowledge about the problem and integration of findings (Creswell, 2003).

Whilst pragmatists are often accused of abandoning traditional standards of objectivity, truth and rationalism (Muncey, 2009), pragmatism as a philosophical tradition is increasing (Bryman, 2012, Creswell & Plano Clark, 2011) because the pragmatic approach offers a “practical and outcome-oriented method of inquiry that is based on action” (Johnson & Onwuegbuzie, 2004, p.17). The core of pragmatism was developed around 1870 in the United States by Charles Sanders Peirce (1839–1914), William James (1842–1910) and John Dewey (1859-1952). Although the influence of pragmatism declined during the first two-thirds of the twentieth century, it has undergone a revival since the 1970s and has become more prevalent in the literature in the last two decades (Lincoln & Guba, 2000; Tashakkori & Teddlie, 1998). As
Teddlie and Johnson (2009, p. 74) point out “Pragmatism replaces the historically popular epistemic distinction between subject and external object with the naturalist and process-oriented organism-environment transaction”.

Pragmatism is defined as:

A deconstructive paradigm that debunks concepts such as ‘truth’ and ‘reality’ and focuses instead on ‘what works’ as the truth regarding the research questions under investigation. Pragmatism rejects the either/or choices associated with the paradigms wars, advocates for the use of mixed methods in research, and acknowledges that the values of the researcher play a large role in interpretation of results (Tashakkori & Teddlie, 2003, p. 713).

With pragmatism, the fundamental belief is that the research questions should be the impetus for the research design (Muncey, 2009); hence a mixed method design was appropriate to explore career choice, as my own philosophical assumptions and values and the goals of the studies were the drivers of the study. For this reason a mixed methods approach was selected in an attempt to identify and understand the career choices and career development of DD nursing students and graduates. As the theoretical framework (described in Part 1) is based on a socio-ecological perspective and was adapted for this research, it has allowed me to build on and then integrate the findings from two perspectives, quantitative and qualitative. From the outset, once I had decided on the necessity of using both perspectives, two important criteria were considered: the priority of the methods and the sequencing i.e. which method precedes which? I decided that the quantitative and qualitative would have equal weight: neither data or method would have priority because even though the findings from each study could stand alone, each would be integrated in the end to build a mosaic to answer the research questions and build a picture of DD nursing students, which has not been done previously. The next consideration was the sequencing of the quantitative and qualitative components. As this study was exploring the development of the students over time, the quantitative sequence was initiated first so that the findings that arose could be examined in more detail through the qualitative sequence.

2.3 A mixed method research design

A sequential explanatory mixed method research design was chosen for this research. This section describes the design which aligns with both the philosophical perspective of pragmatism and the human development theory of Bronfenbrenner. Combining methods can enhance comprehensiveness and/or reliability and validity (Knafl &
Breitmayer, 1989). This type of research provides a “broad and flexible approach to address complex research questions” (Borbasi, Jackson, & Langford, 2008, p.180), and the complexity of researching career development and career choice in a higher education context with its multiple perspectives and its many aspects merited this approach. The research design refers to the strategies that have been chosen to integrate the different components of a study: in other words it constitutes the blueprint for the collection, measurement and analysis of the data. The difficulty in merging quantitative and qualitative data analyses in mixed methods research has been overcome in the present study by, as Mitchell (1986) suggested, analysing each type of data separately according to the principles pertinent for the type of data. In this study I chose to survey participants at different stages of their career development and to interview participants to obtain their specific voices on the topic. Hence, as mentioned previously, both quantitative and qualitative data were collected and analysed and this has strengthened the findings of this study.

2.3.1 Mixing methods
With mixed methods designs, the guiding assumption is that the research questions direct the design and that the combination of both quantitative and qualitative approaches in the one study will provide a more complete and hence a better understanding of the research problem than using a single approach alone. A mixed method design uses the inherent strengths of both types of research approaches and mixed method designs, such as that used in this doctoral research, are increasingly being used to answer complex questions (Creswell & Plano Clark, 2007; Green & Caracelli, 1997; Johnson & Onwuegbuzie, 2004). A mixed method study is defined as involving:

the collection or analysis of both quantitative and/or qualitative data in a single study in which data are collected either concurrently or sequentially, are given priority, and involve the integration of the data at one or more stages in the process of the research (Creswell, Plano Clark, Gutmann, & Hanson, 2003, p. 212)

There are now many types of mixed method designs (Creswell, 2003; Howe, 2004; Johnson, 2004) and the sequential explanatory design that is used in this doctoral research is the most straightforward of the six major mixed methods designs. Sequential explanatory designs are developmental and characterised by the collection and analysis of quantitative data and the collection and analysis of qualitative data using the same subset of participants (Creswell, Plano Clark, & Garrett, 2008) (see
The first stage of quantitative data collection is followed by a second stage of qualitative data collection. The qualitative data collection is connected to the results of the first stage, as the intent is to explain these results using qualitative data as a follow up (Creswell & Plano Clark, 2007). Priority can be given to the quantitative data or equally to both types of data as occurred in this research because both quantitative and qualitative data were of immense value to this study. Although Morse, Wolfe and Neihaus (2006) refer to the components of a mixed method study as either core or supplementary, and assert that the supplementary component cannot stand alone, is not scientifically rigorous and is of use only to the extent that it adds to the understandings generated by the core method, Creswell (2003) draws no such distinction. In this study, both the quantitative and qualitative components are scientifically rigorous, complete and capable of offering valid and complementary understandings of the research problem, allowing the results to be generalised to a population while also developing a detailed view of the phenomenon. Hence this mixing of methods for this study was more than simply collecting and analysing quantitative and qualitative data. The underlying logic of mixing in this doctoral research is that neither quantitative nor qualitative methods are sufficient in themselves to capture the trends and details of career development but, when used in combination in an iterative process, they yield a more complete picture and they complement each other. Figure 1 is a visual representation of how the quantitative and qualitative data were collected and analysed in sequence and throughout multiple phases in order to answer the research questions.

2.3.2 The quantitative approach in this study

In order to gain the information required for research questions two and four, a quantitative approach was required as quantification of numerical data was necessary. With quantitative research there is a “formal, objective, systematic process in which numerical data are used to obtain information about the world” and it is used to “describe variables; and to examine relationships among variables” (Burns & Grove, 2005, p.23). As a research strategy it is deductivist and objectivist and is influenced by positivism (Bryman, 2008). Hence, in order to collect and analyse the numerical data for this research, (i.e. how many DD students chose nursing), a repeated cross-sectional cohort study of undergraduate nursing students was designed with data collected via surveys at regular intervals using different cohorts (see Figure 1). The surveys (see Appendices 3 - 5) administered face-to-face containing specific questions.
were an appropriate way to gather the desired data from the maximum representation of undergraduate nursing students at various stages in their single degree or double degree programs. Repeated cross-sectional studies are carried out at regular intervals using a largely different or completely new sample (Cohen, Manion, & Morrison, 2001; Mertens, 1998; Ruspini, 2002; Wiersma, 2000) and are best for developmental studies. In this way, it is possible to produce a “snapshot” of a population or group at a particular point in time. An example of this approach in the healthcare arena is provided by Bucknall and Thomas (1997), who collected data from eight separate groups of critical care nurses over a two-year period in different hospital locations. The aim was to investigate how these nurses’ perceived problems associated with their decision-making in the critical care environment. For the present doctoral research, a cross-sectional study was an ideal way to gather information on the characteristics of students that enrol in a DD and the career decisions of not only newly enrolled nursing students and students in their final years but also students in all years of the DD programs. Another advantage of using repeated cross-sectional studies is that there can be high participation rates. A sufficient or maximum number of participants were required in order to be able to perform meaningful statistical analysis and this was achieved through a convenience sample of undergraduate nursing students, so comparisons could be made between nursing student cohorts as well as over time. Another advantage is that they are useful for charting population-wide features at one or more points in time and this can enable researchers to identify the proportions of people in particular groups. Further information is detailed in the next section Part 3 in papers 4 and 5.

2.3.3 The qualitative approach in this study
Because qualitative research emphasises words rather than quantification of numerical data, and is preoccupied with thick description and context as seen through the eyes of the research participants (Bryman, 2012), it was considered an equally important way to address the research questions. An interpretivist approach was adopted for this study because it stresses an understanding of the social world through an examination of the interpretation of the participants’ world (Bryman, 2008). This qualitative stance is used to gain insight into people’s behaviours, attitudes, value systems, aspirations, motivations, culture or lifestyle (Whitehead, 2007). Consequently, a Time Series design, which involves data collection at certain points in time going forward and can measure longitudinal growth and change (Jupp, 2006; Kermode, 2004), was used for
the DD undergraduates. In-depth interviews with first year students, focus groups with final year DD students and then telephone interviews in a longitudinal cohort study with DD graduates was the best way to gain the rich data necessary for different aspects of the research questions. Additionally, this sequence was suited to the socio-ecological framework because it provided insight into career development, growth and change. Further detailed information is in Part 3 (papers 3 and 5).

2.4 The context and study participants

2.4.1 Context

Charles Sturt University (CSU) Bathurst was selected as the context for this research because it was one of the first higher education facilities in Australia to have multidisciplinary DDs. It also had students in all years of the two DD programs and DD graduates who were in the workforce. CSU is a well-established rural university situated 200 kilometres from Sydney and it consistently attracts a large proportion of its students from the surrounding region. It was one of the first of a growing number of Australian universities to offer multi-disciplinary undergraduate double degrees that encompass nursing. The double degrees at CSU commenced in 2002 and were developed following consultation with the NSW Health Department, the then Nurses Registration Board of NSW and the NSW Department of Community Services.

The aim of these double degree programs was for students in a rural university setting to gain knowledge, experience and skills from two disciplines that would allow them to work across disciplines and give them the flexibility to choose between two career pathways or to specialise in an area that crosses discipline boundaries. The Bachelor of Nursing/Bachelor of Early Childhood Teaching (birth to 5 years) (BN/BECT) was unique in Australia. It gave graduates a very broad understanding of the child, both sick and well, from the hospital to the community setting to child care, and of rural or city settings. Nursing has been historically linked to childcare, especially in regard to the long-term care of abandoned children and/or sick children (Connelly, 2005). Hence, when CSU in Bathurst decided to develop the double degree between nursing and early childhood teaching, there was already a degree of ‘fit’ between the two professions. The Bachelor of Nursing/ Bachelor of Clinical Practice (Paramedic) (BN/BCP) was also unique but in a different way. The Bachelor of Clinical Practice (Paramedic) was new to the tertiary arena with that program enrolling its first cohort
in 1994. In the double degree the students’ practicum experiences are mostly rural, although final year students can initiate their placement in a metropolitan area and this gives the student a broad understanding of both pre-hospital and hospital care of the emergency patient from rural and remote settings to city settings.

2.4.2 Participants
All DD students at the beginning, in the middle and in their final years from CSU’s Bachelor of Nursing/Bachelor of Early Childhood Teaching (birth to 5 years) and the Bachelor of Nursing /Bachelor of Clinical Practice (Paramedic) programs were invited to participate in a repeated cross-sectional study. As well, single degree (SD) Bachelor of Nursing students also in their first, middle and final years were invited to participate and these were used as a comparison. In total there was a convenience sample of 209 undergraduate students who participated. International students were excluded, as were undergraduate students undertaking their degrees by distance education mode.

First year undergraduates completed a survey within three weeks of commencing their program, second year students midway in their program, and final year students completed a survey a few weeks before completion of their program. This produced numerical data on career and location choice preferences from nursing students at all stages of their undergraduate degrees. Data therefore could be compared between groups, within groups and from commencement to completion to measure any change.

To complement the first year and final year survey data in a sequential process, first year DD nursing students who completed the survey were invited to take part in face-to-face interviews within three to six weeks after commencing the DD and yet before peer and university contexts influenced their decisions (see Phase 1 Figure 1 below). Final year student focus groups were conducted with DD students from their particular program group and year group just before completing their programs and after completing the survey (see Phase 3 Figure 1). These final year students were seen as the best source for obtaining information about what had influenced their career choice during their previous undergraduate years and why they had made a particular career choice. For the longitudinal study, DD graduates from both the BN/BECT and BN/BCP programs were recruited from the focus groups as well as via email (see Appendix 11) and consenting graduates (see paper 5 for a visual diagram of
the overall recruitment process) were contacted for telephone interviews, which were conducted at two separate times: at the beginning of their first graduate year and at the end of their second graduate year (see Phase 4 Figure 1). Through these interviews and focus groups the perspectives of the students and graduates themselves were gained, as they were considered to be the foremost experts on their own career development experiences and career choices.

2.4.2.1 Sample 1
A total of 209 (71.6% response rate) undergraduate nursing students in both the double degree and the single degree programs across all years participated in the repeated cross-sectional cohort study. Of these, 132 (63.2%) were DD students (31 BN/BECTs [100%]; 101 BN/BCPs [72.6%]); and 77 (36.8%) were SD students.

2.4.2.2 Sample 2
As this was a sequential explanatory mixed method study, 12 first year DD students who had completed the survey participated in one-on-one interviews and 22 final year DD students who had completed the survey participated in a total of four program cohort based focus groups.

2.4.2.3 Sample 3
There were 34 first year DD graduates in the longitudinal cohort study. They were interviewed by telephone at the beginning of their first graduate year. Of these, 22 were interviewed again at the end of their second graduate year.

2.5 Data collection and data analysis
Part 2 of the thesis now divides into two sections. The first is the quantitative sequence of the study that includes and describes additional data that was collected, and the second is the qualitative sequence.
**Figure 1. Sequential Mixed Method Data Collection and Data Analysis**

### Phase 1 – beginning students

- **Survey (semi-structured) developed for undergraduates (quantitative)**
- **Interviews schedule developed for 1st yr DDs (qualitative)**
- **Survey 1**
  - All beginning students (week 3) BN, BN/BECT, BN/BCP (quantitative)
- **Preliminary data analysis**
  - Survey with open ended questions (SPSS) (quantitative)

### Phase 2 - mid program students

- **Survey (semi structured) additional section developed for mid & final year students (quantitative)**
- **Survey 2**
  - All mid program students BN; BN/BECT; BN/BCP (quantitative)
- **Ongoing data analysis**
  - Survey with open ended questions (SPSS) (quantitative)

### Phase 3 – completing students

- **Focus group schedule developed for 4th yr DDs (qualitative)**
- **Survey 3**
  - All final year students BN; BN/BECT; BN/BCP (quantitative)
- **Ongoing data analysis**
  - Survey with open ended questions (SPSS) (quantitative)
- **Focus groups**
  - Final semester DD students BN/BECT; BN/BCP (qualitative)
- **Ongoing data analysis**
  - Focus group data thematic analysis (NVivo) (qualitative)

### Phase 4 - DD graduates

- **DD graduate interview schedule developed (qualitative)**
- **Interviews - T1**
  - 1st yr graduates BN/BECT; BN/BCP (qualitative)
- **Interviews - T2**
  - 2nd yr graduates BN/BECT; BN/BCP (qualitative)
2.5.1 Quantitative sequence

2.5.1.1 Survey

As one of the primary goals of the study was to identify and compare the location and career preferences of students enrolled in a DD and for comparison SD programs in nursing, the quantitative phase of the study required that an appropriate data collection instrument be either developed or identified for the undergraduate cross-sectional survey component. Additionally, the graduate longitudinal component required questions for the semi-structured interview schedule. A small number of instruments for undergraduates were sourced through a literature review but were rejected on the basis of their unsuitability for the current study. For example, a number of instruments have been used to identify undergraduate nursing students’ careers preferences, i.e. McCann, Clark and Lu (2010); Kloster, Hoie and Skar (2007); these instruments were not appropriate to the current study. This was because even though they measured changes in students’ career intentions or preferences from the beginning of the degree, they only examined SD nursing specialty preferences, the nursing socialization process and not the wider contextual influences of students’ career choice. An instrument developed by Stevens (1995) for his doctoral research and used by a number of others in Australia (Happell, 2002; Happell, Robins & Gough, 2008; Stevens & Crouch, 1998, Stevens & Dulhunty, 1997) to measure the career specialty preferences for aged care or mental health, was of some use because it measured career preferences from beginning to the end of an undergraduate nursing degree. Importantly for this study, while only used with SD students, the instrument assessed a number of influencing factors from the students’ environments such as curriculum, clinical experiences, pay and conditions, and also the influences of people such as clinical educators and lecturers.

While searching for instruments useful for DD graduates in particular, two measurement instruments were found that were used in studies involving DD graduates. The first was developed by Russell, Dolnicar and Ayoub (2008) who used an instrument developed for DD students and graduates in a large study in Australia. While the instrument measured the characteristics and experiences of these participants from transdisciplinary double degrees, it was rejected for the present study because career destinations were not examined. The second, and of interest to this study, was an instrument developed by Vignaendra (1998). The instrument, an
extensive questionnaire, was used in a longitudinal study of all SD and DD law graduates from Australian Universities in the years 1991 and 1995. This instrument was used to identify career choices of single and double degree law graduates and if a law student’s career intentions translated into career choices. It was of interest as it measured career destinations and attrition; career related decisions and influences from the wider context such as family, socioeconomic circumstances, and rural or metropolitan university educational outcomes. Some sections proved useful for the semi-structured graduate interviews for this doctoral study. However, overall it was too long and not relevant to understanding the experiences of the DD graduates.

By basing my survey on the latter two instruments of Stevens (1995) and Vignaendra (1998) and guided by the NCDF framework, a scale for this doctoral research was subsequently developed into an anonymous survey termed the Career Choice and Location Scale (CCLS). This self-report survey had four sections. The first two sections consisted of 28 items for both SD and DD students to answer, a third section of seven items for all DD students only to complete, and a forth section of six questions for final year only DD students to complete. Because this research was multi-phased and measured change over time, the additional sections for students progressing through their degrees was essential. Section 1 sought demographic and background information such as age on entry to the BN program, gender, home postcode, previous and present workplace experiences and parents’ socio-economic status, along with an indication of their initial career choice preference when they first entered the undergraduate degree program. Section 2 asked students to identify how strongly they agreed on a 5-point Likert scale from ‘Strongly agree’, ‘Agree’, ‘Undecided’ to ‘Disagree’, ‘Strongly disagree’ with respect to seven factors influencing their career choice such as pay, working conditions, and enjoyment (for further detail see Appendices 3 - 5). Their geographic location choice for their first graduate year was measured by asking students to indicate their preferred graduate location, i.e. ‘rural’, metropolitan’ ‘undecided’ or ‘overseas’, and to rank their nursing specialty choices from a list of eleven choices. Section 3 measured how strongly DD students preferred one career over the other and the number of hours they wished to work in each career, i.e. full-time or part-time in one career or a combination of both, and the specialty area they preferred to work in the other career. Section 4, the final section, for midway and also completing DD students measured their final career
choice and changes or confirmation in students’ career preferences and the factors that may have influenced this since they began the degree. Within the scale there were also numerous open-ended questions that asked the students to explain why they had made that particular choice. The survey was pilot tested on a group of distance education students and minor adjustments made.

2.5.1.2 Graduate destination survey
Additional quantitative data was added towards the end of the sequential data collection phases as another means of comparing the findings of the surveys and enhancing the credibility of the study. This was DD nursing graduates’ destination data requested from official CSU university records. The audit of these records contained Graduate Destination Survey (GDS) employment results from DD BN/BECT and BN/BCP graduates from years 2007 to 2010 ($n = 86$; 61.4% response rate). Of these 28 were BN/BECT graduates (82.4% response rate from BN/BECT graduates) and 58 were BN/BCP graduates (54.7% response rate from BN/BCP graduates).

2.5.1.3 Quantitative data analysis
The results were analysed using the Statistical Package for the Social Sciences (SPSS) (Version 17, SPSS Inc., Chicago, IL, USA). Analysis allowed characteristics of the study population (SD and DD undergraduate students) to be summarized through measures of central tendency (means, median) and indicated how widely individuals differ through analysis of standard deviation and frequency distributions. Group comparisons were conducted using chi square ($\chi^2$) tests and analysis of variance (anova). Data collection and analysis procedures were influenced by the key components of the theoretical framework based on Bronfenbrenners’ socio-ecological theory of development and are described in more detail in the individual papers.

2.5.2 Qualitative sequence
2.5.2.1 Data
The CCLS survey sought to measure the career development and preferences of the different cohorts of nursing students and to draw comparisons from the beginning to the end of their undergraduate years and the differences between groups. The qualitative data collection phase (see Figure 2 below) sought to explore the hidden assumptions and complexities underpinning the patterns revealed in the surveys.
Figure 2: Qualitative Data Collection and Analysis Process

Reading ➔ Theorising

Brief literature review

Pilot interviews incorporating questions derived from the literature review and from theorising

Field notes thematic analysis ➔ Quantitative surveys ➔ Surveys all students ➔ Statistical analysis - results

Interview guide ➔ Interviews ➔ Interviews transcribed ➔ Member checking

Beginning UG DD students’ interviews

Completing UG DD students’ focus groups

T1 DD post graduate interviews

T2 DD post graduate interviews

Writing

Comparing chronological groups

Literature reviewing

Theme refining

Writing up

Listening to each tape while reading the transcript

Rereading the transcripts overall interview remarks/memos recorded

Transcripts + memos entered into NVivo

Transcripts interrogated memos section builds + journal (trail map)

Tree nodes + free nodes developed – ongoing memo links - journal entry

Ongoing coding - child nodes developed from tree nodes –

Memo linking - categories journal checks- saturation

Modeling - Themes
2.5.2.2 Undergraduate DD student interviews and focus groups

From those that completed the CCLS survey, a purposive sample of DD nursing students was recruited for the undergraduate qualitative phase of the study (reported as a Time Series Design see paper 4). Purposeful sampling requires participants who are knowledgeable about the subject because of their involvement in and experience of the situation, and who are willing to reflect on and share this knowledge (Teddlie & Yu, 2007). Semi-structured in-depth interviews of beginning DD students, and then later focus groups with completing DD students, provided forums for the undergraduate DD students to share meaningful and insightful stories of their experiences and the multiple influences on their career choices from two different career development stages (see Figure 2).

2.5.2.3 Graduate interviews in the longitudinal cohort study

DD graduates were recruited for the qualitative longitudinal graduate cohort study. These semi-structured interviews also provided a forum for DD graduates in their first and then second years to share their rich stories of being a DD graduate and why they chose a particular career path, i.e. nursing or the other discipline, and the influences along the way that led to their career choice decisions. All interview and focus group data were tape recorded (except the first three interviews in which field notes were recorded) and transcribed. There was member checking of a sample of each cohort’s transcripts but little data was added.

2.5.2.4 The longitudinal cohort study

The rationale for using a longitudinal cohort study of graduates was because with this design successive measures can be taken and therefore data are gathered at different points in time from the same groups of respondents (Cohen et al, 2001; Cohen, Manion, & Morrison, 2011; Mertens, 1998; Ruspin, 2002; Wiersma, 2000). Cohort studies, like this present study, involve a specific rather than a general population and they do not need to be the entire population (Mertens, 1998; Wiersma, 2000); therefore sampling error was reduced, as the study remained within the same sample over time. An example is a study by Trenoweth (2012), whereby the researcher followed students from two mental health nursing cohorts at a London university. These students were interviewed on five occasions over a two-year period to explore the psychological and personal changes of nursing students over the first 2 years of their pre-registration nursing program. This doctoral study involved following the
same sample of double degree nursing graduates from CSU over their first two years of work and interviewing them at the beginning of their graduate year (see interview schedule Appendix 12) and at the end of their second graduate year (see interview schedule Appendix 13) to identify which career destination they had chosen, and if and why they had changed careers over their first two years of work.

An advantage of cohort studies is that they not only measure overall change but also are able to identify “the source of change in terms of the specific individuals who are changing” (Wiersma, 2000, p. 164). The most important advantage of cohort studies, though, is that they are useful for establishing causal relationships and for making reliable inferences. This is because trends can be separated from chance occurrences, thus enabling clear recommendations for interventions to be made. There were benefits gained for this research because of the extended time frames as the picture was built up over time, thereby avoiding the problems of selective or false memory. Cohort studies are useful for charting growth and development which was evident in this study because the data were gathered contemporaneously and this enabled the dynamics of change to be caught. Finally and yet importantly, cohort studies are in-depth and comprehensive and they can cover a wide range of variables, both initial and emergent – individual specific effects (micro level) and population heterogeneity (Mertens, 1998; Wiersma, 2000) - and that was an important consideration for choosing the present study design.

2.5.2.5 Qualitative data analysis
The text from three sets of field notes and the transcribed text from 68 interviews and four focus groups were analysed using thematic analysis. Thematic analysis involves the searching across a data set, i.e. a number of interviews or focus groups, to find repeated patterns of meaning. It offers an accessible and theoretically flexible approach to analysing qualitative data (Braun & Clarke, 2006). Through the use of thematic analysis I was able to report on the experiences, meanings and reality of the participants (Braun & Clarke, 2006). Braun and Clarke refer to this approach as an essentialist or realist method of thematic analysis. Themes were identified at a semantic or explicit level, as this reflects the students’ everyday experiences of reality. I was not seeking to build a theory. It is therefore not a rich description of the data overall as in grounded theory but more of a detailed analysis of certain aspects of the data to develop layered dimensions for coding themes. In order to improve the
interpretative power of this thematic analysis, the Nursing Career Development Framework was used to anchor the analytical claims that are made.

Because data organisation is fundamental to the overall process of data analysis (Van der Heide, 2001), the large amount of transcribed textual data (including the field notes) was entered into the computer-assisted qualitative data management software program NVivo 8 (QSR Inter 2008) (for data collection and analysis see Figure 2). It is an extremely useful program for managing large amounts of qualitative data (Bazeley & Richards, 2000). The NVivo ‘shell’ used in this research was created in the early stages of the project. Much thought and consideration went into setting up a foundation for the analysis of the interview data at a semantic level, the development of coding processes true to thematic analysis, and the NCDF socio-ecological framework. Data were interrogated and by using the NVivo 8 software program’s available coding tools for example case nodes, linking memos and annotations, the themes were identified through what Braun and Clarke (2006) call ‘a top down approach’. In other words, the analysis and theme development was driven by the researcher’s analytic interest in the area and in NVivo coded primarily for responses to the quite specific research questions. The analysis began before entering the data into NVivo as I listened to each tape individually, read the transcribed texts several times (in the sequences and cohorts that the data was collected, i.e. beginning students first), and made preliminary memos as suggested by Braun and Clarke (2006) and Bryman (2008) for thematic analysis. The data and memos were then uploaded into the NVivo program.

I determined that the use of case nodes, which contain all the material associated with each participant (for example transcripts, and memos), would be an appropriate NVivo tool to use due to the number of participants. A case oriented coding strategy is useful for analysing one case in-depth and then the next case and so on to examine their patterns (Miles & Huberman, 1994) and hence I interrogated the data case node by case node. Case nodes were also grouped in cohort cases in chronological order, i.e. five beginning undergraduate DD students in the BN/BECT program and seven beginning undergraduate DD students in the BN/BCP program through to the final year focus group cohorts and the PG students from both of the DD programs at T1 and T2 interviews. In this way it was possible to build a picture of a transition process and
the contexts that influenced two different cohorts of students’ career development from beginning student to established second year graduate. The following section describes how the NVivo case nodes were used and the resulting coding strategies that I used to interrogate the data and come up with themes.

In order to code using NVivo, I used nodes as containers for themes within the data sources and they were used to hold relevant coding references. The nodes in NVivo can be either tree nodes that allow for a hierarchical structure, for example moving from a general category at the top (parent node) to more specific categories (child nodes), or they can be free nodes that are ideas that are independent at the beginning with no clear logical connection with the tree nodes and have yet to be incorporated (Bazeley & Richards, 2000, QSR Inter, 2008). I found the hierarchical structure of tree nodes referred to by Gibbs (2002) allowed me to organise coding and analysis because it remained flexible and was congruent with the top down approach of thematic analysis at a semantic level essential for this study.

Open coding (Gibbs, 2002) and broad brush coding (Bazeley & Richards, 2000) in the analysis started with case node undergraduate student one. Open coding is the process of reading the text line-by-line and finding ideas and text to code. Broad-brush coding categorises data into broad categories, like participants’ actions or descriptions. As mentioned above, at the start all of student 1’s data was read line-by-line and emergent free nodes for the broad categories were created. Once all the other 1st year participants’ data were broad-brush coded into categories, the reasons for each student’s career choices were coded. This case-oriented strategy allowed for a strong understanding of each participant’s career choice decisions before I started to compare and code across cases and variables. A variable-oriented strategy (Miles & Huberman, 1994) was then used to look for themes across the cases and tree nodes common to all were developed. Coding was refined by using axial coding to explore connections between categories and to look at the data for specific perspectives and relationships (Bogdan & Biklen, 2003; Gibbs, 2002). During this phase of the coding process, child nodes were used to narrow the examples of categories found across cases.

The broad categories that formed into tree nodes included: past personal experiences, receiving advice, flexible career opportunities, expected personal rewards, and
destination or work location choices (Figure 2). Under the parent node, ‘receiving advice’, four child nodes were created: positive and negative advice from parents/family, from role models, from prior work experiences, and from peers (Figure 2). These child nodes were then analysed and more specific information about these themes was coded into child node categories. Child nodes allowed for more in-depth interrogation of the data and the child nodes helped find the major themes for the research questions at the thematic level, as identified by Braun and Clarke (2006). This coding process, and hence theme development using parent and child nodes, helped me to gain an understanding of the students’ views about their career development and how their experiences and relationships in a number of contexts prior and during their time at university affected their career choice.

2.5.2.6 Memos
Another important and necessary part of the data analysis in NVivo was the documenting and cross-linking of memos. By memos, I mean notations or field notes that arise from reflections and are recorded like a file in each case node (a ‘document’ memo) or across case node documents (‘see also links’ memo). The ‘document’ memos (attached to each case node) were used to capture my initial thoughts, ideas and impressions that were not yet fully formed, so that when the tree nodes were developed I would use these memos as a reference back to previous ideas and concepts and to check saturation. I also used the ‘see also links’ because it made it possible to link from the text in one document, to another document or the selected passage in the other document so it was then possible to identify contradictions in interviews (Bazeley, 2007). These ‘see also links’ across documents I used to assist with building a sequentially ordered picture of an event, for example practicum experiences through the eyes of different tellers or to trace an idea such as negative events on say a paramedic practicum. These linked memos I also recorded in a journal in NVivo so it was possible to elaborate on connections that were noticed within various pieces of the project and to describe the relevance and applicability of concepts and categories that were emerging from the data.

2.5.2.7 Maintenance of log trails
I commenced the journal log or audit trail from the time the interview data was imported into NVivo. Maintaining a journal log or audit trail was an important strategy because apart from ensuring greater consistency in the data analysis it helped
me to record my reflections on the research process and the reciprocal influence of the research on me which is important in qualitative data analysis (Bringer, Johnston & Brackenridge, 2006). The journal log was maintained in NVivo by putting a date and time stamp on all entries created and edited in NVivo. This process allowed me to monitor how the data analysis and coding decisions and processes unfolded over time so that I could chronologically trace the development of various parts of the project. It facilitated further reflection on the evolving coding strategies. For me, the writing of the research journal within NVivo had many benefits over a hardbound copy, including being able to code ongoing thoughts within the journal and to create live links to specific documents, nodes, and ‘see also link’ memos (Bringer et al., 2006).

2.5.2.8 Establishing saturation
To demonstrate thoroughness and to be able to make rich and robust explanations of qualitative data, it is necessary that saturation is established (Richards, 2004). There are no definitive rules for determining saturation (Bowen, 2008); however, due to the use of multiple tools within NVivo, searching and exploring can be achieved at a level difficult in manual analysis. Therefore, I continued with the coding processes until I deemed that saturation had occurred. I decided I had reached saturation when no new information, concepts or codes seemed to emerge from the case nodes during coding. Additionally, concepts or ideas were not considered a finding until there was supporting evidence from all student participants in their particular cohorts and all graduates in their particular cohorts in the longitudinal section.

2.5.2.9 Thematic mapping or models
In qualitative analysis, thematic maps are visual representations of the thinking about relationship between codes, between themes and between the different levels of themes (Braun & Clarke, 2006). I used thematic maps for organisational and analytical purposes and mapping provided me with insights into specific concepts or phenomena. As well, the process of creating the thematic maps helped me to achieve a greater understanding of the themes. I created the thematic maps near the end of the analysis in an effort to visually explore the relationships identified during the analysis process and the refining of the themes as they related to the research questions. I found these maps provided a visually powerful representation of the complexity found in the phenomenon of career development. Furthermore, they highlighted the many influences from many contexts that affected the career choice and destination of DD
nursing students. To a large extent, the maps therefore form the basis for the discussion of the findings (see Appendices 8, 9, 10, 14, 15).

2.6 Ethical issues

Approval to undertake this research was applied for and gained from the University Ethics in Human Research Committee at Charles Sturt University in 2007. Permission was also sought for access to a database of recent DD graduates in order to contact them for the postgraduate interviews. An information sheet explaining the research was given to onsite undergraduate participants and emailed to all DD graduates. Participants’ informed consent was obtained prior to data collection and participation was voluntary. Data were de-identified and secured according to university policy and all data collected from students and graduates were transcribed, analysed and reported only by myself. Pseudonyms were used to ensure anonymity for the interviewees when reporting the findings. Every effort was made to ensure that the participants’ information disclosed and recorded remained confidential so as to protect their privacy. The students and graduates were informed about how their data would be used and how it would be de-identified, stored and reported. When data were collected, each participants’ records were allocated a number and the student’s and graduate’s name and identifiable number were kept separately in an excel spreadsheet with a code number only known to myself. While I knew some of the final year students and graduates, I was not involved in teaching them and was no longer employed at CSU at the time of the research approval. Please see Appendices 1 and 2 for the participant information sheet and consent form.

2.7 Scientific rigor

This study was guided by a socio-ecological framework and as such I required both quantitative and qualitative data and the overall benefit to this research of applying a mixed methods approach is that, in applying these contrasting approaches, I found it possible to maximise their differing strengths and to compensate for their weaknesses. Combining large qualitative studies with the survey research, as in this research, can improve the faith in results when convergence occurs across data obtained from both methods (Silverman, 2000, p. 103, 234; Patton, 2002, p. 555-558). As an explanatory mixed methods design was the best design to answer the research questions, I was committed to the quality of the two research processes and the criteria appropriate to the evaluation of its findings. Hence my endeavours to maintain rigour were achieved
through a commitment to ensuring the reliability and validity of the quantitative data. Similarly, a number of criteria were taken into account to try to ensure the trustworthiness and authenticity of the qualitative data.

**Reliability** in research essentially means dependability, consistency and replicability over time, over instruments and over groups of respondents, it “is concerned with precision and accuracy” (Cohen et al., 2011, p. 199). **Validity** refers to confidence that the findings can be generalised to other contexts and hold true for the specific population sampled and elsewhere at other times, as Giddings and Grant (2009) state: “it is designed in such a way that it does what is intended” (p. 124). The reliability and the validity of the quantitative data was achieved through the use of a survey tool that was based on two prior instruments and pilot tested; standardized administration procedures, i.e. the same procedure and survey instrument used in the repeated cross-sectional study; data being collected in chronological phases which enhanced both construct and internal validity; the use of statistical procedures such as frequency distributions, analysis of variance and significance tests to examine the probability of results occurring by chance; and by an in-depth review of past research studies in each of the publishable papers. Further information can be found in the individual published papers presented in this thesis.

In endeavouring to ensure the trustworthiness and authenticity of the qualitative data, I used criteria suggested by Guba and Lincoln (1994), and Minichiello, Sullivan, Greenwood and Axford (1999): credibility, transferability, dependability and confirmability.

