The Development of a Service-Learning Model of Health Promotion in the Residential Aged Care Environment for Dental Hygiene Students

Janet Patricia Wallace

Dip Dental Therapy, BOH

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Oral Health

School of Health Sciences
Faculty of Health and Medicine
The University of Newcastle

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STATEMENT of ORIGINALITY

This thesis contains no material which has been accepted for the award of any
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ACKNOWLEDGEMENT of AUTHORSHIP

I hereby certify that this thesis is in the form of a series of published and submitted papers of which I am the first author. The co-authors of the papers were supervisors of the thesis and provided direction and support for each of the publications.

______________________________________ date ________________
Fiona Blinkhorn

______________________________________ date ________________
Anthony Blinkhorn

______________________________________ date ________________
Jane Taylor

______________________________________ date ________________
Faculty of Health Assistant Dean

(Research and Training)
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ABSTRACT

Dental hygienists are preventive focused oral health professionals with the skills, knowledge and expertise to provide preventive oral health care. To contribute to the development of these attributes in their students the Faculty of Health and Medicine at the University of Newcastle implemented a novel student placement program in Residential Aged Care Facilities (RACF) on the NSW Central Coast, Australia.

As with any educational innovation it was imperative to monitor whether the intervention had been positive and if improvements were required. The program was assessed using both qualitative and quantitative methodology to explore issues that students documented and reported with reference to their placement experiences.

After analysing the students’ feedback from questionnaires, reflective folios and focus groups the placement proved to provide considerable benefits. Students reported an improvement in their knowledge of the oral health needs of residents; an improvement in their knowledge and ability to assess the oral health needs of residents with Dementia and Alzheimer's disease, improved knowledge relating to medical and dental conditions of older people; increased confidence working with other health professionals and an increased knowledge of the RACF environment.

Early results and feedback showed that there was a need for the development of a more comprehensive ‘real life’ orientation that depicted the student journey and experience during the RACF placement. Students reported feeling anxious and nervous in the early stages of the placement, and felt the pre-placement orientation did not prepare them for the challenges of dealing with cognitively impaired residents nor did it prepare them for interacting with staff in the RACFs. As a result student learning in the initial stages of the placement was hindered until they became acclimatised to the RACF environment and its challenges.
The results from phases one to five of this research enabled a DVD to be produced depicting the RACF placement program using recent graduates who had previously completed a RACF placement during their own undergraduate degree. The DVD provides a comprehensive representation of the RACF environment and its daily routines and includes a series of scenarios that show students dealing with the challenges of providing oral hygiene care to residents with Dementia and Alzheimer’s disease. The DVD has been used to provide undergraduate dental hygiene students with a more realistic orientation to the aged care placement enabling them to transition from the classroom to the ‘real life’ experience that is residential aged care in a more positive and timely manner. The impact of the DVD on the student experience was measured by a two-group qualitative study.

The findings and tools developed from this research have been implemented in the Bachelor of Oral Health degree program at the University of Newcastle, Australia. There has also been international, national and local interest in the research and its findings with funded research development utilising dental hygienists in residential aged care facilities on a permanent basis currently underway.
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CHAPTER ONE

INTRODUCTION and LITERATURE REVIEW
1.1 Overview

This thesis by publication begins by describing an ongoing investigation between 2009 and 2013 of student experience and learning relating to a placement program in residential aged care facilities (RACF) which is part of the undergraduate Dental Hygiene degree at the University of Newcastle, Australia. Questionnaires, reflective journals and focus groups were used each year before, during and after the semester - based RACF placement and focused on student learning and the transition from the classroom to the placement.

It was hoped that the RACF placement would enhance each students’ ability to provide oral hygiene care to residents and carers, understand older people’s medical and dental needs, increase their knowledge of the RACF environment and encourage them to develop an interest in working in RACFs after graduation.

The qualitative and quantitative analysis of pre and post placement questionnaires, reflective journals and focus group discussions provided information to evaluate and alter the placement program over time (Figure 1.1). One important finding was that students felt ill-prepared for the RACF experience therefore, a specifically designed DVD was made to assist the dental hygiene students in their transition from the classroom to the RACF environment. The DVD is a teaching tool that provides the students with a realistic depiction of what they could expect when they commenced their RACF placements.

The series of six papers that form the body of this work are associated with one or more of the key strategies of the research (Table 1.1) and follow a pathway from
initial assessment of the RACF student placement program through to the
development of a DVD (Table 1.2) to improve the placement experience and
evaluation of that intervention.
Figure 1.1 Overview of the research strategies for this thesis

Phase One
Pilot program analysis
2009

Phase Two
Knowledge, willingness and ability to assess oral health needs analysis
2010

Phase Three
Reflective Journal analysis
2010

Phase Four
Medical, dental & environmental knowledge analysis
2011

Phase Five
Focus Groups
Development of the DVD 2012
Qualitative analysis

Phase Six
Focus Groups
2013
Two-group
Qualitative analysis
<table>
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<tr>
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<th>Associated Peer Review Publications</th>
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| Evaluate student experiences during a Service-learning pilot RACF placement program | **Publication 1:**  
Wallace, JP, Taylor JA, Wallace LG, Cockrell DJ.  
Student focused oral health promotion in residential aged care facilities.  
*International Journal of Health Promotion and Education* 2010; 48 (4):111-114 |
| Investigate student knowledge, willingness and ability to assess oral health needs and deliver oral health advice to RACF residents and staff | **Publication 2:**  
Wallace, JP, Taylor JA, Blinkhorn FA.  
An assessment of a service-learning placement programme in residential aged care facilities for final year dental hygiene students.  
*Journal of Disability and Oral Health* 2012; 13/14 163-167 |
| Assess student reflective journals to establish student experience during the RACF placement program | **Publication 3:**  
Wallace, JP, Blinkhorn, AS, Blinkhorn FA.  
Reflective folios for dental hygiene students: what do they tell us about a residential aged care student placement program?  
*European Journal of Dental Education* 2013. DOI: 10.1111/eje.12044 |
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<th>Publication 4:</th>
<th>Publication 5:</th>
<th>Publication 6</th>
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<td>Assess the educational value of the RACF student placement program</td>
<td>Wallace, JP, Blinkhorn, AS, Blinkhorn FA.</td>
<td>Wallace, JP, Blinkhorn, AS, Blinkhorn FA.</td>
<td>Wallace, JP, Blinkhorn, AS, Blinkhorn FA.</td>
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<td>An assessment of the educational value of service-learning community placements in Residential Aged Care Facilities.</td>
<td>Dental hygiene students’ views on a service-learning residential aged care placement program.</td>
<td>Improving the transition from the classroom to a clinical placement in a residential aged care facility for dental hygiene students by enhancing the pre-placement orientation program.</td>
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<td></td>
<td>International Journal of Dental Hygiene – accepted for publication in November 2013</td>
<td>American Journal of Dental Education – accepted for publication in August 2013</td>
<td>International Dental Journal – submitted September 2013</td>
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<td>Analyse the views of final year dental hygiene students during the RACF placement program</td>
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<td>Evaluate the effectiveness of a DVD in preparing students for the RACF student placement program</td>
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## Table 1.2 The development, production and application of a DVD

<table>
<thead>
<tr>
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<th>Action</th>
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<tbody>
<tr>
<td>Student feedback from all previous studies was analysed to identify areas</td>
<td>Four particular areas of concern were identified:</td>
</tr>
<tr>
<td>that students found challenging during their RACF placement from 2009 -</td>
<td>1. Communicating with older people especially those with Alzheimer’s disease and Dementia</td>
</tr>
<tr>
<td>2012</td>
<td>2. Lacking confidence in approaching older people and concerns about providing oral hygiene care</td>
</tr>
<tr>
<td></td>
<td>3. Finding the RACF environment emotionally and visually challenging</td>
</tr>
<tr>
<td></td>
<td>4. Taking several weeks to settle into the placement</td>
</tr>
<tr>
<td>A framework for the narrative of the DVD was planned using data from all</td>
<td>Scenarios were written depicting the ‘real life’ student experience during the RACF placement using the areas of concern as a framework</td>
</tr>
<tr>
<td>previous studies</td>
<td></td>
</tr>
<tr>
<td>Source and employ a production company</td>
<td>$20,000 Grant gained from NSW Health, Centre for Oral Health Strategy management board</td>
</tr>
<tr>
<td>Approach a RACF to participate in filming</td>
<td>Ethics gained for the RACFs, residents and staff and previously graduated students employed to portray the student experience</td>
</tr>
<tr>
<td>Qualified oral health practitioners were approached to participate in</td>
<td>Four qualified oral health therapists who had previously attended the placement as students were employed as actors</td>
</tr>
<tr>
<td>the production of a DVD</td>
<td></td>
</tr>
<tr>
<td>All scenarios were described and written up on a call sheet for production</td>
<td>Filming commenced over a period of two consecutive days</td>
</tr>
<tr>
<td>of a DVD</td>
<td></td>
</tr>
<tr>
<td>DVD production and editing</td>
<td>All participants had the opportunity to view and provide feedback prior to final production</td>
</tr>
<tr>
<td>Show the DVD at the orientation workshop</td>
<td>The DVD production and final edit was completed in December 2012. The DVD was shown to the active group from the 2013 cohort at the beginning of Semester 1, 2013</td>
</tr>
</tbody>
</table>
1.2 Background

The life expectancy of most populations in the industrial world has increased, and by the year 2050 people aged 60 and over will account for approximately half the world’s population (1). Globally the most rapidly increasing age group is 80 years and over and although this only equates to 2 percent of the total world population, the number of very elderly people is expected to quadruple over the next four decades from less than 90 million in 2005 to approximately 400 million in 2050 (1). In 2002, the World Health Organisation (WHO) (2) analysed the global burden of disease and the major risks of disability and death, identifying that with advancement in age comes loss of healthy life years. The report acknowledged that chronic diseases such as cardiovascular disease, chronic respiratory problems, cancer, and diabetes often result in low resistance, poor nutrition and adverse economic environmental conditions (2).

These chronic age-related conditions also impact on oral health which shares the same age related risk factors (3). Older people experience a higher rate of tooth loss, dental caries, periodontal disease, xerostomia and oral pre-cancer and cancers, and although life expectancy has increased, old age brings with it the possibilities of developing chronic diseases. This is often the result of the cumulative effect of risk factors, and not always related to chronological ageing as such (3).

Australia shares these global findings with the Australian institutionalised elderly having long been identified as a high risk group for dental disease and poor oral hygiene (4). These functionally dependent older adults have regularly been shown to have higher levels of edentulism, significantly more caries, more plaque deposits and
worse oral hygiene than their contemporaries who are living and functioning independently in the community (5,6). Associated chronic medical conditions such as Dementia and Alzheimer's disease significantly increase the intensity and impact of these problems. In 2003 Chalmers (6) reported that residents within RACFs face significant barriers to good oral hygiene care, including lack of appropriate oral health knowledge and skills in association with a shortage of available dental and nursing staff. She argued that dental education could provide a better understanding of geriatric dental issues including a specific clinical exposure to the provision of dental services to the homebound and institutionalised. Chalmers stated that auxiliaries such as dental hygienists should be able to provide a significant amount of this care (7). It is disappointing to note that not much has changed since Chalmers and colleagues commenced oral health in the aged care sector in 1999 (5). For example Hopcraft and colleagues reported in 2008 (8) that for residents living in RACFs high oral disease rates were directly linked to the inability to access dental services and in particular preventive dental care.

The involvement of undergraduate students in the provision of preventive oral health care and health education in RACFs provides an opportunity to address this existing deficit by raising the profile of oral health within RACFs, providing residents with oral health education and assessments, enabling referral pathways for dental treatment and providing staff with oral health education and skills to support the residents’ oral health care. A study by Mascarenhas et al (9) stated that community student placement programs enable students to learn about the community, treat a diverse group of patients, improve their critical thinking skills and enhance their technical
abilities. Literature supports student based community placement programs also known as service-learning (10 - 16) as a practical way of providing health professionals with a meaningful learning experience. A service-learning dental hygiene four year retrospective study conducted in the United States of America (USA) in 2009 (17) reported that service-learning is an effective learning strategy for increasing student awareness of underserved populations, cultural diversity and ethnic patient care. In essence, service-learning is a form of experiential education that is defined as a structured learning experience combining community service, preparation and reflection with a balance between community benefit and academic course objectives (10, 12, 13). The utilisation of community placements internationally (18, 19) in health has seen desirable learning outcomes; however there are only a few studies related to the use of service-learning in dental or dental hygiene students’ curricula (20).

With the oral health of older people in RACFs identified as an area lacking in care and the desire to provide students with an experiential opportunity to increase their learning and skills in this area, the University of Newcastle, Australia implemented a service-learning student placement program for final year dental hygiene students enrolled in the Bachelor of Oral Health program for the first time in 2009. RACFs in the local area were asked to respond to an expression of interest to participate in the pilot program. Seventeen RACFs responded and signed a memorandum of understanding (MOU) with the University of Newcastle. The RACFs were asked to provide student placements for a period of twelve weeks in semester one each year. They were required to deliver an on-site orientation on the students first day and supply certain disposables such as, gloves and masks. RACF managers were
asked to allocate a contact person such as a nurse educator, for the students to liaise with during the placement.

The students’ role was to provide oral health education to residents and staff, conduct oral health risk assessments for the residents; develop oral health care plans and oral health promotion material to be displayed in the RACFs; and generally improve the profile of oral health within the facility during their placement. In addition to these assessment tasks students were required to make entries into their reflective journals after each placement session. These assessment tasks were directly aligned with the following course learning outcomes:

1. Contribute to the general debate on the provision of general and oral health care within the community and society
2. Use evidence based approach to the provision of information and care
3. Develop, implement and evaluate oral health promotion activities
4. Demonstrate appropriate and effective communication with social and cultural sensitivity, with patients, carers and team members
5. Evaluate the benefits and limitations of teamwork
6. Utilise information technology effectively and appropriately

At the time of the RACF student placement program implementation, there was no previous research investigating the impact of service-learning on undergraduate dental hygiene students or their ability to provide oral hygiene care for the older population as part of their undergraduate degree. Nor was there any research examining whether RACF placements for dental hygiene students had an impact on
their knowledge, ability or skills pertaining to older people, or whether the transition from classroom to community placement was managed within an appropriately supportive framework. These topics, together with whether the placement experience had increased the desire for students to work in aged care after graduation are investigated in this PhD thesis.
1.3 The Literature review

Is presented in four parts and discusses:

1. The demography of the oral health of older people living in residential aged care facilities (RACFs) internationally and specifically in Australia, explicitly the current oral health status and service provision for this population group, including future oral health needs and trends, with particular attention to dental service provision.

2. The role of dental practitioners (specifically dental hygienists and oral health therapists) in the provision of oral hygiene care for elderly people living in RACFs in Australia.

3. The teaching pedagogy considered beneficial for this research in relation to student placement programs and experiential learning; including the philosophy of student reflection, its influence and benefit on student learning and the gains associated with continuous reflective practice. The focus will be on the appropriate educational theories relevant to this research rather than an in-depth report on all aspects of education.

4. The philosophy of service-learning and its significance to student learning and community benefit in relation to this research.
1.3.1 The Global perspective – oral health of the elderly

The oral health status of the elderly is a growing concern for both developed and developing countries. Disease patterns are changing with more elderly people retaining their own teeth than has been seen in previous generations (21, 22). This brings with it a multitude of oral health problems, including dental caries and periodontal disease, xerostomia and the possibility of cancerous lesions. This is of particular concern for those older people who must depend on others for their oral health and oral hygiene care.

A comprehensive report by Peterson (23) in 2003 highlighted these problems and stated that common risk factors associated with many chronic diseases including oral disease occur as a result of an unhealthy diet, tobacco use, harmful drug habits, misuse of alcohol and stress. A further study by Peterson and Yamamoto (24) two years later stated that non-communicable diseases are fast becoming the leading cause of disability and mortality worldwide and that these relate to and contribute to poor oral health status. Continuing this research theme in 2010, Peterson et al (25) considered the global oral health of older people and provided an overview of their oral health, use of health services and self-care practices. The paper reported on the availability of oral health services for older people and identified some major barriers to the establishment of oral health services and health promotion programs. The study was comprehensive with 136 of 193 countries (71 percent of all WHO member states), being represented by either a questionnaire response or from information held in the WHO ‘Global Oral Health Data Bank’. It showed that dental caries and periodontal disease were a considerable public health problem in the
majority of countries and that there were significant disparities between regions in terms of the prevalence of oral disease. The extent of tooth loss and other oral problems varied between WHO regions and was related to income, with the impact of oral problems in the older population being worse in low income countries where access to health care was poor, particularly in rural areas. Peterson et al (24) also noted that although tooth brushing was the most popular oral hygiene practice worldwide, it was less common amongst the elderly population and in low income countries. In contrast, traditional oral hygiene self-care was more prevalent in several countries in Africa and Asia. Fluoride toothpaste was used widely in developed countries and infrequently in developing countries. Although oral health services were available in developed countries the use was low amongst the older population. Peterson and Yamamoto (24) thought this might have been due to a lack of finance, inability to access the services due to mobility for older people living in RACFs and medical conditions affecting cognitive capacity. The study also highlighted that oral health promotion programs targeting older people were rare, which reflects a general lack of any oral health policy for these vulnerable people. Peterson and colleagues (24, 25) identified several barriers to solving the oral health problems of the elderly population, namely; a general lack of national health policy and the lack of specific geriatric oral health services, the varied economic standard of countries and their ability to provide oral health resources, a multitude of factors relating to illness and health and the barriers relating to oral health and traditions amongst older people themselves.

A number of studies conducted in the UK and Europe (26, 27) also noted that the oral health status of the elderly is compromised, particularly if they are living in residential
aged care. Plaque scores are higher, periodontal disease more prevalent and untreated dental caries more common. These studies also emphasised the importance of mechanical oral hygiene for plaque removal as a key measure to control aspirational pneumonia in hospitalised elderly people and nursing home residents (28).

In summary, the elderly people living in residential aged care homes have high levels of periodontal disease and untreated caries. Despite these serious health issues little effort is being made by governments to address this issue and alleviate any associated suffering.

1.3.2 The Australian perspective – oral health of the elderly

In Australia the oral health care issues of the elderly mirror the global perspective with Australia facing a huge challenge in respect to providing timely and appropriate oral hygiene care for older people, especially those living in aged care facilities (8). As with the global perspective, Australia has an ageing population that is growing rapidly with projections from the Australian Bureau of Statistics that by 2050 more than 1 in 4 Australians will be aged over 65 years, (7.30 million) and an increase in the 85 years plus age group, from 1.5 percent (295,000) in 2004 to 5.8 percent (1.62 million) by 2051 (29).

The impact of residential aged care on oral health is well documented (4 - 8). Minimal oral hygiene care is provided with more urgent needs such as toileting, bathing and feeding take precedence. The maintenance of oral health is important to ensure
quality of life and also for medical reasons (30), with these older people in RACFs experience medical and dental problems that become more complex and resource intensive as age increases. This ultimately impacts on the national healthcare budget; it is therefore imperative to establish preventive programs to assist them in maintaining good oral health to minimise the drain on healthcare services in the future.

Studies conducted by Chalmers et al in 1999 (5) and 2002 (31) concluded that the institutionalised elderly have long been identified as a high risk group for dental disease and poor oral hygiene care; and that these dependent older people have higher levels of edentulism, significantly more caries and plaque deposits and worse oral hygiene than older people living independently.

An Australian study conducted in 2003 (6) looked at health promotion for older people and reported that dental needs of individuals living in RACFs has changed over the past 50 years. Residents are retaining more of their natural teeth, which has created a significant problem for RACF staff as the cleaning of natural teeth is more complex than cleaning dentures. These findings were supported again by Chalmers et al in 2004 (32) identifying that Australian nursing homes lacked appropriate oral hygiene care which was a significant issue for the residents, particularly those suffering from cognitive impairment and those with complex medical conditions.

A Western Australian study (33) investigating aged care staff perspectives on oral care for residents reported that institutionalised older people often suffer from cognitive impairment and physical difficulties and have medical conditions that require multiple medications which may reduce salivary flow and increase their
caries risk. The study identified that many residents were unable to carry out effective oral hygiene practices themselves; and were dependent on RACF staff to provide their daily oral hygiene care. Accessing dental services especially for those older people living in residential aged care facilities is particularly difficult with very few dentists providing care in nursing homes (6).