**Credibility** refers to the degree of fit between the participants’ realities and the way the investigator constructs and represents these realities. A study is credible, according to Guba and Lincoln (1985), when it is able to present faithful descriptions and also when the readers are confronted with the experiences they are able to recognise as plausible. I enhanced the credibility in this research through a number of strategies. For example, immersion in the research context; explicitly stating my position in this research; interrogating the data by looking for instances in my journal and audit trail that challenged my own explanations; the only investigator interviewing all participants using the same semi structured interview schedules;
interviews being audio-recorded and transcribed verbatim; member checking interview transcripts with participants; gaining data from more than one source, i.e. beginning students (interviews); completing students (focus groups) and graduates (T1 and T2 telephone interviews) at different points in time and their career development stage, and finally, through the excerpts allowing the students’ and graduates’ voices to reverberate throughout my re-presentation of the data. Further, the published papers describe the process of peer evaluation of the research findings that was undertaken.

Transferability refers to the degree to which findings and inferences can be generalised to a new context or similar situation or population. With this doctoral research I am aware that I cannot categorically state in which other contexts these research findings may hold; yet I feel reasonably confident that if it was replicated in the same or a similar university setting other researchers would arrive at similar findings. To ensure transferability I have provided in this thesis an adequate detailed description of how the data were gathered (cross-sectional surveys, interviews and focus groups), the context in which it was gathered (i.e. undergraduate students at the beginning and at the end of a DD program and graduates in their first two years of work), and interpreted (the steps in the thematic analysis). In this study as descriptive survey data and qualitative interview data were used to substantiate each other the survey questionnaires, the interview schedules and the thematic maps have been included in the appendices for others who may wish to replicate this study.

Dependability refers to the transparency of the study by the documentation of the research process, i.e. data collection, analysis, interpretation and conclusions hence the means by which the findings are arrived at. Sandalowski (1986) proposes that other researchers should be able to follow clearly the decision trail that was documented by the researcher. For example, I attempted to guard against bias and enhance dependability by having the developing themes and categories in NVivo (V8) documented in thematic maps and audit trails verified by two independent researchers, who were both supervisors of the study.

Confirmability refers to the degree to which the results could be confirmed or corroborated by others. It also refers to the objectivity of the researcher conducting the
research and the interpretation or inferences of the findings. Confirmability was promoted through those practices above held to improve ‘dependability’, for example checking and rechecking the large amounts of data in this study through the use of NVivo (V8) and documenting the procedures for checking and rechecking the data throughout the study.

While the steps above were taken to ensure rigour in both the qualitative and quantitative strands of this doctoral research, it was equally important to ensure rigour of the overall study that is the mixing of the findings and inferences from both strands for the results and the final meta-inferences that answered the research questions. Figure 1 demonstrates how the sequential explanatory mixed design was applied in this doctoral research and the phases that occurred in chronological order, i.e. quantitative data collection, analysis and findings then the qualitative data collection, analysis and findings. The questions and procedures of each sequence emerged from and were dependant on the previous one and their relationships and the inferences from each sequence and phase evolved as the study unfolded until the final meta-influences, which are reported in paper 5 and in more detail in the discussion and conclusion (Part 4).

Hence, rigour for the overall inferences from both the quantitative and qualitative phases i.e. the statistical and thematic techniques, was ensured by attention to ‘inference quality’ and ‘inference transferability’. **Inference quality** “refers to the standard for evaluating the quality of conclusions that are made on the basis of both the quantitative and qualitative findings” (Teddle & Tashakkori, 2009, p.27) and **inference transferability** refers to the degree to which the conclusions from a mixed methods study may be applied to other settings, people, time periods and contexts. Inference quality and transferability were achieved through clearly documenting how one phase built on the other in chronological order: for example, from beginning students to second year graduates; documenting how the participants were selected for the qualitative phase; demonstrating how the preliminary findings from the quantitative phase drove the schedules for the interviews and focus groups; and methodically analysing data in each sequence and chronological phase to check for consistency and thoroughness of findings generated by different data collection methods. Finally, the inferences and meta- inferences were anchored by the Nursing
Career Development Framework adapted from Bronfenbrenner’s socio-ecological theory of development.

2.8 Conclusion
The research design and method used to identify and understand the career development and career choices of DD nursing students was the focus of Part 2 of the doctoral thesis. An overview of the research paradigm was provided, as well as a rationale for its selection for this study. A sequential explanatory mixed method approach was proffered as an appropriate approach to investigate the career choices of DD nursing students and graduates because of its capacity to generate meaningful and context-constituted knowledge about complex career development phenomena and events. This was followed by a discussion of the mixed method design, the context and sample, an outline of the quantitative and qualitative data collection and data analysis and a justification for each methodological decision. Part 2 concluded with a discussion of ethical issues and how rigour was ensured in this study.

The following section Part 3 presents the results from both the quantitative and qualitative components of the data collection and data analysis through four publishable papers and explicitly demonstrates the spirit of a mixed method study.

2.9 References


Richards, T. (2004). *Unleash the power within! What node hierarchies are really all about, why they are the heart of powerful research techniques, and where they can take us*. Paper presented at the Strategies in Qualitative Research: Methodological Issues and Practices in Using QSR NVIVO and NUD*IST Conference. London, 8–9 May.


Part 3
Results

3.1 Introduction
In Part 3, four papers report the results of the research undertaken for this thesis. Each paper draws on a component of the data and addresses one or more of the research questions.

Paper 3 reports on the first phase of the study. In keeping with Cresswell and Plano Clark’s (2007) suggestion that a sequential explanatory mixed methods study begin with the collection and analysis of quantitative data, the paper presents data collected in cross-sectional surveys of undergraduate students studying a Bachelor of Nursing via a single or double degree program. Comparisons are made between three cohorts: the single degree students and two groups of double degree students (BN/BECT and BN/BCP). The aim is to identify similarities and differences in: students’ socio-demographic characteristics, including whether they were from a rural background and whether they would like to work in a rural location; their reasons for choosing their degree program; which career (nursing or other) they preferred; what they found appealing about their career choice; and what other factors had influenced their choice.

Paper 4 reports on the qualitative data collected through interviews and focus groups with first and final year undergraduate double degree students and interviews with double degree graduates. It applies the Nursing Career Development Framework through a thematic analysis of these data to understand why students enroll in a double degree nursing program, what influences their career aspirations towards nursing or the other discipline, and how their experience in the workplace influenced their career development and career choice as undergraduates, and their career destination as graduates.

Paper 5 examines the double degree students’ workforce transitions and destinations by drawing on university audit data from Graduate Destination Survey reports and quantitative and qualitative data provided by final year double degree students and double degree graduates. It tracks and contrasts final year students’ career preferences and the reasons for these preferences with graduates’ actual career destinations and
what keeps these graduates in a nursing career. Attention is given to the career location preferences of rural students, to determine whether they sought to work in a rural or a metropolitan area. This paper has been accepted for a special issue of *Contemporary Nurse* focusing on supporting a strong and resilient contemporary nurse workforce.

Paper 6 reports on the experiences of studying nursing via a double degree through an analysis of focus group interviews with final year undergraduate students. The purpose was to generate a deeper understanding of the challenges students faced in studying via a double degree mode, how they managed these challenges, and how this affected students’ career development.

### 3.2 References

Paper 3

Career choices and destinations of rural nursing students undertaking single and double degrees in nursing.

Career choices and destinations of rural nursing students undertaking single and double degrees in nursing

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KEY WORDS
Nursing education, double degrees, rural career preferences

ABSTRACT
Objectives
To identify and compare the location and career preferences of students enrolled in single and transdisciplinary double degrees in a Bachelor of Nursing program at a rural university.
To understand what influences and motivates students to enrol in a double degree program that includes nursing.

Design
A cross-sectional cohort study using a semi structured survey.

Setting
Charles Sturt University, Bathurst, New South Wales, Australia.

Subjects
209 undergraduate students in all years of the Bachelor of Nursing (BN), Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (BN/BCP), and Bachelor of Nursing/Bachelor of Early Childhood Teaching (BN/BECT) programs.

Main outcome measures
Demographics of participants; reasons double degree students enrolled in a nursing program; career location and career discipline preferences.

Results
In 2008 the majority (70%) of students in all three groups were from rural areas, but double degree students came from a higher socio-economic background, were younger and were more likely to be male than single degree nursing students. They also had different motivating factors for enrolling and many did not prefer nursing as a career. 40% of BN, 45% of BN/BECT students and 28% of BN/BCP students preferred to work in a rural location for their graduate year.

Conclusions
Students undertaking this rural based double degree nursing program are different to single degree nursing students in a number of important areas. The lack of interest in a nursing career and a rural location by over half of these students is concerning. Targeted strategies are needed to reverse this loss of potential nursing graduates.
INTRODUCTION

Transdisciplinary undergraduate double degrees (DDs) involving nursing were introduced at a time (2002-2008) when the Australia Federal Government had increased the number of nursing funded places to universities (Authors 2010; Drury et al 2008). This followed the National Review into Nursing Education’s (2002) recommendation that inter-disciplinary and cross-professional approaches to nurse education and practice be encouraged. By 2007 in Australia over one third of nursing students were studying via a DD mode (Preston 2009).

DD programs which combined nursing and pre-hospital care/paramedics (BN/BCP) and nursing and early childhood teaching (BN/BECT) commenced at Charles Sturt University (CSU), a regional university in Bathurst, Australia in 2002. One attraction for students was the ability to complete two three-year degrees in a four year period. The DDs were an attempt by a rural university to encourage more students, especially school leavers, into nursing to help sustain the rural workforce. Evidence suggests that demographic background and exposure to rural clinical experiences can positively influence nursing/medical students’ choices of career, career destination and reasons for remaining in a rural area (Taylor et al 2009; Nugent et al 2004).

Literature from overseas (Buchan and Aiken 2008; ION 2008) and Australia (Preston 2009; Gaynor et al 2007) continues to demonstrate a shortage of nurses. The numbers of nurses being educated are not enough to meet future workforce demands, and rural areas are harder hit by these shortages (Bushy and Leipert 2005; Ryan-Nicholls 2004).

Numerous studies in Australia (Stevens 2011; McCann et al 2010; Happell 2003) and overseas (Kloster et al 2007; Stuhlmiller 2006) have investigated the career choices and preferences of Bachelor of Nursing (BN) (or equivalent) students. Earlier studies (Happell 2002; 1999; Stevens and Dulhunty 1997; 1992) showed that nursing career specialty preferences did not change significantly during a degree. Yet, later studies (Stevens 2011; Stuhlmiller 2006) demonstrate that positive clinical experiences impact on career preference decisions. It is unknown however, if these latter factors are equally relevant for nursing students in a DD program. Few studies have investigated DD students (Russell et al 2008; Batson et al 2002), and none have examined their career and or location preferences (Authors 2010).

As of 2010, ten cohorts (approximately 180 DD nursing students) have graduated from CSU; however, little is known about these students and whether they intend to take up a nursing career and if this will be in a rural location.

The aims of this study were to identify and compare the location and career preferences of students enrolled in single and DD programs in nursing at a rural university, and to gain an understanding of what influenced and motivated these students to enrol in nursing.

METHODOLOGY

In 2008 a cross-sectional cohort study, utilising a semi structured questionnaire was carried out. Ethical approval was gained from CSU Ethics in Human Research Committee. To ensure confidentiality questionnaires were numerically coded. The questionnaires gathered demographic and background information, and student’s initial career preference at commencement of their program. Open-ended questions asked students to explain why they chose their study program, which discipline areas they expected to work in and where they expected to work after graduation.
Participants
All enrolled undergraduate nursing students in the three-year BN and four-year BN/BCP and BN/BECT programs were invited to participate. International students were excluded. The overall response rate across all years was 71.6% (n = 209), with 77 single degree BNs of a possible 121 (63.6% participation), 31 BN/BECTs (100%) and 101 BN/BCPs of a total 139 (72.6%).

Data Analysis
Data were analysed using SPSS (Version 17, SPSS Inc., Chicago, IL, USA). Group comparisons were conducted using chi square (χ²) tests and analysis of variance (ANOVA). The textual data from the open ended questions were reviewed extensively, categorised, and then further collapsed to generate major categories.

FINDINGS

Demographic characteristics
The characteristics of the three cohorts of students are compared and summarised in Table 1. Students’ ages on enrolment ranged from 18 – 47 years. Students in the single BN were older than students in both the BN/BECT and BN/BCP degrees. A cut-off age of 19 years was used to estimate numbers of students who entered university straight from school. The BN/BCPs had the highest percent of school leavers (74.3%), BNs the lowest percent (48.1%), and the BN/BECTs were mid-way (58.1%).

The majority (88.3%) of students were female. The BN/BECT group had no male students, and the BN group had 13%. The BN/BCP group had the highest percentage of males (34.6%), which reflects the traditional profile of males in paramedicine (Reynolds and O’Donnell 2009).

Rural background
Students were gauged as being from a rural background if they had lived in a rural area for more than eight years ([AMWAC 2003] definition of rural background) and had a rural home address according to the Rural, Remote, Metropolitan Areas (RRMA) classification system (AIHW 2004). The majority (70.3%) of students had a rural background, with single degree BNs having the highest proportion (79.2%), BN/BCPs having the lowest (63.4%), and the BN/BECTs being mid-way (71.0%). The differences between the three groups achieved a marginal level of significance.

Table 1: Demographic characteristics of all single and DD nursing students in 2008

<table>
<thead>
<tr>
<th></th>
<th>BN (single) cohort (n = 77)</th>
<th>BN/ BECT (DD) cohort (n = 31)</th>
<th>BN/ BCP (DD) cohort (n = 101)</th>
<th>Overall study participants (n = 209)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age on enrolment †</td>
<td>Mean (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School leavers ‡</td>
<td>n (%)</td>
<td>37 (48.1%) *</td>
<td>18 (58.1%)</td>
<td>75 (74.3%) *</td>
</tr>
<tr>
<td>Male §</td>
<td>n (%)</td>
<td>9 (13.0%) *</td>
<td>0 (0.0%) **</td>
<td>26 (34.6%) *</td>
</tr>
<tr>
<td>Rural background ¶</td>
<td>n (%)</td>
<td>61 (79.2%)</td>
<td>22 (71.0%)</td>
<td>64 (63.4%)</td>
</tr>
</tbody>
</table>

*, ** Statistically significant differences at p < 0.05
† Significant differences between BN and BN/BECT group and BN and BN/BCP group F(2, 206) = 13.3 p < 0.01
‡ Significant differences between BN and BN/BCP group χ²(2; 206) = 13.0 p < 0.01
§ Significant differences between BN/BCP group and BN group and BN/BCP and BN/BECT group χ²(1; 209) = 13.5 p < 0.01
¶ Marginal differences between groups χ² (2; 209) = 5.3 p < 0.07
Socio-economic background

Students' socio-economic background was recorded according to criteria used in the Longitudinal Study of Australian Youth (Dockery and Barns 2005). Students reported on their fathers' and mothers' professional occupation status on a scale of '1' (lowest; e.g., no job) to '10' (highest; e.g., lawyer) and educational level on a scale of '1' (lowest; completed primary school) to '6' (highest; completed an undergraduate degree). Results in table 2 demonstrate significant differences in three of the four comparisons. In general, students in the single BN degree were from a lower socio-economic background than DD students. The BN students' fathers had a lower professional job status compared to the BN/BCPs and BN/BECTs, the same was true of mothers' occupational status with the BN group being lower than the BN/BCPs and BN/BECTs.

In terms of the fathers' level of education, the BNs reported a lower level of educational attainment than the BN/BCPs but not the BN/BECTs. There were no differences in the mothers' educational level.

Table 2: Socio-economic background of single and double degree students

<table>
<thead>
<tr>
<th></th>
<th>Single degree BN group (n = 77)</th>
<th>DD BN/BECT group (n = 31)</th>
<th>DD BN/BCP group (n = 101)</th>
<th>Overall study participants (n = 208)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (S/D)</td>
<td>Mean (S/D)</td>
<td>Mean (S/D)</td>
<td>Mean (S/D)</td>
</tr>
<tr>
<td>Fathers occupation level†</td>
<td>6.1 (3.2)∗∗∗</td>
<td>7.9 (2.1)⁺</td>
<td>7.5 (2.8)⁺⁺</td>
<td>7.1 (3.0)</td>
</tr>
<tr>
<td>Mothers occupation level‡</td>
<td>6.3 (3.1)⁺⁺⁺⁺</td>
<td>7.9 (2.5)⁺⁺</td>
<td>7.5 (2.7)⁺⁺</td>
<td>7.1 (2.9)</td>
</tr>
<tr>
<td>Fathers education § (Bachelor level)</td>
<td>3.7 (1.7)⁺⁺⁺⁺</td>
<td>3.6 (1.7)⁺⁺</td>
<td>4.4 (1.6)⁺⁺</td>
<td>4.0 (1.7)</td>
</tr>
<tr>
<td>Mothers education (Bachelor level)</td>
<td>3.7 (1.8)⁺⁺⁺⁺</td>
<td>4.07 (1.7)⁺⁺</td>
<td>4.2 (1.7)⁺⁺</td>
<td>4.0 (1.7)</td>
</tr>
</tbody>
</table>

∗, ** Statistically significant differences at p < 0.05
† Significant differences between BN and BN/BECT group and BN and BN/BCP group F (2, 188) = 5.8 p < 0.01
‡ Significant differences between BN and BN/BECT group and BN and BN/BCP group F (2, 196) = 4.9 p < 0.01
§ Significant differences at p < 0.05 between BN/BCP group and BN group F (2, 188) = 4.4 p < 0.01

RURAL AND CAREER ASPIRATIONS

Rural location work preferences

Students were asked to indicate their preferred graduate year location ('rural', 'metropolitan', 'undecided' and 'overseas'). Only 70 students (33.5% of the sample) expected to work in a rural area, but the proportions who selected rural vs metropolitan locations differed by degree (see table 3). Students in the BN (41.6%) and BN/BECT (45.2%) had the highest percent of students interested in a rural location while the lowest group was the BN/BCP (23.8%) group. There were 24.4% of students who were 'undecided' and 8.6% who wanted to work overseas, with similar proportions across single and double degrees.

Career preferences for nursing

Students' responses to the open-ended question about the career they preferred on enrolment primarily fell into three discipline areas: nursing, early childhood teaching, paramedic. Two additional categories were formed: 'both' for those students who identified more than one discipline and 'other' for students who planned a degree change or whose current degree was not their first choice. Results (table 3) showed significant differences as the majority of BN students (88.3%) chose nursing but only a very small proportion of BN/BCP students (9.9%) did. The BN/BECT students (48.4%) were midway between the two. Surprisingly, a relatively small proportion of DD students indicated that they expected to work in a career involving 'both' disciplines (BN/BECT 16.1%, BN/BCP 9.9%). A small percent of students chose 'other' with little variation between groups (BN 9.1%, BN/BECT 3.2%, BN/BCP 4.8%).

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Table 3: Rural and career choices of single and double degree nursing students

<table>
<thead>
<tr>
<th>Rural location work preferences</th>
<th>Single degree BN group (n = 77)</th>
<th>DD BN/BECT group (n = 31)</th>
<th>DD BN/BCP group (n = 101)</th>
<th>Overall study participants (n = 209)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Rural or rural and remote</td>
<td>32 (41.6%)**</td>
<td>14 (45.2%)*</td>
<td>24 (23.8%)*,**</td>
<td>70 (33.5%)</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>18 (23.4%)*</td>
<td>8 (25.8%)*</td>
<td>44 (43.6%)*</td>
<td>70 (33.5%)</td>
</tr>
<tr>
<td>Undecided</td>
<td>19 (24.7%)</td>
<td>6 (19.4%)</td>
<td>26 (25.7%)</td>
<td>51 (24.4%)</td>
</tr>
<tr>
<td>Overseas</td>
<td>8 (10.4%)</td>
<td>3 (9.7%)</td>
<td>7 (6.9%)</td>
<td>18 (8.6%)</td>
</tr>
</tbody>
</table>

Career preferences for nursing

|                                 | Single degree BN group (n = 77) | DD BN/BECT group (n = 31) | DD BN/BCP group (n = 101) | Overall study participants (n = 209) |
|                                 | n (%)                           | n (%)                     | n (%)                     | n (%)                              |
| Nursing                         | 68 (88.3%)*,**                  | 15 (48.4%)*               | 10 (9.9%)*,**             | 93 (44.5%)                        |
| Early Childhood Teaching        | 1 (1.3%)                        | 10 (32.3%)                | 0 (0.0%)                  | 11 (5.3%)                         |
| Paramedicine                    | 1 (1.3%)                        | 0 (0.0%)                  | 79 (78.2%)                | 80 (38.3%)                        |
| Both                            | n/a                             | 5 (16.1%)                 | 10 (9.9%)                 | 15 (7.2%)                         |
| Other discipline                | 7 (9.1%)                        | 1 (3.2%)                  | 2 (2%)                    | 10 (4.8%)                         |

*,** Significant differences at p < 0.05
† The percent of students who selected rural vs metropolitan locations differed significantly between degrees X² (6, 209) = 12.6 p< 0.05
‡ The percent of students who chose a nursing career differed significantly between degrees X² (8, 209) = 207.3, p < 0.01

Career motivations and influences

Students responded to a series of open-ended questions about the reasons why they chose their program of study, what they found appealing about their career choice, and what or who had influenced their career decision. Results are summarised in detail in tables 4, 5, 6.

Why did students choose their programs of study?

Four categories emerged as to why students chose their program: ‘interested in one discipline area only’ (e.g. nursing, early childhood teaching or paramedicine); ‘improved career choices’; ‘pragmatic reasons’; ‘employment advantages’/security’. Results show significant differences in the distribution of students’ answers by type of degree. There were more BN students (67.1%) who were ‘interested in one discipline area only’ than BN/BECTs (3.4%) and BN/BCPs (31%). More BN/BECTs (55.2%) chose their program for ‘improved career choices’ than BNs (7.9%) and BN/BCPs (36%). Similar numbers of students in single and double degrees identified ‘pragmatic reasons’ or ‘employment security’.

Table 4: Why did single and double degree students choose their programs of study?

<table>
<thead>
<tr>
<th></th>
<th>Single degree BN group (n = 77)</th>
<th>DD BN/BECT group (n = 31)</th>
<th>DD BN/BCP group (n = 101)</th>
<th>Overall study participants average (n =209)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Interested in one discipline area only†</td>
<td>51 (67.1%)*</td>
<td>1 (3.4%)*</td>
<td>31 (31.0%)*</td>
<td>83 (40.5%)</td>
</tr>
<tr>
<td>Improved career choices‡</td>
<td>6 (7.9%)*</td>
<td>16 (55.2%)*</td>
<td>36 (36.0%)</td>
<td>58 (28.3%)</td>
</tr>
<tr>
<td>Employment advantages, security</td>
<td>13 (17.1%)</td>
<td>7 (24.1%)</td>
<td>12 (12.0%)</td>
<td>32 (15.6%)</td>
</tr>
<tr>
<td>Pragmatic, early entry, low UAI</td>
<td>6 (7.9%)</td>
<td>5 (17.2%)</td>
<td>21 (21.0%)</td>
<td>32 (15.6%)</td>
</tr>
</tbody>
</table>

* Statistically significant differences at p < 0.05
†,‡ There were significant differences in the distribution of students answers by type of degree in ‘interest in one discipline area only’ and ‘improved career choices’ X² (6, 205) = 53.1, p<0.01
What did students find appealing in their career choice?

Four categories were identified: 'exciting and different'; 'personal satisfaction and enjoyment'; 'altruism'; 'personal interest/self gains'. The results showed significant differences between groups. A higher percent of BN/BCPs (54.5%) saw their career choice as 'exciting and different' than BNs (2.8%) and BN/BEects (3.4%). In contrast more of the BN/BEects (48.3%) felt that 'personal satisfaction and enjoyment' was an appealing aspect of their career choice than BNs (34.7%) and BN/BCPs (10.9%). The BNs were more likely to mention 'altruistic' reasons (45.8%) than the BN/BEects (31%) and the BN/BCPs (27.7%). 'Personal interest/self gains' was identified by a similar percentage of students in each of the groups (6.9 to 17.2%).

Table 5: What did single and double degree students find appealing in their career choice

<table>
<thead>
<tr>
<th></th>
<th>Single degree BN group (n = 77)</th>
<th>DD BN/BEect group (n = 31)</th>
<th>DD BN/BCP group (n = 101)</th>
<th>Overall study participants (n = 209)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exciting workplace †</td>
<td>2 (2.8)***</td>
<td>1 (3.4)***</td>
<td>55 (54.5)***</td>
<td>58 (28.7)***</td>
</tr>
<tr>
<td>Personal satisfaction, enjoyment ‡</td>
<td>25 (34.7)***</td>
<td>14 (48.3)***</td>
<td>11 (10.9)***</td>
<td>50 (24.8)***</td>
</tr>
<tr>
<td>Altruism §</td>
<td>33 (45.8)***</td>
<td>9 (31.0)***</td>
<td>28 (27.7)***</td>
<td>70 (34.7)***</td>
</tr>
<tr>
<td>Personal interest/self gains</td>
<td>12 (16.7)***</td>
<td>5 (17.2)***</td>
<td>7 (6.9)***</td>
<td>24 (11.9)***</td>
</tr>
</tbody>
</table>

*,** Statistically significant differences at p < 0.05
†,‡,§ There were significant differences between the degree groups in the categories of 'exciting workplace', 'personal satisfaction and enjoyment' and 'altruism' X² (6, 202) = 72.32 p < 0.001

Who or what factors influenced the students' career choice?

Influences on students' career choices and program of study were: 'a family member'; 'a friend or role model'; their 'own previous experiences (eg. illness, work/ voluntary work)' and 'no outside influences'. Significant differences were noted for the three groups. 'A family member' was the most influential for the BN group (52%), but less so for the DD groups (33.3%). This accords with reports that 'family members' play a major role in influencing people to take up a nursing career (Larsen et al 2003; McCabe et al 2005). The BN/BEects were more likely to say that there were 'no outside influences' on their career choice than BNs (20%) or BN/BCPs (35.4%). The influences of 'a friend or role model' and 'own previous experiences' showed similar percentages across the three groups.

Table 6: Who or what factors influenced the students' career choice

<table>
<thead>
<tr>
<th></th>
<th>Single degree BN group (n = 77)</th>
<th>DD BN/BEect group (n = 31)</th>
<th>DD B/BCP group (n = 101)</th>
<th>Overall study participants (n = 209)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A family member †</td>
<td>39 (52.0)***</td>
<td>10 (33.3)***</td>
<td>33 (33.3)***</td>
<td>82 (40.2)***</td>
</tr>
<tr>
<td>No outside influences †</td>
<td>15 (20.0)***</td>
<td>15 (50.0)***</td>
<td>35 (35.4)***</td>
<td>65 (31.9)***</td>
</tr>
<tr>
<td>Friend or role model</td>
<td>9 (8.0)***</td>
<td>2 (6.7)***</td>
<td>26 (13.1)***</td>
<td>35 (16.3)***</td>
</tr>
<tr>
<td>Own previous experiences of illness, paid or voluntary work</td>
<td>15 (20.0)***</td>
<td>3 (10.0)***</td>
<td>18 (18.2)***</td>
<td>36 (17.6)***</td>
</tr>
</tbody>
</table>

*,** Statistically significant differences at p < 0.05
†, † There were significant differences between the degree groups in the categories of 'a family member' influences and 'no outside influences' X² (6, 204) = 13.7 p < 0.03
DISCUSSION

This study presents the first Australian data contrasting single and DD students enrolled in nursing. Results showed that DD nursing students were different from single degree nursing students on demographic characteristics as well as in their career preferences. They were younger, more likely to be school leavers as noted in previous studies on other DD students (Batson et al. 2002; Russell et al. 2008); and from a higher socio-economic background. Single degree BNs were older and had career motivations (e.g. altruism) typically found in previous studies on nursing students (Dockery and Barns 2005; McCabe et al. 2005). Interestingly, the BN/BECT students were more similar to BNs than BN/BCPs. More of them wanted to work as a nurse (48%) and they had similar motivations (personal satisfaction, altruism). The BN/BCPs were motivated by 'excitement' in their work and only 10% planned to work as a nurse.

The higher number of mature age students in the single degree was typical of a global pattern which authors predict will exacerbate future staffing shortages in nursing (Preston 2009; Drury et al. 2008). Because fewer young people are drawn to a career in nursing (Dockery and Barns 2005; McCabe et al. 2005), it was thought that DDs might be an avenue to reverse 'the aging' of the workforce. These results presented here did not demonstrate this. Only one-third of DD students were interested in a career in nursing, although another 13% wanted to work in both disciplines.

The study confirmed that a large percentage (70%) of nursing students were from a rural background; however, findings demonstrate less than half expected to work in a rural location with the BN/BCP students the least interested. Other research has suggested that rural students need ongoing and positive rural exposure and experiences to increase retention rates (Mills et al. 2011; Bushy and Leipert 2005).

Limitations

Group comparisons were somewhat limited by the small numbers in the BN/BECT group relative to the other two groups; however, this was counter balanced by the fact that all students in this four-year DD participated. A further limit is that the report is based on students in one university only; however the CSU programs constitute the only four year DDs that have students in all years of the course.

CONCLUSION

Despite attracting students from a rural background and providing rural experiences in the program, a relatively low percentage of students planned to work in a rural location in their graduate year. The findings are contrary to current literature on rural based clinical programs and suggest that recruitment and retention of students into rural nursing via DD programs need more targeted strategies. It was not possible within the scope of the present report to explain the reasons for students' choices, however, further examination of data gathered through interviews and focus groups may bring these to light.

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Why nursing? Applying a socio-ecological framework to study career choices of double degree nursing students and graduates.

ORIGINAL RESEARCH

Why nursing? Applying a socio-ecological framework to study career choices of double degree nursing students and graduates

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Abstract

Aim. To report a study that investigated the career development, aspirations, and choices of undergraduate students and graduates of nursing double degree programmes.

Background. Over one-third of Australian undergraduate nursing students study by double degree mode. Their career destinations will have an impact on the availability of graduates in a time of nursing shortages, but little is known about why nursing students choose double degrees or take up a career in nursing vs. the other specialization.

Design. A qualitative study using two longitudinal methods.

Methods. The study was conducted in 2008–2009 with 68 participants from an Australian regional university offering double degrees in nursing. A time series method involved interviews with 12 first year students followed by focus group interviews with 22 final year students. A longitudinal method involved repeated interviews with 34 graduates. Interview transcripts were analysed thematically.

Results. Enrolment in a double degree was influenced by advice from significant others; previous experiences of health care; and the anticipated rewards associated with a choice of two careers. Career development and decisions of undergraduates were influenced by intrinsic and extrinsic rewards distinctive to each area of specialization and marketing and job availability. For graduates, the impact of workplace experiences such as prior prac Greece and past and present workplace support were foremost.

Conclusion. This study provides previously unknown information about double degree nursing students’ and graduates’ career development and career choices over time. A socio-ecological framework adapted to nursing enabled a broad understanding of the many environments and contexts that confirm or discourage a nursing career.

Keywords: career, double degrees, graduates, nurses, nursing, socio-ecological, thematic analysis
Introduction

The widely reported global shortage of nurses continues to be of great concern (Organisation for Economic Co-operation & Development 2004, Buchan & Aiken 2008, Newton et al. 2009). Shortages impact negatively on the health outcomes of patients (Buchan & Calman 2004, Fitzgerald 2007) and lead to stress and burnout in registered nurses (Hegney et al. 2003, Buerhaus et al. 2006, Erickson & Grove 2007). Historically, despite some fluctuations, a steady stream of nursing graduates maintained an overall balance in supply and demand (Druzy et al. 2008, Preston 2009). More recently, a number of supply and difficulties (the beginning of the recruitment chain) have been contributing to the inadequate supply of nurses. For example, many school leavers are reluctant to consider nursing as a career due to expanding career options particularly for females (Druzy et al. 2008, International Council of Nurses 2008). In addition, Government funding policies in many countries limit the number of government-funded nursing places at universities or colleges and consequently, not all prospective students can find a place (Hopkins 2001, Aitken 2007, Druzy et al. 2008). Furthermore, a statistically significant rise in the numbers of mature age students has exacerbated the problems associated with an already mature workforce (Erickson & Grove 2007, Fitzgerald 2007).

The Australian Government has endeavoured to improve supply by substantially increasing government-funded nursing places in universities (Druzy et al. 2008, Preston 2009). Many of these places are situated in newly developed double degree (DD) programmes that combine a Bachelor of Nursing (BN) with another undergraduate degree. By 2009, over one-third of undergraduate nursing students in Australia was studying via this mode (Preston 2009, Hickey et al. 2010a) and hence have the choice of two career pathways. Although DDs potentially help to address Australia’s serious shortage of nurses by attracting mostly school leavers into nursing places, their impact on the numbers of graduates who choose to work as a nurse remains unclear. Nor is it known whether they will assist in alleviating Australia’s high attrition of nursing graduates (Hegney et al. 2002, McCabe et al. 2005, Mills et al. 2007).

Background

In 2002, in a ground-breaking initiative aimed at addressing rural nursing shortages by attracting more young people into nursing, a regional Australian university commenced two DD programmes: a Bachelor of Nursing combined with a Bachelor of Early Childhood Teaching (birth to 5 years) (BN/BECT), and a Bachelor of Nursing with a Bachelor of Clinical Practice (Paramedic) (BN/BCP). Many other universities in Australia have since introduced nursing DDs. Yet, very little is known as to why students choose to study nursing via a DD mode. Previous studies investigating why people choose nursing (Larsen et al. 2003, Newton et al. 2009) and what influences students to choose one nursing specialization over another (Stevens & Crouch 1998, Kloster et al. 2007) have tended to focus on single degree (SD) cohorts and examined areas of highest shortages, such as rural nursing (Hegney et al. 2002, Kenny & Duckett 2003), aged-care nursing (Fagerberg et al. 2000, Stevens 2011), and mental health nursing (Stuhlmiller 2006, Happell et al. 2008). In contrast to their SD counterparts, because professional regulations preclude dual career practicing roles, the DD nursing graduates must give preference to one career pathway over another. Studies of SD nursing students and graduates provide little insight into influences on these decisions.

Little is known, for example, about whether DD nursing students’ and graduates’ career expectations change after enrolment and if so what aspects of their studies influence change, or about the influences on the decisions they make about their subsequent career pathways. For instance, it is not known whether those who choose to work in nursing stay after their first year following graduation or change to the other discipline area where they are also qualified. As the first cohorts of Australian DD students graduated in 2006 and graduate numbers are increasing yearly, it is imperative to gain knowledge about and insights into the career choices of DD students and graduates.

Understanding career development and career decisions is an essential component of recruitment and retention strategies (Hemsley-Brown & Foskett 1999, Gaynor et al. 2006, Price 2009). Researching DD nursing students’ career choices calls for a career development theory that can account for the complexity and multiple influences that affect the career trajectories of contemporary nursing students (Gaynor et al. 2007, Price 2009). To this end and drawing on Bronfenbrenner’s (1979, 1986) socio-ecological theory of human development, we devised a Nursing Career Development Framework (Figure 1) (Hickey et al. 2010b).

Bronfenbrenner’s socio-ecological theory enables an emphasis on how the university setting and other spheres of influence can affect an individual student’s career development and career choices. The premise of the Nursing Career Development Framework is that development occurs over time and career development and career choices occur as a product of the interactions between the person and their environment. These interactions are depicted as occurring in nested systems encompassing four

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levels of influence (Bronfenbrenner 1979). According to Bronfenbrenner, at its centre is the nursing student with his or her past experiences and personal characteristics such as age, academic history and motivations, intrinsic factors related to enjoyment and interests. The student has their own microsystem and a microsystem ‘... is a pattern of activities, roles and interpersonal relationships experienced by the developing person in a given face to face setting’ (Bronfenbrenner 1992, p.147). The ‘mesosystem’ is a system of interrelating ‘microsystems’ including the student’s family, their neighbourhood setting, and friendships. Events in one microsystem can affect what happens in another (Bronfenbrenner 1986); in other words, experiences at university can impact on experiences at home and vice versa. The ‘ecosystem’ consists of policies and events in the wider university arena that indirectly affect the student (for instance, the curriculum requirements, including theory and practicum), whereas the ‘macrosystem’ consists of overriding beliefs, values, practices, and policies (for example, Government policies about funding of universities and wages for public sector workers that can indirectly affect students’ career choices). The ‘chronosystem’ is the overarching element of time, reflecting that the environment is not a fixed entity. It can be helpful for thinking about the length of a transition process, changes in the student and the changing healthcare system or workplace.