A study undertaken by the Dental Health Services Victoria in 2001 reported that financial considerations also affect the decision to provide treatment for RACF residents, with lack of personal finance being a contributing factor (34). In addition, they found RACF staff and carers had limited knowledge and education about oral hygiene care and dental disease, and that this impacted on their ability to provide appropriate care or advice to residents.

A study (35) conducted in Adelaide nursing homes in 2001, recorded the opinions of Dentists and Directors of Nursing and found that they were concerned that the increasing ageing population with their own natural teeth carried a greater risk of developing caries and periodontal disease. They were alarmed that the situation was increasing in severity whilst the availability of dental services was limited.

Hopcroft et al (8) concurred that for residents living in residential aged care facilities these high oral disease rates were directly linked to the inability to access dental services and in particular preventive dental care. Residents within RACFs faced significant barriers to good oral hygiene care, including a lack of appropriately trained nursing staff. Wallace et al (36) supported these findings, in a study undertaken in 17 RACFs during 2009, where RACF managers acknowledged that regular oral hygiene care was limited and that dental care for residents was often difficult to obtain.
A qualitative community-based health promotion program conducted in 2005 to improve the use of oral health services, oral health knowledge, attitudes, and practices of older Greek and Italian adults living in Melbourne identified a number of quality of life issues (37). The study reinforced the fact that older people deserve to eat and talk comfortably, to be pain free and maintain the self-esteem that they experienced earlier in life. It highlighted the need for those people living in RACFs to have access to appropriate oral health care and the ability to maintain good oral hygiene practices.

Chalmers et al (6) reported in 2003 that geriatric oral health promotion, particularly culturally and linguistically appropriate programs were limited in Australia and in an earlier study published in 1999 (5) she suggested that dental education for both dental and dental hygiene students should provide a better understanding of geriatric dental issues including a specific clinical exposure to the provision of dental services to the homebound and institutionalised. She highlighted the important role of dental hygienists in providing most of the care and concluded that they were a cost effective strategy to deal with the oral health care problems in RACFs.

A study conducted in 2007 analysed the employment and scope of practice of dental hygienists in Victoria, and it was interesting to note that 54 percent of the dental hygienists believed that they made dental care more affordable and 88 percent believed they would improve access to dental care (38). A more recent dental hygiene student placement program study (36) conducted in 17 RACFs on the NSW Central Coast reported that none of the 17 RACFs involved in the program, provided regular oral hygiene care to residents, and none had dental facilities on site. Indeed, RACF managers reported that general dental care for residents was limited, visits
from dental professionals were non-existent and arranging for dental treatment was a major concern for staff and families.

This is a profoundly disappointing finding and highlights the extent of the problem associated with the provision of oral health care to older adults who cannot fend for themselves and disturbingly identifies that oral health services in RACFs do not seem to have improved or advanced very much in the last decade.

A systematic review of oral hygiene care for adults with Dementia in RACFs examined studies conducted between 1980 and 2002 (39). The review concluded that there was no established system of dental service delivery with adequate financial reimbursement for dental professionals providing dental care for institutionalised older Australians. Similar results were reported in 2008 on dental service delivery in Victorian residential aged care facilities. There were still significant difficulties in accessing dental care for residents within RACFs, including the fact that dentists would rather see patients in their own practices and that they were not willing to visit the facilities, with few having any suitable portable equipment (40).

In terms of treatment and preventive oral health services all reviewed studies have identified that older people living in RACFs in Australia are at increased risk of dental disease and have limited access to oral health care and dental services. This failure to offer appropriate oral health care to elderly residents in RACFs has been highlighted as a problem for many years, yet we are still seeking a solution whilst people at the end of their lives are suffering unnecessary pain and distress from preventable and treatable oral health diseases.
A paradigm shift is required to solve this social and healthcare disaster. One small but positive step could be to expand student dental hygienist/oral health therapist placement programs as a way of delivering preventive care to elderly people and raising the importance of oral health with RACF staff. This may initiate the employment of qualified dental hygienists/oral health therapists on a regular basis to manage oral health in RACFs.

1.3.3 The Utilisation of dental auxiliaries (Dental Hygienists’, Oral Health Therapists) in Residential Aged Care Facilities

Internationally the practice of dental hygiene has evolved from a traditional model of direct and indirect supervision by a dentist to a more collaborative approach whereby dental hygienists provide optimum care and patient management while working in an autonomous capacity consulting with fellow oral health professionals within multidisciplinary teams (41). In many countries of the world (Table 1.3), dental hygienists practice independently without direct supervision from a dentist. In Germany, Latvia and Canada and several states in the USA, independent practice is common in restricted locations such as nursing homes and public health facilities (42).

The role of dental hygienists, dental therapists and oral health therapists in Australia has slowly expanded over the last few years with National Registration initiating a review into their scope of practice and training (43). The education of dental hygienists and oral health therapists in Australian universities varies according to the specific program outcomes. Currently, the majority of universities are teaching
dental hygiene and dental therapy to graduate oral health therapists, while others teach dental hygiene only and are graduating dental hygienists. This has created a situation where, across different states, dental hygienists, dental therapists and oral health therapists have varying skills, qualifications and scopes of practice dependent upon the institution from which they have graduated.

National Registration and the Australian Dental Board have addressed this by specifying that dental hygienists, dental therapists and oral health therapists must only perform those dental procedures for which they have been formally educated and trained in programs of study approved by the Dental Board; and in which they are competent (44).

In Australia, dental hygienists, dental therapists and oral health therapists exercise autonomous decision making in those areas in which they have been formally educated and trained. They may only practice within a structured professional relationship with a dentist. They must not practise as independent practitioners; they may practise in a range of environments that are not limited to direct supervision (43). Dental hygienists, dental therapists and oral health therapists currently work both in the public sector and in private practices.

Dental hygienists and oral health therapists have the knowledge, skills and training necessary to positively contribute to better oral health for older people living in residential aged care facilities, currently these attributes are not being utilised in RACFs in Australia.
Table 1.3 The use of hygienists in nursing homes worldwide

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<th>Countries ROUTINELY utilising dental Hygienists</th>
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As the scope of practice for dental hygienists and oral health therapists has only recently been reviewed, the concept of using dental hygienists and oral health therapists to provide clinical and preventive care in RACFs is a new concept in Australia and implementation and research is very limited. A study conducted by Hopcraft et al (45), assessed whether dental hygienists working independently in RACFs could adequately conduct dental examinations, develop periodontal and preventive treatment plans and identify and refer residents who required treatment to a dentist. In this study, 510 residents from 31 RACFs were examined by both a dentist and one of four dental hygienists; treatment and referral decisions were then compared. The dentist and hygienists were all qualified and experienced; however, none had specific qualifications or experience of working with residents in RACFs. The majority (69 percent) of residents were female with the mean age for women 86 years and for men 78 years. Over half the residents were dentate or partially dentate, 54 percent had an average of 14 teeth present and 85 percent were medically compromised. Most residents were identified as needing preventive and periodontal treatment which could be provided by a dental hygienist/oral health therapist, however, three-quarters of the residents also required a referral to a dentist for treatment.

The study reported excellent agreement between the dentist and the hygienists. All residents who were identified by the dentist as needing treatment were also identified by the hygienists, with the most common reason for referral being oral pathology or ill-fitting dentures. Both the dentist and the hygienists’ were in agreement that 83 percent of the residents did not require further dental treatment.
This study suggests that the utilisation of dental hygienists’ working autonomously providing oral health services to elderly people in RACFs is beneficial, with little risk that any oral pathology will be missed. The authors commented that many of the residents who participated in the research project would otherwise not have received any dental care. This study makes a sound case for utilising dental hygienists/oral health therapists to undertake dental assessments for residents when they are initially admitted to RACFs. The hygienists/oral health therapists could develop oral hygiene care plans, provide oral hygiene services, refer to a dentist when necessary and provide ongoing support and oral health education to carers and staff within the RACFs.

Although utilising hygienists/oral health therapists to undertake oral health screening of elderly residents in RACFs has many practical and economic advantages, it is disappointing to find the proposal is not supported by recent reports. There is only one other study (46) that has investigated the utilisation of hygienists to undertake dental examinations in RACFs and it was conducted in Sweden, where dental hygienists have been able to work independently with the ability to diagnose dental caries and periodontal disease for more than 15 years. Hopcraft et al supports the study by Nederfors and colleagues (2000) (46), although the study conducted in Sweden stated that dental hygienists tended to over report treatment needs of the residents. It concluded that it is possible to use an experienced dental hygienist to provide care in long-term care facilities and that this would be preferable from an economic and pedagogical viewpoint. Interestingly, neither Hopcrafts’ nor Nederfors study calibrated the dentists or the hygienists, which is usual practice in
research to minimise inter-examiner variability, yet consistency of decision making between all clinicians was still high.

A recent study conducted in 2010 by Wallace et al. (36), investigated the impact of utilising final year dental hygiene students on placement in 17 RACFs on the NSW Central Coast. In this study 54 students attended the placement, where they identified existing oral health conditions such as candida and xerostomia (dry mouth), poorly fitting dentures and other dental conditions with the potential to cause pain and discomfort. They cleaned dentures, assisted residents to clean their own natural teeth and advised dental products to alleviate conditions causing discomfort. Students alerted residents to oral hygiene issues that could exacerbate general medical problems and provided them with the opportunity to talk about their teeth, dentures and other oral hygiene issues. In addition, students provided oral health education to staff and produced oral hygiene teaching aids and scientific posters as part of the assessment tasks that were linked with the placement program. In this study students reported that oral hygiene practices were ad hoc at many of the facilities and as a result suggested that training for RACF staff in oral health should be mandatory. Students’ awareness of dental services in RACFs agreed with the body of Australian literature (4, 5, 6, 7, 25 - 35), that oral hygiene care and access to dental services for residents are poor. Processes to improve this aspect of personal care in RACFs, needs to be addressed so that oral health can be maintained at an acceptable level, to enable comfort and quality of life for the residents.

This study demonstrated that a RACF placement program provided students with a ‘real life’ learning experience in a supportive teaching and learning environment, where they were able to build on and improve their communications skills and oral
health knowledge about older people. In addition, students provided oral hygiene instruction and care for the residents who were previously not receiving adequate oral hygiene care. Although this study focused mainly on health promotion, there was a positive effect on the profile of oral health within the RACFs, with the students clearly being able to identify oral health problems of the residents.