In summary, following Bronfenbrenner, the Nursing Career Development Framework focuses on the person (the student) and situates their development and career directions in a wider context of influences, including the interconnectedness between these contexts and how they change over time (Hickey et al. 2010b).

The study

Aim

The aim of this study was to investigate the career development, aspirations, and choices, particular to nursing students and graduates enrolled in double degree programmes. The specific research questions were as follows:

- What influenced the decisions of students to enrol in a DD that includes nursing?

![Nursing Career Development Framework](Image)

*Figure 1 Nursing Career Development Framework (adapted from Bronfenbrenner 1986).*

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N. Hickey et al.

- Why, during their programme of study did DD students aspire or plan to choose to pursue nursing or the other specialization?
- What workplace experiences, including practicum, influenced the career development, choice, and destination of DD nursing graduates?

Design

Two longitudinal qualitative methods were used. First, a time series design involved a cohort of first year and a cohort of final year DD undergraduate nursing students. Time series designs involve studying the same phenomena in the same population of interest, but at multiple points in time (Kermode 2004). Second, a longitudinal method comprised a cohort of DD nursing graduates interviewed at two separate times. The term 'cohort' in this study refers to students enrolled in the same year of a nursing DD or to graduates from a DD.

Participants

Using purposive sampling, three separate cohorts were recruited from the BN/BECT and BN/BCP programmes at a regional university in New South Wales, Australia. At the time of this study, this was the only Australian university to have graduated DD nursing students. Undergraduate participants indicated their interest to participate via a survey distributed to all first year and final year DD students. DD graduates were contacted via email through access to a university database. A total of 34 DD undergraduates and 34 DD graduates participated in the study. The majority of undergraduates were recent school leavers (entered university immediately after completing secondary school) and with a median range of 19 years (18–19 years of age). Approximately, 10% in each sample were male, which is consistent with the 8–10% of male registered nurses in the total population of Australian nurses (Australian Institute of Health & Welfare 2007). Seventy per cent of the participants came from a rural area. The participant cohorts can be summarized as follows:

Cohort 1

Twelve First year DD undergraduates (BN/BECT N = 6; BN/BCP N = 6).

Cohort 2

Twenty-two Final year DD undergraduates (BN/BECT N = 12; BN/BCP N = 10).

Cohort 3

Thirty-four graduates from the DD programmes (BN/BECT N = 16; BN/BCP N = 18) of whom 22 also participated in a follow-up interview 2 years after graduation (BN/BECT N = 12; BN/BCP N = 10). Twelve (10 females and two males) were unable to be contacted for the follow-up interviews.

Data collection

During January 2008 and December 2009, semi-structured interviews and focus groups were conducted to elicit undergraduates' views at the commencement (cohort 1) and conclusion of their DD (cohort 2) and graduates' views in their first year and second year after graduation (cohort 3). Interview schedules were developed from the literature and the information provided in a survey of all first year and final year DD students. Sequential data collection across the three cohorts enabled in-depth information to be obtained on career aspirations, expectations, and choices over time. All interviews were 40–60 minutes in duration. Apart from the first three graduate interviews, where notes were recorded, all interviews and focus groups were audio-recorded and transcribed.

Cohort 1

First year DD undergraduates were interviewed individually to ascertain what had influenced their decision to enrol in a DD that included nursing and their anticipated career specialization. Interviews were held at a neutral place on campus.

Cohort 2

Final year DD undergraduates who were at the stage of submitting job applications participated in focus group interviews. As Minichiello et al. (2008) note, focus groups are useful for exploring complex issues, such as career choice decisions and to gain an understanding of what can affect people's views. Separate focus groups were held for each DD programme at a neutral place on campus. Questions were designed to encourage group discussion about why, at enrolment and during their programme of study, undergraduates chose to pursue a career in nursing or the other specialization in their DD. Any changes in their preferred specialization over the course of their programme were also discussed.

Cohort 3

DD graduates were interviewed individually by telephone at the beginning of their first and the end of their second
graduate years. As graduates were employed throughout Australia, telephone interviews were the most economical and time efficient data collection method. Questions focused on their reasons for studying via a DD mode and the experiences that had influenced their career development, choice, and destination as DD graduates. The second and final interviews centred on the graduates' career experiences and reasons for staying or leaving their initially chosen career.

Ethical considerations

Research Ethics Committee approval was gained from the University Ethics in Human Research Committee. Participants' informed consent was obtained prior to data collection. Data were de-identified and secured according to university policy. The authors were not involved in teaching or assessing the students and participation was voluntary.

Data analysis

Interview transcripts were analysed thematically using a 'theoretical' or deductive approach (Braun & Clarke 2006). Themes were identified at a semantic or explicit level. The analysis began by listening to the tapes, reading the transcripts several times, and making preliminary memos as suggested by Bryman (2008). Because of the large amount of textual data, the 75 interview transcripts and three sets of interview notes were then entered into the software program NVivo Version 8 (V8) and analysed using NVivo (V8) software coding tools. The analysis was informed by the Nursing Career Development Framework described previously (Hickey et al. 2010b). We postulated that students' career development pathways can vary and that influences in the immediate and the wider context sway their career choices as they interact with individuals and social, educational, and clinical healthcare environments over time. As the framework is person-centred, through thematic analysis, it was possible to build a picture of DD nursing students and graduates career decisions over time.

Rigour

Several steps were undertaken to ensure credibility. The first author interviewed all the participants, using semi-structured interview schedules. As noted previously, all but three interviews were audio-recorded and transcribed verbatim. Member checking occurred in each cohort in each phase of data collection. The use of NVivo (V8) facilitated the systematic management of the large amounts of data (Van der Heide 2001) and the creation of an audit trail (Brininger et al. 2006). Finally, the second author checked the analysis and thematic development.

Findings

What influenced the decisions of students to enrol in a DD that includes nursing?

Three themes were identified in the data:

Advice from significant others

Participants were influenced by advice from or conversations with, significant people including parents or family members, role models from industry, or people from their community or previous workplace. Some students had been advised against enrolling in DD nursing programmes by their mothers who had been nurses. Mostly, the emphasis was on the benefits of the DDs, generally in relation to keeping career options open. For example, one student commented: 'Mum's a teacher and she suggested the DD as I wanted to broaden my career options' (BN/BC). Similarly, another student stated: 'A lot of the people I talk to back home are paramedics and nurses so they say do the double degree and then decide' (BN/BC).

Previous experiences of health care or emergency services

Previous experiences of health care or emergency services were also influential, especially those arising from voluntary work: 'I was a volunteer for St John's ambulance, they were the best group of people and that's how I became interested in nursing and paramedics' (BN/BC) or paid work: 'I worked in a mine site in north western Australia and I worked with quite a lot of paramedics out there, they were awesome, they knew so much' (BN/BC). For some students, their own personal experiences of illness in healthcare settings were influential: 'I was in hospital as a child – people never forget a good nurse – or a good teacher for that matter. The main thing is you make a difference' (BN/BC).

Anticipated rewards

The third theme encompassed the rewards that students anticipated that they would gain from having a choice of two careers. The rewards were of an intrinsic (personal, emotional) rewards and extrinsic (tangible or external) nature. The former included a sense of enjoyment and excitement and interesting and challenging work. One respondent said: 'I always grew up thinking I'd like to be a teacher as that would be interesting but in high school I thought maybe I'd
like to be a nurse, some excitement! Now I can do both' (BN/BECT). The latter included the time efficiencies and monetary gains from doing concurrent degrees in 4 years. Other anticipated extrinsic rewards were associated with perceived career benefits, such as career flexibility, improved employment chances, and job security. As one student said: 'I think having two degrees and two lots of skills will give me a better chance than a single degree graduate going for a job; I'll always have a job' (BN/BCP). Additional extrinsic rewards concerned desired employment locations. For some students, a DD was seen as a means of getting a job near home, whereas for others, workplace mobility and the chance to travel with the job was important. As another student said: 'Paramedics itself is not something I can really move around with... I'd like to do it for a while if I can get a job near home, but nursing is what you can travel with' (BN/BCP).

Why, during their programme of study did DD students choose to pursue a career in nursing or the other specialization offered in the DD

At the end of their programme, many DD students had decided on their career choice; however, nearly as many remained undecided. Two main themes were evident in the reasons students gave for choosing one career pathway over another.

Experiencing anticipated rewards

By the end of their programme, students had experienced a taste of the anticipated intrinsic and extrinsic career rewards from their preferred career specializations. Not surprisingly, they were better informed than first year students about their specialization. Job security, flexibility, and lifestyle choice remained important, but many final year students identified specific aspects of wages and conditions that had influenced their decision. For example, 'I quite like the longer shifts so I can have 4 days off and the pay, there's lots and lots of overtime to be done' (BN/BCP). They were also confident that they would continue to find their chosen career satisfying. As one final year student stated: 'I just like it, just the fact that it's different and like it's, it's interesting, it doesn't get mundane or anything I get a lot of satisfaction out of helping sick people' (BN/BECT).

Students identified specific career rewards that might be considered distinctive of each specialization. Perceived rewards associated with paramedics included autonomy, working outside in the community, and working in pairs; whereas rewards of early childhood teaching included working in the field of early education and development and gaining skills in preparation for voluntary work in third world countries. Rewards associated with nursing included travel, the diversity of nursing specializations, the career ladders available to nurses, and developing specific nursing skills. One student who chose nursing reported: 'I wanted to do teaching initially and I have done a complete flip around from wanting to be a teacher to wanting to be a nurse, because there are so many opportunities, if you don't want to be in a hospital on a ward you don't have to, there are so many other possibilities, travel as well' (BN/BCP).

Marketing and job availability

Opportune circumstances and influences beyond the final year students' control also affected their career destination. For example, final year students referred to the public hospitals' practice of system-wide nursing interviews and graduate places and marketing and recruitment visits from groups such as State Ambulance Services, private healthcare providers, and childcare organizations. One student said: 'I was planning on doing nursing... then the Tasmanian Ambulance Service came and had a chat to us and convinced me to go down there, so that's where I am (going)' (BN/BCP). The large majority of DD students applied for positions in both career specializations 'just in case'. A typical response was: 'I've changed my mind so many times, I think I've been through every different career area in nursing and paramedics, I think a lot of us are like, still not positive' (BN/BCP). Two students had been offered and had accepted, graduate positions on their final nursing placement. As one of these student's reported: 'I did my final prac up here last year and their graduate program looked exciting, they offered me a job here so I took it... I think it's hard to get nurses in these remote regions' (BN/BCP). Conversely, as previously noted, some students had actively searched for a position near home: 'I was interested in both and there was a good grad program at the... hospital near home and a vacancy so I thought I'll do nursing first and I can live at home... and my boyfriend... he lives down there too' (BN/BCP).

What workplace experiences, including practicum, influenced the career development, choice, and destination of DD nursing graduates?

Positive and negative practicum and workplace experiences while as a student then as a graduate were highly influential and discussed at length by graduates. Intrinsic rewards, once again, were highly influential, as was 'support in advancing their skills and knowledge'.

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Intrinsic rewards

Many graduates reported that practicum experiences had provided intrinsic rewards. For example, one BN/BCP graduate who chose paramedics said: ‘I enjoyed every single one of my prac [with the Ambulance Service] immensely and I found that they were very much what cemented it for me more than anything’. Others were influenced by negative practicum experiences. A BN/BCP graduate commented: ‘I was on oncology ward and most of them had come in for palliative care and they would pass away and it would affect you, I just don’t like the long term nursing in medical wards’. Previous workplace experiences were also influential. Many graduates had worked as nursing assistants in hospitals or nursing homes while enrolled in their undergraduate programme. They reported that apart from financial imperatives, paid work improved their nursing skills and their attractiveness to employers following graduation. For instance, one BN/BCP graduate reported: ‘I got a job at ... hospital in my 2nd (university) year, worked every weekend – then last year I got a new graduate position there fairly easily’. For others, paid work as an undergraduate confirmed that they did not want to pursue a career in that specialization: ‘When I worked at ... hospital and didn’t want to go to work I thought God I don’t want my career to be like this... every day going oh I’ve got to go back to work. But then when I did a bit of paramedics I really enjoyed it and thought – I was excited to go’ (BN/BCP).

Graduates consistently reported that their workplace experiences following graduation brought the intrinsic rewards anticipated by the first and final year undergraduate students: ‘I enjoy the paramedic work, it’s exciting and I enjoy being in an ambulance with lights and sirens’. One intrinsic career reward mentioned by graduates, but not undergraduate students was autonomy. Interestingly, graduates from both DD programmes who were working as either paramedics or nurses reported experiencing and valuing autonomy in their workplace. As one BN/BCP graduate said of paramedicine: ‘In paramedics you deal with patients that are more acute, it’s great to have that autonomy, to make your own decisions when treating a patient’. Graduates who took up nursing also reported a sense of autonomy. One graduate referring to ‘the autonomy we get as practitioners especially in the emergency department – and you know I like that challenge too, to adapt to different situations and different conditions and make decisions’.

Support while advancing skills and knowledge

Support from staff and their workplace while advancing their professional skills and knowledge was a consistent theme across the 2 years that the graduates were interviewed. For instance, one BN/BCP graduate who had taken up nursing said: ‘I was only going to stay at St ... Hospital for the grad year but then I decided to stay, there was such good clinical support. You can’t fault the organization, they rarely need agency nurses and they encourage further education so decided to enrol in a Masters in Public Health, I want to head in that direction’. Another example was one BN/BCP graduate who had taken up nursing who said: ‘Yeah, I think about teaching but, I just feel that I’m just at the prime at the moment, I’m working in an area I love and I’m learning so much, there’s educators here and I’m building my confidence and all of that. So that’s what keeps me in nursing at the moment’.

It is noteworthy that graduates from both programmes, no matter which specialization they chose, reported similar types of experiences that were important in influencing their career development, choice, and destination.

Discussion

The findings provide several insights into the complex and interconnected influences on the career aspirations and choices of this group of double degree students and graduates. In many respects, the influences appear similar to those reported by single degree nursing students. For instance, studies focusing on DD students show that the intrinsic career rewards of enjoyment arising from helping or caring, (Boughn 2001, Larsen et al. 2003) and interesting and challenging work influence decisions to enrol in nursing (Boughn 2001, McCabe et al. 2005), and to continue in nursing after graduation (Cowin 2002, Hegney et al. 2003). These studies also highlight the importance of advice from significant others (Williams et al. 1997, Beck 2000) and prior healthcare or workplace experiences in inspiring people to choose nursing (Beck 2000, Larsen et al. 2003). Yet, another similarity is the powerful influence of practicum and workplace experiences in positively or negatively affecting career decisions (Happell 2002, Stuhlmuller 2006, Stevens 2011). Extrinsic career rewards such as job security, flexibility, and lifestyle choice reported in studies focusing on DD nursing students (McCabe et al. 2005) were also evident in this study.

Yet, the findings of this study indicate some anticipated career rewards not identified in the literature about DD students and graduates, for example, the importance of career mobility and the scope to change from one career specialization in the DD to the other. DD students and graduates considered that they would be more competitive in the jobs market than their single degree counterparts because of their skills and knowledge in two areas (for example, for BN/BCP graduates, advanced knowledge of child development...
What is already known about this topic

- There are many career specialization choices and career paths for young people interested in studying nursing particularly in Australia.
- The supply and retention of graduate nurses does not meet the demands required, both locally and globally.
- Present methods for understanding the career development and career decisions of contemporary nursing students are limited in scope.

What this paper adds

- New information that reveals contemporary Australian students enrol in nursing double degrees because of varied past experiences and future work expectations that include more work opportunities than one degree can offer.
- Double degree nursing students who choose nursing do so for the opportunities it offers for flexible, secure, and varied work, yet those who choose the other specialization seek extrinsic rewards they perceive nursing does not offer.
- Graduates of double degree nursing programmes who chose nursing and remained in nursing were influenced by past and present workplace experiences, which fostered support and the advancement of their skills and knowledge.

Implications for practice and/or policy

- Governments and the nursing profession need to be aware of changing student populations, particularly those enrolling in undergraduate double degrees and the implications double degrees have for future graduate nursing numbers.
- Understanding career development and decision-making from a socio-ecological perspective should enable the development of more targeted recruitment and retention strategies.

if working in paediatric nursing or neonatal intensive care). Facing graduation, many DD students were undecided about which career to choose, but felt confident about applying for positions in both their specializations.

The emphasis on marketability and employability by the DD participants in the current study and their perception that they have more career options than single degree students is an important finding. It could be that this group of contemporary nursing students wants more flexibility and career mobility than a single qualification can offer. Given that people typically change careers at least five times during their life span (Arthur et al. 1999, Lips-Wiersma & McMorland 2006), the pragmatic appeal of a DD qualification that provides built career flexibility is not surprising.

The findings highlight that there are multi-directional influences in the immediate and the wider context that can affect students’ career decision-making as they interact with significant others and social, educational, and clinical healthcare environments over time. Hence, the Nursing Career Development Framework (Hickey et al. 2010b) (Figure 1) provides an appropriately broad but nuanced lens through which to examine the career development and career choices of DD nursing students. The Framework has the added advantage that it is person-centred, making it possible to build a picture of DD nursing students using information of the type rarely identified in previous studies. As conveyed in Figure 1, students are at the centre of the framework and are influenced by their personal characteristics and past experiences. This is consistent with the findings that students are motivated by intrinsic career rewards. Yet, these anticipated rewards of enjoyment and interesting and challenging work are interpreted differently by each student, which would explain why some are drawn to nursing while others prefer paramedics or early childhood teaching.

Apart from Cross Faculty Relationships, hypothesized as a probably influence on career choice and conceptualized as part of the exosystem in the development of the Nursing Career Development Framework (Figure 1), students and graduates reported influences from all contexts and systems (micro, meso, exo, macro) in the model. First and final year students were strongly influenced by family and/or work experiences, microsystems in the mesosystem. Yet, some were influenced by a desire to have or continue to be a career/lifestyle encapsulated in the exosystem. Marketing forces and job availability, influences from the exosystem, were also pivotal in students’ career choice decisions, consistent with research that shows that career choices are strongly driven by market forces (Lips-Wiersma & McMorland 2006). Finally, pay and conditions were compelling extrinsic motivators for many and illustrate macrosystem influences through Government policies that regulate pay and work practices in the public health sector.

In brief, the findings from this study provide insights into the environmental contexts and influences that affect DD students’ career decisions and highlight the potential of the Nursing Career Development Framework to give a new approach for understanding the career development, decisions, and career choices of contemporary nursing students and graduates.
Limitations of the study

The findings from this qualitative study may not be generalizable beyond the local context of a regional university. It was conducted at a time when metropolitan universities had only recently begun offering DDs with nursing. Another limitation is that participants were drawn from cohorts of students and graduates who were enrolled in or had completed the DD programme. Students who had commenced a DD programme and left could not be identified.

Conclusion

Considering the potential impact DDs can have on the numbers of nursing graduates in Australia, there has been surprisingly little research on the career choices of double degree undergraduate nursing students. To the best of our knowledge, this is the first study that has investigated and provided a broad understanding of the many influences and varied reasons as to why students enrolled in a DD, what influenced their career choices as they transitioned through their programme and graduated and what experiences had an impact on their retention in nursing.

The Nursing Career Development Framework highlighted in this study has provided a conceptual tool that has wider potential for gaining a more nuanced understanding of recruitment and retention in nursing. The findings from this study suggest the importance of developing strategies to encourage more DD students who are still undecided about their career choice in their final semesters to take up nursing, particularly in those nursing specialization areas that have the greatest shortages. Moreover, the findings suggest that there should be consideration and relaxation of cross-professional regulations and scopes of practice, which could see DD graduates practice in both disciplines where they have gained qualifications, as a way of retaining more nurses in the profession. Finally, this study indicates that Government policies concerning the funding of nursing places at universities need to take into account that some nursing graduates will be lost to other career specializations.

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Paper 5

Transition to work and the career destinations of double degree nurses

Transition to work and the career destinations of double degree nurses

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ABSTRACT: One third of undergraduate nursing students in Australia are studying nursing concurrently with another undergraduate degree. This study examined the career preferences of double degree (DD) nursing students and the career destination of graduates to gain an understanding of the reasons why nursing is chosen or not chosen. The design was a sequential mixed methods explanatory study. Questionnaires and interviews collected information during the final year of the DD, on commencement of work, and after 2 years in the workforce. Results revealed less than half of final year students indicated a preference for nursing, but 60–73% were employed in nursing after graduation. Career decisions were influenced by intrinsic and extrinsic rewards unique to nursing but also by the other discipline. Practicum experiences and location of work were also important factors. Strategies are needed to avoid losing potential nursing graduates to other disciplines at a time of nursing staff shortages.

KEYWORDS: career, career destination, double degrees, graduates, nurses, nursing

Nursing education in Australia has undergone many changes since transferring to the higher education sector. One change is the introduction of a double degree (DD), an accelerated programme pathway linking nursing with a second degree in another discipline. By 2010 over one-third of undergraduate nurses in Australia were studying via DD mode (Hickey, Sumison, & Harrison, 2010; Preston, 2009). DD nurses cater to a workforce in which demand for graduate nurses exceeds supply (Australian Institute of Health and Welfare [AIHW], 2012; McCann, Clark, & Lu, 2010; Preston, 2009). Nursing staff shortages have been noted in most developed countries (Buchan & Aiken, 2008; Kloster, Hoie, & Skar, 2007) and are particularly problematic in rural and remote locations (Bushy & Leipert, 2005; Smith, Edwards, Courtney, & Finlayson, 2001). Recruitment difficulties include inadequate government funding for undergraduate nursing places (Australian Government Productivity Commission [AGPC], 2005a; Drury, Francis, & Chapman, 2009; Preston, 2009), attracting suitable students into nursing courses (Doiron, Hall, & Jones, 2008; Drury et al., 2009; Ellenbecker, 2010), and recruiting and retaining new graduates (Drury et al., 2009; Hickey et al., 2010). Expanding career opportunities for graduate nurses in fields beyond nursing pose further difficulties (Duffield, Airken, O'Brien-Pallas, & Wise, 2004; Duffield & Franks, 2002; Preston, 2009). DD qualified nurses may be particularly susceptible to careers outside nursing. This paper examines whether DDs alleviate or exacerbate registered nurse shortages in Australia.

BACKGROUND
The emergence of DDs with nursing coincided with the release of the National Review of Nursing Education (Australia) (2002) and a time when the Australian Government substantially increased the numbers of nursing funded university places (Drury et al., 2009; Hickey et al., 2010). Over the next decade, many of these undergraduate places were taken up by DD nursing students. A variety of DD combinations emerged throughout the Australian university sector (Francis, Chapman, & Birks, 2009; Hickey et al., 2010; Preston, 2009), offering concurrent study of nursing and another discipline. Some DDs combine health-related disciplines, for example, a Bachelor of Nursing/Bachelor of Rural Health Practice, while others combine separate discipline areas, for example, a Bachelor of Nursing/Bachelor of Behavioural Science (Psychology). DD programmes range in length from 4–6 years depending on university requirements and similarity of combined disciplines (Francis et al., 2009; Hickey et al., 2010; Preston,
Two four-year DDs – the Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (BN/BCP) and the Bachelor of Nursing/Bachelor of Early Childhood Teaching (birth to 5 years) (BN/BECT) – were amongst the first DDs and commenced at a regional university in 2002 as an initiative to sustain the rural nursing workforce.

Nursing students' career preferences

Despite substantial increases in nursing DD students, there is minimal literature on their career destinations after graduation. According to nationally aggregated Graduate Destination Survey (GDS) data, DD students constitute approximately 13% of all undergraduates in Australia (Graduate Destination Survey [GDS], 2010), yet a literature review of DD students identified only two studies that included DD nursing students. Francis et al. (2010) used a single survey to investigate the career location intentions of 19 rural students at the beginning of a four-year Bachelor of Nursing/Bachelor of Midwifery programme and found that students from rural backgrounds are more likely to want to practise in a rural context. They did not determine students' preferred career choice on completion. O'Meara, Törlle, Madigan, and Lighton (2011) surveyed 508 paramedic students enrolled in single and DDs at a regional university from 2007–2009 to identify factors influencing career intention. They reported that personal factors, such as place and sense of adventure were the most important determinants. The study included a focus group of eight Bachelor of Clinical Practice/Bachelor of Nursing final year students, with findings suggesting that career preferences were influenced by clinical experiences, career flexibility, work organisational factors and location. As with Francis et al. (2010), students' choices after graduation remained unknown.

Many studies have investigated single degree (SD) nursing student's career preferences or intentions, including their choice of different speciality areas in nursing and preference changes from the beginning to the end of a Bachelor of Nursing (or equivalent) programme. The studies focussed primarily on specialty nursing areas with long-standing shortages such as aged care (Rognstad, Aasland, & Granum, 2004; Stevens, 2011; Stevens & Dullhunty, 1997), mental health (Happell, Robins, & Gough, 2008; Kloster et al., 2007) and rural and remote nursing (Hegney, McCarthy, Rogers-Clark, & Gorman, 2002; Kenny & Duckett, 2003; Nugent, Ogle, Bethune, Walker, & Wellman, 2004). Longitudinal data demonstrated that students' preferences for: aged care nursing decreased due to negative practical experiences; mental health nursing increased marginally due to overall curriculum experiences including positive practicums; rural nursing preferences increased or remained static if students came from a rural area and/or had exposure to enriching rural clinical experiences during their undergraduate programme (Bushy & Liepert, 2005; Courtney, Edwards, Smith, & Finlayson, 2002; Nugent et al., 2004). Conversely, Mills, Birks, and Hegney (2010) found that many nursing students were attracted to metropolitan locations because of perceived greater opportunities and varied experiences for graduates. The drain of qualified youth to cities is a familiar phenomenon in rural areas (Alloway, Gilbert, Gilbert, & Muspratt, 2004). Research into recruitment and retention has shown two major influences common to all health professionals: preferences for rural careers are supported by a rural background and positive rural practicum experiences.

Nursing graduates career destinations

Apart from data gathered by each Australian university through the GDS there is limited information identifying the career destinations of DD nursing graduates and influences on that choice. There is a similar lack of information for graduates completing SD Bachelor of Nursing programmes (AGPC, 2005b; Gaynor, Gallasch, Yorkston, Stewart, & Turner, 2006; Turner et al., 2009). Recent studies have focussed on workforce retention of new nursing graduates. The 2012 Health Workforce Australia report estimated attrition rates of 12.3% for nursing graduates in their first year of work, including permanent and temporary exits (Health Workforce Australia [HWA], 2012). There was no information on how many were graduates from DD programmes. Because permanent attrition rates are difficult to measure reliably, most studies on nursing graduates in Australia...
(Fox, Henderson, & Malko-Nyhan, 2005; Kelly & Ahern, 2008) and overseas (Ducheser, 2008; Morrow, 2009; Rheume, Clement, & LeBel, 2011) focus on transition and socialisation processes, highlighting some of the difficulties experienced by new graduates. Many studies in Australia (Dockery, 2004; Doiron et al., 2008; McKenna & Newton, 2008) and overseas (Becroft, Darcy, & Wenten, 2008) report the intentions of first year graduates to leave the nursing profession, citing dissatisfaction linked to perceptions of poor pay for the work undertaken (Dockery, 2004; Doiron et al., 2008), lack of career development (Dockery, 2004), lack of support from other staff and the organisation (Becroft et al., 2008; Casey, Fink, Krugman, & Propst, 2004; Mills, Francis, & Boin, 2007) and feelings of not belonging (Malouf & West, 2011; McKenna & Newton, 2008; Winter-Collins & McDaniel, 2000).

Double degree nursing graduates
In 2010, there were 29 nursing DD programmes across Australia (Hickey et al., 2010) with students at various stages of completion. These multi-skilled graduates would be an asset to the nursing profession yet it is unknown how many plan to take up a career in nursing on graduation. Equally unknown is whether a career preference for nursing eventuates, what influences their career destination choices as they transition into the workplace, and if they remain in nursing following their first year post graduation. Furthermore, because Australian regulatory authorities responsible for the health workforce preclude cross-disciplinary professional care, graduates must make a choice; either to enter the nursing profession or the other discipline area for which they are qualified. This paper addresses this new problem of recruitment that has arisen with the popularity of undergraduate nursing DD degree programmes.

AIM
To identify the career and location preferences of DD undergraduate nursing students and graduates during the transition from university to work, and to investigate why a nursing career is chosen or not chosen.

The specific research questions were:

- What are the career preferences and location preferences of final year DD nursing students?
- What influences DD nursing students' career preferences?
- What are the career destinations and locations of DD nursing graduates?
- What influences the decision to choose nursing and to remain in a nursing career?

DESIGN
This study utilised a mixed method design to understand DD students' and graduates' career trajectories. A mixed method approach can strengthen research by bringing together different but complementary data (Greene & Caracelli, 1997). Two types of data were drawn on: (1) university audit data from GDS reports from 2007-2010 for DD nursing graduates for one university; and (2) questionnaire and interview data from a recruited sample of DD nursing students and graduates attending this university in 2008-2009. A sequential explanatory mixed method design was conducted with recruitment of a cross-sectional cohort of final year DD students and graduates. Graduates were followed longitudinally for 2 years. This process enabled nuanced information to be obtained on career choices and influences on these decisions.

METHODS
Study site
The site was a regional university in NSW, Australia, which introduced two DD nursing programmes in 2002: the Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (BN/BCP) and the Bachelor of Nursing/Bachelor of Early Childhood Teaching (birth to 5 years) (BN/BECT). At the time of the study, this was the only Australian university to have DD nursing graduates.

University audit data
GDS employment results are collected annually from new graduates from Australian universities 4 months after course completion. The survey completion rate for Australian citizens is normally 62.8% (59% of responders are female (GDS, 2010)). GDS audit data were obtained from official university records at the study site for DD BN/
BECT and BN/BCP graduates from 2007–2010. Information included data pertaining to degree programme completed, numbers of graduates in each programme, and graduates’ occupation and employer. Of the 140 DD graduates from the BN/BECT and BN/BCP programmes in the 4 years from 2007–2010, 61.4% (N = 86) provided GDS information. Of these 58 were BN/BCP graduates (response rate 54.7%) and 28 (response rate 82.4%) were BN/BECT graduates.

Recruitment
A sample of 82 DD undergraduates and graduates from the participating university (Figure 1) was recruited sequentially. All final year DD students enrolled in the four-year BN/BCP and BN/BECT programmes in 2008 and 2009 were invited to participate (N = 78). International students were excluded. Students were informed verbally and in writing of the study at the beginning of a scheduled lecture and invited to meet at a convenient time and neutral place to complete the initial questionnaire. Fifty-five students completed the questionnaire and were invited to participate in a focus group 2 weeks later. In 2008 two focus groups, one consisting of five final year BN/BECT students and the other consisting of six BN/BCP students, were conducted. In 2009 two course-specific focus groups were held with equal numbers of final year BN/BECT and BN/BCP students participating. Overall, four focus groups with a total of 10 BN/BECT and 12 BN/BCP final year students were conducted.

The DD graduate participants were recruited from the 2008 student focus group (N = 7) as well as by emailed invitation through access to the university database (N = 27) (Figure 1). A total of 34 DD graduates participated (BN/BECT N = 16; BN/BCP N = 18) in a one-on-one interview 1 year after graduation. Of these, 22 also participated in a follow-up interview 2 years after graduation (BN/BECT N = 12; BN/BCP N = 10). Twelve (10 females, 2 males) could not be contacted for the 2-year follow-up interviews.

Procedures
Three data collection methods were employed: a questionnaire; focus groups; and telephone interviews. The design of the questionnaire was based on the career choice work of Stevens (1995, 2011), piloted with a small number of students, and adjustments made. The questionnaire gathered demographic and background information and the student’s final career preference (i.e., nursing, early childhood teaching or paramedicine). Preferences for a career in nursing were ascertained using a 5-point likert scale from ‘strongly agree’ to ‘strongly disagree’. Career location preferences

![Figure 1: Recruitment flow chart for sequential mixed methods study](image-url)
for the first graduate year were gauged by asking
students to indicate their preferred graduate location ("rural", "metropolitan" or "undecided").
Focus groups were held separately for each
DD programme (BN/BCP and BN/BECT) and
each year (2008 and 2009) at a neutral place on
campus. Focus group questions were developed and
informed by responses to the questionnaire.
The interview schedule consisted of several openended questions designed to encourage group dis-
cussion about why students intended to pursue a
career in nursing or their other DD specialisation.
The focus groups were tape recorded and were
40–60 minutes in duration.
Post graduation, data collection with both
cohorts of DD graduates involved individual tele-
phone interviews at the beginning of their first
graduate year as a practising professional (T1),
and again at the end of their second graduate year
(T2). Telephone interviews were the most eco-
nomical and time efficient data collection method
as graduates were employed throughout Australia.
The first interview gathered demographic infor-
mation, graduates’ present career destination and
location, reasons for choosing one career speciality (in
nursing, paramedicine or ECT) over another, and
reasons for choosing a rural or metropolitan loca-
tion. Graduates were asked to recall their final year
as students and identify influences on their final
career choice and their preferred destination. They
were also asked about influential experiences during
their transition to their present workplace. To gauge
possible intentions to work as a nurse in the future,
graduates were asked whether they had registered to
practise as a nurse.
The second inter-
view centred on
graduates’ career
experiences and
reasons for staying
or leaving their ini-
tially chosen career.
Interviews ranged
from 40–60 min-
utes duration.
They were tape
recorded and tran-
scribed verbatim.

**Participants**

**Undergraduate final year students**

Demographic characteristics of the 55 students
who agreed to participate are summarised in
Table 1. Their university entry age ranged from
18–26 years. A cut-off age of 19 was used to esti-
mate numbers of students who entered university
in the year after they completed secondary school.
The majority were school leavers (76.4%, N = 42)
with the BN/BCP groups having a higher propor-
tion (82.5%, N = 33) of school leavers and the
BN/BECTs a lower proportion (60%, N = 9).
Most DD students were female: 100% (N = 15)
of the BN/BCP group and 82.5% (N = 33) of
the BN/BECT group. Rural background was based
on whether students had lived in a rural area for
more than 8 years (Australian Medical Workforce
Advisory Committee [AMWAC], 2003 defi-
nition) and had a current rural home address
according to the Rural, Remote Metropolitan Area
(RRMA) classification system (AIHW, 2004).
Over half of the students had a rural background
(63.5%, N = 35); the BN/BECT group had a
slightly higher representation of students from a
rural background (73.3%, N = 11) compared to
the BN/BCPs (60%, N = 24).

**Graduates**

The characteristics of the interviewed DD gradu-
ates were similar to the final year students. The
majority of the graduates were school leavers
(88.2%, N = 30) and female (82.4%, N = 28)
and their entry age ranged from 18–26 years. All
BN/BECT graduates and 62.5% (N = 10) of the

<table>
<thead>
<tr>
<th>TABLE 1: CHARACTERISTICS OF FINAL YEAR DD STUDENT PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BN/BECT cohort</strong></td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Age</strong></td>
</tr>
<tr>
<td>School leavers 18–19 years on enrolment – N (%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>Female – N (%)</td>
</tr>
<tr>
<td>Male – N (%)</td>
</tr>
<tr>
<td><strong>Rural background</strong></td>
</tr>
<tr>
<td>Rural background &gt; 8 years – N (%)</td>
</tr>
</tbody>
</table>
BN/BCP graduates were female. Two-thirds (67.6%, \( N = 23 \)) identified as being from a rural background: BN/BECT (86.7%, \( N = 13 \)) and BN/BCP (62.5%, \( N = 10 \)) (Table 2).

**Data analysis**

Questionnaire data were entered into SPSS (Version 17, SPSS Inc., Chicago, IL, USA) for analysis. Descriptive statistics (e.g., means, percentages) were calculated. Focus groups and graduate interview transcripts were analysed thematically using a ‘theoretical’ or deductive approach (Braun & Clarke, 2006). Themes were identified at a semantic or explicit level and were driven by the researchers’ interest in career development and the career choice decisions of nurses. Thematic analysis (Bryman, 2008) began with listening to the tapes, reading transcripts several times, and making preliminary memos. Transcriptions and memos from the four focus groups and 56 telephone interviews were then entered into the data management software programme NVivo Version 8 (V8). Data were analysed within and across focus groups; interview by interview; and across the set of interview transcripts; and finally across the corpus of qualitative data. Selected excerpts were used to illuminate the quantitative results.

**Ethical Consideration**

Ethical approval was gained from the University Ethics in Human Research Committee. Voluntary informed consent was obtained from undergraduate students and graduates prior to the administration of questionnaires, and the conducting of focus groups and interviews. To ensure confidentiality questionnaires were numerically coded. None of the authors were involved in teaching or assessing the students.

**Findings**

**University audit data: Graduate Designation Survey**

Of the total 86 DD graduates who provided GDS data from 2007–2010, two-thirds (65.1%, \( N = 56 \)) had taken up a career in nursing; a net ‘loss’ to nursing of 34.9% (\( N = 20 \)). Of the graduates not working as a nurse, 31.4% (\( N = 27 \)) were employed in paramedicine, and 2.3% (\( N = 2 \)) as early childhood teachers. Table 3 presents the results for each group: 53.5% (\( N = 31 \)) of the BN/BCP graduates had chosen nursing with the remainder in paramedicine; 89.3% (\( N = 25 \)) of the BN/BECT graduates had chosen nursing and the remainder a career in early childhood teaching or ‘other’. GDS data gathered over the 4 years from 2007–2010 showed a drift away from nursing and a gradual increase in the percent of BN/BCP graduates taking positions in paramedicine (from 28.6% in 2007 to 57.1% in 2010). In contrast, very few BN/BECT graduates chose to work in early childhood teaching in their first post-graduate years.

**Undergraduate final year DD students: Questionnaire**

**Career preferences towards nursing**

Data collected with students in 2008 and 2009 showed that 34.5% (\( N = 19 \)) of final year DD students ‘agreed’ or ‘strongly agreed’ that they preferred a career in nursing (Table 4). The proportion was higher for BN/BECT students (46.7%; \( N = 7 \)) and lower for the BN/BCP students (30%; \( N = 12 \)).

<table>
<thead>
<tr>
<th>Table 2: Characteristics of DD graduate participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>School leavers 18–19 years on enrolment – N (%)</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Female – N (%)</td>
</tr>
<tr>
<td>Male – N (%)</td>
</tr>
<tr>
<td>Rural background</td>
</tr>
<tr>
<td>Rural background &gt; 8 years – N (%)</td>
</tr>
</tbody>
</table>
Table 3: GDS Audit (DD graduates’ career destination 2007-2010)

<table>
<thead>
<tr>
<th>Career destinations 2007</th>
<th>BN/BECT cohort</th>
<th>BN/BCP cohort</th>
<th>Overall graduate respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 10 (41.7%)</td>
<td>N = 14 (58.3%)</td>
<td>N = 24</td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>9 (90.0%)</td>
<td>10 (71.4%)</td>
<td>19 (79.2%)</td>
</tr>
<tr>
<td>Early childhood teaching</td>
<td>0 (0.0%)</td>
<td>n/a</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Paramedic</td>
<td>n/a</td>
<td>4 (28.6%)</td>
<td>4 (16.7%)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (10.0%)</td>
<td>0 (0.0%)</td>
<td>1 (4.1%)</td>
</tr>
<tr>
<td>Career destinations 2008</td>
<td>N = 10 (45.5%)</td>
<td>N = 12 (54.5%)</td>
<td>N = 22</td>
</tr>
<tr>
<td>Nursing</td>
<td>9 (90.0%)</td>
<td>6 (50.0%)</td>
<td>15 (68.2%)</td>
</tr>
<tr>
<td>Early childhood teaching</td>
<td>1 (10.0%)</td>
<td>n/a</td>
<td>1 (4.5%)</td>
</tr>
<tr>
<td>Paramedic</td>
<td>n/a</td>
<td>6 (50.0%)</td>
<td>6 (27.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Career destinations 2009</td>
<td>N = 3 (14.3%)</td>
<td>N = 18 (85.7%)</td>
<td>N = 21</td>
</tr>
<tr>
<td>Nursing</td>
<td>3 (100.0%)</td>
<td>9 (50.0%)</td>
<td>12 (57.1%)</td>
</tr>
<tr>
<td>Early childhood teaching</td>
<td>0 (0.0%)</td>
<td>n/a</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Paramedic</td>
<td>n/a</td>
<td>9 (50.0%)</td>
<td>9 (42.9%)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Career destinations 2010</td>
<td>N = 5 (26.3%)</td>
<td>N = 14 (73.7%)</td>
<td>N = 19</td>
</tr>
<tr>
<td>Nursing</td>
<td>4 (80.0%)</td>
<td>6 (42.9%)</td>
<td>10 (52.6%)</td>
</tr>
<tr>
<td>Early childhood teaching</td>
<td>1 (20.0%)</td>
<td>n/a</td>
<td>1 (5.3%)</td>
</tr>
<tr>
<td>Paramedic</td>
<td>n/a</td>
<td>8 (57.1%)</td>
<td>8 (42.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Career destinations total 2007-2010</td>
<td>N = 28 (32.6%)</td>
<td>N = 58 (67.4%)</td>
<td>N = 86 (100%)</td>
</tr>
<tr>
<td>Nursing</td>
<td>25 (89.3%)</td>
<td>31 (53.5%)</td>
<td>56 (65.1%)</td>
</tr>
<tr>
<td>Early childhood teaching</td>
<td>2 (7.1%)</td>
<td>n/a</td>
<td>2 (2.3%)</td>
</tr>
<tr>
<td>Paramedic</td>
<td>n/a</td>
<td>27 (46.5%)</td>
<td>27 (31.4%)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (3.6%)</td>
<td>0 (0.0%)</td>
<td>1 (1.1%)</td>
</tr>
</tbody>
</table>

No BN/BECT students ‘disagreed’ with a preference towards a nursing career; however, 57.3% (N = 23) of the BN/BCP group selected ‘disagree’. Results also showed substantial numbers of students were ‘undecided’ about nursing as a career: 53.3% (N = 8) in the BN/BECT group and 12.5% (N = 5) in the BN/BCP group.

Career location preferences

Less than one third (29.1%, N = 16) of all students indicated that they had a preference for working in a rural area. The BN/BECT group was more inclined to work in a rural location (46.6%, N = 7) than the BN/BCP group (22.5%, N = 9). The overall majority (54.5%, N = 30) preferred a metropolitan location: BN/BECT group at 40% (N = 6); BN/BCP at 60% (N = 24). The remainder (16.4%, N = 9) were undecided: BN/BECT (13.3%, N = 2); BN/BCP (17.5%, N = 7) (Table 4).

Undergraduate final year DD students:

Focus groups Career preferences

Analysis of data from group discussions about why students preferred one career over the other and workplace location revealed three themes: intrinsic personal rewards; perceived extrinsic rewards; and practice or work experiences. Intrinsic personal rewards of enjoyment, satisfaction, and interest underpinned many students career preferences, for nursing and the other discipline. Some students maintained nursing as a career choice throughout their degree because of interest and enjoyment. For example, one BN/BECT student said ‘Nursing was always my main interest, what I liked, so I am definitely going to do that’. Extrinsic rewards, such as pay and working conditions, were mentioned by DD students who chose either nursing or paramedicine. Students mentioned attractions of nursing, including opportunities to travel and work overseas, the career ladder, and the variety of work available in nursing. As one BN/BCP student said:

I want to do a grad program in nursing, feel I need the experience to build my skills in the different areas as I haven’t decided which area (in nursing) I like best, emergency nursing looks good – really though I want to set myself up to travel.
Students in both programmes mentioned practicum experiences (and for some, paid work experiences) as influencing their career preferences and choice of geographic location. Poor role models, stressful work and mundane work were reported as negative practicum experiences by students in both cohorts. For example one BN/BCP student said,

I had a bad prac experience in paramedicine, it was a suicide, it can make you change your mind, I've decided I'll go straight to nursing now I don't want to be a paramedic anymore.

However, it was the positive practicum and workplace experiences that students discussed at length: interesting and exciting work, gaining skills, supportive supervisors and feelings of belonging in a particular location. On a positive note a BN/BECT student explained:

I am applying to a city hospital to do my grad program, I did a prac down at ... (city hospital) it was great, you see more ... get more experiences in the big hospitals and there are more graduate programs. There's plenty to do in the city ... I can't wait to get there.

DD graduates: Interviews during the first year of work

Choosing nursing

Of the 34 DD graduates interviewed at T1, 73.5% (N = 25) reported they were working in a nursing position as a registered nurse: a loss of 26.5%. The proportion working as a nurse was highest for BN/BECT graduates (88.9%; N = 16) with one working in early childhood teaching and one in 'other'. As noted in the GDS data, the BN/BCP graduates were less likely to be working in a nursing position (56.3%; N = 9), with 43.7% (N = 7) working as paramedics. All BN/BCP graduates, and all but the two BN/BECT graduates who were not working in nursing, indicated that they had registered to practise as a nurse (Table 5).

Choosing a rural location

Just over one-third (35.3%, N = 12) of all DD graduates were working in a rural location, with 55.9% (N = 19) in a metropolitan location and three in an 'other' location (e.g., a career involving mobility such as the Defence Forces).

Career preferences

Findings from the 34 graduate interviews at T1 about what influenced them to apply for and choose a nursing career revealed similar themes to final year students, plus a fourth theme – marketing and recruitment. Graduates mentioned intrinsic personal rewards of nursing such as pleasure gained from interesting and challenging work in hospital environments; e.g.,

I really enjoy nursing it is so interesting, everyday is different and I get a lot of satisfaction out of caring for people.

Extrinsic rewards similar to final year students were pay, diverse work areas and travel opportunities. Additionally, BN/BECT graduates reported choosing nursing because of the opportunity to consolidate prior nursing knowledge and skills and concern about losing their nursing skills if they went into early childhood teaching. However, both DD graduate cohorts also mentioned gaining new skills and their own professional development e.g.,

I felt I needed to do nursing now – to cement my nursing skills or there would be no way I could get back into nursing later. It's exactly what I sort of expected it to be, there are so many areas you can work in and you can work your way up.
Graduates also mentioned workplace and previous practicum experiences in both disciplines as highly influential. These experiences swayed decisions for or against nursing, especially for those undecided in their final semester. As one BN/BECT graduate reported:

No defining moment when I decided on nursing, but prac were more enjoyable more satisfying especially the last 6 week prac when it all came together in nursing ... didn’t know what I was going to do most of the way through but I love it here it is really interesting and now I’ll be able to travel.

Included within this theme were influences from work experiences undertaken during their university years. For example one BN/BECT graduate said:

I worked at the ... hospital near home on the weekends ... it was great and I think that and the double degree got me into their (graduate) transition program.

As this excerpt demonstrates, the location of the students’ practicum placements and clinical experiences (rural or metropolitan) positively or negatively influenced their final graduate decisions for both geographic location and discipline choice. For instance one BN/BCP graduate recalled a negative experience:

I did a rural (nursing) prac in one of those remote regional areas, ... you are so isolated, the new grads either sink or swim and there wasn’t much to do, I wouldn’t want to work there.

Yet another student who came from a rural area said:

I did most of my nursing prac near home ... I grew up on a farm and I never want to live anywhere else ... just near my family and boyfriend.

The additional theme arising from the T1 graduate data analysis was marketing and recruitment. Graduates commented that strategies used by potential employers with vacancies in dedicated graduate transition programmes or who had staff shortages played a major role in their decisions to choose nursing or not. For instance one BN/BCP graduate who chose a rural nursing position said:

I did my final prac up here last year as I am interested in indigenous health and their (nursing) graduate program looked exciting, they talked to me about it and then offered me a graduate position so here I am.

Another graduate who chose a metropolitan area said:

(Sydney hospitals) were doing a lot more recruiting at our university and deliberately increased the amount of graduates that they employ so I decided I’d go to Sydney for a few years to get some really good experience ... I think I will stay at this stage in nursing and just work my way up.

Some BN/BCP graduates were enticed away from nursing by out-of-state ambulance services on recruitment drives. As one BN/BCP graduate who became a paramedic said:

I was going to do nursing but in the last few weeks at uni the (state) ... rural ambulance service came and talked to us about their new graduate program, they guaranteed a rural area and they helped us to apply.
DD Graduates: Interviews during the second year of work

Choosing nursing
Of the 22 DD graduates interviewed at T2, the number who were working as a nurse had dropped to 59.1% (N = 13), including four graduates enrolled in midwifery (three from the BN/BECT group and one from the BN/BCP group). The loss to nursing was 40.9%. Within the BN/BECT group, the graduate in an early childhood teaching position at T1 continued in this career as did the graduate working in ‘other’. Within the BN/BCP group the numbers of graduates who were working in paramedicine at T1 were still working in this area in their second year (N = 6).

Choosing a rural location
The location of graduates from T1 to T2 interview remained almost the same with a similar proportion working in rural (36.4%, N = 8), and metropolitan locations (59.1%, N = 13) (Table 6).

Career preferences
The main themes from T2 DD graduates interviews were intrinsic rewards experienced from nursing, for example satisfaction gained from caring for others, and enjoyment of a career in their interest area. As one BN/BECT graduate said of her nursing career after 2 years:

I really enjoy it all … I love working with children and helping to make a difference so I’ll stay (nursing) another year or two before going nursing overseas.

Most graduates also discussed the important influences of extrinsic rewards such as a nursing career ladder, diverse work and travel opportunities. Yet many also mentioned support from other staff and the organisation, along with educational opportunities and career advancement prospects, as compelling reasons to continue a nursing career. For instance one 2nd year BN/BCP graduate said:

It’s cool … doing what I enjoy most. I just think there's more options, more career options (in nursing) than paramedics, we are encouraged to do further education so I'm doing a graduate certificate in emergency care and there are so many people that support you such as the educator in our ward, she’s always there for us.

Conversely, two BN/BCP graduates in nursing positions at T1 did not have positive experiences. One graduate left nursing after 8 months to become a paramedic, citing stress and burnout:

I had too many patients, I couldn’t get my work done and I worried about making a medication error, I’d go home some days and just cry.

The other BN/BCP graduate who left at the end of her second graduate year stated:

I knew I had to leave as the bad days were starting to outnumber the good, it just wasn’t for me … all the rushing in nursing and staff shortages.

Similarly, a BN/BECT graduate who continued to work in nursing dropped back to part-time work citing large workloads and inability to complete on time the allocated work.

Table 6: DD graduates’ (T2) career and location destinations

<table>
<thead>
<tr>
<th>Career destinations T2</th>
<th>BN/BECT cohort (N = 12)</th>
<th>BN/BCP cohort (N = 10)</th>
<th>Overall T2 graduate participants (N = 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing</td>
<td>9 (75.0%)</td>
<td>4 (40.0%)</td>
<td>13 (59.1%)</td>
</tr>
<tr>
<td>ECT</td>
<td>1 (8.3%)</td>
<td>n/a</td>
<td>1 (4.5%)</td>
</tr>
<tr>
<td>Paramedic</td>
<td>n/a</td>
<td>6 (60.0%)</td>
<td>6 (27.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (8.3%)</td>
<td>0 (0.0%)</td>
<td>1 (4.5%)</td>
</tr>
<tr>
<td>Not working</td>
<td>1 (8.3%)</td>
<td>0 (0.0%)</td>
<td>1 (4.5%)</td>
</tr>
<tr>
<td>Career location T2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>5 (41.7%)</td>
<td>3 (30.0%)</td>
<td>8 (36.4%)</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>7 (58.3%)</td>
<td>6 (60.0%)</td>
<td>13 (59.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0.0%)</td>
<td>1 (10.0%)</td>
<td>1 (4.5%)</td>
</tr>
</tbody>
</table>

Discussion
This study addressed two questions of importance to nursing education policy: what is the likely impact of nursing DD degrees on the numbers of graduates recruited into the nursing profession? Do DD graduates of a regional university choose to work in a rural location? Four years of GDS data for 140 DD
graduates from one Australian university showed a progressively increasing loss of DD graduates to nursing: 20.8% in 2007 to 47.4% in 2010. These findings were corroborated by 2 years of interview data with DD graduates, which showed that 26.5–41.9% were lost to nursing. Furthermore, only 35.3–36.4% of graduates were working in rural or regional areas. These losses appear considerable for this population of DD students, and indicate little to alleviate predictions of a worsening nursing shortage over the present decade (AGPC, 2005b; Australian Health Ministers' Advisory Council [AHMAC], 2006; Australian Nursing Federation [ANF], 2008; Preston, 2009).

Career preferences and destinations
There were marked differences in the career destinations of the two cohorts of DD graduates. Whilst 89% of the BN/BCET graduates gained a position in nursing in their first post-graduate year, only 53% of the BN/BCP graduates did, with the others gaining employment in paramedicine. Nevertheless, these BN/BCP graduates had not ruled out nursing completely as all of them had completed their registration requirements to practise as a nurse. This is likely due to a desire for career flexibility and/or the fact that positions in paramedicine were not abundant in some areas of Australia due to a glut of paramedic graduates (Joyce, Wainier, Peteman, Wyatt, & Archer, 2009).

By the second year post-graduate, the number working in nursing had dropped for both cohorts: to 79% for BN/BCET and 40% for BN/BCP. Whilst these figures are alarming, they must be viewed with caution due to the small number of participants who were unable to be contacted at T2. Nevertheless, the results are markedly different from figures released by HWA (2012) which identified attrition rates from nursing in the graduate transition year at 12.3%. The evidence that BN/BCP programmes are more likely to produce graduates that are lost to nursing is concerning as this DD combination is now offered in every Australian state as the paramedic profession expands its role in the healthcare system (Reynolds & O'Donnell, 2009).

Why or why not choose nursing
A further focus of this study was to provide insight into why students chose one career over another. Final year students were influenced by perceived personal rewards (enjoyment, satisfaction, interesting work) as well as extrinsic factors (pay and conditions), in a similar way to previous studies of why people choose and stay in a nursing career (Dockery & Barns, 2005; McCabe, Nowak, & Mullen, 2005; Newton, Kelly, Kemmer, Jolley, & Billett, 2009). Career choice preferences were also influenced by students' experiences in their practicum placements in each degree and any additional workplace experience. Again these findings were similar to SD nursing studies (Levert-Jones, Lathlean, Higgins, & McMillan, 2009; Stevens, 2011; Stuhlmiller, 2006) that demonstrate how influential positive or negative
practical experiences can be on final year students' speciality nursing choices. Practicum placement of DD students in nursing speciality areas they enjoy i.e., emergency departments, might be one strategy to entice more of these BN/BCP students to take up a career in nursing.

Graduates' decisions to take up a position in nursing were influenced by the same factors reported by the final year students: personal rewards – enjoyment, satisfaction from interesting and challenging work, past positive practicum and workplace experiences. Extrinsic rewards were articulated more clearly by these new graduates: pay and conditions (nurses' wages are higher than early childhood teachers but similar to paramedics); diverse and flexible work; career opportunities and ability to work and travel with nursing. These reasons have been repeatedly reported in the nursing literature (Dockery & Barnes, 2005; Eley, Eley, & Roger-Clark, 2010; McCabe et al., 2005), but are new for DD programmes. BN/BCP graduates were more likely to be attracted into nursing careers not only because of higher wages but also because of concerns about losing their nursing skills. BN/BCP graduates were enticed away from nursing because paramedicine offered a more exciting and challenging career, and more attractive working conditions, for example a 4-day week and 1-to-1 teams.

A further influence on graduates' decisions to choose nursing was the marketing and recruitment strategies used by potential nursing and paramedicine employers and the availability of new graduate places in preferred work locations. Research shows that career choices are strongly determined by market forces (Lips-Wiersma & McMorland, 2006).

Two years post graduation, DD graduates who had pursued a career in nursing spoke about the enjoyment, satisfaction and excitement they experienced in nursing. These findings are similar to results reported in studies into factors influencing the retention of graduates in nursing (Eley et al., 2010; Ingersoll, Olson, Drew-Cates, DeVinney, & Davies, 2002; Tummers, Landeweerd, & van Merode, 2002). Also reported was support from other staff and the professional development opportunities. Graduates spoke about learning new skills, enrolling in or planning to take up further education, and plans for travelling with nursing. Graduates who had initially chosen nursing but resigned before they had completed their 12 month graduate transition programme and changed to paramedicine cited stress and burnout as influencing factors in their decisions to leave. These are commonly reported reasons for new graduate attrition in nursing (Laschinger, Finegan, & Wilk, 2009; Laschinger, Grau, Finegan, & Wilk, 2010; Morphet, McKenna, & Considine, 2008).

Limitations
Whilst the number of participants in this study is small, the integrity of the findings has been increased by the study design, which obtained a diversity of information on DD nurses from audit data and a recruited sample at several points in time. The findings may not be generalisable to all nursing DD populations, as this study was conducted at one large regional university, however, they are likely to be relevant to the metropolitan universities that have rural campuses offering DDs with nursing.

Conclusion
This study presents the first Australian data to identify the career and location preferences of final year DD nursing students and DD graduates career destinations in their first and second years of work. Overall the findings demonstrate that despite two-thirds of DD graduates choosing a career in nursing, there is a loss of nearly one-third of graduates. These students have occupied a BN university place at a time of insufficient graduates to fill present and foreseeable nursing shortages. This situation is not sustainable.

Implications
The Australian Healthcare System, State and Federal Governments and the nursing profession need to be aware that burgeoning DD nursing programmes could impact negatively on numbers of available nursing graduates taking up a career in nursing and may hinder the goal of ensuring an adequate supply of graduate nurses. It is advisable that governments, the university sector and the nursing profession take these findings into account in future nursing workforce planning.
ACKNOWLEDGEMENTS
We thank all the nursing students and graduates who generously volunteered to participate in this study. Their willingness to share their career development experiences made this project possible.

AUTHOR CONTRIBUTIONS
Noelene Hickey was responsible for the study conception and design. Noelene Hickey performed the data collection. Noelene Hickey performed the data analysis. Noelene Hickey and Linda Harrison were responsible for the drafting of the manuscript. Noelene Hickey, Linda Harrison and Jennifer Sumison made critical revisions to the paper for important intellectual content. Linda Harrison and Jennifer Sumison supervised the study.

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There was no conflict of interest.

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REFERENCES
Transition to work and the career destinations of double degree nurses


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Paper 6

The experiences of undergraduate students undertaking nursing double degree programs.

Introduction

In Australia, thirteen per cent of all undergraduate students choose to study via a double degree mode (GDS, 2010) - that is two degrees taken together. Over the last decade, studying nursing along with another discipline area has become increasingly popular, attracting approximately one third of all undergraduate nursing enrolments (Hickey, Sumsion, & Harrison, 2010; Preston, 2009). One of the attractions is the opportunity to complete two 3-year degrees in four years, which is the full-time duration of most nursing double degrees (Hickey, Sumsion, & Harrison, 2012). Yet, double degrees (DDs) can be challenging for students, with the transfer rate to single degree (SD) programs found to be about four per cent over each year of the programs (Russell, Dolnicar, & Ayoub, 2008). Adverse undergraduate experiences can influence attrition rates (Douglas, McClelland, & Davies, 2008) and, in Bachelor of Nursing programs, can affect the career preferences of nursing students (Stephens, 2011).

The period of undergraduate study is a personal commitment that has a significant impact on a person’s current and future decisions. It is a time of intense personal and professional development, which as Cole (1996) proposed can be understood through its contextualisation within specific environments. Ecological theory proposes that students learn via their daily social interactions (Gutiérrez & Rogoff, 2003; Lee, 2008). A Nursing Career Development Framework (NCDF), adapted from Bronfenbrenner’s (1979, 1992) socio-ecological theory, locates the person within a large social and cultural landscape and accounts for the processes and outcomes of individual development within these environments. It is through this Framework that an understanding of the experiences of DD students can be gained (Hickey, Harrison, & Sumsion, 2012). According to ecological models, students are influenced by (and influence) interrelating systems at the personal, interpersonal and external level, all of which impact on the students’ experiences and their career development process. The social and cultural environment of the university that the students are directly involved in on a daily basis, which includes their academic and practical classes, and their interactions with peers and teachers, are proximal contexts that directly affect the student. The wider academic and professional environments of university policies, cross faculty relationships, teaching and learning approaches, course and curriculum...
requirements, standards and assessments are distal contexts that indirectly affect students’ experiences.

**Literature review**

The application of person-environment theory in higher education research has been significantly advanced by Tinto (1975, 1987) and Weidman (1989). These studies, which were undertaken in the USA in the 1970s-1990s, formed the basis for further research on student retention, socialisation and university outcomes. Tinto (1987, 1993) concentrated on undergraduate student retention in relation to formal interactions with faculty and staff, students’ extracurricular activities, and informal student peer group interactions. Weidman (1989) focused more broadly on socialisation outcomes, that is, “career choices, life style preferences, aspirations, and values” (p. 299) and how these were influenced by college peers at an interpersonal level, as well as by parents and non-college reference groups. These studies sought to understand the effects of university or college experiences on a wide diversity of undergraduate students.

Subsequently, Astin (2003), Antonio (2004), and Pascarella and Terenzini (1991, 2005) explored the causal linkages between various aspects of students’ university experiences and different dimensions of individual development. Pascarella and Terenzini demonstrated that different college experiences influence not only students’ occupation and earnings but also their cognitive, moral and psychosocial characteristics. They argued that university experiences operate at an interpersonal level through “sub-environments” (e.g., friendship groups) that can have a powerful effect on individual students (2005, p. 582). Antonio (2004) also found that peer group friendships were important sites of influence on students’ development and college socialisation. In his longitudinal study of 677 undergraduates, Antonio (2004) used “student-defined friendship-group” measures to capture and assess actual environments of interaction and how they affected students over time. He found that mutual trust and emotional closeness were more common among friendship groups that were relatively homogenous compared to those that were more diverse. Additionally, he found that peer factors had a positive influence on students’ intellectual self-confidence and educational aspirations. Other studies have also underscored the importance of student-peer interaction and engagement on campus for cognitive development and persistence (Krause, Hartley, James & McInnis, 2005;
Pascarella, 1985; Tinto, 1997) and the key role of a college student’s interpersonal relations within the peer group for enjoyment and retention (Steinberg, Darling, & Fletcher, 1995), attitudes towards the attainment of high grades, academic achievement, and ambitions for the future (Renn & Arnold, 2003; Terenzini & Reason, 2005; Wallace, 1966).

In Australia very few researchers have drawn on Bronfenbrenner’s person-environment approach to studying the experiences of university students, yet some studies have considered the contextual environments. Willcoxon, Cotter and Joy (2010) used a broad perspective to understand the experiences and factors in the university environment that influenced attrition of Australian university students in all years of an undergraduate program. They found that apart from student support what influenced their attrition decisions was different in each undergraduate year. James, Krause and Jennings, (2010) also examined University students’ experiences from a broad perspective and identified experiences such as engagement and satisfaction with teaching and learning that led to retention in first year. These studies were relatively large and used survey methods which provided valuable information on the experiences that brought satisfaction and hence retention of students. Yet, the experiences of DD students who make up 13 percent of the undergraduate population were not identified, the students’ perspectives were not heard and, the nuanced information that can be gained from a person-environment approach was not obtained. Studies of nursing students’ higher education experiences have focused on mature age students’ experiences (Drury, Francis, & Chapman, 2008; Kevern & Webb, 2004), professional socialisation (Shinyashiki, Mendes, Trevizan, & Day, 2006) and the impact of nursing education on nursing specialty career choices (Marsland & Hickey, 2003, Happell, 2002; Stevens, 2011). However, all these studies have focused on single degree programs. Apart from Hickey et al.’s (2010, 2012) research, there appears to be no research on the experiences of undergraduate students studying a double degree that includes nursing.

DD students have been studied by Russell et al. (2008) in a large study of 452 undergraduate DD students in all combinations of DD programs at one Australian University and 95 graduates of DD programs. Students’ and graduates’ views were collected via surveys and interviews. While the students felt they had benefitted more
from a broader based education than a SD could provide and increased skills, options and ability to transfer knowledge across disciplines, the benefits were countered by the many challenges and problems they faced. High workloads and administrative difficulties encountered by studying in two separate programs, such as problems with timetables and course structures, created frustrations for the students (Russell et al., 2008).

Based on Russell et al.’s findings, which did not include DD nursing students or graduates, it could be expected that the higher education experiences of nursing students undertaking multidisciplinary DD undergraduate university programs will also be challenging. When a nursing DD is cross Faculty, as in the Bachelor of Nursing/Bachelor of Early Childhood Teaching and Bachelor of Nursing/Bachelor of Clinical Practice, students will encounter two distinct sets of policies, teaching/learning approaches, discipline specific curriculum and industry requirements, as well as different standards and types of assessment taught by staff with different values and areas of expertise.

There are a number of reasons why the experiences of DD nursing students need to be understood. Firstly, the popularity of double degrees in nursing programs in Australia does not appear to be waning and little is known about these DD students. Secondly, negative experiences and attrition could impact on the numbers of graduates who decide to choose nursing in an already depleted workforce. Thirdly, a better understanding of DD nursing students’ experiences could inform the development of strategies to enhance DD students’ experiences and views towards nursing as a career.

**Aim**

The primary aim of this study is to explore the nature of undergraduate nursing students’ experiences of studying in a DD mode. A secondary aim is to better understand what experiences impact on students during their degree and how these experiences impact students’ career development.

**Method**

Focus group discussion was selected as the best methodology for the study because these “can capture the particularities and breadth of opinions about a topic” (Brannen & Halcomb, p. 72, 2009) and have the advantage of being stimulating and capable of producing rich data (Kitzinger, 1994; Streubert Speziale, & Carpenter, 2003). Nursing
students studying via the Bachelor of Nursing/Bachelor of Early Childhood Teaching (BN/BECT) and the Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic) (BN/BCP) programs at a regional university in Australia were invited to participate in one of four focus group discussions. Each focus group was of 40 - 60 minutes duration conducted at a time and neutral place convenient to the participants. Consent was obtained and ethics approval had been granted, as this was part of an overall larger mixed method study.

Participants
Participants from a regional university were recruited over two years (2008-2009) from a pool of 55 final year DD students who had previously provided questionnaire data. Final year students were selected for this study because they were expected to be well informed and to hold clearly defined opinions about their four-year experience of higher education. Students were allocated to one of four focus groups: the 2008 cohort comprised five BN/BECT participants in one focus group and six BN/BCP participants in the other; the 2009 cohorts had five BN/BECT participants in one focus group and six BN/BCP participants in the other. Overall, there were 22 participants, all of whom were females, apart from one male enrolled in the BN/BCP. The majority of the participants enrolled in the DD as school leavers (< 19 years of age) and approximately two-thirds were from a rural background.

Data collection
Focus group discussions were designed to gather information about DD nursing students’ higher education experiences. A schedule of open-ended questions was used to prompt students to reflect on the past few years and give their opinions. For example students were asked:

- What is it like being a double degree student in the BN/BCP or BN/BECT program?
- What do you think the benefits of studying a DD have been?
- Looking back over the past three and a half years of the DD program what experiences do you think might have influenced your career choice or preferences?

Data Analysis
The discussions were audio recorded and transcribed. Data were entered into NVivo and data pertinent to the questions of interest were extrapolated using thematic
Thematic analysis is a commonly used, flexible method for identifying, analysing and reporting patterns (themes) (Braun & Clarke 2009). It was important to determine the type of thematic analysis most suited to addressing the research question(s): that is, a rich description of the data set or a detailed account of one particular aspect. The latter was chosen so it was possible “to provide a detailed and nuanced account of one particular aspect or theme within the data... (that) might relate to a specific question or area of interest within the data (a semantic approach)” (Braun & Clarke, 2006, p. 83). Hence the data analysis was driven by the researchers’ interest in the higher education experiences of DD undergraduate nursing students and the impacts these experiences have on them and their career development. As Braun and Clarke (2006, p. 97) argue, “A rigorous thematic approach can produce an insightful analysis that answers particular research questions”.

The process of analysis and theme development was similar to the phases suggested by Braun and Clarke (2006, p. 87). Initially the analysis focused primarily on one level, the explicit or surface meanings of the data, and then progressed from description to generating initial codes; searching for themes; reviewing themes and generating an initial thematic ‘map’ (see Figure 1, p.119). Some initial codes went on to form the six main themes whereas others formed sub themes or themes-within-a-theme, which demonstrated the hierarchy of meaning within the data. There was then a final review and refining of initial themes, sub-themes and renaming of themes as necessary. This reduced the number of themes to five and this can be seen in Figure 2 (Map 2). Through this thematic analysis process, a comprehensive picture has been mapped and hence emerged on the experiences of DD students as they were influenced by ecological contexts on two levels (distal and proximal) and how this then influenced career development.
Figure 1. Initial thematic map 1. Six potential themes with sub themes at the broader level

**Curriculum issues**
- Missed some learning opportunities
- Feelings of frustration
- Subject progression different to SD affects practicum times & choices
- A stronger nursing focus
- Different teaching styles between schools
- Big practicum load impacts personal life and mid semester break
- Always compromising
- Timetabling – no break all day

**Cross faculty issues**
- Lack of communication between faculties
- Feeling forgotten
- Falling through cracks
- Nobody their advocate
- Disorganization timetabling issues
- Advanced knowledge either discipline
- Consolidation of learning across programs as material repeated
- Exposure to different disciplines role models

**Work loads**
- Doubling up between subject materials cross programs
- Comparing issues from previous years
- Subject progression different to SD affects practicum times & choices
- Practicalities over educational experiences
- Financial loss
- Big practicum load impacts personal life and mid semester break
- Always “catching up”
- Different to SD
- Timetabling – no break all day

**Personal advantages**
- More prepared for work
- Skills knowledge transferable across program learning, discipline and interest area
- Good balance - best of both worlds
- Exposure to different disciplines role models
- Need to be vigilant due to being forgotten
- Tutorial groups remain constant over years due to timetabling & curriculum

**Ongoing comparisons**
- Comparing degree contents
- Comparing pracs
- Comparing careers
- Always “catching up”
- Different to SD
- Timetabling – no break all day

**Group survival**
- Peer support - different experiences to SD
- Planning ahead, taking control
- SDs graduated - 4th years different
- Checking with SDs
- Socialise together
- Tutorial groups remain constant over years due to timetabling & curriculum
Figure 2. Final themes - map 2. Refined final themes, sub-themes and renamed themes: three at the more distal level (organisational factors [1]) and two at a proximal level (interpersonal factor [2]).
Findings

Students’ experiences.

A range of organisational factors impacted on the students’ experiences at two levels. First-level factors were distal factors mandated by the university curriculum and regulatory bodies. Second-level factors operated at the proximal, interpersonal level. The focus group discussions engendered intense feelings and strong opinions about how these factors impacted on students’ experiences and their career decision-making. Yet the analysis also uncovered how students viewed these factors and managed them as a group or individually.

Table 1 lists the two overarching factors and the related themes that became evident. Each of these are discussed and illustrated by quotes and short vignettes relating to the themes and sub-themes. The vignettes illustrate the perspectives and feelings of the focus group participants.