In view of the general lack of progress in helping residents of RACFs to maintain their oral health, there are compelling reasons to implement mandatory training in geriatric oral health for all undergraduate dental and oral health students in Australian universities such as the program implemented as part of this research project by Wallace et al (36) where students gained practical experience providing oral health care to older people in RACFs with positive outcomes.

1.3.4 Teaching pedagogy pertaining to experiential learning

The term experiential learning is used to describe the type of learning students undertake where they have an opportunity to acquire and apply knowledge, skills and feelings in an immediate and relevant learning environment (47).

John Dewey (1859 – 1952) the American philosopher and educator changed the concept of learning from an authoritarian method to a more experiential process where students were encouraged to learn through experimentation and practice. He described learning from experience as having two separate components, an
immediate experience and an interpretation of that experience. He believed two definite types of experience led to learning and he labelled them as ‘trial’ and ‘error’ experience and ‘reflective activity’ which enables problem-solving to take place (47). Dewey (48) also discussed reflective thinking in learning and considered it to be a conscious controlled activity. He described reflection as a two stage loop where the learner alternates between experience and reflective practice. Dewey considered reflection in practice as having a moral base, where professional actions would be treated as experimental, and the individual would reflect both on their actions and their consequences (Figure 1.2).

**Figure 1.2 Dewey’s model of double movement of reflection**

Kurt Lewin (1890 – 1947), an influential theorist, also had a profound impact on the theory of experiential learning and action research. Lewin’s model of action research (Figure 1.3) parallels Dewey’s concept of learning from experience (49). He described
action learning as a method by which groups of learners can work together to maximise experiential learning and action research by collaborating to investigate a common theme \(^{(50)}\). Lewin and Dewey were both influential in influencing other educators to develop and refine their theories and models of experiential learning.

**Figure 1.3 Lewin’s model of action research**
Since Lewin’s model (49), there have been several models of the processes involved in experiential learning with the best-known being that of Kolb and Fry (51). In this model the authors described the important role of experience in the learning process; they felt that experience drives the development of concepts allowing the student to identify new learning experiences. The Kolb and Fry model expanded on the two-way flow described by Dewey (47, 48) by representing learning in a four stage cycle of concrete learning, observations and reflections, concept construction and testing concepts. The Kolb and Fry model (Figure 1.4) focused on the experiential learning process, and did not consider reflection in depth.

The important role of reflection in learning has long been part of nursing education with the benefits of reflection in nursing training well documented (52, 53, 54, 55). It has taken longer for dental education to embrace the concept which has not commonly been included in dental and oral health curriculum. The Kolb and Fry model is a useful tool upon which to base the design of experiential learning programs. Kolb later went on to develop a ‘Learning Style Inventory’ (LSI) known as the experiential learning cycle and based on the four components of the experiential learning model which included reflection on concrete experience, thoughtful observation, abstract conceptualization and active experimentation (56).
Figure 1.4 Kolb’s ‘Experiential learning cycle’

1. Concrete Experience

4. Active Experimentation
   (Testing in new situations)

2. Observation & Reflective

3. Abstract Conceptualisation
   (Forming abstract concepts)
In 1981, the British Further Education Curriculum and Development (BFECD) Unit developed an experiential learning model (57), based on the Kolb and Fry work which included reflection. This model has since been used in the United Kingdom as a framework for the development of National Vocational Training (58).

A third model developed by Grundy (59) where the reflective process is considered within the experiential learning of a group, identified that learners need to have freedom of choice and a level of autonomy without the influence of the ‘teacher’ for self-reflection to occur. The key concept in this model was that of ‘equal power relationships’ which must occur within the experiential learning framework to enable students to achieve autonomy in learning. This concept has influenced the framework of ‘service-learning’ models of education.

Heron (60) claimed that experiential learning was based on a multi-modal up-hierarchy model, based on four modes of psychological being: practical, conceptual, imaginal and affective. Most significantly, according to this model, human learning is firmly grounded in feeling, rather than thinking. This model presents learning as an interaction between four distinct modes of psychological being: feeling, imaginal, thinking and practical. These are normally represented in the form of a pyramid (Figure 1.5) with feeling at the base and practical at the top. Interestingly, the model represents feelings as the fundamental mode, rather than thinking. The significance of this alternative orientation is that the crucial requirement for each learner is to establish a relationship with their total learning situation which is familiar and deep (feeling mode). He claims only when this is established can the learner consider and embrace the other three modes of the learning model, imaginal, thinking and
practical. This new concept was in contrast to most traditional education, where cognitive thinking and the pursuit of intellectual competence usually held preference.

Heron’s concept is particularly relevant for students attending community placements where the transition from classroom to placement can be overwhelming until they become accustomed to their new surroundings.

**Figure 1.5 Heron’s multi-modal up-hierarchy model**

Boud and Walker published a new model in 1993 that emphasised the reflective process in experiential learning (61). They believed that the teachers’ role was to provide a learning stimulus, offer the learner support during the experience and facilitate student reflection on the process. They considered the model to be of equal value for individual and group learning and acknowledged the role of Schön’s theories on ‘reflection in action’ (62). Schön described reflective practice as ‘reflection
in action’ and ‘reflection on action’, he suggested that it is the ability to look at our experiences, connect with our feelings and attend to theories in use, while building new understandings to inform our actions and then respond to the situation occurring. (Schön’s’ theories are discussed in more detail under the heading of experiential learning and reflective practice).

Since the work of Kolb and Fry (51) a number of researchers have investigated and refined the experiential learning approach, especially the importance of reflective practice. Postle (63) and Mulligan (64) considered reflection to be fundamental in any experiential learning opportunity.

1.3.5 Experiential Learning and Reflective Practice

Boud et al’s (65) work on experiential learning acknowledges the autonomous learning that occurs outside educational institutions supporting the need for external interaction as part of the learning process. In their study the authors highlighted the importance of the educators’ previous experience and considered this an essential component of any experiential program, believing that high level learning can only occur if the process of reflection occurs from individual experience. They defined ‘experience’ as a continuing complex and meaningful interaction. They discussed a number of points to highlight their perceptions of the issues relating to learning from experience and proposed that experience and learning cannot be separated and that experience is the ‘foundation of and the stimulus for learning’. The process of experiential learning is described as being a
continuous one, where learning is likely to be revisited, revised and altered over time. Therefore, each learner brings to the experience their own unique learning needs and expectations of that experience. These authors also discuss the holistic components of learning describing the balance between cognitive (mental skills), affective (growth in feelings or emotional areas) and psychomotor (manual or physical skills) as depicted in Bloom’s (1956) ‘Taxonomy of Learning Domains – Affective Domain’ (66). (Figure 1.6)

Figure 1.6 Bloom’s (1956) ‘Taxonomy of Learning Domains – Affective Domain’ Diagram
Although reflective practice based on the ‘Dewey’ original concepts (47,48) has a firm place in the educational lexicon, it has become clear it is important to recognise that autonomous learning is essential to the student learning experience.

A good example of setting up a learning experience is that described by Strauss et al in 2003 (67). This is a very useful paper as it is designed for dental training but is based on the Dewey model. The authors emphasised the importance of structured reflection as a mechanism that challenges students to achieve by setting and revising goals, enabling students to learn from their experiences and reduce the possibility of repeating poor work practices. These authors described how structured reflection assignments and methods were incorporated into the University of North Carolina, School of Dentistry’s (DISC) community based program. A number of strategies were employed to enrich the community based learning experiences for students, including photographic documentation, written narratives, critical incident reports and mentored post-experiential small group discussion groups. This study provided rotations for students from first year to fourth year at 84 various community-based sites throughout North Carolina, U.S.A and Internationally. All sites were evaluated for quality of services and the responsiveness of their faculty and staff to student educational needs. Students kept a record of clinical service provided and diarised the social and personal impact of their experiences; they attended a variety of placements across different sites for a period of one month. The study reports that students were prepared for the community placement with information about how to use reflection as part of student learning. A facilitator was also available for students to consult with; however as the pedagogy of experiential and service-learning dictates students were encouraged to develop a level of
professional autonomy during their placement. This study was based on sound methodology, follows the principles of experimental learning and reflective practice techniques espoused by Dewey (47,48). It highlighted the importance of student preparation prior to commencing community placement programs and the value of small group de-briefing after the placement. Post placement students’ submitted their reflective folios and participated in a number of focus group de-briefing sessions with a trained faculty member giving the students the opportunity to reflect orally and hear others’ reflection. Two authors (68, 69) published in the field of medical education support the approach taken by Strauss in his dental module especially the use of small group discussions which enable students to learn from the reflections of their peers and increase their own learning as a result of this participation.

Moon (70) described reflection as a generic term for those intellectual and affective activities in which individuals explore their experiences in order to lead to a new understanding and appreciation. Moon stated that reflection exceeds the gaining of knowledge itself by creating an understanding of the foundation of knowledge and increasing the awareness of the factors that influence understanding. Most models of reflection contain critical reflection on experience and practice so that students can identify their learning needs. The use of a theoretical model ensures that the reflective process is structured in a logical order and assists the user in making sense of their reflection while enabling them to move towards a positive plan of action.

Another dental study of relevance to this thesis was published by Mofidi et al (71) from the University of North Carolina (UNC) in 2003. They looked at student critical incident reflective folios from their community based experiences to see what
learning outcomes and benefits students reported. In this study, 160 final year dental students completed two extramural summer rotations lasting four weeks in total. The students selected their sites with the stipulation that one must be a public health facility. At the end of the rotation, students were required to write a reflective essay about a critical incident that had occurred on their rotation and which had significant meaning for them. They were asked to record their feelings and thoughts about the incident, how they would do things differently next time, how the incident related to the students’ professional responsibilities and what conclusions they could draw from the experience. Reflective essays were collected from two classes (160) of students during 1998 and 2000. The sample represented approximately 25 percent of all UNC dental students. Qualitative content analysis was used to identify common themes; which were personal and professional growth, enhanced awareness and commitment to service. Results from this study showed that students recognised the value of their critical incidents, describing them as ‘awakening,’ ‘unforgettable,’ ‘memorable’ and ‘transformative.’ This study used the sound methodology of Dewy (47, 48) and Schön (62) to formulate the program structure and associated learning and reflective strategies. The use of self-reflection in this study provided an insight into community-based student learning experience, however, the percentage of participating students (25 percent) is low. A larger participation rate would have been beneficial in providing a more conclusive understanding across a variety of student learning types.