**Table 1. Overarching factors and related themes**

1. Organisational factors that impact double degree students’ experiences and career decisions. (Distal)
   
   Theme 1: *Cross faculty as problematic*
   
   Theme 2: *Cross disciplinarity as problematic*
   
   Theme 3: *Cross disciplinarity as advantageous*

2. Interpersonal factors that characterised double degree students’ experiences and helped them “get through”. (Proximal)
   
   Theme 1: *Constant comparison*
   
   Theme 2: *Peer group support and cohesion.*

**1. Organisational factors that impact double degree students’ experiences and career decisions**

Students reported negative as well as positive experiences arising from the organisation of the two separate degrees. The analysis revealed many of the organisational factors were in ecological contexts at a distal level, which tended to be out of the direct control of the students.
Cross faculty as problematic

The students felt they encountered more challenges than their SD peers. A particular problem was negotiating their double degree program through two separate Faculties. This was most evident when meeting the practicum requirements of each of these degrees as this required a lot of organisation and timetable negotiation between Faculties. The challenges centred around three sub-themes: *communication and coordination inadequacies, feeling forgotten and vulnerable*, and a *lack of a sense of belonging*.

**Communication and coordination inadequacies**

The participants perceived that there was inadequate communication and coordination from both Faculties because they often were required to complete the practicum in holiday times and semester breaks or encountered last minute changes in practicum times and timetabling clashes. They commented on one Faculty not being aware of the learning requirements of concurrent subjects in the other Faculty. For example this participant said:

> We were told earlier that we had to do our pracs in these coming holidays – we knew we weren’t in the allocated prac group (for single degree students), so like I organised it a while ago cause places are hard to get, it was where I wanted to go and was given a placement and then I was told I was double and then all of a sudden the doubles (double degree students) have to go at a completely different time after the semester finishes and I lost my placement.

(BN/BCP female student)

**Feeling forgotten and vulnerable**

Participants also felt forgotten and vulnerable due to the administrative challenges of taking two concurrent degrees. For instance there was general agreement in the group with the sentiments articulated by a participant who said:

> Because we’re doubles we hadn’t done some work the single degrees had done in another subject and the teacher she said, ‘we’ll have to sort of change the scenario a bit for you girls, I didn’t really think about you’ and it happened a number of times - it’s degrading to think that they’re teaching us but not thinking about us.

(BN/BECT female student)

The participants described how they were sometimes overlooked at the beginning of each semester because they were not a large core group. Sometimes casual teaching staff did not seem to be aware of their presence. Some reported, and the other participants agreed, that they felt as though they had ‘fallen through the cracks’. This
was expressed by one participant about class work and another about practicum organisation:

Teachers and course coordinators and class coordinators just don’t know about us – they don’t tell us, we’re never added to the (subject) forum so we don’t know what’s going on and everyone else does, we never got subject outlines until two weeks later, sometimes we don’t know when our pracs are until a few weeks before.

(BN/BCP male student)

Like when we got our placements – the whole placement situation changed: we were the last ones to find out. Like everyone got their email and then all the double degrees found out from everyone else. (BN/BCP male student)

_Lack of a sense of belonging_

All the participants were completing two degrees in separate disciplines and some had not yet decided on a career or aligned themselves with one profession (and Faculty). Students who were undecided felt as though they didn’t belong anywhere. These feelings were not only experienced on campus, but also in their industry placements. They described how some nurse educators appeared to find it difficult to understand how someone could be enrolled in a nursing degree but also be thinking of another career. The following excerpts demonstrate this experience:

When you’re on (nursing) prac, sometimes if you do say you’re a double degree you just kind of get this really odd look of why would you do that for? You’re like, you have to try and explain about it and then they’re like I still don’t understand why.

(BN/BECT female student)

_Cross disciplinarity as problematic_

The BN program in a DD mode had been accredited by the then 1Nurses and Midwives Board of NSW and the BCP and the BECT courses had also been accredited by their regulatory bodies. Hence each School had academic and practical components that were essential curriculum requirements and had to be fulfilled. Additionally, each School had their own learning and teaching philosophies and discipline specific teacher role models. Participants compared these differences and formed strong opinions about their experiences and how it affected their choices towards or away from a particular discipline. For example, one participant said:

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1 A national system under the control of the Nurses and Midwives Board of Australia is now responsible for regulation of the profession
They’ve all got their, like each different school and faculty - it’s got its own plan (curriculum) - like nursing and paramedics for example, nursing is really strict and paramedics is blaze, so we have to adapt to each for example even the referencing of assignments is different ... I like using evidence based practice in nursing – I think I’m leaning more towards nursing.

(BN/BCP male student)

Three sub-themes developed in their discussions: ongoing curriculum challenges, content overload and ongoing frustrations in meeting two sets of curriculum requirements in two different disciplines.

**Ongoing curriculum challenges**
The BN/BECT participants said they found the challenges of cross-disciplinary study “frustrating at times” particularly because they felt overall the DD program was “primarily nursing based”. One participant went on to say that she “found it pretty difficult at times, because they’re two such separate areas, the teaching and the nursing”. The BN/BCP participants also felt that their DD program was more nursing focused, as one participant said: “We do a lot of nursing prac, but we don't do as much paramedics prac - just because obviously the nursing board requires a certain amount of prac. There's a structure with nursing, there's not with paramedics”. Others felt the teaching of similar clinical skills was incongruent between Schools, which was also frustrating. As one participant explained: “You get shown one way in nursing prac and then you get in trouble if you do it that way in paramedics - I felt like it didn’t match - I was being taught one thing in nursing and something different in paramedic”.

Another source of frustration that was expressed by participants in the BN/BCP program was the different level of skills between the two disciplines; for example, advanced resuscitation in paramedicine compared to the generic resuscitation in nursing. Some participants said the skills that they learned in the nursing laboratories and then practiced on their first nursing placements were too basic compared to what they did in paramedics:

> Well, the first nursing prac was pretty basic, just like we did in the labs, we just did showers and blood pressures and other basic nursing care but our first para prac I was helping with a resuscitation, you do things at a much higher level in paramedics it’s much more exciting. (BN/BCP male student)
Content overload

Participants discussed the high work load they experienced in order to complete requirements for two different curriculums (the necessity of doing practicum in the semester break) and how this impacted on them personally and financially. For example one BN/BECT participant said:

We are so overloaded, so it means you can’t work to save up in between semesters as you are on pracs - or doing exams - It stuffed up your work life. I didn’t mind travelling for pracs but it was the money issue - now I’m thinking why did I do two degrees when I could be finished and earning money. (BN/BECT female student)

Ongoing frustrations

Many participants expressed a view that cross-disciplinary study caused “continuous frustrations” and it appeared to impede their learning. They thought they often missed some material from both of their SD subject areas and repeatedly spoke about how they felt they missed out on some particular skills or specific knowledge that the SD students had covered in their program. This concern was raised not just about nursing content but also for their other degree. The following two statements illustrate these concerns:

I think it's quite disorganised so there is good and bad. The parallels (between nursing subjects and paramedic subjects) are sometimes really, really similar and you think you could be doing something else instead of doubling up and then you miss stuff too. (BN/BCP female student)

Well, all the double degree students, we’ve done no wound care at all cause of the new structure – and you’re on a nursing prac and they’re like “do a wound dressing” – and you feel stupid - we didn’t know we were missing out on this because we weren’t told - yet the single degrees (nursing students) came out two weeks before and they did it all fine. (BN/BCP female student)

Cross disciplinarity as advantageous

Despite the frustrations mentioned above, there were many students from both cohorts who found that studying two curriculum areas concurrently had some advantages. Three sub themes arose that were centred around the additional knowledge and skills they developed from their two degrees: varied learning experiences, advancing and consolidating workplace skills, and empowerment.
Varied learning experiences

The BN/BECT participants said they enjoyed studying two disciplines that were quite different and had varied learning experiences. For instance, they identified that in second year they had art and drawing or a music class as well as the hard science courses in nursing in the same semester. As one participant said: “I like the tutorials in teaching ... I like kids, it’s fun, a good balance with the hard stuff in science in nursing” and another said: “it’s good fun the nursing side of it with teaching”.

Advancing and consolidating workplace skills

The BN/BCP participants identified that they could consolidate some of the clinical skills through repeating it in the other discipline’s curriculum. As one participant said:

It’s good doing some of the paramedic skills again in nursing because it gives you a different perspective. The paramedics perspective is a lot different to the nursing perspective, but there is so much in common between the two areas.

Without exception the students said that having knowledge and skills from two disciplines would be an advantage in the workplace. They felt it would also give them a better chance of being chosen for a job because they would have more credentials to bargain with in a difficult job market. As one BN/BECT participant said: “Yes, career options are better. I thought it would help me with paediatrics, having the knowledge of early childhood”. A BN/BCP participant said:

I think all these skills will be an advantage especially if you’re looking at going into emergency nursing probably having the paramedic skills would help, but then if you went into paramedics they all say that nursing puts you so far ahead of others. (BN/BCP female student)

On the whole, these participants who were at the end of their studies were pleased about completing two degrees concurrently, as expressed by the comment that there is “Much more variety (doing a double degree) - I found you tend to get the most interesting subjects from both degrees in general. Like if I just had done nursing I think I would have been bored” (BN/BCP female student).

Empowerment

The students also discussed how having completed two degree programs and met different discipline-specific requirements made them feel empowered or gave them a feeling of being elite. For instance one BN/BECT participant said: “I don't think I realised how much I had learned until we went in with the single degree (nursing)
students and I was suddenly more prepared to go into the workforce than they were”. Another BN/BECT participant said: “I’d recommend to someone to do the double (degree) because you pick up so much more – you are way ahead of the other students in the end”. This BN/BCP participant stated how he felt they were perceived by the SD students:

We were dubbed as snobs by all the others - I think it’s just a perception of our double degree, because we have knowledge of two areas and really we stuck together - well we had to and we got good marks. In our last year we were so much ahead of the single degree students in their last years – it really stood out”. (BN/BCP male student)

2. Interpersonal factors that characterized double degree students’ experiences and helped them “get through”

It became evident from the data analysis that the DD peer groups, which were at a proximal level to the students in their ecological systems, were central to the large majority of DD students ‘coping with’ and ‘getting through’ their DD program. Program specific peer groups formed in each enrolment year of the DD program, the BN/BECT peer groups and the BN/BCP peer groups. The ways that the students’ peer group environments helped them to manage the different experiences that impacted on their learning and career development during their studies were captured by two themes constant comparison and peer group support and cohesion.

Constant comparison

The need for DD students to be vigilant and constantly compare their DD and the SD students’ subjects and program was discussed at length. They also compared what happened in their past DD semester experiences and what was occurring at the beginning and during each semester. Participants identified cross curriculum and cross faculty issues as the reasons to be vigilant and the need to keep on comparing all aspects of their programs. These comparisons occurred within their peer groups as the DD students progressed through their four-year program. Three sub themes came to the fore: ongoing vigilance, taking control and seeking normality.

Ongoing vigilance

Participants in both cohorts reported that they constantly felt they needed to be on the alert for changes or DD inconsistencies in not just one but both of their courses or clinical placement times. If not detected early these could negatively affect their
experiences on clinical placement or their personal lives. The BN/BCP participants highlighted an example of an omission which they found in their second-last semester and this was to do with a transition to practice lecture that SD students had received but the DD students had missed:

And so the single degrees have already had their ‘new grad’ lecture, but we hadn’t had one yet – they’ve just sort of forgotten about us – because we’re not doing that other class, they said they would do it in ... subject for us but we don’t do that one. In the end we let everyone know that we had to stay after another lecture to get the information. (BN/BCP female student)

**Taking control**

The participants reported that when problems or differences were identified, the peer group collectively took control of the situation. This often required persistence and being assertive. On the whole, the Schools tried to rectify problems quickly once these were identified. As one participant in the BN/BECT program reported:

Through third year, fourth year you sort of – well you pick up, well this mistake or this stuff up happened last semester so I’m going to get on top of it before it happens, and you get onto the teachers real quick - Yeah there’s not one (semester) goes by without issues. (BN/BECT female student)

**Seeking normality**

While the constant comparison revealed cross curriculum and faculty problems that were brought to the relevant School’s attention and resolved, the ongoing comparisons also identified many positive aspects of double curriculum studies. The participants said they were reassured by these experiences and felt they were progressing normally and as they should be. For instance this BN/BCP participant said:

I noticed last week I was in a lab with some straight nursing students (single degree students) and they said they had only done a small amount of resuscitation in their course. They hadn’t done the theory of it. So, the fact that we’d done it and knew all the theory made us feel good.

The BN/BECT participants made similar observations in relation to their knowledge of child development and that of SD nursing students. For instance a participant said:

In the third year subject last year when Sarah (pseudonym) and I were doing the ‘Families’ subject, we were surprised by how much more the double degree students knew about children. We’ve learned so much more than the single degree nursing students. (BN/BECT female student)
Peer group support and cohesion

As mentioned above, participants discussed how in their peer groups they managed the DD program challenges together. It was apparent that peer group support and group cohesion was a vital aspect of the DD students’ day-to-day higher education experiences and career development. Three sub themes arose: group belonging, communication imperatives, and group resilience.

Group belonging

The participants in all focus groups talked about being part of a peer group and how they supported each other during the good and the not so good times. For example, one BN/BECT participant said: “We’re pretty good at planning ahead, aren’t we, with pracs and stuff, we’ve got to be. We stick together” at which another participant followed up with: “There have been times when there’s been no cohesion between the schools but our (DD) group stuck together – I guess when we were confused a whole lot of us would go up and find one teacher, we looked after each other”.

The participants discussed the DD challenges they encountered over the four years and their learning experiences together and pointed out that this made them become strong and resilient, and this would be an asset in their working life. A BN/BECT participant said: “We became a really strong group our year – you had to be to get through all the problems”. Another participant said: “I think we’ve learned to compromise because we have to fit in with other people’s timetables and I think it makes us a bit more adaptable”.

Communication imperatives – peers and past students

During the focus group discussions and the process of data analysis, it became obvious that these DD students were part of a peer group that had close relationships and socialised together outside of the university. As one BN/BCP participant said: “We’re good friends outside uni like yeah we tend to like the same things”. Both program groups linked with past DD students and role models and communicated with each other often and instantly via mobile phone, email and facebook. As this BN/BECT participant stated:
We stick together definitely yeah outside uni too - Well we all have the same
classes and we have the same subjects at the same time so the same time off -
like the ones in the year ahead of us did too - they keep in touch and tell us
about some great prac places to try. (BN/BCP female student)

As the participants were final year students they often sought validation for their
career choices and decisions among their peer group and from past graduates. The
past DD graduates gave advice and informed them of the most effective way of
applying for a position in a particular area of their choice.

Group resilience
While there was attrition from the DD cohorts over the four-year program and
transfers to the SD programs, a number of students took leave and then returned later.
The loss of peer group members caused changes for the peer group but, despite
dwindling numbers (particularly in the BN/BECT year groups), the participants
reported they still continued but with smaller numbers. For example, one participant
said: “It was a good group, I mean it would have been great if everyone had gone
through, because it makes it easier when there’s a big group of friends”. Students
who took leave and returned found it difficult to pick up again with their original peer
group. A participant who took a semester’s leave to have a baby said: “I had six
months off, and now I really can’t do the things with my group anymore, it just makes
studying (a DD) hard”. Two other participants who came back from a study break
overseas found the course progression timetable had changed. One said: “it is so
mixed up now because we’re fourth year and we’re doing a third year subject – our
(peer) group has moved on too – it’s just us two now”.

Discussion
The findings from this study have shown that studying two concurrent degrees from
separate disciplines over a four-year period meant that students were immersed in and
participated in a wide variety of learning events and university activities. As a result,
they felt that they had accumulated more knowledge and skills than their SD student
peers. However, DD students also felt that their higher education experiences were
impacted adversely by the cross-disciplinary nature of the two degrees. These DD
combinations reported on in the present study are similar to most Australian DD
programs in that they are two degrees studied together with a reduction in time and
subjects. The integration is administrative rather than pedagogical and this was seen
as a source of frustration by students as they tried to meet the requirements and standards of two different disciplines. This was a constant tension for students who felt they were challenged to progress two separate courses almost in spite of the system.

The DD nursing students who participated in this study faced ongoing frustrations and challenges due to cross faculty administrative difficulties with the timetabling of courses, the planning and timing of practicums and the course structure. Their experiences were similar to Russell et al.’s (2008) study in which the majority of undergraduate DD students reported problems with timetables or course structures. This present research also identified that the students’ frustrations were exacerbated by a high workload and the fact that different faculties have different expectations, again, this was similar to Russell et al.’s (2008) results. These are issues that do not confront SD students. Prior research into Australian undergraduates’ experiences showed that the majority of SD students were satisfied with their courses at university even though for some it was harder than they expected it to be (Krause et al., 2005).

The discovery in this study that DD nursing students felt that they didn’t belong and weren’t valued by the university was another interesting finding. A sense of belonging has also been identified as important for younger students (i.e. school leavers) engaged in SD undergraduate courses in Australian universities (Krause et al., 2005). Similarly, a study of students enrolled in SDs in nursing (Levett-Jones, Lathlean, Higgins, & McMillan, 2009) found that students who did not feel they belong were more likely to experience increased levels of stress and anxiety. The extent to which they experienced belongingness on clinical placements also influenced their future career decisions.

The cross-disciplinary/ cross-Faculty problems that the DD students in this research experienced included challenges and frustrations related to differences in the standards of writing, presenting work and referencing systems. They also commented on content overload. The advantages were the rewards they experienced from cross-disciplinary mixing of subjects and perspectives, feeling ahead of other SD students and, not getting bored with either discipline due to the variety of subjects. These findings were similar to those reported by Russell et al. (2008), but there were also
areas of difference, the most notable being in relation to peer group support. Russell et al. found that DD undergraduates had difficulties maintaining membership of a SD peer group; however, in the present study, the DD students formed their own cohesive DD peer groups and, on the whole, did not try to maintain links with SD students. DD peer groups began informally and became integral to students’ managing the frustrations and challenges of studying two different disciplines and maintaining enthusiasm for the DD program.

While each of the DD programs was administered through one Faculty (e.g., the Faculty of Education for the BN/BECT program), students felt they would have benefitted by having a dedicated cross-Faculty or cross-School coordinator to liaise between Schools. Faculty staff in separate disciplines cannot be expected to be familiar with course structures of other Faculties and this is likely to be an issue for all universities offering concurrent double degrees. A cross-School coordinator could have ameliorated the behaviours that students felt were necessary such as constantly comparing SD and DD subjects both past and present, being vigilant for perceived missing content and the reorganisation associated with the changing practicum placement dates. As these DD programs had only commenced a few years earlier, it meant unforeseen cross-disciplinary problems often could not be anticipated and the students became the best source of this information for Faculties and Schools. While the curriculum and the DD programs met the requirements of the university and industry regulatory authorities, the students themselves perceived there were areas that needed changing to improve students’ experiences of DD study.

Peer group support, cohesion and resilience were identified as highly important to the DD students because it was through their peer groups that they managed the DD challenges and their enthusiasm continued in spite of the problems. This is similar to prior studies on peer groups in higher education that found peer groups can influence members’ attitudes towards academic achievement, gaining a higher grade and aspirations for graduate study (Renn & Arnold, 2003; Wallace, 1966). The DD peer groups provided a sense of belonging for the students, which was otherwise absent. There is convincing evidence that peer groups and the interpersonal environment of a college campus are important sites of influence on student development (Antonio,
2004; Renn & Arnold, 2003) and enjoyment and retention (Steinberg et al., 1995; Tinto, 1997).

**Conclusion**

Although many hundreds of students have studied nursing via a double degree mode, their experiences are personal and individual. The stories and accounts provided by the focus group participants about these experiences provided rich and meaningful data that have generated insights into what it is like to be a DD nursing student.

Conceptualising the higher education experiences and hence career transition experiences of DD students within a nested ecology of proximal (the DD student peer groups) and distal (curriculum requirements; cross faculty relationships, accreditation and scope of practice) factors has provided a broader framework for studying the experiences of DD students. This approach recognises that there are many contexts that impact on the career development process at the university, as well as the student level.

This study suggests that studying nursing via a DD mode is more difficult and challenging for undergraduate students than studying via a SD mode. Yet in the current study, DD students managed to navigate the challenges through the support of their peer groups, and by the end of the program appreciated that they would graduate with additional knowledge and more career options.

**References**


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4.1 Introduction

Understanding the career choices and the influences on these choices of contemporary DD nursing students is of vital importance to all those with a vested interest in nursing education and the recruitment and retention of nurses. With the introduction of double degrees in nursing, a new research approach was needed to study nursing career pathways. To achieve this, a comprehensive and compelling socio-ecological view of DD nursing students’ transitions, career development and professional choices was proposed (Paper 2, page 33) and a Nursing Career Development Framework (NCDF) adapted from Bronfenbrenner’s theory of development was used to answer the following research questions:

1. a. What type of students enrol in a double degree in nursing and early childhood teaching or nursing and paramedic studies, and what has influenced their decision?
   b. Are their reasons, experiences, and influences similar to or different from students commencing a single degree in nursing?

2. a. Do double degree nursing students change their career preferences during their program of study?
   b. When do they do this and what has influenced the changes or confirmation?

3. Does the experience of a rural background or a program of study at a rural university influence career development, choices and destination of double degree nursing students?

4. a. Where do double degree nursing graduates work in their first two years post graduation?
   b. What is it in their transition from 4th year student to their 1st and 2nd postgraduate years that influences this choice?

A sequential explanatory mixed method design was selected using interdependent methods to collect data from cohorts of undergraduate students at different stages of two DD programs and graduates in their first and second years. The multiple view points these cohorts provided on the career trajectory of DD students enhanced the
breadth, depth and rigour of the investigation and demonstrated the complex interplay of contextual factors that influenced nursing students’ career decisions, career choices and destinations. This discussion presents a synthesis of the results presented in the preceding chapters and draws on previously unreported interview and focus group data to further illustrate the findings. The NCDF is used as the vehicle for this discussion to provide a broad understanding of the influences on DD students’ transitions from enrolment to their first two graduate years.

**A socio-ecological perspective: the Nursing Career Development Framework**

According to a socio-ecological perspective, human beings are seen as active agents who can manipulate their world around them as their development takes place (Bronfenbrenner, 1979). In the NCDF (Figure 3), the student or graduate is conceptualised as a microsystem at the centre of the model with specific characteristics or attributes that influence their career development and career choices. While each student progresses through similar experiences at University, it is the student who makes their own personal decisions about their career preferences.

Surrounding the student is a set of nested systems and development occurs through ongoing reciprocal interaction between the student and the other “… persons, objects, and symbols in its immediate environment” (Bronfenbrenner, 1992, p. 1643). When it comes to nursing education, the mesosystem comprises the proximal linkages and processes that take place between the settings that are important to and affect the developing student. The exosystem and macrosystems are distal to the student and do not directly involve them as active participants. Nevertheless events occur that affect, or are affected by what happens and this can indirectly affect the student. The chronosystem depicts the time span, in this case four years of undergraduate study and two years following graduation, in which students’ and graduates’ career choices and decision making occur.
**4.2. The central microsystem in the NCDF: students and graduates**

Recent decades have seen considerable changes in the characteristics of students entering the higher education system. Since the late 1980s, which saw a move in higher education in Australia to a mass system of education (Moodie, 2010; Rosenman, 1996), the student population has progressively become more diverse (Stefani, 2008). Students at universities come from a comparatively wide age range, ethnicity, and socio-economic backgrounds. In the present study, the undergraduate students who enrolled in a DD came from a range of socio-economic backgrounds and geographic locations but were less diverse than their SD peers in ages and educational level.

The following section identifies the main attributes that characterised the DD students and graduates and how these influenced their career decisions.
4.2.1 Age:
The higher education pattern in Australia and internationally is of increasing numbers of mature age nursing students (Drury, Francis, & Chapman, 2008; Kenny, Kidd, Nankervis, & Connell, 2011; Whyte, Madigan, & Drinkwater, 2011). Yet the DD students in this study were younger than their SD counterparts. Attracting more school leavers was one of the expectations of these DDs and the present research shows the large majority of these students had enrolled either directly after completion of high school or within one year of completion of high school. While there has been a rise in mature age students (> 19 years of age) overall entering university for the first time in Australia, DD students as a whole go against this trend (Batson, Sharp, Ramsay, & MacKinnon, 2002; Russell, Dolnicar, & Ayoub, 2008). Willis, Pointon and O’Meara (2009) also report that DD BN/BCP students entering paramedicine over a number of years through university pathways are younger than previous entrants who applied via direct entry to the ambulance service.

When these DD students reached the end of their program they were still relatively young (< 22 years) and almost all were unencumbered by children and/or partners in their domestic lives. Again, they were unlike the SD nursing students, of whom over half were mature age entrants. The age and single status of the DD students meant that many were attracted by and were able to pick up the opportunities that nursing offered, such as a good career ladder, or travel with work in Australia and overseas. This final year student who gained a position while on a final placement explained:

I want to do aid work overseas, I’m not tied down or anything, so that was definitely a big part of it - so that's really why in the first place I chose nursing - and another reason why I came out here to ... (remote regional hospital) to do nursing as they (overseas aid agencies) like you to have some Indigenous experience. (BN/BCP female student)

4.2.2 Gender
Gender is considered a powerful and persistent influence in career development and career choice (Patton & Creed, 2007; Rojewski & Hill, 1998). Gender was one of the first characteristics to be explored in vocational psychology, and research has demonstrated that gender differences in career aspirations and career behaviours (Blustein & Fouard, 2008) can influence career decisions. As identified earlier, all the
BN/BECT students in this study and the majority (87%) of the SD nursing students were female. Both are traditionally female dominated disciplines and the figures approximate percentages identified in prior studies in ECT (Sumson, 2005) and nursing (Stott, 2007). The BN/BCP cohorts attracted more males, with just over one third of the BN/BCP participants being male, which is similar to SD BCP programs at 40% males (Joyce, Wainer, Piterman, Wyatt, & Archer, 2009). Historically, paramedicine has been a male dominated discipline; however, in recent years the number of females entering this discipline through university pathways is increasing (Willis et al., 2009). As the students’ responses suggested, socio-cultural norms tacitly influenced many male and female students’ career preferences in the BN/BCP program on enrolment and also appeared to be a reason why so few beginning students were interested in a career in nursing. One female BN/BCP student said, “With nursing you’re always around females but with paramedicine definitely it’s more male orientated than nursing and I like that, yeah those that have been in the ambulance service for a long time – like those that know it all are males”. One male BN/BCP student said, “I’m a bit of a boy at heart – I love the thought of sirens and fast driving, I would rather be a paramedic”.

At the beginning of their studies the majority of DD students (male and female) gave their reasons for enrolling in a DD as “wanting to help and care”, which is a view typically associated with the predominantly female profession of nursing (Newton, Kelly, Kremsier, Jolley & Billett, 2009). In their final year, however, this had changed for the BN/BCP students (both male and female) who identified power and autonomy in their future work role as important influences on their career choice. These reasons were cited for preferring the male dominated profession of paramedicine and tend to be career rewards sought by males (Boughn, 2001).

Graduates also cited power and autonomy in their work as important influences on their final career choice, including some who chose nursing and worked in emergency wards and BN/BCP graduates who chose paramedicine rather than nursing. While autonomy is an important motivating factor in career satisfaction and intention to stay in nursing (Beecroft, Dorey, & Wenton, 2008; O’Brien-Pallas, Duffield, & Hayes, 2006; Rheaume, Clement, & LeBel, 2011, it appeared that the stereotypical image of the nursing profession as a subordinate occupation (Brodie et al., 2004; Seago, Spetz,
Alvarado, Keane, & Grumbach, 2006) also influenced graduates’ choices towards paramedicine. For example, one BN/BCP graduate said “I feel like in a hospital you're always answering to the doctor ... whereas as a paramedic, you make the decision you make the life saving decisions”. The closer healthcare work resembles that of doctors the more prestige it carries (Stevens, 1995) and paramedicine with its medically developed protocols and by its very name is closer to medicine. Despite 65% of paramedicine recruits from university programs now being female, it is still seen as a male dominated occupation (Joyce et al., 2009).

Stereotypical sex-typing of occupations can exert a circumscribing influence on the career choices of young adults (Gottfredson & Lapan, 1997, Sellers, Satcher, & Comas, 1999) and may explain the findings of the present study, which showed that only a small number of male DD graduates chose a nursing career. A male BN/BCP graduate who chose nursing over paramedicine so he could get work in a large base hospital in a rural town near his family described his discomfort at being a male in a traditionally female occupation, stating: “I would rather tell my children that I am a paramedic than say I am a nurse”. He said that while he worked in the intensive care unit he really enjoyed “the highly technical work”, which Stevens (1995) has noted is often associated with more male dominated health care professions. Another BN/BCP male graduate who was interested in nursing rather than paramedicine throughout his course and gained a nursing position recounted the comments he regularly received from his male friends from school such as, “Why do you want to be a nurse? Why don’t you want to be a paramedic” or “You’re not going to be a nurse are you?”

As the GDS data showed for the BN/BCP cohorts over the four years from 2007 to 2010 (Results paper 5), there was a drift away from a nursing career and a gradual increase in the percent of BN/BCP graduates taking positions in paramedicine. It would seem from the present study that paramedicine is attracting an increasing proportion of DD females into its ranks, whereas nursing is having less success recruiting male DD students. As Muldoon and Reilly (2003, p. 99) have stated, “Feminism may have served to open doors for women into male-dominated careers, but many female-dominated professions, including nursing, have failed to attract male recruits”. Thus the BN/BCP graduates’ gender as well as the stereotyping and image
of nursing and paramedicine had a subtle influence on their career choice and ultimately on nursing recruitment.

4.2.3 Academic history
The DD students in this study required a higher tertiary entrance score than their SD counterparts to gain entry (Results paper 5). DD students generally have a higher academic ability than SD students (Russell et al., 2008; Welsman, 2007) and the DD students in this doctoral research followed that trend. A study by Whyte et al. (2011) of the academic records of the same population of BN/BCP, BN and Bachelor of Clinical Practice Paramedic (BCP) students at CSU in 2008-2009 confirmed that the DD nursing students, compared to the SD nursing students, had higher entry scores and further noted that bioscience scholastic aptitude was directly linked to higher scores. Scholastic aptitude is the best predictor of success in nursing (Newton & Moore, 2009, Newton, Smith, Moore, & Magnan, 2007) and paramedic programs (Madigan, 2006) and is one factor amongst a number of others in academic success in BECT programs (Elliott, 2002).

By the time the DD students reached their final semester interview findings showed that for both cohorts the studying of two disciplines simultaneously presented academic challenges (Results paper 6). For many BN/BECT students, studying the ‘hard sciences’ in their nursing degree and the demanding practicum schedule were major obstacles. Many made the decision to transfer to one of the SD programs (either the BN or BECT) or left university completely. For example, one BN/BECT student said:

I’m not very good at science, I struggle with the science, that’s why I thought I would quit the DD but then I repeated it (the science subject) and made it through in the end.

In contrast, the BN/BCP students, who had higher entry scores than the BN/BECT students and the SD nursing students, did not find the science component difficult and had an attrition rate that was considerably lower than the BN/BECT program.

4.2.4 Motivations
Students have different motivations and reasons for choosing a DD. Motivation is a process that energises, guides and maintains goal-oriented behaviours (Sansone & Harackiewicz, 2000) and it is frequently used to describe why a person does
something or chooses a course of action such as a career pathway. The approach to understanding student’s motivation in the present study has drawn on the perspective of Herzberg’s (1959) motivational theory of intrinsic and extrinsic reward classification (Herzberg, Mausner, & Synderman, 1959), which is commonly used in human resource and workforce development (Sharp, 2008; Stello, 2011). Intrinsic rewards seen as centred within an individual are gained when an activity satisfies basic human needs for competence and control (Ryan & Deci, 2000). People are motivated to do something or take certain actions because the intrinsic rewards fulfil emotional needs, they are inherently interesting, enjoyable and satisfying such as pleasure gained from autonomy or challenge. Extrinsic rewards on the other hand are external to the individual and linked to a separate outcome, something tangible or external in the practice environment such as pay, resources and professional development provisions.

Students’ motivations for enrolling in a DD (Results papers 3 and 4) showed both cohorts were motivated by extrinsic rewards such as gaining ‘employment and security’, ‘diversity’ and ‘travel with work’. This was similar to research on SD nursing students (Dockery & Barnes, 2005; McCabe, Nowak, & Mullen, 2005), but DD students were particularly motivated for pragmatic reasons (i.e., four years to complete two undergraduate degrees), improved career flexibility, employment advantages and job security. Just over half of BN/BECTs (55.2%) and more than a third of BN/BCPs (36%) chose the DD program for ‘improved career choices’. BN/BCPs stated they enrolled in the DD with nursing as a ‘back-up plan’, something to fall back on. For example:

It was just I want to do nursing as a backup, something that I can travel with and be able to add midwifery onto it later. That’s another reason why I’m doing the DD in nursing, if I want to go back to WA and they won’t take me in the ambulance service there, I can still work. (BN/BCP female student)

DD students were also motivated for intrinsic rewards that were similar to those given by their SD counterparts, such as altruism and enjoyment (Boughn, 2001; Eley, Francis, & Hegney, 2013; Larsen, McGill, & Palmer, 2003), motivations as seen in Results papers 3 and 4. As well DD students wanted a career that promised interesting and challenging work. While DD students were motivated to enrol in a DD to gain
employment in a career that was intrinsically enjoyable and satisfying, results also showed a preference for one career over the other.

The large majority (90%) of beginning BN/BCP students were more interested in paramedicine than in nursing, and motivated by the perceived intrinsic rewards paramedicine had to offer, particularly ‘excitement”, which has also been reported in studies of single degree BCP students (O’Meara, Tourle, Madigan, & Lighton, 2011). Additionally, the rewards that arise from ‘working in the community’ were another influence for BN/BCP students:

I think people are just so vulnerable in emergency situations when at that stage (pre hospital) - they let you into their lives and tell you stories they wouldn’t tell other people. They instantly trust paramedics - it’s fantastic - being able to fulfil what is expected in emergencies, the work is exciting - what I’d like to do hopefully. (BN/BCP female student)

I suppose as a paramedic you’re out in the community, travelling around seeing different situations and things. I like the fast stuff (in paramedics) - it’s the excitement, it’s not knowing what’s going to happen, it’s something to brag about to your mates at the pub (laughs). (BN/BCP male student)

Similarly, the BN/BCP graduates who chose a graduate placement and continued to work as a paramedic were motivated primarily by a career that had a high level of ‘excitement’ and the exhilaration of working in emergency or life-threatening situations. They also mentioned the intrinsic rewards of ‘interesting and challenging work’, ‘enjoyable and satisfying work’, and ‘helping others’. Pay and conditions that were attractive to paramedic graduates were working conditions including one-on-one teams, a four-day working week, and working outside in the community. These extrinsic rewards are not collectively found in nursing.

On the other hand, the pattern of choices for BN/BECT cohorts was more varied. Approximately half of the beginning BN/BECT (52%) students reported that they were not interested in nursing. Rather, they were drawn to early childhood teaching (ECT) because of the intrinsic rewards that teaching would bring, expressed as follows:
Early childhood is just what I enjoy. I want to be doing a job that I want to go to. I probably wouldn’t have chosen early childhood if I wanted money. The nursing side is interesting but I don’t want to look after adults I don’t think I’d like the drama. Yeah I just like being with the kids and being there with them and helping them learn with the families. (BN/BECT female student)

I love children (laugh) and I’m interested in education. Yeah, mum’s a teacher, I’ve learned so much in the three weeks I’ve been here. I did the DD to broaden my options so I could travel but at the moment I prefer the education side. The idea of being an RN doesn’t really appeal to me, working in the hospital or the emergency ward - I don’t think I can hack it (laughs) but I will find out. (BN/BECT female student)

As BN/BECT students progressed through their course, some found that the intrinsic or the extrinsic rewards of their second choice became more alluring. Others found the rewards of both disciplines hard to separate and these students tended to be “undecided” about which career they preferred in their final year. For example, one DD BN/BECT student said “I keep changing my mind, I’ve done that all through – I am still unsure which one to choose”. Overall, however, BN/BECT graduates chose nursing because nursing offered them more interesting and challenging work and better pay and conditions than early childhood teaching. The one graduate who chose ECT cited the personal rewards that she gained from working with preschool children and the possibility of aid work overseas.