Further research is required to systematically assess whether community-based education combined with reflection contributes to positive educational outcomes, influencing students’ post-graduation attitudes and practices.
A study conducted by Ashley et al. (72) looked at undergraduate and postgraduate dental students and their understanding of a good learning experience using ‘reflection on learning’ as described by Schön (62). This study focused on the second of Schön’s two types of reflection: reflection on action. Conducted at the Guy’s, King’s and St Thomas’ Dental Institute (GKT), London UK a total of 25 students participated; 20 undergraduates and 5 postgraduate students. Five focus groups over a two week period were arranged where students were asked to write down what they thought was a good learning experience, a bad learning experience and how the learning at GKT could be improved. The intention of the study was to explore why the students acted as they did and what was happening within the learning groups. The first student was asked to comment on his/her written work and then each student in turn was asked to respond. This study looked at the ‘good learning experiences’ analysing student notes which were categorised into four broad learning areas:

1. active, practical, and positive learning;

2. interactive/together learning

3. personal learning;

4. theory into practice

The reflective approach to learning requires learners to consider the information they have acquired and the process through which knowledge was gained. The students in this study reflected on their own process of learning and several key themes emerged, students seemed to prefer an approach to learning that was graded and
cumulative and they placed emphasis on practical applications of their knowledge. This study highlighted good learning experiences in the move from theory to practice from the dental students perspectives. Through a number of reflective groups it was found that the process of reflection was usually an underlying, implicit or assumed function. Ashley et al (72) focused on student understanding of a good learning experience by using reflection as a tool to measure learning. Although this study was based on sound teaching pedagogy, it found that students lacked the ability to use reflection as inspiration to improve learning.

Further research into student preparation to think reflectively and the preparation of staff trained in reflective techniques to support students in the process would have possibly contributed to a better student understanding of the reflective process.

A study undertaken by Koole et al in 2013 (73) analysed the positive effect of reflection on performance in fourth year dental students. This study described the introduction of a portfolio in social dentistry and oral health promotion courses to investigate student reflection, as a predictor for the acquisition of the other competencies in the course. The authors reported that between 2008 and 2011, 110 dental students collected evidence in their portfolios demonstrating the acquisition of five competencies; these included the ability to:

- Assess the oral health profile of a target group
- Integrate theoretical models in health promotion
- Search for and apply scientific evidence
- Work in multi-disciplinary teams
- Reflect on personal development
Linear regression analysis was used to investigate the predictive value of reflection on the other related competencies. Reflection scores proved to significantly predict (P<0.01) other course-related competences. The results of this study identified reflection scores as a significant predictor for health promotion and community work competence scores in the context of portfolio-based learning in an undergraduate dentistry course.

In line with the assumption that reflection enhances competence, the findings here suggest that it would be valuable to further develop the integration of reflection into dental education and professional practice. This is an interesting study that used sound methodology to validate the connection between reflective practice and theoretical knowledge. Current literature recognises the underlying assumption that reflection can affect competence and acknowledges it is an important characteristic for students and practitioners in the healthcare professions (74).

The use of reflection and reflective practice in dental teaching in Australia is increasing in popularity with some universities including this pedagogy in dental and oral health curricula, with the expectation that graduates will be more competent, critically thinking ‘reflective practitioners’.

It was Schön (62, 75) who popularised the image of the ‘reflective practitioner’ in the mid 1980’s by extending Dewey’s 1933 foundation ideas on reflection through observing how practitioners think in action. This led to Schön (1983) devising reflection-on-action and reflection-in-action as the two forms of reflective thinking. According to Schön reflection-in-action allows immediate reaction so that the procedure or incident can be revised as it occurs and reflection on action is the
process that reviews the experience after the event and promotes revision of theory and revised action for the next event. Schön’s influence on teaching and learning philosophies, combining theory and practice are highly significant. He considered his theory of a ‘reflective practicum’ to have bridged the gap between the worlds of university and practice. Schön’s examples of reflective curriculum are described in his text: Educating the Reflective Practitioner (75).

Greenwood (76) however, was not in agreement with Schön’s model and described it as being flawed. She posited that Schön’s model failed to recognise the importance of reflection before action, and discussed the need to think through what one wanted to do and how one intended to do it. She went on to say that failure to reflect before action may lead to error and allows an important opportunity for feedback to be overlooked. She described initiatives in nursing education that were designed to promote ‘double loop reflective learning’.

Views on reflective practice differ for example, Schön (1983, 1987) (62, 75) had two components, Boud et al (1985) (77) had three, and similarly, Greenwood (1998) (76) believed it had three, with Boud (78) increasing the components to four in his 1992 paper. This change was in response to criticism that his earlier model of reflective practice did not emphasise preparation for experience, so he revised his model to include preparation, which consisted of four focuses: what the learner brings to the event, what they want from it (personal), what constraints and opportunities the event provided (context) and how learners can gain what they need from the event (learning strategies). Single-loop learning is the result of involved reflection on human action, whereas double-loop learning is the result of reflection on the norms, values and social relationships that strengthen human action. Much of the literature
on experiential learning is actually about learning from primary experiences, this is learning through reflection on everyday occurrences and is how most people learn.

As reported by Boud et al (77, 78), reflective practice also encourages development towards best practice outcomes for patients and once this reflective process becomes part of daily thought and work practice, students potentially increase their ability to offer quality patient care. A reflective practitioner is therefore someone who consciously thinks about particular experiences and can make the link between both practice and theory.

A study conducted at Cardiff University in the United Kingdom (79), reported that 257 dental students commented on growing confidence in their abilities and development of reflective practice as a result of a community placement. A similar study conducted at the University of Western Australia (80) also found that introducing reflective activities into third-year dentistry students’ first clinical placement was worthwhile and that for some students the activity of reflective practice prompted them to question their practice and review their clinical decision making. This study had some limitations in that the student cohort was quite small, 46, and staff were inexperienced in reflective practice processes. However, even with these limitations, the study confirmed the value of reflective practice in undergraduate dental courses.

Another relevant study conducted by Tsang et al (81) from the University of Queensland to determine student perceptions of clinical reflective learning and its relevance to their clinical and professional development, reported that student experience of the deliberate reflective process assisted their clinical learning and professional development. As with the Western Australian study student numbers
were small with only 17 participating in the study. The study lacked structure in framework, requiring a number of adjustments including the utilization of a framework to guide students' reflective practices. That being said, the study still supported the benefit of reflective practice for undergraduate students in dental programs.

A study conducted by Strauss et al (82) in 2003 noted that learners gained additional value from community based education when they were guided through a reflective process. The authors discussed the recognition that community-based education must not only strive to enhance the students' knowledge and critical skills, but also facilitate their personal and professional development. This study supports Schön's (62, 75) philosophy of incorporating reflection into professional education to lessen the chances of students repeating bad habits and failing to learning from their own experiences.

Experiential community placement and reflective practice is becoming a desirable and valuable component of undergraduate dental teaching programs worldwide. The models developed by major theorists have contributed to the structure and design of reflective practice in dental curricula and community student placement program structure including service-learning programs.
1.3.6 Service-learning – the history

The roots of service-learning are American and have links with social reform movements, including those of Jane Addams, Ellen Gates Starr and the establishment of Hull House. They also include the educational reform movements of Dewey and colleagues’ at the University of Chicago in the early 1900’s (83, 84). Historically many universities and colleges were founded to serve their local communities in addition to providing an educational facility for their citizens. In the 1940s and 1950s universities and colleges throughout America developed partnerships with regional and local communities to provide volunteer and co-operative education programs. Throughout the 1980s and 1990s the Civil Rights Movement, the Peace Corps and volunteers in service programs inspired a resurrection of national civic responsibility and community service on American university campuses. The promotion of civic responsibility and engagement through service developed as a result of the Campus Outreach Opportunity League in 1984, and the National Campus Compact (a coalition of University and College presidents) in 1985 (85).

Later in the 1990s academic institutions internationally became linked with community involvement through teaching, service and research.
1.3.7 Service-learning

There are countless definitions of service-learning, however, at the core of service-learning is the principle that community service can be connected to classroom learning in such a way that it makes the theoretical understanding more informed by experiencing learning in the ‘real world’ (86). Service-learning is a teaching strategy that provides students with opportunities to learn both in the classroom and in the wider world; it is a philosophy of service and learning that occurs in experiences, reflection, and civic engagement within a collaborative relationship involving community stakeholders. This pedagogy provides students with the opportunity to directly interact with local community services with the possibility of effecting change in that community. It incorporates structured opportunities for all stakeholders to think about their interaction and impact while meeting both educational and community objectives.

Jacoby (87) stated that service-learning is a form of experimental education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Service-learning engages faculty, students and community partners in a structured program to meet academic learning objectives whilst addressing a community need. This definition differentiates service-learning from other types of active learning, such as cooperative, collaborative and problem-based education. Service-learning is different from volunteer experiences because of its direct links with course objectives and community interaction to meet community needs.
Service-learning can also be distinguished from internships because of its civic engagement and reflection elements (88).

Eyler & Giles (10, 89) reported that for service-learning to be valuable it must provide a sufficiently long period of time for learning to occur and must contain quality elements (Table 1.4) including community partnerships, activities relevant to students and community needs, connection to course outcomes and challenges for students to contend with diversity and social issues.

**Table 1.4 Service-learning quality elements**

<table>
<thead>
<tr>
<th>Service-learning quality elements</th>
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<tbody>
<tr>
<td>By Eyler &amp; Giles</td>
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<tr>
<td>Sustainable curricula and projects that have been developed in partnership with the community</td>
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<tr>
<td>Activities that are meaningful to student learning and community needs</td>
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<tr>
<td>A clear and relevant connection of community activities to course learning objectives</td>
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<tr>
<td>Purposeful challenges for participants to contend with diversity and social issues</td>
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</table>
Brown (90) described service-learning as ‘expanding educational institutions’ participation in community, fostering partnerships and creating responsive resources for, and with, that community.

Howard (91) described service-learning as an academic pedagogical model that integrates academic service-learning and community service, thereby challenging the teacher, learner and community partners to connect course outcomes to service in the community, requiring mutual and joint pedagogical approaches.