For both cohorts, there were additional rewards gained over their two graduate years: new skills and confidence, professional development in a supportive environment, and pay (apart from the graduate working in ECT). Other studies of new nursing graduates and registered nurses have also found that these are factors that contribute to job satisfaction and retention of staff (Beecroft et al., 2008; Lavoie-Tremblay, Paquet, Marchionni, & Drevniok, 2011). Differences between nursing and paramedics graduates were the diverse opportunities to work and travel for those who were employed as a nurse.
4.2.5 Prior personal experiences

DD students disclosed that they had had a variety of previous healthcare experiences both as adolescents and/or in childhood which not only influenced their career aspirations and career trajectories but also their future career destinations. Even those students for whom nursing was not their dominant career choice still reflected on past healthcare related experiences, either personal or in a workplace. Being in hospital or sick as a child leaves a lasting impression and can instil a desire to help and care for others in a health related career (Larsen et al., 2003). A number of DD students who had been hospitalised or suffered an ongoing childhood illness discussed their admiration for the nursing staff and how it had stimulated their interest in work in nursing. This finding has been evident in previous studies on SD BN students (Larsen et al., 2003, Mooney, Glacken, & O’Brien, 2008; Stevens & Walker, 1993). In another study, Hemsley-Brown and Foskett (1999) found that, even though young people expressed admiration for nurses, this rarely matched with the desire to become a nurse. However, the following examples from the present study describing students’ decisions to study nursing contrast with that view:

When I was sick they, the nurse that was there, Leslie, she stayed for 2 weeks she just worked two weeks straight with me she was ... just ... she didn’t go until she knew I would be OK, she didn’t have a day off and it’s that dedication, I’d like to give that back to some of the little kids I would look after ... I still send them Christmas cards each year and go and visit them as many still work there (BN/BECT female student)

My mum puts it down to, when I was little I was very sick with juvenile arthritis, I was in like a whole cast, so my whole social life was in hospitals, with nurses and doctors, and stuff like that, so my mum thinks that’s why I’ve always headed for the health professions. (BN/BCP female student).

4.3 The mesosystem – proximal Microsystems influencing enrolment and career choice

This section will discuss how the mesosystem, the most proximal contexts (microsystems in Figure 3), exerted an influence on the DD students’ career choices as they moved through to their final year and then as graduates.
4.3.1 Family

The majority of DD students were young, recent school leavers and had a close connection with their family context. Within a socio-ecological framework of the NCDF, family is seen as an important microsystem that can exert great influence on students’ career development. Individuals are most likely to seek support and assistance with career decisions from family members (Hughes & Thomas, 2003; Whiston & Keller, 2004). In the present research, family background variables (e.g. parents’ occupations and socio-economic status) as well as family process variables (e.g. warmth, support, parent-child relations) also influenced the decision to enrol in a DD and future career decisions. Additionally, during their time at university, many DD students relied on their families for both financial as well as emotional support, including during their clinical placements. Location of family and significant others was a big consideration for some students’ practicum placements especially if students had children and needed help with childcare arrangements.

The findings (Results paper 3) demonstrated that a higher percentage of DD students compared to SD BN students came from families of a higher socio-economic status and held higher educational qualifications than the SD BN students. These finding are consistent with many other studies that have linked parents’ socioeconomic status and education with higher education aspirations and career decision-making in their children especially those in rural areas (Bui, 2002; Dees, 2006; Dyk & Wilson, 1999; Olenchak & Hebert, 2002). Parents who have attended college are better able to model and facilitate the transition to higher education than those who have not (Brown, Copeland, Costello, Erkanli, & Worthman, 2009; Bryan & Simmons, 2009).

One of the DD student participants discussed both the financial and emotional support she received from her family and how her mother was influential in her decision to enrol in the DD program:

My Mum didn’t sit the HSC she went to Sydney. She was working at a computer company and before she married Dad she had like 50 people underneath her and then she came back to ... (small rural town) and had us kids and umm then all the technology was updated and Mum didn’t have anything - a job she could find in ... (small rural town) when things went bad on the farm.
She said I don’t want you going through life having to look for jobs like I have to. My Mum has always said to me - I don’t care what you do but get a job that no matter where you go you have got a job whether you go to the middle of (outback town) or to the city - mum has always said that to me and that’s what I can do with nursing and early childhood teaching no matter where I end up I’ll have a job. (BN/BECT female student)

When it came to career advice ‘a family member’ was also an influencing factor on students’ career choices. This was particularly evident for the SD BN cohorts, but ‘advice from significant others’ was also a key theme in the DD interview data. Many of the female as well as male DD students talked about their mothers’ advice and how it had influenced their career preferences for either discipline or enrolling in the DD program. For example, one male BN/BCP student said:

I was going to do paramedicine in Melbourne and while I was on holidays Mum rang, she’s a nurse and she told me about the DD so I decided to enrol in that, I’ve got two options now and I can live at home. (BN/BCP male student)

It was also found that while some advice was welcomed, not all advice from family was heeded. In some cases this was negative advice or a negative impression in regards to nursing, for example:

I mean my mum’s a nurse, and my dad was like ‘don’t do nursing! The pay’s not good and the hours are terrible’ but it’s always what I’ve wanted to do. I’m doing the DD because I want to be a retrieval nurse in the Royal Flying Doctor service. (BN/BCP female student)

My mum’s a nurse, and I always said I’d never want to be a nurse, and here I am! But I am mostly interested in paramedics, nursing really is something I can fall back on, I think it’s because my mum does it and she comes home and she smells. (BN/BCP female student)

The influence of family on graduates’ career choice and location was evident in both cohorts of DD graduates who chose nursing. A few BN/BCP graduates wanted to return to Sydney to be close to family: for example, one graduate said: “I am at the ... (large private hospital) because I like emergency nursing, I knew it was a nice hospital
and as well, close to home and my family, I thought I would work in Emergency, get
some nursing skills up”. A BN/BECT graduate who decided to stay in a rural area to
be close to her family said: “I tried for all the local grad (nursing) programs as I don’t
want to go to the city – I hate it there – I love my wide open spaces and being near my
family. I got into ... (regional hospital) and it’s close to home, where my friends and
support are”. Another graduate who had a young child went to a large but remote rural
town because she and her husband (who was commencing teaching) were interested in
Indigenous health and welfare. While she was more interested in a paramedic career
she expressed some disappointment that she felt compelled to take a registered
nursing position at the local hospital as this fitted in with her family responsibilities.
Some female students and graduates stated that their professional development was
hindered by child rearing responsibilities. For example, a female BN/BCP graduate in
a remote rural hospital pointed out “I work part time to look after ... (18-month-old
child), the hospital gives me the shifts I like you know weekends and evenings, but
because all the courses are in ... (a large town some distance away) I can’t get away,
take a day or weekend off to attend these courses, it’s frustrating, I’m thinking of
doing some distance ed (education) courses”. Other second year graduates who
mentioned family as an important influence on their career retention plans were the
BN/BECT graduates who chose a nursing career in a rural hospital near their original
home and intended to stay in nursing and in that location.

4.3.2 Neighbourhood and community
Completion of educational milestones requires considerable resources, persistence,
and social support. Lifestyle and social support were important for DD students,
although somewhat more evident for rural than metropolitan students. This was
despite the fact that beginning metropolitan students were transitioning to a new
neighbourhood and environment. The rural DD students were influenced by the
proximity of the university context, which meant they could study, socialise and work
close to or within their existing community or neighbourhood. These findings were
similar to studies previously cited on SD BN rural students (Lea & Cruickshank,
2005; Bushy & Leipert, 2005), in particular studies of mature age SD students with
family commitments. Previous excerpts have demonstrated the desire of DD students
to remain in a neighbourhood close to family and community.
4.3.3 Romantic/lifelong partners

Romantic connections were only briefly mentioned by students, which is perhaps indicative of trends in Australia showing that higher education is one of the reasons why females and males are marrying later (Australian Bureau of Statistics, 2010). One BN/BECT student said that her boyfriend was also studying and that they both wanted to go overseas when they had completed their studies. She said that by completing this DD her career would be more mobile and she could get a job in nursing wherever they went. Yet by the final year some students expressed having a conflict between their own career decisions and their partners’ work place or his/her career and location choices. A number of female graduates talked about how they looked for and gained a nurse graduate position in their preferred work location, which was not too distant from their boyfriends’ location and by the end of the second graduate year maintaining romantic relationships had become more important. Many of the females and one of the male graduates’ career locations were influenced by where their partners or boyfriend/girlfriends were living. A few female graduates reported changing hospitals to be in a location closer to where their boyfriend lived or worked, and those that were married or lived with a partner said that nursing enabled them to move to where their partners’ work was located.

4.3.4 University context

The university context is a general cultural context that all commencing students enter. They adapt to this new setting, new social life, and their DD higher education program and over time the university context has a major influence on their career development. From the time an individual starts thinking about a career, completes high school, gains a university entry score and applies and gains entry, the university has already exerted an influence through the students’ selection of preferences for specific courses at particular universities (Bornholt, Gientzotis, & Cooney, 2004; Hesketh, 1998).

The findings showed that the main reason students chose this particular university was that the DD programs were not on offer in other universities in NSW. While the majority came from the surrounding rural and regional areas or other rural and/or remote areas in NSW, many beginning students came from Sydney metropolitan areas and a small number were attracted from states as far away as Western Australia and
Tasmania. As one of the BN/BCP students stated, “I would have gone anywhere to do this double degree”.

As they progressed through their studies the university context with all its learning experiences, regional culture, role models and peer groups exerted a very strong influence on final year DD students’ career choices. A major finding of this study was that during their studies the practicum component undertaken in each discipline/program (i.e., BN and BECT or BN and BCP) had an important influence on students’ career preferences for nursing and the other discipline. Previous research (Levett-Jones, Lathlean, Higgins, & McMillan, 2009; Stevens, 2011, Stuhlmiller, 2006) has shown that the practicum components linked to particular subjects in undergraduate nursing programs have a huge impact on SD nursing students’ nursing specialty preferences and their decisions to continue with nursing as a career.

At the university where the present research was based, DD students in the latter half of their degrees were given some control over their choice of nursing clinical placements. However, as in other universities (McKenna, McCall, & Wray, 2010), the clinical practicum was a substantial component of the nursing education program and was overseen and administered through the nursing school. By the time DD students reached their final year all had experienced extended semesters due to the practicum requirements of both undergraduate programs (Results paper 6). Findings showed that clinical placements that required relocation impacted on the students’ ability to meet their paid work responsibilities. Many of the working students therefore did not want to go too far away to do their clinical placements and requested their practicum be near the university or their homes in the regional area so as to save on ‘away from home’ living costs. As one student said: “From my point of view I picked most of my pracs to have in ... (location close to the university), so I could get back and work, so I missed other opportunities”.

In other cases, students chose nursing areas that matched their specialisation preference: for example, for BN/BECT students, local paediatric wards or children’s hospitals. BN/BCP students chose emergency departments or areas like the Royal Flying Doctor Service. Yet, because the two degrees were studied concurrently, there were often unforeseen practicum challenges that students faced (Results paper 6). DD
only peer groups that formed in the students’ early university years and extended off campus, as well, helped them navigate the difficulties of negotiating practicum scheduling as well as anomalies with class timetabling and program content.

By the time students graduated, they had spent four years constantly comparing their university experiences in both disciplines to arrive at a decision as to which career and graduate transition program they would undertake. Without exception, the graduates discussed how the positive learning experiences at university and on clinical placements influenced their graduate career choice. Many also mentioned negative experiences they had had in both of their degrees, which also helped them decide which career discipline they thought would provide the career rewards they wanted.

4.3.5 Work experiences

Work experiences, including volunteering as well as short term paid work, not only influenced DD students towards choosing the ‘helping profession’ of nursing as a possible career option but also the other disciplines of early childhood teaching and pre-hospital emergency work. The influence of past health care work exposure on choosing nursing as a career is well documented in the nursing literature (Larsen et al., 2003; Mooney et al., 2008; Price, 2008) and yet students who are drawn to other professions also have other types of prior experiences that influence their career choice: for example, social workers are more likely to have experienced dysfunctional families (Rompf & Royce, 1994) and doctors often had a critical life threatening event (Avery, Wheat, McKnight, & Leeper, 2009). In this research on DD students, more female students reported some paid work or doing voluntary work with children or people with disabilities, whereas more males reported working or volunteering with groups such as surf life saving, rural fire services, state emergency services or first aid groups such as St John Ambulance. The following excerpts from students who entered the BN/BCP program demonstrate a range of experiences from a variety of outdoor contexts:

I live near the beach so I was a volunteer life guard in the summer and I had good marks in biology and stuff so when I saw the DD with paramedics I knew that was just right for me, even though it was way out in Bathurst (BN/BCP male student)
I’ve volunteered with St Johns at home, where I come from. I was a first aider and I went to the best events. I started in year 10 and I learned a lot about emergency first aid stuff and a lot about health. I was really proud putting on that uniform. (BN/BCP female student)

The BN/BECT students gave accounts of influential voluntary or paid workplace experiences prior to entering university that overwhelmingly displayed their interest in children and child development and also nursing:

I like little children - the early childhood side I like - just being there to help them develop to get ready for life when they go to primary school and stuff. In yr 10 we had to do some early childhood – I think it was child studies, whatever it was called we had to go to the primary school to help them read - they were the disadvantaged children so it was kind of like kindergarten and I really liked helping them and stuff ... I enjoyed seeing them get to the next level. (BN/BECT female student)

Well I was quite young when I finished high school and I actually moved to England, and I worked as a nanny - I worked with a set of twins, and one of them had cerebral palsy. I came back thinking I might want to be an OT (Occupational Therapist), but being a nanny with this little boy kind of gave me an insight into teaching. The idea of standing in front of a class teaching doesn’t appeal to me though, I like the idea of working one-on-one, which is why special needs appeals to me. I thought then maybe a nurse and then I saw the DD with nursing and early childhood teaching and thought that’s for me as I can’t decide. (BN/BECT female student)

The above quotes show that a common thread for both cohorts of DD students was the prior voluntary and/or short term workplace experiences that were intrinsically rewarding and stimulated their future career directions, even though they were in different work related areas. It is important to note that these DD students had positive healthcare related experiences prior to enrolling. However, as noted by Happell (2002) and Fagerberg, Winblad, and Ekman (2000), there may be others who are interested in nursing but because of a negative experience, for example in aged care, have been put off considering nursing as a career. Nursing care of the elderly tends to
be viewed as unchallenging, custodial and unrewarding (Fagerberg, Ekman, & Ericsson, 1997; Zukerberg, 1991). This view was evident in some of the views students expressed for example one BN/BCP student said “I’ve worked in a nursing home for 2 years, and yeah the older people are OK, well most of them, but I don’t want to end up in that area, really nursing is a back-up - I only want to be a paramedic, ... it’s more exciting and the pace is faster”.

By the time the DD students reached their final year most of them had engaged in paid work. These students were working part-time as nursing assistants in hospitals or nursing homes. This is similar to SD nursing students studied across Australia (Phillips, Kenny, Smith, & Esterman, 2012) and internationally (Andrews, Brodie, Andrews, Wong, & Thomas, 2005; Salamonson & Andrew, 2006). Work experiences had a major influence on career choices, leaning either towards or away from nursing. Depending on whether they found the work rewarding or not, and whether their role models were encouraging, work could ‘make or break’ students’ decisions towards nursing. For example, a few BN/BCP graduates had prior negative nursing related workplace experiences and that is why they chose a graduate position in paramedicine instead (Results paper 4). Yet all the BN/BECT graduates reported that they had had positive nursing workplace experiences as students, which improved their nursing skills and this gave them confidence to apply for the nursing position they were now in. Additionally, their past work experience enhanced their career opportunities in nursing by securing their graduate position. This has also been reported by Phillips et al. (2012) on SD nursing graduates.

4.4 The exosystem – distal influences on career choice

The distal environments in the exosystem (see Figure 3) impacted on the students’ placement experiences and hence their career choice eventhough the practicum placements originated from the university context. Nursing clinical practicums, especially in DD programs require a lot of organisation and involvement with different environments and people that are distal to the student and depicted in the exosystem of the NCDF (see Figure 3). Practicum arrangements are not only driven by university policies and events in the wider university context but also by environments and events within and outside of the healthcare industry. These external factors have an indirect effect on the students’ experiences.
4.4.1 Curriculum requirements

Each of the three DD programs had a practical component in the curriculum and the timing of these placements over the four years, the number of hours required and the type of experiences (e.g. surgical nursing; on-road ambulance, early learning centres) influenced DD students’ career decisions (see Results papers 3 - 5). Of the BN, BECT and BCP programs, the BN curriculum required the most numbers of hours of placements. In the BN/BECT program, this was 20 weeks of nursing placements compared to 16 weeks of early childhood practicum; in the BN/BCP program, this was 22 weeks compared to 12 weeks of paramedicine. The BN practicums were strategically placed over the four years, so that hours per semester were shorter at the beginning of the program and longer in the second half of the program as students gained competency. The increased focus on nursing practice as the DD program progressed and the 6 week final nursing practicum appeared to influence decisions towards nursing as a career choice (Results paper 5). For example, this student was swayed towards nursing towards the end of her program:

In nursing I found it a bit harder in the beginning because we sort of only did half (of the) nursing subjects and one prac, we did a lot more ECT in the first couple of years and I loved it, but the last two years we’ve had more nursing and a lot of great nursing pracs so I’m more interested in nursing now as I had a fantastic prac at the children’s hospital and now that’s what I want to do. (BN/BECT female student)

Yet practicum experiences in early childhood teaching and paramedicine could also confirm or dissuade. One BN/BECT student who decided on a nursing career due to negative feelings about ECT requirements on placement said:

I haven’t enjoyed some teaching pracs because they can go on and on and on. Plus you have to work really hard in teaching pracs - it is always four weeks as well and you get used and abused (meaning taken advantage of) sometimes. (BN/BECT female student)

The practicum is widely regarded as essential to the successful preparation of registered nurses (Clare, Edwards, Brown, & White, 2003; Edwards, Smith, Courtney, Finlayson, & Chapman, 2004; Zilembo & Monterossa, 2008) and these
were a critical component and requirement of not only the BN curriculum but also the BECT and BCP curricula. In this research the practicum has been shown to be the one constant influence on career and location choices. All first year graduates spoke at length about the influences of their prior practicum experiences. Because of the differences between the disciplines and the two curriculums, DD graduates faced ongoing tensions in their career decisions and the positive and negative practicum experiences were used to base their career choice decisions when they applied for work in their first graduate year. While most graduates when in their final student year and by the time they graduated favoured one career over the other, there were 23.6% who were undecided. Graduates who said they were undecided in their final year also reported that they were not put off either discipline by any of their practicum placements and had applied for jobs in both disciplines. They left their decision until their offers came in. As this DD graduate who chose paramedicine said:

I was always more interested in nursing until about final year of uni and then I wasn’t sure, I started to switch and change, anyway I applied for three jobs and got them all, a new grad position at ... (large metropolitan hospital) – I did a prac there and really liked it; the ... (State) ambulance service and the ... (Private metropolitan hospital) but yeah this one … (State ambulance service) started beginning of January the others didn’t start for a few months so that is why I took this. (BN/BCP female graduate)

4.4.2 Cross faculty relationships

As the DDs were cross-disciplinary and therefore spanned different faculties, the organisation of class timetables and clinical placements between these two was critical to students’ experiences. Yet the findings (Results paper 6) showed that the students felt frustrated by the lack of communication between faculties and poor organisation. It often meant that students’ practicum arrangements had to be changed or that practicum placements were completed outside of gazetted semester weeks.

4.4.3 Industry requirements and relationships

As is common with Schools of Nursing in regional universities, the study site drew on the local hospitals and healthcare agencies in the region for the majority of the undergraduate nursing clinical placements. In turn, these regional hospitals rely on a supply of nursing graduates to fill their vacancies and tend to draw these from the
nearby university. This requires a close relationship between the hospitals in the region and the university’s School of Nursing. Resources and organisation are needed from both sides in not only rural but also metropolitan healthcare facilities so that students meet their learning objectives, competencies and gain satisfaction with their practicum experiences (Calpin-Davies, 2003; Edwards et al., 2004). As well, it is necessary to comply with industry requirements with minimum disruption to the healthcare areas to which they are assigned. In a similar way, placements in early childhood and paramedicine require harmonious industry linkages in order to ensure the quality and quantity of placements are maintained.

Therefore, by the time the students graduated and entered the workforce they had the knowledge and skills to work in two disciplines or careers. While BN/BCP graduates did not refer to industry requirements as being problematic for a paramedic career, and neither did the BN/BECT graduates in relation to their teachings skills, some BN/BCP and many BN/BECT graduates said they chose nursing so that they could ‘cement their skills’. For graduates who chose nursing, it is a requirement to be registered to practice as a nurse. Additionally, hospitals and other health care facilities expected them to have the skills, knowledge and competencies of a beginning registered nurse. The findings in Results paper 5 showed many DD students felt if they did not do nursing and hone their skills it would be too difficult to come back to at a later stage and hence that was one of the reasons why they chose nursing for their first graduate year.

4.4.4 Staff and resource shortages
In times of fiscal restraint Governments and private enterprise reduce funding in the healthcare system and this can impact indirectly, for example, on nurse staffing levels in hospitals and hence students’ quality of practicum experiences due to staffing shortages (Killam & Carter, 2010; Mills, Birks, & Hegney, 2010). The shortage of registered nurses means less time for supervision of the large numbers of undergraduate students requiring placements and nursing clinical learning experiences that are not always ideal (Mills et al., 2010; Smith, Edwards, Courtney & Finlayson, 2001). Quality placements, require good mentors or practicum educators with adequate knowledge and experience to supervise undergraduate students (Fahy, Parsons, & Mitchell, 2006; Killam & Carter, 2010; Levet-Jones et al., 2009). This
situation is of particular concern in rural and remote locations (Mills et al., 2010) where the shortage of RNs is more prevalent. If support is not adequate and the nursing skill mix on the hospital wards is poor (a high number of less qualified staff), then this in turn means a less than optimal nursing practicum for the student (Edwards et al., 2004; Zilembo & Monterosso, 2008). Interestingly, in the present study, DD graduates did not report poor practicum experiences due to staff and resource shortages in ECT or paramedicine. It is likely however that nursing staff shortages affected some DD students’ practicum learning experiences and in turn influenced their career and location choices away from nursing. As one DD student said:

The nurses you meet can make a huge difference. Like if you have a really bad nurse who pretty much ignores you, and you have no idea what to do, and get really freaked out, you don't want to ever work in that area. If you have a good nurse and she supports you and stuff it can make a huge difference then you want to work there.

(BN/BECT female student)

Once a graduate, staff and resource shortages can impact on decisions to remain in nursing and it is well documented that RN shortages can cause stress in the work areas that are most affected by these shortages (Duffield & O’Brien-Pallas, 2003; Hegney, Plank, & Parker, 2006). For two graduates, RN shortages were related to stress and overload and were a reason for changing careers. On the other hand, staff shortages and job vacancies meant that nursing graduates could either move into vacancies in diverse nursing work areas in their present facility or plan to travel overseas.

4.4.5 Job vacancies and marketing forces

Job vacancies for RNs were influential for some final year students’ career decisions; for example, students on a nursing placement who were offered and accepted graduate positions for the following year in that particular nursing area. Others reported they were encouraged to apply to an area when vacancies were advertised. These DD students who were nearly finished their program were multiskilled and therefore, according to a previous study, seen as not only desirable in nursing positions but were more likely to gain a position over a graduate with a single degree in nursing (Hickey, 2005).
The Graduate Destination Survey (Results paper 5) showed that approximately two-thirds of the DD graduates had taken up a position in nursing. However, these data do not tell us how many graduates might have been unsuccessful at gaining a graduate paramedic position or an ECT position and then accepted a vacant nursing position. In the longitudinal study conducted in this research, the graduates did not report being unsuccessful at gaining a graduate position in their chosen career. As shown in Table 5 (Results paper 5, page 106) 73.5% of DD graduates were in a nursing position. This might be because at the time of this study (2008-2009) there were ongoing shortages of nurses and nursing job vacancies could be found. The timing of the research was before the effects of the global recession had filtered down to State Hospital funding and there was a freeze on staffing.

4.5 The macrosystem – distal influences on enrolment and career choice

Macrosystem influences arise from the broader social context that is outside the students’ or graduates own determination and external to the university. Interviews with second year graduates suggested that distal influences in the macrosystem had a lesser influence than during the recruitment or job searching phase of their career. For example, in some hospitals, due to the socio-economic climate, Government policies and funding cuts, there may be tight budgeting that can lead to staff shortages. The two graduates who felt under stress due to “burnout” from a high workload and staff shortages were able to change careers and move to a career (paramedicine) that did not have the same levels of stress and had different work conditions. This demonstrates that while external contexts can change, the person is not a passive recipient of such change but is an active agent who can also manipulate some of their environments surrounding them.

4.5.1 Government policies

The distal influence of government policies is evident in government funding of universities, financial aid to students and rural scholarships all of which indirectly affect students’ career development. When the Australian federal government increased funding for nursing places at universities in 2002, an opening became available for the development of double degrees. The beginning students in this study all keenly expressed their interest in the newly developed DD programs. It addressed
their desire for career flexibility, their interest in both areas and the security of having another set of qualifications to fall back on.

Government policies also influenced graduates’ career choice and location through pay and conditions. Public hospitals are under the control of State Government policies that affect funding of hospitals, and emergency services (Ambulance Services). Work practices such as shift work and policies and practices surrounding staff placement or work locations are also determined by government policy. Nurses or early childhood teachers can choose their own location to work (in Australia or in many countries overseas) provided there are vacancies in State run or privately owned facilities; however, ambulance service employees have limited say about their work location in the mostly State run ambulance services. As well, overseas emergency services that include paramedics are not comparable to the Australian system and hence paramedic graduates are precluded from working overseas as paramedics.

4.5.2 Socio-economic climate

The socio-economic climate and economic recessions, and for rural students the cyclical rural recessions, indirectly affect students’ choices. University costs, including accommodation, and the geographic location of universities can restrict rural students in their choice of university (Richardson & Freidman, 2011). Future job security and wages are two factors that have been found to be motivational for choosing nursing for decades (Kersten, Bakewell, & Meyer, 1991; McCabe et al., 2005). Quotes similar to the following were stated by most beginning DD students: “no matter where you go you will always have a job” and “if I can’t get into paramedics I can do nursing”. While many students stated they were not choosing their career for the money, most of the BN/BCP students indicated an awareness that a paramedic’s wage was slightly higher than a nurse’s. For example, a BN/BCP student said:

I think paramedics wages are higher (than nursing), the base rate is a bit more. But if you work overtime, which most do these days (paramedics) you can take home a big pay packet.

The BN/BECT students were also aware that a nursing graduate earned a much higher wage than an ECT graduate; however, in the beginning stages of their DD these
students were altruistic and tended to be influenced more by the intrinsic rewards either nursing or ECT would bring them. For example, one BN/BECT students said: “The working conditions are important to me, the children - not the pay, I didn’t think about that much”.

At the time this research was carried out (2008 and 2009), DD graduates were choosing a career against the backdrop of a global financial recession and a stimulus package from the Federal Government to keep the Australian economy afloat. This global as well as national financial climate may have indirectly affected graduates career or location choices especially towards nursing. For example, in times of fiscal restraint the number of nursing graduate transition programs and the numbers of available places are often reduced. Levett-Jones and Fitzgerald (2005) have suggested that funding, which is allocated for the support of graduate nurse programs by the Australian State Government, is not always spent for the purpose for which it was intended. Yet as can be seen from the findings in this doctoral research, ‘employment and job security’ were reasons for choosing a DD. As well, job security was also an important extrinsic reward for graduates that chose nursing (Results papers 3 and 4). Finally, graduates reported that because they had completed a DD they felt when they went for their interviews that they were more skilled and stood a better chance in the job market than their SD counterparts and hence they could hedge against economic downturns.

4.5.3 Global nursing shortages

While beginning DD students may not have been aware of the magnitude of the global nursing shortages, the findings indicated that they were well aware that once they had completed their DD studies their nursing qualifications would allow them to travel and work in many of the English speaking countries around the world. This was a strong incentive for many to enrol in a DD that included nursing. Preston (2009) found that because of the global nursing shortages 7% of Australian registered nurses in the age bracket of 25 – 35 years between the years 1998 – 2008 were living and working overseas which was a contributing factor in the nursing shortages in Australia. The world-wide shortage of nurses and hence the availability of nursing work overseas was very tempting to many graduates, who mentioned their ability to work and travel overseas, a finding that is similar to already cited studies on SD
nursing graduates (Dockery & Barnes, 2005; Eley, Eley, & Rodgers-Clark, 2010, McCabe et al., 2005). It is well known among nurses that Australian Nursing credentials (a BN degree plus experience as a RN) are accepted in many developed English-speaking countries. Preston (2009) found that approximately seven percent of Australian registered nurses between the ages of 25 – 35 years were currently working overseas at any given time during 2002 – 2008.

4.5.4 Accreditation and scope of practice

Up until 2010 the NSW Nurses and Midwifery Board was responsible for regulating the nursing profession in the State where the study took place. A national system under the control of The Nurses and Midwives Board of Australia is now responsible for regulation of the profession. This board accredits the nursing curriculum component of the DD course and hence the number of BN practicum hours and how and where these are attended e.g. aged care. The clinical skills that students learned and practised in the nursing clinical laboratories before they went on placement were quite specific for each subject. BN/BCP students felt these clinical skills were too basic compared to what they were doing in paramedicine and a number felt likewise about the practicum. Hence their nursing practicum experiences and scope of practice were constantly compared with paramedicine often being judged as superior to nursing and these judgments adversely influenced their decisions towards a nursing career (Results paper 6). BN/BECT students also compared their practicums. Most reported that nursing was more intrinsically rewarding, but felt daunted by the clinical skills required in nursing. Many BN/BECTs obtained nursing assistant work in hospitals in order to increase their competence and confidence and wanted to ‘cement their skills’ by obtaining a graduate position in nursing (Results paper 5)

Because cross-professional work between two discipline groups (BN and ECT; BN and BCP) is not possible, nurses, paramedics and teachers are confined to working within the scope of practice in the discipline in which they are employed. This presented issues for some DD graduates who wanted to keep their skills, knowledge and also registration current in both disciplines. Some graduates who chose paramedicine managed to overcome this by working in both disciplines, that is full-time paramedic and part-time nurse, as this graduate said:
I would really like to travel overseas. I work (in paramedicine) four days on five days off so yeah I’m planning to do some nursing in my days off just to keep my (nursing) skills up cause I just don’t want to lose them and I may need them to get work overseas. If I had chosen nursing I couldn’t work part-time in paramedicine anyway I absolutely love being a paramedic. (BN/BCP female graduate)

All of the BN/BCP graduates gained registration to practice as an RN and as over half of them chose paramedicine, suggesting that they want to keep both options available to them if they haven’t ruled out nursing completely.

4.5.5 Metropolitan/rural culture

This study consistently showed that the geographic region and culture students grew up in influenced their future career choices and their career destinations. Many rural students wanted to stay in a rural area and mentioned lifestyle factors and feelings of belonging to a community. They preferred the lifestyle, friends and extended family, the familiar community and “the wide open spaces” in country areas. For rural students considering a career in the city, leaving family, friends and other social supports, has a major impact and is perceived as a significant barrier for many (Durey, McNamara, & Larson., 2003). One rural student said, “I can’t stand the city, all the traffic and pollution I can’t wait to get home where I know everyone”. Home was important for the metropolitan students also, as one said, “I came here to do the DD course but I want to go back home to Sydney, my family are there, I’ve always lived there - and there’s lots more to do in the city, yeah it’s more exciting”.

Previous research has shown that non-metropolitan people are up to twice as likely to leave home as their metropolitan peers (Richardson & Friedman, 2011) because the perception that a rural lifestyle has limited education and employment opportunities is prevalent among both rural and non rural youth (Davies, 2008; Eacott & Sonn, 2006). This view was evident in the present research. Rural students who wanted to migrate to the city to work often mentioned excitement and better opportunities; for example this student said:

I like rural, but again with all the opportunities and the new advances and stuff, if I was going to learn anywhere it would probably be in the city
environment – it’s exciting - there’s more to do - like you get more exposure – it’s better practice and you can get all your nursing skills up. (BN/BECT student)

Some students were torn between a career location that allowed a rural lifestyle and a nursing, teaching or paramedic career in the city: for example, this student said:

I’ll probably stay near home in the country at this stage anyway. I think I will do nursing for a year my friends are here - but I’m still trying to weigh that up with umm you get more experience in the city, like I want to be a paramedic but I’d have to move and live in Sydney then - so still deciding about that one. (BN/BCP female student)

Because the research was based at a regional university and the majority of the students in the DD programs came from a rural background and a rural culture, it was imperative to understand the degree to which these factors impacted DD students’ career development and choices. As has been explained earlier, the DD programs with nursing were commenced at this university with the goal of improving the recruitment and retention of nurses in the surrounding rural regions and hence to improve the health outcomes of rural Australians. Australia, like many similar developed countries e.g. Canada and the USA is concerned at the ‘out migration’ or ‘rural youth drain’ from rural regions (Davies, 2008; Eacott & Sonn 2006; Thurston, 2006).

Note that, in this section of the discussion, I am using location and lifestyle to describe culture, specifically the view that “rural populations are more reliant on community values, collective coping mechanisms and social cohesion ... compared with metropolitan populations who rely more heavily on individualistic values and coping mechanisms” (Caldwell & Boyd, 2009, para 6). Hence this section considers the influences in the students’ metropolitan/rural culture affected their choice of study and career decisions. This section draws on material from the Results (papers 3 - 6) and links these to the relevant contexts in the NCDF to further demonstrate the linkages between the inter-connected contexts that influenced DD students’ career development.
Close to two-thirds of all enrolling DD students came from a rural background, but the proportion was higher in the BN/BECT cohorts and lower in the BN/BCP. However, despite this, when it came to their graduate year placements, just over a third preferred a rural location, with a third preferring a metropolitan location and one-quarter being undecided. The per cent who preferred a career in a rural area was significantly less in the BN/BCP group than the BN/BECT cohorts. These findings go against previously cited evidence (Courtney, Edwards, Smith, & Finlayson, 2002, Nugent, Ogle, Bethune, Walker, & Wellman, 2004) that the majority of rural students gain employment rurally. However, it must be noted that these prior studies were on rural students completing single degrees, not DDs.

Encouraging students to consider a career in a rural area is vital in sustaining the future rural health workforce. Yet, a high proportion of these DD students saw their first step into a nursing career (in the graduate year) as being in a metropolitan area. Additionally, the higher education experience of studying nursing at a regional university did not appear to sway students towards a career in rural nursing. Due to the oft-mentioned rural health crisis and the lack of health professionals in rural and remote areas, many studies in nursing (Courtney et al., 2002; Eley & Baker, 2006; Mills et al., 2010) and medicine (Adams, Dollard, Hollins & Petrovic, 2005; Dunbabin & Levitt, 2003; Somers, Strasser, & Jolley, 2006) have tried to identify the factors that induce people to take up a rural position. A recent study by Eley, Synnott, Baker, and Chater (2012) on the recruitment and retention of medical graduates’ found that while a rural upbringing and positive rural clinical experiences were influential on graduates’ decisions to remain in a rural area, these can be negated if they meet partners that are committed to city life. Eley et al. (2012) found only 40% of medical students who had a rural upbringing and had received specialty clinical experiences in a rural area were practising in a rural area. This proportion is only marginally larger than the per cent of DD participants in this study who preferred a career in a rural location.