Dewey’s early work (47, 48) is often cited as the inspirational pedagogy for experiential learning, democratic and civic education and service-learning. He believed that we reflect and use prior knowledge from our experiences to further our development and growth. His work led to a new way of thinking about education; where knowledge and experience were connected through engagement and reflection on ‘real-life’ experiences outside the classroom.

David Kolb and Donald Schön (51, 56, 58, 75) influenced the pedagogy of reflective thinking in experiential learning and the importance of incorporating reflection on service as an integral part of service-learning. Kolb’s model on the ‘cycle of experiential learning’ (51) led to the addition of reflective activities before, during and after service as part of service-learning assignments; while Schön’s practice of reflection in action and his reflective teaching and coaching model have been used to encourage reflective activities amongst students, faculty and community partners in service-learning pedagogy (75, 87).

More recent models of service-learning frameworks include the use of the pedagogy of engagement (92), the transformational model (93) and service-learning as
postmodern pedagogy (94). All of these models explain service-learning as a concept of teaching and learning with important theoretical considerations based on current research.

Boyer (95) further developed the service-learning concept in 1996 when he espoused the importance of teaching institutions supporting community through engagement in the application of knowledge gained from working with communities in community based teaching, service and research.

Yoder (96) noted that service-learning has become an important component of higher education and by integrating service-learning into dentistry and dental hygiene curricula will foster graduates who are better prepared to work effectively among diverse populations and to function dynamically in the health policy arena. Yoder also discussed the framework for successful service-learning in dental education and described ten components that characterise true service-learning. Her framework provides a structure for planning, implementing and evaluating service-learning in dental curricula.

Yoder stated that all ten components of this framework must be present to categorise community engagement as service-learning in dental education.

The components are:

1. Academic link – whereby service-learning must be an academic activity, it must be course based and competency based, or a structured volunteer experience. Yoder acknowledges that some of the most powerful service-learning experiences occur in a non-clinical setting, where students are able
to work in an autonomous capacity without the ‘white coat’ interfering with communication and where students can re-examine what they know as they come to understand the impact of social issues on health.

2. **Sustained community partnerships** – an emphasis is placed on developing a quality ongoing relationship with selected community partners. The most valuable partnerships are developed with agencies that provide direct services for populations with which dental students need to increase their level of comfort and confidence. Community partner agencies should be actively involved in identifying the need being addressed by the program, and the choice of service-learning activities should be equally divided into the educational needs of the students and the needs of the population to be served.

3. **Service-learning objectives** – as in didactic classes, the student must understand the expectations. Faculty and community partners should be involved in formulating the program objectives so that students are aware of what service they are providing and how this experience connects with their studies. Service and learning objectives should be measurable and demonstrable.

4. **Broad preparation** – it is important to provide students with an understanding of the target group, the facility and the work required. Students should initiate self-directed learning to learn about the characteristics of the target group.

5. **Sustained service** – true service-learning involves a sustained amount of time in preparation and service, enabling sufficient time for students to gain
experience and participate in reflective practice. This is one of the central characteristics that should differentiate service-learning from other community based activities.

6. **Reciprocal learning** – in service-learning not all teachers are found in educational institutions. The students will be learning from community teachers not in the dental professions who are skilled in their specific qualification and provide authoritative information.

7. **Guided reflection** – reflection is a dominant characteristic of service-learning and has been called the hyphen that links service and learning. In dental education, integration of reflection shows recognition that community based education must not only strive to enhance the students’ knowledge and clinical skills, it must also facilitate their personal and professional development. Guided reflection causes students to make the connection between their service and academic objectives while fostering the exploration and clarification of complex social issues and personal values.

8. **Community engagement** – this involves working with a group of people who share the same characteristics, such as geographic proximity or an area of special interest such as aged care. It is a powerful tool for promoting changes that can improve people’s health. It encompasses health promotion, social activism and can utilise the health policy process. In this framework community engagement is meant to include knowledge about the cultural components of the community and involvement in advocating for health policy issues that affect that community.
9. **Ongoing evaluation and improvement** – In service-learning student evaluation is measured against the service and the learning objectives. It takes place throughout the process and includes students, community partnership agencies, mentors, faculty and recipients of the service.

10. **Opportunities for community engaged scholarships** – For a service to become an area of excellence and an asset in the Universities promotion and tenure process, it must become scholarship. Community engaged scholarship can be trans-disciplinary and integrates some combination of multiple scholarships. For example, service-learning can integrate the scholarship of teaching, application; engagement and community based participatory research can integrate the scholarship of discovery, integration, application and engagement. Throughout the process of service-learning into dental education, Faculty should be aware of opportunities to publish in peer-reviewed journals.

Yoder believes that the pedagogy of service-learning and its suitability to dental education has the potential to foster dental graduates who have a greater understanding of the populations, institutions, and agencies that encompass their communities and practices; and may potentially provide students and faculty with the knowledge, skills and incentives to promote and change public policy (96).

(Table 1.5) illustrates how this thesis follows Yoder’s framework of service-learning in the dental hygiene student RACF placement program.
Table 1.5: How this research follows Yoder’s framework for service-learning in dental education

<table>
<thead>
<tr>
<th>Yoder’s categories</th>
<th>Pertaining to this thesis</th>
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<tbody>
<tr>
<td>1. Academic link whereby Service-learning must be an academic activity</td>
<td>The RACF student placement program for final year dental hygiene students’ was course based, in a non-clinical environment. Students worked autonomously in an environment that demonstrated to them the social issues pertaining to the challenges of maintaining good oral hygiene care for residents who are either frail or cognitively impaired and unable to maintain their own oral health without assistance</td>
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<tr>
<td>2. Community partnerships</td>
<td>Placement partnerships were developed with 17 RACFs over a period of 5 years, with a new cohort of students returning for placements in Semester one, each year. The RACF placements enhance student comfort and confidence in working with a population group that can be challenging for students and new graduates. Students provided oral hygiene services that may otherwise not have been available while extending and improving their knowledge and skills</td>
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<tr>
<td>3. Service-learning objectives</td>
<td>Students, faculty and community partners were all made aware of the objectives of the placement. The RACFs identified a need for oral hygiene care and the placement program provided experience and tasks for students to connect with their theoretical learning</td>
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<tr>
<td>4. Broad preparation</td>
<td>Pre-placement orientation was provided and evaluated on a yearly basis. Students were encouraged to extend their knowledge of the older persons medical and dental needs and the RACF environment by participating in self-directed learning.</td>
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<tr>
<td>5. Sustained service</td>
<td>The RACF student placement program was 12 weeks of consecutive placement sessions where students were required to make entries into their reflective journals after each placement session.</td>
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<tr>
<td>6. Reciprocal learning</td>
<td>Students are exposed to a variety of non-dental teachers and mentors during the 12 week placement including a variety of allied health professions who provide services to residents in RACFs.</td>
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<tr>
<td>7. Guided reflection</td>
<td>Students were required to make entries into their reflective journals after each placement session. The journaling was designed to enhance their ability to reflect on their improved knowledge and skills during the placement and to identify their personal and professional development during the placement. Guided support with reflections was provided by a faculty member in the form of feedback after each entry.</td>
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<tr>
<td>8. Community engagement</td>
<td>Students engage with the RACF community gaining knowledge about the routines and demands of the RACF community. They identified a need for</td>
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<td></td>
<td>professional oral hygiene care for residents and recognised the need for Dental Hygienists to be employed in all RACFs</td>
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<tr>
<td>9.</td>
<td>Ongoing evaluation and improvement</td>
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<tr>
<td></td>
<td>Students evaluated the placement program yearly. The evaluations contributed to changes and improvements made to the program with the ultimate aim of improving student knowledge and skills pertaining to the oral health of older people living in residential aged care facilities Evaluation is on-going</td>
</tr>
<tr>
<td>10.</td>
<td>Opportunities for community engaged scholarships</td>
</tr>
<tr>
<td></td>
<td>Data collected during the five years of the RACF final year dental hygiene student placement has been published in several international peer reviewed journals</td>
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</table>

There is a body of research that supports the use of service-learning to improve learning, promote civic engagement and strengthen communities (86-96). Brondani (97, 98) and Grobe Hood (99) both champion the benefits of service-learning for dental students and Formicola (100) agrees that service-learning is one of the most successful strategies to improve the educational and financial sustainability of dental schools.
A service-learning placement study conducted in the United States in 2003 by Keselyak et al (101) evaluated the outcomes of a special needs patient community placement for dental hygiene students. The study evaluated student reflections, community site coordinators’ feedback and faculty reflections in a qualitative analysis. Twenty three female dental hygiene students in their fourth semester of study provided preventive oral health services at eight community sites, to six different groups of people with special healthcare needs. Students were asked to complete reflective journals which were analysed to provide insight into the impact of the service-learning placement on their learning. The reflective journals were analysed using the constant comparative method, unitising the data into ten emergent themes. They were; knowledge applied, knowledge gained sensitivity, cultural competence, positive learning experience, professionalism, collaboration, confidence, validation, frustration and disappointment. These were then categorised into three major categories:

1. Awareness

2. Higher order thinking, and

3. Professionalism

The purpose of this study was to describe dental hygiene students’ experiences, attitudes and learning outcomes associated with the implementation of the service-learning rotation related to three fundamental questions:

1. Did the experience increase their awareness of the needs of the underserved?
2. Did their understanding of cultural diversity and ethical patient care improve as a result of the experience?

3. Did the experience foster an interest in public health as a career choice?

This study reported that student awareness of underserved populations increased, student reflection demonstrated discovery of patient and community needs that were complex, numerous and varied. Student awareness of diversity improved with students identifying those patients with insurance and those without and the discrepancies between them. Student interest in public health was unclear and further investigation is necessary to clarify this theme of the research. Outcomes of this study are consistent with the emerging literature on service-learning, where the link between academic coursework and community service is recognised for enhancing a deeper understanding of the subject matter, in addition to becoming aware of complex social issues (89 - 96).

Keselyak et al (101) concluded that service-learning is an effective way to stimulate increased awareness, increased higher order thinking and also foster professionalism. The methodology in this study was sound with multiple data sources used to analyse student learning.

Aston-Brown et al (17) Ottenritter (102) and Gadbury-Amyot et al (103) all agreed with Keselyak et al (101) that service-learning brings together the academic institution and the community in a relationship in which meaningful outcomes can occur for both the student and the community. The literature review provides evidence that service-learning is a sound methodology that combines academic intuitions and community partners in a relationship that benefits student learning (36, 104). Thus, enabling
students to meet objectives outlined in accreditation standards and at the same time address the core competencies for entry into the dental hygiene profession (105,106). Community partnerships exist with universities and colleges around the world where service-learning is becoming increasingly popular in dental education curricula (107,108).