In the present study, DD students who chose a rural location after graduation were motivated by the intrinsic rewards of having, or being able to continue a rural lifestyle. This was particularly true of the BN/BECT students, who were more likely
to come from a rural area than BN/BCP students and were more motivated to work in a rural area, as articulated in the following excerpt:

I grew up on a farm and I never want to live anywhere else! My family are here so with this DD I’ll always have a job near home, I’ll probably do nursing to begin with as there is more money in it and then when I have kids I can work in early childhood. (BN/BECT female student)

For some BN/BCP students, especially those interested in a career in the NSW Ambulance Service, career location choices and career choices were intertwined as the graduate programs for paramedics at that time were all convened in metropolitan areas. On the other hand, many of the BN/BCP and BN/BECT students who were motivated by an interest in nursing were also attracted to a city placement. This may be due to the large numbers of graduate transition programs available in a range of hospitals in the metropolitan areas. Numerous students had experienced a rewarding clinical placement in Sydney which influenced their career location decision.

The pivotal influence of practicum experiences and their locations on students’ subsequent career and location preferences has been noted in other research. There are numerous studies (Bushy & Leipert, 2005; Mills et al., 2010; Walker, DeWitt, Pallant & Cunningham, 2012) highlighting the importance of enriching and quality rural placements for the retention of SD nursing students in rural areas. In the present research, a number of DD students reported they encountered inspiring placements in nursing and the other disciplines in either the regional and/or more remote rural areas; for example, a metropolitan BN/BECT student said: “I got a rural scholarship, I’ve done all my pracs out here and it’s not too bad, I am interested in Aboriginal health now, I think I will stay (rural) now for a while, you know give something back”. But there was an equal number who did not enjoy their rural placements (see Results papers 3 – 5). Students who reported they did not have an enjoyable placement in a rural area were then influenced negatively towards a career overall in a rural area. For example, a BN/BCP student said: “I went on a (nursing) rural placement to ... (regional hospital) they were so busy and short staffed, there was a staff freeze on (not replacing staff), I ended up being just another pair of hands, I don’t think I could handle that in my grad year”. Another BN/BCP student said: “You get thrown in the
deep end in some rural areas - there was not much support - on one of my rural (nursing) pracs I felt very isolated - I prefer the metropolitan areas”.

Alternatively some rural students requested an ‘out of area’ placement and enjoyed the large hospitals milieu and the metropolitan settings, which then proved very persuasive to out migrate to a metropolitan area for work. Students’ part-time paid work experiences were also influential on career location choices. Some who came from rural areas and worked part-time as assistants in nursing in rural hospitals close to their homes felt they had an advantage if and when a graduate RN position became available. Most said they would stay in a rural area for a while and put off the decision about whether to migrate to a metropolitan area. As one BN/BECT student said: “I’m pretty sure I will get into the graduate program, they have two intakes a year – the staff are really supportive so I’ll stay I think where I know everyone and it’s close to home here”. For others, the work experiences turned them away from nursing and a rural career as this BN/BCP student said:

I just don’t like the long term care in nursing, it’s a slower pace in the rural areas too because a lot of the interesting cases are sent to Sydney – I’d rather paramedic work in the city, you get lots of experience – it’s more exciting (in the city), I’ve spoken to some (paramedics) in rural areas...sometimes there’s not much happening.

Some rural students, especially school leavers, expressed a preference for a career in nursing, which would allow them to work in a metropolitan area, travel, and then return to a rural area if they wished. In fact, most of the rural students expressed a desire to return, which is similar to studies on rural students in other health professions (Durey et al., 2003). For example, this student said:

I come from a small country town nearby - I’m glad I did the DD here but I've always wanted to go to the city. Soon as I finish I want to head to Sydney, do nursing for say 2 years, then go travelling, I’ve got lots of time - then I'll come back here and do midwifery. (BN/BECT female student)

A number of studies (Mills et al., 2010; Nugent et al., 2004; Smith et al., 2001) have highlighted the reasons why rural students, including nursing students, are attracted to regional universities and how choosing a regional university affects career choice and
career destination. The BN/BECT cohorts in particular reported the proximity of the university to their home and family as an influencing factor. Many discussed a reticence about living in or moving to the city at that stage of their lives, for example:

Well, I originally wanted to do nursing, it was a toss-up between nursing and education all the way through high school, and then I kind of saw that CSU had the early childhood and nursing double degree, and being close to home that was it for me. (BN/BECT female student)

Another student from a metropolitan area was an exception and showed a very different reason for choosing this university context:

I always planned to do nursing at ... (large city university), then I figured out that if I did the double degree I could move out of home out to Bathurst! (laughter) and Mum and Dad will pay for it (living away from home costs)! So I did, and paramedics looks interesting, I'm glad I didn’t just do nursing. But that's why I did it. (BN/BCP female student)

Whilst, previous research (Bigbee & Mixon, 2013; Lea & Cruickshank, 2005, Mills et al., 2010; Sedgwick & Yonge, 2008) has indicated that rural exposure such as a university education in a rural setting increases the likelihood of students staying in a rural area, this was not evident in the present study. Both the university context and the higher education experiences of DD students contained incentives and disincentives for choosing to work in a rural location as a graduate. This could be traced to the difficulties inherent to studying two different disciplines concomitantly: for example, students often ended up choosing clinical placements close to their home and work, which meant they missed out on the many enhancing and varied distant rural placements on offer through the university.

Choosing to take up a career in a location with close proximity to family is particularly associated with a rural lifestyle. Mills et al. (2010) found that the support of family and friends was important to SD nursing students studying and planning to work in a rural location. This was also found in the present study, where peer groups were influential in encouraging students to stay in familiar rural environments for their graduate year so they could support each other. One student said:
We're sort of both thinking about doing the first 12 months at ... (local hospital) - I like the idea of doing it at a rural hospital anyway where we did our pracs, rather than going to a metropolitan hospital, we can support each other. Some of last years’ group are there too. (BN/BECT female student)

Romantic relationships were another driver of students’ choice of work location. The following quotes illustrate how, for some rural female BN/BECT students, romantic relationships influenced career location decisions. “Well my boyfriend’s here, and he wouldn’t move at all! So I don’t know what I will do”. “When we started neither of us had partners or children, so we thought we might go to Sydney to do our postgrad nursing year, but now we both have partners with children in town so we think we might stay now”. For rural female students in the BN/BCP program, there was concern that in some State ambulance services (at the time this data was collected) employees had little say over work location choice. This influenced a number to choose nursing because they said the Ambulance service was not so “family friendly” and if they wanted to stay or move to a rural area with their partner it might prove difficult.

Research has also shown that family socio-economic circumstances can play a large role in the decisions of rural youth to stay or migrate to metropolitan areas (Brown et al., 2009; Johnson, Elder, & Stern, 2005). This was also seen in the case of a BN/BECT student who chose not to work in a rural area and who talked at length about how her family connections influenced this decision:

I have lots of family, one brother and two sisters, and we all help out on the farm as Dads been sick and it’s a bit tough, we’re really close - but I've always wanted to be a paediatric nurse, doing all the different pracs, the paediatric and emergency and I love all those wards, and I looked at all the grad programs in the city- I hate the city but thought one year can't hurt, there are so many specialties you can try down there, if I lived down there I could get back on my days off.

Similarly, resourcing of rural services is an incentive for metropolitan students to move. Some BN/BCP graduates who chose nursing were attracted to the outback areas of Australia, partly because of financial inducements and partly because of the
rural lifestyle. Some rural and/or remote areas are better resourced than others due to their remoteness and the difficulties of recruiting and retaining staff (Parker, Giles, Lantry, & McMillan, 2009). In the present study, two graduates said they gained RN positions easily in a well resourced but staff depleted remote area.

**4.6 Part 4 summary**

In summarising, the issue of career choice for DD graduates has been shown to be complex. The cumulative influences that impacted on the BN/BECT and the BN/BCP students’ career preferences in their final year were very similar to those that impacted on their actual career choice a few months later as graduates. In particular, they demonstrated how practical experiences were pivotal in their career decision-making. By the 2nd year of work, additional motivating factors influenced career retention. In particular a good working environment was important not only for new graduate nurses but also for those who chose another career.

This chapter has discussed the main findings from the data in relation to the career development and career choices of double degree nursing students from enrolment, through their programs of study to recruitment in their first job and finally consolidation after 2 years in that chosen job. For clarity, the discussion was organised around the socio-ecological framework which guided this study. Dispersed throughout the discussion were supporting data and participants statements previously unreported in the Results papers.

Of particular interest in this study of DD programs at a regional university was that while all students lived, studied and did many if not all of their nursing practicum placements in a rural region, this was not influential enough to convince the majority to choose a nursing career in a rural area. The results showed a similar trend to other studies on rural youth aged between 18 – 25 years who leave a rural location to pursue a career in a metropolitan area.

The next chapter will conclude the thesis and explicate the relevance of these findings for nursing education programs and the recruitment and retention of multiskilled health professionals of today and tomorrow.
4.8 References


Part 5.

Conclusion: Implications and recommendations

This research has provided insights into the career development and career choices of the newest generation of nursing students and graduates - those enrolled in double degree programs. Many universities commenced their offerings of innovative DD nursing pathways at a time when shortages of qualified nurses were increasing and the government had provided additional funding for university-based nursing places. The aims of these DDs were to attract more school leavers into nursing, increase the numbers of enrolments into nursing programs and, in some universities, to increase the numbers of nurses seeking work in rural areas.

While the research reported in this thesis is limited in its scope, being based on students and graduates from one university, the finding that there is a substantial loss (over one-third) of DD nursing graduates to nursing from these programs is a concern that is relevant to all university DD programs. It is important at this point in the development of DD nursing programs to reflect on whether their introduction was an initiative that failed or an initiative that was ahead of its time. There continues to be a strong demand for DDs in nursing, and a large number of different courses on offer throughout Australia (see Table 1 page 7), but if the graduates of these programs do not choose nursing as a career then DDs may not be a beneficial direction for nursing education.

This chapter addresses the relevance and implication of the research findings for double degree nursing education programs, and makes recommendations for nursing education, the recruitment and retention of multiskilled nursing graduates and for Government policy.

5.1 Relevance of the research and implications for double degree nursing education programs

This research has presented a profile of contemporary DD nursing students based on a sample that entered DD programs early in the commencement of these degrees. As such, it provides baseline data on the career development and career choices of DD nursing students and graduates. No prior study has examined DD nursing students at multiple stages of their undergraduate degree and through to their second year as
graduates. There is also only limited research on SD nursing students from enrolment to their first two graduate years, which restricts the possibilities for making comparisons with DD students. Future research needs to be longitudinal and to follow students over time into their graduate years. Such research will make an important contribution because, as Duffield and O’Brien-Pallas (2003) and Preston (2009) have pointed out, Australian administrative databases for research and resource planning in nursing are limited and difficult to access.

The study was conducted at a time when the educational climate for nursing was changing and since then, the pattern of change has continued. SD nursing students are enrolling at an older age and young people are not as interested in enrolling in nursing degrees. DDs, however, have more to offer young people (Batson, Sharp, Ramsay, & Mackinnon, 2002), who want more career mobility and flexibility with their work choices and are searching for a career that provides them a diverse range of rewards.

5.2 Recommendations for double degree nursing education programs

This research confirmed that cross-disciplinary DDs are difficult to administer and that this impacts negatively on timetabling and the organization of clinical placements, and affects students’ overall experience of higher education. More seamless integration across faculties is needed to reduce student frustration and problems with clinical placements. Administrative problems can lead to a reduction in the variety of practicum experiences available for DD students. They may also contribute to student attrition. If a student drops out, that Government funded place remains vacant for the duration of that program, resulting in a loss to the university, the nursing profession and the other discipline also being studied. To reduce cross faculty difficulties, the appointment of a cross faculty liaison officer would do much to ameliorate the problems faced by DD students. As well, this liaison person could assist with the development of peer support groups which are invaluable in helping DD students cope with a range of issues that arise from cross-disciplinary study. Such a position might also support the development of cross-disciplinary subjects that integrate content and skills from both disciplines. Cross-disciplinary DD subjects would stimulate more collaborative learning and practise and could go a long way to assisting students to think about and prepare for possible multiskilled professional roles in the future.
This research found that the DD students who chose nursing after graduation did so for the same reasons as SD students: a desire to help and care, the career ladder and diverse working opportunities offered by nursing, and the ability to travel with their work. This knowledge should be harnessed by nursing educators and reinforced with DD students so that the positive attributes of working in nursing are promoted during their studies. This study suggested that many nursing educators who teach DD nursing students see them as a problem rather than an asset. Educators need to be aware that these students are potentially the young multiskilled and brighter graduates who can be a valuable addition to the nursing profession.

The study found that one-quarter of final year DD students were undecided about their career choices. It is important, therefore, that marketing and recruitment drives for nurses targeting these students are conducted at Schools of Nursing where DD students are studying. This is especially important in regional areas as time and distance can inhibit extensive career investigations. Stronger links are needed between the healthcare industry and the university to ensure that high calibre graduates are sourced for their organisations.

This research also confirmed the impact that practicum placements during the undergraduate years can have on students’ future career decisions. While quality nursing placements in both rural and metropolitan areas are equally important for all nursing students, this research suggests that they are especially important for DD students whose decision to enter a nursing career often hinges on their undergraduate workplace experiences. A number of recommendations are listed below to improve the experiences of DD students on nursing clinical practicums. It is acknowledged that in times of fiscal restraints and shortages these can be difficult; however, I would argue that in such times it is even more important to attract multiskilled DD graduates.

**Recommendations for student preparation:**

1. DD students must be realistically prepared for nursing clinical placements, and culturally prepared for placements in rural communities. For example, the curriculum should encompass cultural competence; students should make prior contact with the placement; and there should be an appreciation that knowledge of the community and geographic area is a precursor for a good rural practicum. Additionally, students must be confident, competent and well
organised in order to feel comfortable in a rural clinical placement where there may be fewer staff and resources than on metropolitan placements.

2. Universities need to provide opportunities for DD students to do a number of clinical placements in areas of high interest to them, for example, nursing care of children or babies for BN/BECT students and emergency nursing for BN/BCP students.

3. Universities need to seek out sources of financial support for students to meet costs associated with rural and remote placements: e.g., support for travel and accommodation.

**Recommendations for clinical placement preparation:**

1. Universities need to use placement areas where the skill mix of staff can support learning at the required level, where students feel supported and develop a sense of belonging, feel valued for their contribution to patient care and obtain a diverse range of clinical experiences. It is when students feel exploited, are ignored or made to feel unwelcome that they turn away from a nursing career.

2. Universities need to facilitate and provide educational support to clinical placement sites especially in rural and remote areas so that collaborative relationships develop and students do not feel isolated.

3. Universities can assist placement staff to build or maintain a climate that supports students’ learning for example:
   - nursing unit managers (NUM) are supported by the university in their role of supporting student education
   - NUM and preceptors in the clinical placement areas are helped to develop leadership qualities
   - preceptors are prepared and supported by the university in their role, including a basic understanding of adult education principles and yet also an appreciation of the nursing attributes of caring, empathy and compassion
   - continuity of preceptors over the students’ clinical placement
   - students being allocated to staff who value their role as preceptors and are able and willing to supervise students
5.3 Recommendations for the recruitment and retention of multiskilled double degree nursing graduates

This research indicates that a sizable proportion of DD nursing graduates are unlikely to help fill the national nursing shortages and, in the short term at least (two years post-graduation), the vacancies in rural areas. The findings suggest that DD graduates may even exacerbate these shortages, because in the students final year there was a loss of one third of DD graduates to nursing. In the case of BN/BCP graduates, 47% took up a career in paramedicine. The loss of such a considerable percentage of young multiskilled graduates from nursing to the other discipline area is concerning as it is costly to educate nurses and these DD graduates were taking nursing funded places at university. The significant loss of DD graduates from a rural background to a metropolitan location for their initial graduate years is also concerning. Many DD graduates saw more career opportunities in metropolitan areas, although for a smaller proportion nursing in a rural area was just as rewarding as in the city. Rural areas need to continue to work on developing innovative strategies to attract and recruit more graduates into nursing, for example, rural incentive schemes such as those used to recruit medical doctors.

Strategies to recruit DD graduates into the nursing profession need to start from the time they enrol as students in their DD program. This research has shown that it is the students’ study experiences, notably their nursing practicum placements, that are the primary influences on their career choices. The recommendations listed above would do much to provide the intrinsic rewards that DD students are seeking in a career. Other strategies to recruit more DD graduates into nursing would be to increase funding for more graduate transition programs and the number of graduate transition places in nursing in rural and metropolitan healthcare facilities. The availability of paid work early in the graduate year can also sway those who are ambivalent about which career to choose towards nursing.

In this study, the retention of DD graduates in nursing was directly linked to work satisfaction, in other words they gained the intrinsic rewards they sought from work. Work satisfaction for nurses from DD programs arose from features also identified by
single degree nurses: enjoyable, interesting and challenging work; professional
development; a supportive environment; and autonomy in practice.

The following recommendations are proposed to ensure a smooth transition from
graduation to practising as a qualified nurse and to help ensure retention. These also
apply to SD graduates but are more important for DD graduates who have another
career to fall back on if their graduate nursing program is unrewarding.

**Recommendations for first year graduate workplace environments**

1. The presence of hospital employed nurse educators on the wards or within
available proximity to support graduates.
2. Opportunities for graduates to gain clinical expertise in a climate that is
supportive of both individual development and professional practice.
3. Facilitating a climate that encourages and empowers nurses to provide care
according to professional nursing standards.

This study found that, after graduation and employment in a graduate nursing
placement or program very few DD graduates left nursing and changed to the other
discipline. Those who did said the reasons for this were stress and burnout. The
following recommendations should reduce attrition.

**Recommendations for nurses work environments**

1. Hospitals need to make a commitment for adequate staffing levels that
accommodate staff skill mix and acuity.
2. Health facilities that take graduates need to implement nurse retention
strategies that reflect current research as to why nurses resign such as
employee assistance programs; the creation of support systems that
provide education and tools to manage stress in the work environment and
critical stress debriefings.
3. Universities could cultivate specific mentoring strategies or programs that
help reduce burnout in new graduates.
5. 4 Recommendations for Government policy

Governments both federal and state, each bear some responsibility for ensuring a well-educated qualified nursing workforce for Australia. While Government policies are distal to the actual work of nurses, this research has shown that they impact on the education, recruitment and retention of DD nurses. For example, at a federal level, decisions are made about higher education policy and the number of nursing funded places at universities. At a State level, the planning of health workforce needs affects the financial capacity of hospitals to take on and retain new graduates.

Recommendations for government policy and funding

1. To increase federal Government funding and commitment to universities to provide additional nursing funded places to account for the attrition of DD graduates from nursing.

2. State Governments to ensure adequate and dedicated funding for nursing graduate transitions programs in both rural and metropolitan hospitals.

3. State Governments to implement mandated nurse/patient ratios, as mentioned above, that accommodate staff skill mix and acuity in hospitals.

4. Relaxation of cross professional regulations and scopes of practice, so that DD graduates can practice in both of the disciplines in which they have gained qualifications.

5. Health Workforce Australia projects that are trialing extended scopes of practice for nurses in a number of clinical areas need to continue and successful models implemented in practice. DD graduates to be targeted for these models, as they are already qualified in two disciplines, for example, BN/BCP graduates could be ideal for the extended scope of practice role of nurses in emergency departments.

5.5 Future directions for research

This research has described the career transitions of two cohorts of DD nursing students from one university from enrolments in first year to the second graduate year. The popularity of DDs in nursing warrants further research in other Australian universities to identify DD graduates’ career choices, particularly because many students will now be in their graduate years in the work force. As well, information comparing DD and SD nursing students’ attrition rates from university to the workplace and in their first graduate year could show whether there are trends for any
particular groups to gravitate away from nursing. It is also important to find out if DD graduates have gravitated to nursing positions that utilise their multiple skills in the health care arena, and whether they are working in either metropolitan or rural and remote regions. Potentially, Graduate Destination Surveys and administrative data from universities offering DD nursing programs could be used as a starting point. The Nursing Career Development Framework could be applied to other universities to allow a more nuanced view of DD students who did or did not choose nursing and what influenced their decisions.

As has been demonstrated throughout this research there are many influences on graduates’ career choices. Longer-term follow-up studies are needed to identify if there is a higher attrition rate of DD graduates from the nursing profession than SD graduates. Other reasons for attrition could also be explored, such as child-bearing commitments. A further question worthy of additional research centres on nursing registration and currency of practice, and whether these are a deterrent for those who leave nursing or are not working in nursing for a length of time to re-enter the nursing workforce. Future studies could also explore the many career opportunities that arise for DD nursing graduates as health services explore new professional roles, improve workforce efficiencies and flexibility, and increase integration of services.

Finally, Graduate Destination Survey data that is collected by each university and collated for a yearly Australia-wide report could contribute to knowledge regarding the career destination of all Australian DD nursing graduates if more specific data on all DD graduates and their particular fields of study were collected. This minor change would provide essential information for nursing workforce planning, as the nursing shortages are predicted to continue into the future with estimates as high as 110,000 by 2025 (Carrigan, 2013).

5.6 Concluding comments
Supply and demand for qualified nurses to meet the changing healthcare needs of Australian society and the healthcare system will always be complex and multifaceted. This study has identified how a change in nursing education programs can affect the type of students enrolling and the numbers of nursing graduates taking up a career in a nursing workforce facing ongoing shortages. This thesis has answered
each of the four research questions through the use of a socio-ecological framework. It found that:

1. Double degree with nursing students are younger and come from a higher socio-economic background than their single degree nursing counterparts and they are influenced to enrol due to previous experiences of healthcare, advice from significant others and the anticipated intrinsic and extrinsic rewards they desire in a career. The majority of them want career mobility and career flexibility that a single degree does not offer.

2. Less than twenty percent of DD nursing students on enrolment but nearly fifty percent of final year DD students were interested in a nursing career. This change of career preferences towards nursing was due to influences from many contexts both distal and proximal to the student with clinical experiences being the most influential.

3. The majority of DD students from a rural background and/or students completing a regionally based program were not interested in taking up graduate nursing positions in rural areas, apart from those with strong family and community ties.

4. On recruitment into the workforce there was a net loss of one third of DD graduates to a nursing career and that after two years the large majority of graduates remained in nursing. Prior experiences during their student years affected their recruitment decisions but retention was influenced by the intrinsic and extrinsic rewards they gained over their first two graduate years.

What remains clear is that career development and career choices can be influenced by persons and environments that are both close to and distant from students who see nursing as part of their career trajectory. This information is vital for three sectors: those involved in the education of DD nursing students, as they need to be aware of what influences these DD students to choose nursing; Governments who must continue their commitment to nursing education and retention but take into account the losses from these programs to the nursing workforce; and the nursing profession in conjunction with the healthcare system need to be aware of these DD nursing graduates entering the workforce in increasing numbers. These DD nursing graduates could meet the calls for graduates with integrative capacities to address some of the
rising complexities the healthcare system faces in delivery of healthcare from metropolitan to rural and remote areas across Australia.

5.7 References


Appendices
INFORMATION STATEMENT

Project Title: Tracking rural students’ university transitions, career development and professional choices in single and double degree Bachelor of Nursing Programs.

My name is Noelene Hickey and I am undertaking my PhD at Charles Sturt University. I invite you to participate in this research project, the details of which appear below.

The overall aim of this project is to gather information to determine the preferences and career choices of double degree and single degree nursing students and nursing graduates from Charles Sturt University, Bathurst. It is important to identify if these single and double degree students choose and then stay in nursing, what has influenced their career choice and if for some the additional experiences of a double degree has an impact on their career preferences and practices.

I am seeking undergraduate Bachelor of Nursing students (including those in the double degree programs with a Bachelor of Early Childhood Teaching [0 - 5 yrs] and a Bachelor of Clinical Practice [Paramedic]) in all years of their degree as well as double degree nursing graduates who are prepared to participate in a longitudinal study.

If you agree to participate in this study you will be given an explanation of the study and then asked to return the consent form but retain this information sheet. You would be required to complete an initial questionnaire that has two sections and this will take approximately 20 - 30 minutes to complete. The first section will obtain demographic data e.g. age, gender postcode etc. and information regarding your career preferences.

I am also seeking students and graduates who are willing to be interviewed, either alone or in a group. Interviews will be audio-taped. If you graduate during the time of this study you may be contacted for a telephone interview at the beginning and end of your first two graduate years. The completion date of this study is December 2009. Therefore, graduate data will be collected at two separate times.

I hope you will enjoy being part of this study. You will be informed of the overall research findings towards the end of 2009 but if you have any queries please contact me on 0438683282 or fax 49216301.

Thank you. ...............................................................Noelene Hickey

Should you have any concerns about the conduct of this research project, please contact Supervisor
Name: Assoc Prof Linda Harrison
Address: School of Teacher Education,
Charles Sturt University,
Bathurst NSW 2795
Phone number: (02) 6338 4872 Email: LHarrison@csu.edu.au OR

NOTE: Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:
The Executive Officer
Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst NSW 2795
Tel: (02) 6338 4628
Fax: (02) 6338 4194
Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.
CONSENT FORM

I ..............................................................................

hereby consent to be a subject of a research study to be undertaken by Noelene Hickey.

The project title is:  *Tracking rural students’ university transitions, career development and professional choices in single and double degree Bachelor of Nursing Programs*

I acknowledge that

1. The purpose of the research has been explained to me and I have read and understood the information sheet given to me.
2. Following the explanation of the purpose of the research I have been given the opportunity to ask questions about the research. This includes the potential risks/discomforts associated with the research.
3. I understand this is a cross sectional study of nursing students and a longitudinal study of graduates who will be contacted at the beginning and end of their first two graduate years.
4. Upon receipt, my questionnaire will be coded with a number and my name and address kept separately from it.
5. I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information will be used or published without my written permission i.e. that I will remain fully anonymous.
6. I understand that findings will be used for research purposes and may be published in journals.
7. Individual results will not be released to any person except at my request and on my authorisation
8. I am free to withdraw my consent at any time during the study. From the time I withdraw, my participation in the research study will cease and any information obtained from me will not be used and I will not be subjected to any penalty or discriminatory treatment.

Signature  Date / / 2008

Charles Sturt University Ethics in Human Research Committee has approved this study.

I understand that if I have any complaints or concerns about this research I can contact:

**Executive Officer**
Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst, NSW 2795
Phone: (02) 6338 4628
Fax: (02) 6338 4194

**Investigator**
Ms Noelene Hickey
School of Nursing and Midwifery,
Faculty of Health,
The University of Newcastle
Callaghan NSW 2280
Phone 02 43484078  Mobile 0438683282

**Supervisor**
Assoc Prof Linda Harrison
School of Teacher Education,
Charles Sturt University
Bathurst NSW 2795
Phone 02 63384872
All 1st year BN students) Appendix 3

SECTION 1. DEMOGRAPHIC DETAILS

1. The degree you are enrolled in is (Please tick correct box)
   - Bachelor of Nursing single degree
   - Bachelor of Nursing /Bachelor of Early Childhood Teaching
   - Bachelor of Nursing /Bachelor of Clinical Practice (Paramedic)

2. Was this your first preference? (Please tick the box) Yes □ / no □ If no the other degree?

3. Why did you choose this program of study?

4. What is the career/profession that you prefer?

5. What is it about the career/profession above that appeals to you?

6. Was there anyone or anything in your personal experiences that has influenced your choice?

7. Your name:

8. Your home postcode:

9. Where have you lived/spent most of your time? (Please tick one box only, then complete details)
   - Rural □ postcode or place _______________ Number of years there?_______________ □
   - Metropolitan □ postcode or place _______________ Number of years there?_______________ □

10. Year of birth: ________

11. Gender: (Please tick box) Male □ / Female □

12. Marital status: (Please tick box below)
    a) single □ b) married □ c) de facto □ d) widowed □ e) divorced □ f) separated not divorced □

13. Mothers highest level of education________________________

14. Mothers occupation_____________________________________

15. Fathers highest level of education________________________

16. Fathers occupation_____________________________________

17. Do you have family or carer responsibilities? (Please tick one box only)
    Yes □
    No □

18. Please list/detail any post secondary school education qualifications: eg TAFE, Enrolled nurse etc

19. Please list/detail previous work experience/s? (Include length of time & type of work) e.g. Assistant in nursing aged care 3yrs, St John Ambulance 1 year.
SECTION 2.

For questions 20 -26, please indicate how strongly you agree or disagree with each by ticking ONE box only for each question. Please complete ALL questions.

At this time, your career or professional choice is influenced by:

20. Pay

☐ Strongly agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Strongly disagree

21. Working conditions

☐ Strongly agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Strongly disagree

22. Employment opportunities

☐ Strongly agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Strongly disagree

23. Opportunities for career progression

☐ Strongly agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Strongly disagree

24. Doing work that I enjoy most

☐ Strongly agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Strongly disagree

25. Being able to travel and work overseas

☐ Strongly agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Strongly disagree

26. Carer and or Family responsibilities

☐ Strongly agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Strongly disagree

27. Immediately after graduating and for the 1st year the geographical area you want to work in is? (Tick one box)

☐ Metropolitan ☐ Rural or rural/remote ☐ Overseas ☐ Undecided

28. At this time, within Nursing the specialty you are most interested in is? (Please put a number “1” in the box of your preferred option but you may number up to three other interests).

a. ☐ Mental Health
b. ☐ Community Health
c. ☐ Disability
d. ☐ Medical / Surgical
e. ☐ Aged Care
f. ☐ Paediatrics
g. ☐ Intensive Care
h. ☐ Accident & Emergency
i. ☐ Operating theatres
j. ☐ Nurse Practitioner
k. ☐ Other. Please specify______________________________

If you are in the Bachelor of Nursing single degree thank you for completing sections 1 & 2.
SECTION 3.

If you are a DOUBLE DEGREE student then please continue with this section 3 and tick ONE box only for each question.

29. At this time you are interested in a **Nursing only** career.

- [ ] Strongly agree  - [ ] Agree  - [ ] Undecided  - [ ] Disagree  - [ ] Strongly disagree

30. At this time you are interested in an **Early Childhood Teaching only** career?

- [ ] Strongly agree  - [ ] Agree  - [ ] Undecided  - [ ] Disagree  - [ ] Strongly disagree  - [ ] not applicable

31. At this time you are interested in a **Paramedic only** career?

- [ ] Strongly agree  - [ ] Agree  - [ ] Undecided  - [ ] Disagree  - [ ] Strongly disagree  - [ ] not applicable

32. At this time you are interested in having a career that would allow you to work in both disciplines **but at separate times** (eg; Registered Nurse for 1 year then Early Childhood Teacher or Paramedic 1 year).

- [ ] Strongly agree  - [ ] Agree  - [ ] Undecided  - [ ] Disagree  - [ ] Strongly disagree

33. At this time you are interested in a career that could use **both disciplines at the same time** (eg; teaching sick children, retrieval team helicopter).

- [ ] Strongly agree  - [ ] Agree  - [ ] Undecided  - [ ] Disagree  - [ ] Strongly disagree

34. At this time you are interested in working **part time in both disciplines at once** (eg Early Childhood Teaching 3 days a week, Nursing 2 days a week OR Paramedic 3 days a week and Nursing 2 days a week).

- [ ] Strongly agree  - [ ] Agree  - [ ] Undecided  - [ ] Disagree  - [ ] Strongly disagree

35. At this time, within **Early Childhood Teaching** the area you are most interested in is? *(Please put a number “1” in the box of your preferred option but you may number up to two other interests).*

- [ ] Not applicable
- [ ] Pre-school kindergarten
- [ ] Long Day Care
- [ ] Family Day Care
- [ ] Other: Please specify ____________________________________________________________ ____________________________________________________________________________________________

36. At this time, within **Paramedic work** the area you are most interested in is? *(Please put a number “1” in the box of your preferred option but you may number up to two other interests).*

- [ ] Not applicable
- [ ] Paramedic work in the ambulance service
- [ ] Intensive Care Paramedic work
- [ ] Helicopter retrieval
- [ ] Ambulance rescue
- [ ] Other: Please specify ____________________________________________________________ ____________________________________________________________________________________________

37. What place and area do you see yourself working in **in 5 years** time? *(e.g. Intensive care, John Hunter Hospital, Newcastle; Life Education Van, Sydney; Ambulance Service, Rural Area)*

___________________________________________________________________________________________

Any further comments?

___________________________________________________________________________________________
Thank you for completing this questionnaire

If you would like to be interviewed to further explore the reason why students enrol in a double degree and their career aspirations, could you please provide your name and contact details below.

Name.................................................................................................
Telephone number.............................................................................
Email address.....................................................................................
SECTION 1. DEMOGRAPHIC DETAILS

1. The degree you are enrolled in is (Please tick correct box)
   - Bachelor of Nursing single degree
   - Bachelor of Nursing /Bachelor of Early Childhood Teaching
   - Bachelor of Nursing /Bachelor of Clinical Practice (Paramedic)

2. Was this your first preference? (Please tick the box) Yes ☐ / no ☐

3. Why did you choose this program of study?

4. What is the career/profession that you prefer?

5. What is it about the career/profession above that appeals to you?

6. Was there anyone or anything in your personal experiences that has influenced your choice?

7. Your name: ________________________________

8. Your home postcode: __________

9. Where have you lived/spent most of your time? (Please tick one box only, then complete details)
   - Rural ☐ postcode or place _______________ Number of years there? __________
   - Metropolitan ☐ postcode or place _______________ Number of years there? __________

10. Year of birth: __________ 11. Gender: (Please tick box) Male ☐ / Female ☐

12. Marital status: (Please tick box below)
   - a) single ☐ b) married ☐ c) de facto ☐ d) widowed ☐ e) divorced ☐ f) separated not divorced ☐

13. Mothers highest level of education __________________________
    14. Mothers occupation __________________________

15. Fathers highest level of education __________________________
    16. Fathers occupation __________________________

17. Do you have family or carer responsibilities? (Please tick one box only)
   - Yes ☐ / No ☐

18. Please list/detail any post secondary school education qualifications: eg TAFE, Enrolled nurse etc

19. Please list/detail previous work experience/s? (Include length of time & type of work) e.g. Assistant in nursing aged care 3yrs, St John Ambulance 1 year.

________________________________________________________________________

________________________________________________________________________
SECTION 2.

For questions 20 - 26, please indicate how strongly you agree or disagree with each by ticking ONE box only for each question. Please complete ALL questions.

At this time in your studies, your career or professional choice is influenced by:

20. Pay
   ☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

21. Working conditions
   ☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

22. Employment opportunities
   ☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

23. Opportunities for career progression
   ☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

24. Doing work that I enjoy most
   ☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

25. Being able to travel and work overseas
   ☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

26. Carer and or Family responsibilities
   ☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

27. Immediately after graduating and for the 1st year the geographical area you want to work in is? (Tick one box)
   ☐ Metropolitan  ☐ Rural or rural/remote  ☐ Overseas  ☐ Undecided

28. At this time, within Nursing the specialty you are most interested in is? (Please put a number “1” in the box of your preferred option but you may number up to three other interests).
   a. ☐ Mental Health
   b. ☐ Community Health
   c. ☐ Disability
   d. ☐ Medical / Surgical
   e. ☐ Aged Care
   f. ☐ Paediatrics
   g. ☐ Intensive Care
   h. ☐ Accident & Emergency
   i. ☐ Operating theatres
   j. ☐ Nurse Practitioner
   k. ☐ Other. Please specify __________________________________________

If you are in the Bachelor of Nursing single degree thank you for completing sections 1 and 2.
SECTION 3.

If you are a DOUBLE DEGREE student then please continue with this section 3 and tick ONE box only for each question.