Australia has only recently incorporated service-learning into dental hygiene education with the implementation of a service-learning student placement program for final year dental hygiene students in RACFs at the University of Newcastle, Australia in 2009.

This thesis combines the concepts of experiential learning (47, 48, 49, 50, 51, 56, 58, 60) and reflective practice techniques (61, 62, 67, 74, 75, 77, 78) in conjunction with Yoder’s ten component framework of service-learning in dental education (96) to develop a ‘service-learning model of health promotion in the residential aged care environment for final year dental hygiene students’.
1.4 Aim of the thesis

The aim of this thesis is to develop an evidence base to direct future student learning in RACFs for final year dental hygiene students.

The studies described in this thesis were designed to: evaluate student experiences during a service-learning RACF placement program; investigate student knowledge, willingness and ability to assess oral health needs and deliver oral health advice to RACF residents and staff; examine student reflective journals to establish student experience during the RACF placement program; assess the educational value of the RACF student placement program; analyse the views of final year dental hygiene students during the RACF placement program; and to identify whether a re-enactment DVD specifically designed for the placement program improved student transition from the classroom to the RACF environment.
1.5 Objectives of the thesis

To achieve these aims, the following objectives were developed:

1. Evaluate the RACF student placement program to identify improvement in communications skills and oral health knowledge of students pertaining to the older person.

2. Investigate student knowledge, willingness and ability to assess the oral health needs of older residents, including those with Dementia and Alzheimer’s disease; and identify their willingness to work with older people in RACFs.

3. Explore students’ reflective journals to analyse their experiences and perceived learning during the RACF placement program, with particular reference to feelings of being ill-prepared for the placement.

4. Ascertain student knowledge across three key areas: (i) medical and (ii) dental knowledge of the older person living in RACFs and (iii) student knowledge of the RACF environment and its daily routines.

5. Determine students’ views on their ability to transition from the classroom to the aged care environment.

6. Examine the effectiveness of a specifically designed DVD in the transition of students from the classroom to the aged care environment.
1.6 Outline of the thesis

To achieve these objectives, six studies were undertaken and are presented across eight chapters:

**Chapter One**  
Reviews the literature and states the aims and objectives of the thesis

**Chapter Two**  
A quantitative and qualitative study of student experiences during a pilot RACF student placement program

**Chapter Three**  
A quantitative study of student knowledge, willingness and ability to assess the oral health needs and deliver oral health advice to RACF resident and staff

**Chapter Four**  
A qualitative study of student reflective folios to measure experience and learning gained during a 12 week placement program in RACFs on the NSW Central Coast, Australia

**Chapter Five**  
A quantitative study investigating whether students attending RACF placements gained knowledge about the RACF environment and specifically gained any knowledge about the medical and dental conditions of the elderly
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
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<tbody>
<tr>
<td>Chapter Six</td>
<td>A qualitative study to identify student ability to transition from the classroom to the RACF environment during a service-learning student placement program</td>
</tr>
<tr>
<td>Chapter Seven</td>
<td>A two-group qualitative study to examine the effect of a specifically designed re-enactment DVD on student ability to transition from the classroom to the RACF environment</td>
</tr>
<tr>
<td>Chapter Eight</td>
<td>Presents an overview of the findings of chapters 2 to 6 and implications for future research and development</td>
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</table>
1.7 Peer reviewed publications which are part of the PhD

This thesis contains six papers that have been published or submitted for publication in international, peer reviewed journals:


Chapter 6  Wallace JP, Blinkhorn AS, Blinkhorn FA. Dental hygiene students’ views on a service-learning residential aged care placement program. American Journal of Dental Education – accepted for publication August 2013
Chapter 7  Wallace JP, Blinkhorn AS, Blinkhorn FA. Improving the transition from the classroom to a clinical placement in a residential aged care facility for dental hygiene students by enhancing the pre-placement program. International Dental Journal submitted September 2013

- Details of conference presentations, published abstracts and grants are presented in a preface to each chapter

- Individual publications are presented in the referencing style dictated by the journals to which they have been submitted, a reference list is included at the completion of each individual publication.

- References associated with the literature review are presented at the end of this thesis.
CHAPTER TWO

Student focused oral health promotion in residential aged care facilities
Community student placements are common in the allied health professions (52, 53, 54) however, not so for dental hygiene students. To address this, the University of Newcastle, Faculty of Health and Medicine implemented a pilot oral health student placement program in 17 RACFs on the NSW, Central Coast, Australia. The program was developed in 2009 to provide final year dental hygiene students enrolled in the Bachelor of Oral Health degree program with an opportunity to experience a community based aged care placement, and to provide health education to residents and RACF staff.

Students completed pre and post placement questionnaires and reflective journals to determine their knowledge and experience communicating with and providing oral hygiene care to older adults and RACF staff. Students were also required to complete a number of assessment tasks during the placement including the development of a scientific poster specific to oral health needs of the elderly.

RACF staff were interviewed to determine existing oral health awareness within their RACFs and to establish if dental services were available to their residents.

The aim of this chapter is to evaluate whether the program provided a supportive learning environment where students were able to build on and improve both their communication skills and oral health knowledge pertaining to older people living in RACFs. This was achieved by comparing the results of the pre and post placement questionnaires (Appendix 2.1) and reading students’ reflective journal entries.

The study in this chapter is published in the International Journal of Health Promotion and Education:

This study has been presented at the International Symposium of Dental Hygiene 2010.

Wallace JP, Taylor JA, Wallace LG, Cockrell DJ. Student focused oral health promotion in residential aged care facilities. International Symposium of Dental Hygiene, Glasgow UK July 2010

The presentation received 2nd prize in the 15 minute presentation sessions.

An abstract of this study is also published:

Student focused oral health promotion in Residential Aged Care Facilities

By JP Wallace, JA Taylor, LG Wallace and DJ Cockrell, Oral Health, Faculty of Health, University of Newcastle, NSW, Australia

Keywords: residential aged care facility, oral health promotion, oral hygiene practices, xerostomia.

Abstract

Objectives: A pilot oral health promotion student placement program was developed in February 2009 to provide final year Bachelor of Oral Health students with an opportunity to experience a community based aged care placement, and to provide health promotion to residents and staff within these Residential Aged Care Facilities (RACF).

Design: Students in the final year of the Bachelor of Oral Health, University of Newcastle were placed in Residential Aged Care Facilities (RACF) that volunteered to participate in the program. Management at the RACF were interviewed to determine existing levels of oral health awareness and services provided, and the participating students completed pre-and post-participation surveys to determine knowledge and experience with older adults.

Results: A total of 54 students participated and were placed in 17 RACF across the Central Coast area of New South Wales, Australia. Students produced oral hygiene teaching aids and a scientific poster as assessment tasks linked with the placement program, and assisted residents with their oral hygiene care. Students identified improvement in their skills and knowledge as a result of the experiences during the placement program.

Conclusions: The student placement program provided a supportive teaching and learning environment where students built on and improved their communications skills and oral health knowledge pertaining to the older person.

Introduction

The institutionalised elderly have long been identified as a high risk group for dental disease and poor oral hygiene care. These functionally dependent older adults have regularly been shown to have higher levels of edentulism, significantly more caries and plaque deposits and worse oral hygiene than their community dwelling functionally independent colleagues (Chalmers, et al., 1999, Chalmers, et al., 2002). Concomitant chronic medical conditions such as dementia or Parkinson’s disease significantly increase these statistics in both cohorts (Chalmers, et al., 2005). Hopcroft, et al., (2008) reported that for residents living in Residential Aged Care Facilities (RACF) these high oral disease rates are directly linked to the inability to access dental services and in particular preventive dental care. Residents within RACF face significant barriers to good oral hygiene care, including lack of available staff, both dental and nursing, and lack of appropriate oral health knowledge and skills in both of these groups (Chalmers, et al., 1999, Chalmers, et al., 2001).

Poor oral health can have a profound impact on quality of life including comfort, eating, appearance and the ability to socialise. Chalmers (2003) and Marino, et al., (2005) reinforced that older adults deserve to eat and talk comfortably, to be pain free and maintain the self-esteem that they experienced earlier in life. Older adults living in RACF should have access to appropriate oral health care and the ability to maintain good oral hygiene practices.

Historically, there has been very little geriatric oral health promotion, particularly culturally and linguistically appropriate programs. Several myths have contributed to this situation, including that older people are not willing to change their attitudes or behaviours and that health promotion for this group is unnecessary and not cost-effective (Chalmers, 2003). It has been recommended that dental education should provide a better understanding of geriatric dental issues including a “specific clinical exposure to provision of dental services to the homebound and institutionalised”, and that auxiliaries such as dental hygienists would be able to provide a significant amount of this care (Chalmers, et al., 1999). Additionally, it has been recognised that contemporary geriatric oral health promotion needs to include practical training for RACF staff (Chalmers, 2003).

The involvement of undergraduate students in the provision of preventive oral health care and education in RACF provides an opportunity to address the deficit in oral health care and education. Mascarenhas, et al., (2007) stated that community student placement programs provide the student with a significant experiential real life learning opportunity while providing a level of care that may otherwise not exist.

The program reported here was part of undergraduate student learning in the Bachelor of Oral Health, University of Newcastle, in collaboration with Northern Sydney Central Coast Area Health
Services and Centre for Oral Health Strategy, NSW Health, and 17 participating Residential Aged Care Facilities that provide care for older people across the New South Wales Central Coast region.

The objectives of this project were to determine the effect that an undergraduate student placement program had on the oral health knowledge of residents and staff within RACF on the Central Coast and how the placement program effected student knowledge and skills development.

The following criteria were used to evaluate the program:
1. Determine prior existing knowledge of undergraduate BOH students’ and their previous exposure to RACF
2. Determine existing oral health knowledge of staff and residents within RACF
3. Improve oral health practices and knowledge of residents and staff within RACF by providing intensive student experiential learning programs comprising oral health education and the development of oral hygiene manual skills and aids to assist residents and carers within the participating RACF
4. Determine the geriatric oral health knowledge of the participating students after the placements.