29. At this time you are interested in a **Nursing only** career.
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

30. At this time you are interested in an **Early Childhood Teaching only** career?
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree
   - not applicable

31. At this time you are interested in a **Paramedic only** career?
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree
   - not applicable

32. At this time you are interested in having a career that would allow you to work in both disciplines **but at separate times** (eg; Registered Nurse for 1 year then Early Childhood Teacher or Paramedic 1 year).
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

33. At this time you are interested in a career that could use **both disciplines at the same time** (eg; teaching sick children, retrieval team helicopter).
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

34. At this time you are interested in working **part time in both disciplines at once** (eg Early Childhood Teaching 3 days a week, Nursing 2 days a week OR Paramedic 3 days a week and Nursing 2 days a week).
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

35. At this time, within **Early Childhood Teaching** the area you are most interested in is? (Please put a number “1” in the box of your preferred option but you may number up to two other interests).
   - Not applicable
   - Pre-school kindergarten
   - Long Day Care
   - Family Day Care
   - Other: Please specify ________________________________

36. At this time, within **Paramedic work** the area you are most interested in is? (Please put a number “1” in the box of your preferred option but you may number up to two other interests).
   - Not applicable
   - Paramedic work in the ambulance service
   - Intensive Care Paramedic work
   - Helicopter retrieval
   - Ambulance rescue
   - Other: Please specify ________________________________
SECTION 4.

37. Thinking back over the last two years which practicums have you personally enjoyed most? (Please tick one box only)

☐ Nursing clinical practicums
☐ Paramedical/ambulance practicums
☐ Early Childhood Teaching practicums,
☐ Both degree practicums enjoyed equally.

38. Thinking back over the last two years which theory subjects have you personally enjoyed most? (Please tick one box only)

☐ Nursing
☐ Paramedic
☐ Early Childhood Teaching,
☐ Both degree courses enjoyed equally.

39. Thinking back to when you first started your studies have you changed your career preference?

☐ Yes (if you answered yes please go to question 43)
☐ No  (if you answered no please go to question 44)
☐ Still undecided about which career I prefer (please ignore questions 43 and 44)

40. What factor/s over the past two years have most influenced your career preference change? (Please put a number “1” in the box of your main factor but you may tick up to two other boxes if applicable).

☐ One discipline area more enjoyable overall
☐ Changed perception of original career preference
☐ Nursing clinical practicum experiences
☐ Paramedic clinical practicums
☐ Early childhood teaching practicums
☐ Personal reasons/circumstances have changed
☐ Work experiences since commencing degree,
☐ Other….Please specify......................................................................................................................

41. If you have NOT changed your career preference over the past two years what factor/s have confirmed your original choice? (Please put a number “1” in the box of your main factor but you may tick up to two other boxes if applicable).

☐ I find that discipline area overall more enjoyable
☐ I find the University subjects overall more enjoyable
☐ The practicum experiences
☐ My peer group has stayed together and our interests are the same
☐ Work experience since commencing degree,
☐ Other….please specify........................................................................................................................

42. At this time do you plan to complete a structured 1st year nursing graduate program in a hospital (tick one box only)

☐ yes  ☐ no  ☐ Undecided

Any further comments?

___________________________________________________________________________________________

Thank you for completing this questionnaire
SECTION 1. DEMOGRAPHIC DETAILS

1. The degree you are enrolled in is (Please tick correct box)
   - Bachelor of Nursing single degree
   - Bachelor of Nursing /Bachelor of Early Childhood Teaching
   - Bachelor of Nursing /Bachelor of Clinical Practice (Paramedic)

   For office use only
   IDENTIFIER

2. Was this your first preference? (Please tick the box) Yes ☐ / no ☐ If no the other degree?

3. Why did you choose this program of study?

4. What is the career/profession that you prefer?

5. What is it about the career/profession above that appeals to you?

6. Was there anyone or anything in your personal experiences that has influenced your choice?

7. Your name: ____________________________

8. Your home postcode: __________

9. Where have you lived/spent most of your time? (Please tick one box only, then complete details)
   - Rural ☐ postcode or place _______________ Number of years there? ____________
   - Metropolitan ☐ postcode or place _______________ Number of years there? ____________

10. Year of birth: __________ 11. Gender: (Please tick box) Male ☐ / Female ☐

12. Marital status: (Please tick box below)
   a) single ☐ b) married ☐ c) de facto ☐ d) widowed ☐ e) divorced ☐ f) separated not divorced ☐

13. Mothers highest level of education ____________________________ 14. Mothers occupation ____________________________

15. Fathers highest level of education ____________________________ 16. Fathers occupation ____________________________

17. Do you have family or carer responsibilities? (Please tick one box only)
   Yes ☐  No ☐

18. Please list/detail any post secondary school education qualifications: eg TAFE, Enrolled nurse etc

19. Please list/detail previous work experience/s? (Include length of time & type of work) e.g. Assistant in nursing aged care 3yrs, St John Ambulance 1 year.

________________________________________________________

________________________________________________________
SECTION 2.

For questions 20 - 26, please indicate how strongly you agree or disagree with each by ticking ONE box only for each question. Please complete ALL questions.

At this time in your studies, your career or professional choice is influenced by:

20. Pay

☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

21. Working conditions

☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

22. Employment opportunities

☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

23. Opportunities for career progression

☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

24. Doing work that I enjoy most

☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

25. Being able to travel and work overseas

☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

26. Carer and or Family responsibilities

☐ Strongly agree  ☐ Agree  ☐ Undecided  ☐ Disagree  ☐ Strongly disagree

27. Immediately after graduating and for the 1st year the geographical area you want to work in is? (Tick one box)

☐ Metropolitan  ☐ Rural or rural/remote  ☐ Overseas  ☐ Undecided

28. At this time, within Nursing the specialty you are most interested in is? (Please put a number “1” in the box of your preferred option but you may number up to three other interests).

a. ☐ Mental Health
b. ☐ Community Health
c. ☐ Disability
d. ☐ Medical / Surgical
e. ☐ Aged Care
f. ☐ Paediatrics
g. ☐ Intensive Care
h. ☐ Accident & Emergency
i. ☐ Operating theatres
j. ☐ Nurse Practitioner
k. ☐ Other. Please specify___________________________________________________________

If you are in the Bachelor of Nursing single degree thank you for completing sections 1 and 2.
SECTION 3.

If you are a DOUBLE DEGREE student then please continue with this section 3 and 4 and tick ONE box only for each question.

29. At this time you are interested in a Nursing only career.
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

30. At this time you are interested in an Early Childhood Teaching only career?
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree
   - not applicable

31. At this time you are interested in a Paramedic only career?
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree
   - not applicable

32. At this time you are interested in having a career that would allow you to work in both disciplines but at separate times (eg; Registered Nurse for 1 year then Early Childhood Teacher or Paramedic 1 year).
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

33. At this time you are interested in a career that could use both disciplines at the same time (eg; teaching sick children, retrieval team helicopter).
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

34. At this time you are interested in working part time in both disciplines at once (eg Early Childhood Teaching 3 days a week, Nursing 2 days a week OR Paramedic 3 days a week and Nursing 2 days a week).
   - Strongly agree
   - Agree
   - Undecided
   - Disagree
   - Strongly disagree

35. At this time, within Early Childhood Teaching the area you are most interested in is? (Please put a number “1” in the box of your preferred option but you may number up to two other interests).
   - Not applicable
   - Pre-school kindergarten
   - Long Day Care
   - Family Day Care
   - Other: Please specify___________________________________________________________________

36. At this time, within Paramedic work the area you are most interested in is? (Please put a number “1” in the box of your preferred option but you may number up to two other interests).
   - Not applicable
   - Paramedic work in the ambulance service
   - Intensive Care Paramedic work
   - Helicopter retrieval
   - Ambulance rescue
   - Other: Please specify_________________________________________________________________
SECTION 4.

37. Thinking back over the last four years which practicums have you personally enjoyed most? (Please tick one box only)

☐ Nursing clinical practicums
☐ Paramedical/ambulance practicums
☐ Early Childhood Teaching practicums,
☐ Both degree practicums enjoyed equally.

38. Thinking back over the last four years which theory subjects have you personally enjoyed most? (Please tick one box only)

☐ Nursing
☐ Paramedic
☐ Early Childhood Teaching,
☐ Both degree courses enjoyed equally.

39. Thinking back to when you first started your studies have you changed your career preference? (Please tick one box only)

☐ Yes (if you answered yes please go to question 43)
☐ No (if you answered no please go to question 44)
☐ Still undecided about which career I prefer (please ignore questions 43 and 44 and please go to question 45)

40. What factor/s over the past four years have most influenced your career preference change? (Please put a number “1” in the box of your main factor but you may tick up to two other boxes if applicable).

☐ One discipline area more enjoyable overall
☐ Changed perception of original career preference
☐ Nursing clinical practicum experiences
☐ Paramedic clinical practicums
☐ Early Childhood Teaching practicums
☐ More jobs available in this area
☐ Personal reasons/circumstances have changed
☐ Work experiences since commencing degree,
☐ Other...please specify.................................................................................................................................

41. If you have NOT changed your career preference over the past four years what factor/s have confirmed your original choice? (Please put a number “1” in the box of your main factor but you may tick up to two other boxes if applicable).

☐ I find one discipline area overall more enjoyable
☐ I find the University subjects overall more enjoyable
☐ The practicum experiences
☐ My peer group has stayed together and our interests are the same
☐ Work experience since commencing degree,
☐ Other...please specify.................................................................................................................................

42. At this time do you plan to complete a structured 1st year nursing graduate program in a hospital (tick one box only)

☐ yes
☐ no
☐ Undecided
43. At this stage where do you plan to work in your first graduate year? (Please put a number “1” in the box of your main preference).

☐ Undecided
☐ In the Ambulance Service in NSW
☐ In the Ambulance Service but in another State
☐ In a Preschool Kindergarten
☐ In a Long Day Care Centre
☐ In a Hospital in NSW
☐ In a Hospital in another State
☐ Other? Please specify...................................................

Any further comments?

____________________________________
____________________________________
____________________________________

Thank you for completing this questionnaire

If you would like to be part of a once only focus group to explore the experiences and career preferences of double degree students at CSU, please provide your name and contact details below.

Name...............................................................
Telephone number................................................... and/or
Email address........................................................
**Appendix 6**

**DD interview schedule 1st year students**

1. Which degree are you enrolled in and what is it like being a double degree student now that you are nearly halfway through your 1st semester?
2. Can you tell me why you enrolled in a DD?
3. Was there anyone or anything that may have influenced you to do a DD instead of a SD.
4. What advantages/benefits do you think you will get from doing this double degree?
5. At this stage is there one career you would prefer to work in? Can you explain why? Do you see yourself working somewhere using knowledge and skills from both specialties?
6. When thinking about your career plans in the future do you have a firm career plan in your head? What might make you change or what might influence your career plans to change over the next four years?
7. You said that you would like to work in ...(ambulance service, teaching, nursing) what is it about this career that you like?
8. What is it about nursing that made you enrol in a DD that included nursing? What do you like about nursing?
9. What sort of things are important to you in a career or work? i.e. travel, security, money?
10. What sort of organisation can you see yourself starting out in? a big organisation or a small organisation, public, private, Why?
11. Where have lived most of your life? Which location would you like to work in? (rural or metropolitan other?) Can you explain why and how long do you see yourself staying there?
**DD focus group schedule final year students.**

1. What is it like being a double degree student in the BN/BCP (or BN/BECT) program?

2. What do students think the benefits of studying a DD have been?

3. Some graduates said it was hard in the middle of their degree to see their career preferences clearly. Do you feel there were times when you or other students felt this way?...Tell me about this.

4. What is it about nursing that is appealing to DD students?

5. What is it about being a paramedic/early childhood teacher that is appealing to DD students?

6. Looking back over the past 3 ½ years of the DD program what experiences do you think might have influenced students’ career choice or preferences?

7. What do you think might influence students’ career preferences in the next few months eg what might confirm a students’ decision or what might make them change their original career choice or plan?

8. What do you think attracts DD students to a career in a metropolitan area?

9. What do you think attracts DD students to a career in a regional / rural area?

10. What sort of factors are important or influence DD students when thinking about their career in the immediate future? Ie travel, security, being near family, a secure job in an organisation?
Thematic map 1. Beginning DD students - reasons, experiences, and influences for commencing a DD that encompasses nursing.

Advice from significant people
- Parental advice
  - Encouraging talk
  - Discouraging talk
- Community role models
- Professional input
  - Role model conversations
  - In workforce

Past work place experiences
- Volunteering
  - Caring/helping
- Family
- Friends
- Personal illness
  - Positive - negative

Expected personal rewards
- Meets gender image
- Enjoyment & satisfaction, interest areas, can’t decide
  - Maintaining family ties
- Increasing lifestyle choices
- Two degrees in 4 years- value addedness
- Gaining workplace mobility
  - Rural or urban attachment
- Improved workplace mobility
- Safety net
- Flexible work options
- Maintain family ties
**Thematic map 2. Completing DD students** - Career aspirations, development and career decision influences; reasons for career change, confirmation or indecision by the final year.

**Practicum experiences**
- Unmet expectations
- Witnessing poor practice
- Rural & remote seen as isolating or +ve
- Mundane unenjoyable
- Unsupportive role models
- Enjoyment satisfaction

**Career opportunities**
- Future study/specialization paediatrics midwifery
- Career ladder
- Flexible options
- Cementing nursing skills & knowledge

**Career related work experience**
- Skill acquisition
- Enjoyment, satisfaction
- Monetary & conditions
- Workplace rewards
- unenjoyable, mundane
- Enjoyment & satisfaction, interest area

**Meeting personal expectations**
- Affirmation of work identity
- Workplace rewards
- Autonomy/power
- Excitement & challenges
- Lifestyle choice - rural or city

**Marketing forces and job availability**
- Marketing forces and job availability
- Social networking
- BN graduate vacancies
- Persuasive marketing and recruitment strategies

**Family ties**
- Work near family and friends, future partners
- Local support
- Gendered work images

**Future study/specialization paediatrics midwifery**
- Flexible options
- Cementing nursing skills & knowledge

**Career ladder**
- Flexible options
- Cementing nursing skills & knowledge

**Marketing forces and job availability**
- Social networking
- BN graduate vacancies
- Persuasive marketing and recruitment strategies
**Appendix 10**

**Thematic map 3, rural DD students & DD students in a rural program** - influences on career development, career choices and location destinations

- **Location decisions**
  - Past personal rural urban work experiences
  - Practicum experiences
  - Role model influences
  - Expected personal rewards
    - Long standing interest
    - Near family and friends
    - Enjoyment satisfaction
    - Lifestyle
    - Belonging
  - Availability
  - Positive impressions will meet needs
  - Rural graduate program decisions
    - Professional isolation
    - Seen as a challenge
    - Seen as discomfort
    - Negative impressions inferior to city programs
    - Pre conceived ideas of rural grad programs
Appendix 11
(email invitation to 1st year graduates)

5 February 2008

Dear Colleague,

My name is Noelene Hickey and you may remember me when I was a lecturer in the School of Nursing and Midwifery a few years ago. I am studying for my PhD at Charles Sturt University, Bathurst. The title of my research is “Tracking rural students’ university transitions, career development and professional choices in single and double degree Bachelor of Nursing programs”.

The study is to gain an understanding of you and your fellow students’ transition experiences from that of a double degree nursing student to a double degree graduate. In brief I am seeking double degree graduates who are willing to be contacted for a phone interview at the beginning and end of 2008 and 2009. There is very little known about where double degree students end up working and their transition experiences especially those that complete their degree at a regional university and it is a real challenge to follow these students.

If you are interested in this study can you email me Noelene.Hickey@newcastle.edu.au and I will contact you with information regarding the study and a consent form. If you decide to contact me there would be no obligation to participate. Having taught most of your group in first year I am really interested in communicating with you to see where you are working now and where you plan to work.

Kind regards
Noelene Hickey
School of Nursing and Midwifery,
Faculty of Health,
The University of Newcastle
Gallaghan NSW 2280
Phone 02 43484078
Mobile 0438683282
SECTION 1. DEMOGRAPHIC DETAILS

1. The degree you are enrolled in is (Please tick correct box) For office use only
   Bachelor of Nursing single degree □
   Bachelor of Nursing /Bachelor of Early Childhood Teaching □
   Bachelor of Nursing /Bachelor of Clinical Practice (Paramedic) □

2. Was this your first preference? (Please tick the box) Yes □ / no □ If no the other degree?

3. Why did you choose this program of study?

4. What is the career/profession that you prefer?

5. What is it about the career/profession above that appeals to you?

6. Was there anyone or anything in your personal experiences that has influenced your choice?

7. Your name: ____________________________

8. Your home postcode: _______

9. Where have you lived/spent most of your time? (Please tick one box only, then complete details)
   Rural □ postcode or place __________________ Number of years there? __________
   Metropolitan □ postcode or place __________________ Number of years there? __________

10. Year of birth: __________

11. Gender: (Please tick box) Male □ / Female □

12. Marital status: (Please tick box below)
   a) single □ b) married □ c) de facto □ d) widowed □ e) divorced □ f) separated not divorced □

13. Mother's highest level of education ________________

14. Mother's occupation __________________________

15. Father's highest level of education ________________

16. Father's occupation __________________________

17. Do you have family or carer responsibilities? (Please tick one box only)
   Yes □ / No □

18. Please list/detail any post secondary school education qualifications: eg TAFE, Enrolled nurse etc

19. Please list/detail previous work experience/s? (Include length of time & type of work) e.g. Assistant in nursing aged care 3yrs, St John Ambulance 1 year.
SECTION 2.

About your employment now that you have completed your double degree.

1. Which of the categories below best describes your current mode of paid employment?

   Not employed ................................................................. ( )
   Working in one full time job.............................................. ( )
   Working in one part-time job ........................................... ( )
   Working in more than one part time job............................ ( )
   Working in one casual job............................................. ( )
   Working in more than one casual job.............................. ( )
   Working in a combination of part-time and casual jobs........... ( )
   Other specific information.................................................

2. If you are currently NOT WORKING are you seeking employment in the next few months?

   Not applicable................................................................................. ( )
   Yes .................................................................................................. ( )
   Yes – currently unemployed but ACCEPTED a position to begin soon... ( )
   Yes – currently unemployed but accepted a graduate training position.... ( )
   No – does not intend to work for a while....................................... ( )
   Why do you not intend to work?...........................................................

3. As you are working or about to commence work which career area are you currently working in or accepted a position to work in?

   Nursing ......................................................................................... ( )
   Early Childhood teaching......................................................... ( )
   Ambulance officer/paramedic .................................................... ( )
   An area that utilises knowledge and skills from both areas............. ( )
   Specifically where is this?............................................................. ( )
   Other.................................................................................................

4. Which of the following categories best describes the type of organisation where you are going to work or have commenced work in your 1st GRADUATE year

   Nursing
   Working in a public hospital ..................................................... ( )
   Working in a private hospital .................................................... ( )
   Working in a healthcare related position not in a hospital............. ( )
   (Specifically ..................................................................................)
   Teaching
   Working in a preschool............................................................. ( )
   Working in a transition teaching program (pre-school year)........... ( )
   Working in a privately owned child care centre........................ ( )
   Working in a community childcare centre............................... ( )
   Working in a long day care centre............................................. ( )
   Working in a before and after school childcare centre............... ( )
   Working in an early childhood education related area............... ( )
   Specifically...................................................................................
   Ambulance/paramedic
   Working in the NSW Ambulance Service............................... ( )
   Working as a rescue paramedic/ambulance officer..................... ( )
   Working in a paramedic related position.................................. ( )
   Specifically ...................................................................................
   What is it about this area that appeals to you?............................

5. Why did you choose the present career you are working in or accepted a position in ? (Tick)

   Wanted to work as a nurse......................................................... ( )
   Wanted to work in early childhood education.......................... ( )
Wanted to work as a paramedic............................................................... ( )
Wanted to complete a graduate year in this discipline......................... ( )
Wanted to consolidate their nursing skills.......................................... ( )
Already working in that area and like it.............................................. ( )
Wasn’t sure what they wanted to do so took the first job available....... ( )
Was offered a job whilst on practicum.............................................. ( )
This is what they found they really enjoy most...................................... ( )
Other................................................................................................. ( )
(Specifically.....................................................................................)
What is it about this career that appeals to you?..................................

6. Do you or did you plan to complete a year in an organised graduate transition program?
Yes ........................................................................................................ ( )
Specifically which one...........................................................................
No ........................................................................................................ ( )

7. Is/was the choice of a graduate transition program a deciding factor for seeking your first job?
Not applicable – did not get into a transition program.......................... ( )
Yes............................................................................................................ ( )
No .......................................................................................................... ( )
Can you explain why?...............................................................................

8. Eventhough you are or are going to work in the discipline as stated above, which of the following categories best describes what your career plans were for this 1st graduate year?
Does not intend to work at all................................................................ ( )
Undecided about which area to work in .............................................. ( )
Wanted to work as a Registered Nurse (RN)....................................... ( )
Wanted to work as an Early Childhood Teacher (ECT)....................... ( )
Wanted to work in a position that combines ECT and Nursing............ ( )
Specifically .............................................................................................
Wanted to work as a paramedic (ambulance officer)......................... ( )
Wanted to work totally in another discipline/profession/job............... . ( )
Can you explain why?...............................................................................

9. When accepting a position in 2008/9 is/was this part of an overall career plan?
Yes......................................................................................................... ( )
No ......................................................................................................... ( )
Haven’t thought about it much............................................................ ( )

10. Do you plan to work for the same employer next year if at all possible?
Yes ....................................................................................................... ( )
No ....................................................................................................... ( )
 Unsure ................................................................................................. ( )
Not applicable ..................................................................................... ( )

11. Have you applied to the Nurses and Midwives Board to become a Registered Nurse?
Already registered................................................................................ ( )
Yes ........................................................................................................ ( )
No....................................................................................................... ( )

12. With respect to your present career which of the following factors are really important to you? (Number in preference only 1-5)
Security of life time employment........................................................ ( )
Conditions of employment (e.g. pay).................................................... ( )
There are likely to be plenty of jobs in this area................................. ( )
Good career path.................................................................................. ( )
Able to use/develop knowledge and skills gained from double degree... ( )
Intrinsic interest and enjoyment in job ............................................... ( )
A job suiting their particular talents.................................................. ( )
Opportunities for travel....................................................................... ( )
Others.................................................................................................... ( )
Why are these important to you?........................................................
13. In regards to your career where would you like to be in one year’s time? (one option)
   Working as a registered nurse................................................................. ( )
   (Specifically preferred nursing area eg intensive care)............................ ( )
   Working in early childhood teaching........................................................ ( )
   (Specifically preferred ECT area)............................................................ ( )
   Working in pre-hospital/paramedic/ambulance area.................................... ( )
   (Specifically preferred work area)............................................................
   With full-time family responsibilities and not in the paid workforce............. ( )
   Studying full time .................................................................................... ( )
   Other specifically...................................................................................... ( )
   Undecided.................................................................................................. ( )
   What are the reason for this choice?............................................................

14. Do you currently have family responsibilities influencing your career destination/location?
   No - no family responsibilities influencing career.................................... ( )
   Yes – a need to work near to where the partner is employed...................... ( )
   Yes - in the form of children.................................................................... ( )
   Yes - other family responsibilities............................................................ ( )

15. When deciding on your preferred career LOCATION which is/was the MOST important factor influencing your decision
   The ability to freely move to any location................................................. ( )
   A girlfriend/boyfriends location............................................................... ( )
   A partner/spouse’s work commitments...................................................... ( )
   Has family responsibilities...................................................................... ( )
   Is happy/does not wish to move away from their home area.................... ( )
   What other factors are important to you for where you work?....................

16. Which type of organisation best describes where you plan to or have started work?
   Working in a large city/metropolitan organisation.................................... ( )
   Working in a small to medium metropolitan organisation.......................... ( )
   Working in an organisation in a large rural regional centre........................ ( )
   Working in an organisation in a rural town.............................................. ( )
   Working in an organisation in a rural and remote area............................. ( )
   Other....................................................................................................... ( )
   (Specifically)............................................................................................

   Tell me why you chose this location?...........................................................

About your professional development
17. Do you plan to undertake post graduate studies next year?
   Yes ......................................................................................................... ( )
   No.......................................................................................................... ( )
   Undecided ............................................................................................... ( )

18. In which post graduate area would you like to study in within the next 3 years?
   No, do not want to study anymore .......................................................... ( )
   Undecided ............................................................................................... ( )
   In nursing ............................................................................................... ( )
   In Teaching or ECT.................................................................................. ( )
   In paramedic studies ................................................................................ ( )
   In another discipline .............................................................................. ( )
   Undecided which area ............................................................................ ( )
   Other....................................................................................................... ( )

This question is for graduates who applied UNSUCCESSFULLY or did not receive offers for their preferred career/job.

19. Why do you think you did NOT receive an offer for your preferred option
   This question does not apply ...................................................................... ( )
   There was strong competition for the available places.............................. ( )
   The area/specialty they wanted to work in was saturated........................... ( )
   Said they do not present well in interviews.............................................. ( )

Page 217
Their academic performance .................................................... ( )
Lack of expertise due to double degree subjects.......................... ( )
The consortium not interested in DD expertise .............................. ( )
Did not know................................................................................ ( )

Did this affect your preferred career choice and in what ways?............

20. This question is for you if you DID receive an offer for one or all of your preferred options

21. Why do you think you DID received an offer for your preferred job option

   This question does not apply ..................................................... ( )
   Double degree expertise was seen as valuable ............................ ( )
   Prepared and presented themselves well in the interview/s............ ( )
   Their academic performance..................................................... ( )
   Because of their previous work experience.............................. ( )
   On the basis of their clinical practicum performance .................... ( )
   There was little/no competition as shortages in this area ............... ( )
   Why do you think they chose you for the position/s?.......................

   Double degree expertise was seen as valuable ............................ ( )
   Prepared and presented themselves well in the interview/s............ ( )
   Their academic performance..................................................... ( )
   Because of their previous work experience.............................. ( )
   On the basis of their clinical practicum performance .................... ( )
   There was little/no competition as shortages in this area ............... ( )
   Why do you think they chose you for the position/s?.......................

PART B About you

22. Was it difficult to decide which career area to choose for your 1st Graduate year?

   Yes .................................................................................................. ( )
   No ................................................................................................. ( )

23. Have you changed your career preferences since you first enrolled in the double degree?

   Yes .................................................................................................. ( )
   No ................................................................................................. ( )

24. What are the factors that influenced your career preference decision was it any of these?

   Did not change my preference....................................................... ( )
   Significant experiences in a particular course............................... ( )
   Theoretical knowledge gained from a particular course................. ( )
   Found one discipline area more enjoyable and interesting overall.... ( )
   Found was able to achieve academically better in this career area.... ( )
   Role model in industry................................................................. ( )
   Role model at University............................................................... ( )
   Found there is a higher possibility of gaining a job......................... ( )
   Better career path......................................................................... ( )
   Family/partner reasons............................................................... ( )
   Can you expand on these or any other reasons for changing or not changing?.........

25. Do you think there were any factors or significant events in your tertiary educational experiences or other experiences over the four year of your DD that have influenced your career choice?

   Yes .................................................................................................. ( )
   No ................................................................................................. ( )
   Can you tell me about these?.........................................................

26. Do you feel in your experience that your DD has given you a greater range of career options than a single degree? (circle)

   Yes To some extent not sure not at all
   Further comments?...........................................................................

27. Do you feel in your experience that your DD has enhanced your employability more so than a single degree would? (circle)

   Yes To some extent not sure not at all
   Further comments?...........................................................................

28. In thinking about your own experiences how strongly do you agree with this statement? Your DD has enabled you to work in an area of your choosing? (circle)

   Strongly agree agree somewhat unsure disagree strongly disagree
   Why do you think so?........................................................................
29. In thinking about your own experiences how strongly do you agree with this statement. You found it difficult to find a job using knowledge and skills from both degrees? (circle)

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>agree somewhat</th>
<th>unsure</th>
<th>disagree</th>
<th>strongly disagree</th>
</tr>
</thead>
</table>

30. Can you tell me where were you hoping to work using both skills?............................

Thank you for participating in this interview. Is there any other information you would like to tell me about why you chose that particular job and that particular location?
..............................................................................................................................................

Further information to inform the participant.
I will transcribe this audio tape recording and I would like you to look at the transcription. If you are not comfortable with the information please contact me and this information will be deleted as it says on the Information Sheet, or if anything we have discussed is not a true representation of what you thought you said please also contact me. Are you comfortable/happy if I contact you again at the end of your second graduate year? Yes /no
SECTION 1.

The degree you enrolled in was (Please tick correct box)

For office use only

Bachelor of Nursing /Bachelor of Early Childhood Teaching
Bachelor of Nursing/Bachelor of Clinical Practice (Paramedic)

SECTION 2.

1. Which of the categories below best describes your current mode of paid employment over the last 18 months to 2 years?
   - Not employed .................................................................
   - Working in one full time job ...........................................
   - Working one part-time job .............................................
   - Working in more than one part time job ........................
   - Working in one or more casual jobs ................................
   - Working in a combination of part-time and casual jobs ....
   - Specific information ........................................................

2. If you are currently NOT WORKING are you seeking employment in the next few months?
   - Not applicable ..............................................................
   - Yes ..............................................................................
   - Yes – currently unemployed but accepted a position .......
   - No – does not intend to work for a while .....................
   - No – has full time carer responsibilities ....................... Go to Q7.

3. Do you plan to work for the same employer next year?
   - Yes ..............................................................................
   - No ..............................................................................
   - Unsure ........................................................................
   - Can you explain why? ...................................................

4. Have you changed your career specialty/discipline area since your first graduate year?
   - Yes ..............................................................................
   - No ..............................................................................

   Can you explain why you have (have not) changed your career specialty/discipline?

5. Which career discipline have you been working in since you graduated?
   - Nursing ........................................................................
   - Early Childhood teaching .............................................
   - Ambulance officer/paramedic ......................................
   - An area that utilises knowledge and skills from both areas.
   - Midwifery .................................................................
   - If two areas how long in each area and why? ..............

6. With respect to your work which of the following factors over the last 2 years were really important to you and influenced your career choice?
   - Security of employment .............................................
   - Conditions of employment (eg pay, work conditions)
   - Good career path ......................................................
   - Able to use/develop knowledge and skills gained from double degree
   - Intrinsic interest and enjoyment in job ..........................
   - A job suitling your particular talents ...........................
   - Significant experiences in my graduate transition year ...
   - Role model in industry .............................................
   - Good career path ......................................................
   - Family/partner reasons .............................................
   - I wanted to consolidate my nursing skills ............... Can you expand on what was really important to you in your work and gave you work satisfaction or dissatisfaction over the last 18 months to 2 years

   ..................................................................................
7. If accepting another position in the same discipline as your last 2 years or you are continuing your present position in 2009/10 is this part of an overall career plan?
   Yes........................................................................................................ ( ) □
   No ...................................................................................................... ( )
   I haven’t thought about it much.......................................................... ( )
   Where do you see your career direction in the next few years?...................

8. Now that you have nearly completed your second graduate year which career specialty/discipline area do you intend to be working in next year?
   Undecided .............................................................................................. ( )
   Nursing .................................................................................................. ( ) □
   Early Childhood teaching...................................................................... ( )
   Ambulance officer/paramedic ............................................................... ( ) □
   An area that utilises knowledge and skills from both areas................. ( )
   Can you explain why?.................................................................

9. In regards to your career where would you like to be in three years time?
   Working as a registered nurse............................................................ ( )
   (Specifically preferred nursing area eg intensive care)............................
   (Specifically preferred demographic place eg rural, overseas etc)...........
   Working in early childhood teaching..................................................... ( )
   (Specifically preferred ECT area)...........................................................
   (Specifically preferred demographic place eg rural, metropolitan)...........
   Working in pre-hospital/paramedic/ambulance area......................... ( )
   (Specifically preferred work area)..........................................................
   (Specifically preferred demographic place eg rural, metropolitan etc).......
   Other
   With full-time family responsibilities and not in the paid workforce.... ( ) □
   Studying to develop a career outside those already completed........... ( )
   (Other specifically).............................................................................
   Undecided............................................................................................ ( )

10. Is/was the choice of a post graduate or hospital/Area Health or Ambulance post graduate training program a deciding factor for remaining in or seeking another job?
   No ...................................................................................................... ( )
   Yes ..................................................................................................... ( )
   If yes can you expand on the program and the advantages to your career?

11. In which post graduate area would you like to study within the next 3 years?
   No, do not want to study anymore .................................................... ( )
   Undecided ........................................................................................... ( ) □
   In nursing ............................................................................................ ( )
   In Teaching or ECT............................................................................. ( )
   In paramedic studies ........................................................................ ( )
   In another discipline .......................................................................... ( )

12. Which of the following categories best describes the place where you are working at present
    A large city/metropolitan organisation............................................. ( ) □
    A small to medium metropolitan organisation................................ ( )
    An organisation in a large rural regional centre............................. ( ) □
    An organisation in a rural town....................................................... ( ) □
    An organisation in a rural and remote area.................................... ( ) □
    Can you elaborate on why you chose to work in that location?...........

13. Which geographic area do you plan to work in eventually say in the longer term
    rural ( ) undecided ( ) metropolitan ( ) other ( )
    Can you explain the reasons for this choice?........................................
14. Apart from the work factors that are influencing your career pathways are there any other reasons or influences that are/ or will in the near future influence your career choices or your career location?

Any further comments? ................................................................................................................

Thank you for participating in this interview
Thematic map 4 – 1st year graduates themes (T1) – Influences on carer choice decisions during transition to and in DDs 1st graduate year

Past practicum experiences
- Recruitment from final prac
- Enjoyment satisfaction
- Unsupportive role models
- Witnessing poor practice
- Mundane activities
- Skill acquisition
- Exciting, challenging

Past personal work experience
- Gaining work specialty choices
- Image and identity
- Feelings of belonging
- Workloads and stress
- Unmet expectations
- Unenjoyable, mundane
- Enjoyable
- Autonomy in work
- Trust and respect
- Enjoyment & satisfaction
- Excitement, challenge, adventure

Expected personal rewards
- Monetary
- Autonomy power
- Gendered image & work identity
- Marketing and recruitment forces
- Marketing strategies
- Ambulance services

Past personal work experience
- Marketing and recruitment forces
- Recruitment from final prac
- Enjoyment satisfaction
- Unsupportive role models
- Witnessing poor practice
- Mundane activities
- Skill acquisition
- Exciting, challenging

Future career opportunities
- Cementing skills
- Future study eg midwifery
- Specialty choices
- Work/travel opportunities
- Image and identity
- Trust and respect
- Enjoyment & satisfaction
- Excitement, challenge, adventure

Marketing and recruitment forces
- Marketing strategies
- Ambulance services
- Recruitment from final prac
- Enjoyment satisfaction
- Unsupportive role models
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Marketing and recruitment forces
- Marketing strategies
- Ambulance services
- Recruitment from final prac
- Enjoyment satisfaction
- Unsupportive role models
- Witnessing poor practice
- Mundane activities
- Skill acquisition
- Exciting, challenging
Thematic map 4 – 2\textsuperscript{nd} year DD graduates themes (T2) – Influences on carer choice decisions, and retention

Appendix 15

Career development
- Mentor/role model encouragers
- Career ladder opportunities
- Gaining confidence
- Keeping skills current
- Workplace support, encouraging learning

Workplace/personal
- Image and identity
- Gaining work specialty choices
- Belonging
- Supportive environment
- Meeting expectations
- Exciting, challenging
- Autonomy in work
- Monetary rewards
- Unmet expectations – heavy workloads and stress

Work location choice
- Workplace conditions
- Using education opportunities
- Rural staff shortages, poor skill mix
- Workplace support, encouraging learning

Sustaining relationships
- Romantic / life time partner
- Boy/girl friend
- Near family and friends
- Enjoyment, satisfaction, areas of interest
- Supportive environment
- Learning from peers affirmation

Lifestyle
- Work & future travel
- Work/home
- Lifestyle
- Family support

Continuity

Thematic map 4 – 2\textsuperscript{nd} year DD graduates themes (T2) – Influences on carer choice decisions, and retention

Appendix 15