Design

A database of RACF on the Central Coast was established and information including an invitation to participate in the pilot oral health student placement program was sent to 37 facilities. All participating RACF were visited prior to the commencement of the student placement program and management were individually interviewed and asked to identify existing oral hygiene practices within their RACF and the level of existing staff oral health awareness.

A total of 54 students were allocated to participating RACF according to the size of the facility and capacity to support student placements. Students were asked to complete a pre-placement survey to identify existing knowledge and exposure to the elderly and a post-placement survey which identified areas of acquired knowledge as a result of the placement program.

Students were provided with orientation prior to the student placement program via a one day student workshop which included emergency protocol, manual handling and appropriate aged care insight into the needs of dementia patients. All RACF then provided facility specific student orientation once they arrived at their individual placements. Placements ran throughout Semester 1, 2009.

In addition to the pre- and post-placement surveys, students were required to complete pre-determined tasks as part of the assessment process for this unit of work. These tasks included providing staff oral hygiene education sessions, keeping a reflective folio and conducting an oral health needs analysis prior to designing an oral health education information poster, specific to each individual RACF.

To assist the students they were provided with an oral health kit containing toothpaste, brushes, denture cleaning aids, interproximal brushes, mouth rinses and products to treat xerostomia, to be used as examples of appropriate products, and teaching aids.

Results

A total of 17 RACF acknowledged their interest and returned acceptance documentation by the October 2008 deadline. All 17 RACF managers reported that oral health was part of the general health assessment for residents entering a facility. Several facilities advised that an oral health risk assessment was completed as part of the initial health assessment at the admission stage for new residents but that this was a very basic assessment identifying natural teeth, dentures and any abnormalities and did not provide a comprehensive dental analysis.

51% of RACF managers reported that staff were trained in oral hygiene practices, however, staff received varying levels of training, which was often dependent on time. Regular oral health training for staff in an accredited format was not consistent across all facilities and the issue of new staff receiving oral hygiene training was ad hoc. None of the RACF reported that dental care was readily available to residents, and none had dental facilities on site. RACF managers reported the dental care for residents was limited, that regular access to visiting dental professionals was non-existent and that this was a major concern for staff and families trying to access oral health services for family members/residents. 100% of RACF managers reported that oral care was part of daily hygiene practice but that the standard of appropriate oral hygiene care and the frequency of care was inconsistent. All RACF managers maintained an interest in participating in the student pilot placement program.

The pre-placement survey was completed by all 54 students, of those 29 (54%) advised they had no previous exposure to residents within RACF. Of the 25 students who advised they had some previous experience with institutionalised older adults, only 6 (11%) had direct experience in the following capacities: working as a ward clerk, an events planner, an aged care nurse, a podiatrist and as a work experience school student. The remaining 19 students indicated that their only exposure was with elderly family members.

Students identified the placement program as having the potential to benefit RACF staff by providing them with oral hygiene information, demonstrating oral hygiene practices in person rather than learning from a book, providing
reinforcement of good oral health and its effect on the rest of the body and providing oral hygiene skills and knowledge that could be passed on to residents. 78% of the students acknowledged concerns about attending the placement program which included anxiety about getting sick, lack of confidence about what was expected during the placement, worry that the residents might not want to participate, nervousness about dealing with patients with dementia, and fear of the unknown and being exposed to confronting situations.

Students provided comprehensive oral hygiene instruction for residents and staff and performed clinical care where appropriate in the form of cleaning natural teeth with the residents own toothbrushes, and cleaning of dentures.

Students provided staff education sessions for 16 of the 17 facilities, providing between 1 and 8 education sessions during the placement. Staff were encouraged to participate and students attempted to maximise attendance at these sessions by offering sessions at various times to accommodate staff on different rosters or shifts. The facility that did not receive staff education sessions was provided with an information pamphlet specifically designed for that facility which was distributed to staff. There was an overwhelming concern from students that all RACF staff did not attend the oral health sessions provided. Students reported that this may have related to demands on staff time, management co-ordination or lack of interest. It may also be attributed to the fact that sessions were not compulsory. In an attempt to provide information to as many staff as possible, some students returned to the RACF to provide education sessions in their own time during the University break. Several strategies were developed by the students to convey oral hygiene messages. One group produced a pamphlet that was attached to staff pay slips in an attempt to catch those staff members who did not attend education sessions.

Students designed and produced appropriate facility specific oral hygiene teaching aids, developed policies for implementation into admission processes, developed staff oral hygiene practices and protocols, and produced aged care oral hygiene posters as part of the assessment tasks required to successfully complete their health promotion unit of work as part of the Bachelor of Oral Health degree. Students consulted with RACF staff and residents before developing oral hygiene information, this enabled the students to produce a variety of material specific to their RACF placement. Students used appropriate strategies to collect and produce information, asked for input from RACF staff and residents prior to production and evaluated their processes before finally completing the tasks. As a result, students produced and submitted a high standard of poster specifically designed for their RACF target group. This was the culmination of the placement experience and their final assessment task for health promotion.

A total of 48 (89%) of the post-participation surveys were returned. 85% of students reported that the placement had improved their understanding of aged care oral health needs. 25% of students reported that their knowledge had improved considerably, 65% reported some improvement, 8% were unsure of any improvement, while 2% reported no improvement. 77% of students advised their RACF was suitable for student placement, 23% of students expressed concern that their RACF placement was not suitable.

Discussion

The levels of oral health awareness and services provided in the participating RACF was similar to that reported in many Australian nursing homes (Chalmers, et al., 1999, Chalmers et al 2001, Hopcroft, et al., 2008).

Prior to the placement student exposure to elderly in RACF was very limited with only 11% of students having relevant prior experiences. The placement provided students with a real life learning experience that aimed to improve their skills and confidence in dealing with functionally dependent older adults and providing appropriate oral health education for RACF staff.

The students had a variety of experiences while on placement, some very rewarding, others more challenging. These experiences provided the students with a realistic insight into the limited provision of oral hygiene practices and oral hygiene education being provided in RACF, reinforcing the dearth of geriatric services reported by Chalmers and others (Chalmers, et al., 1999, Chalmers, et al., 2001). The students’ educational experience was enhanced by their own self direction and commitment to the placement program. Students identified that the placement was beneficial to their knowledge base and improved their confidence to work independently.

The student placement program provided RACF staff with access to oral hygiene resources to improve their own knowledge and practices. Training was provided in the form of group education sessions and one on one consultation. The education sessions were supported by teaching aids designed by students to meet individual needs of the RACF. These teaching aids were left at the RACF at the completion of the placement program.

Those RACF that received education sessions enthusiastically expressed appreciation of improved staff oral health knowledge. Provision of these educational sessions meets the recommendations of Chalmers (2003) in providing practical training for staff as a necessary component of contemporary oral health promotion for the elderly.

The student placement program provided RACF residents with access to information and assistance
with oral hygiene practices on an individual basis. Students identified existing oral health conditions such as Candida and xerostomia (dry mouth), poorly fitting dentures and other dental conditions with the potential to cause pain and discomfort. Students' cleaned dentures, assisted residents to clean their own natural teeth and advised products to alleviate conditions causing discomfort. Students alerted residents to oral hygiene issues that could cause general medical problems and provided them with the opportunity to talk about their teeth, dentures and other oral health issues.

Provision of these services is an appropriate use of dental hygienists, and has been recommended as a method to address the lack of services provided in RACF (Chalmers, et al., 1999). Unfortunately, even changes to practice regulations have not seen an increase in the utilisation of these auxiliaries in the provision of dental services in nursing homes (Chalmers, et al., 2001).

RACF were assisted with oral hygiene care for their residents during the placement program, however, appropriate restorative and emergency dental care is currently limited and is very dependent on family input. Emergency services are accessed via Northern Sydney Central Coast Area Health Service Oral Health Clinics and to a lesser extent, private dentists. Cost is a factor, as is travel, and with dementia patients identifying that they need dental care, can be a barrier. It was clear from speaking with RACF Managers and students that oral health is under managed in the majority of RACF.

Conclusions

Students identified in their reflective folios that residents within RACF still care about their appearance and that poor oral health has the potential to affect their quality of life.

The objectives of this program were achieved and the project provided a supportive learning environment where students, staff and residents increased oral health knowledge and developed oral hygiene skills related to care of the older person. The placement program provided a real life learning opportunity and resulted in positive experiences for the undergraduate Bachelor of Oral Health students from the University of Newcastle, Australia.

The project also helped many of the recommendations for increased education and exposure in geriatric oral health and strategies required in current oral health promotion for the older adult.

References


Address for Correspondence

JP Wallace,
Oral Health
University of Newcastle
PO Box 127
Ourimbah NSW 2258
Australia
Email: Janet.Wallace@newcastle.edu.au ♦
CHAPTER THREE

An assessment of a service-learning placement programme in residential aged care facilities for final year dental hygiene students
The RACF dental hygiene student placement program at the University of Newcastle, Australia provides a service-learning community placement for final year dental hygiene students based on Yoder’s (96) ten component framework for service-learning in dental education.

The aim of this chapter is to record student feedback on a placement program where they provided oral health assessments and oral hygiene advice to older people living in RACFs on the NSW Central Coast, Australia for a period of 12 weeks.

Student self-completed pre and post placement questionnaires were utilised to determine knowledge about oral health problems of the elderly, their willingness to work with older people living in RACFs and their ability to offer oral hygiene care to residents. The questionnaires used to collect this information are given in Appendix 2.2.

The study in this chapter is published in the International Journal of Disability and Oral Health:


This study has been presented at the Congress of the International Association for Disability and Oral Health 2012.
Wallace JP, Taylor JA, Blinkhorn FA. The role of dental hygiene students in aged care facilities – the benefits? *IADH 21st Congress of the International Association for Disability and Oral Health, Melbourne, Australia October 2012*

An abstract of this study is also published:


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- $700: Wallace J. The University of Newcastle, Travel Grant 2012
An assessment of a service-learning placement programme in residential aged care facilities for final year dental hygiene students

J P Wallace, J A Taylor and F A Blinkhorn

School of Health Sciences, Faculty of Health, University of Newcastle, Ourimbah, Australia

Abstract

Aim: To record student feedback on a placement programme where students offered oral health assessments and oral hygiene advice to older people living in Residential Aged Care Facilities (RACFs) on the NSW Central Coast, Australia.

Methodology: Final year Bachelor of Oral Health students from the University of Newcastle were asked to complete pre and post placement questionnaires relating to knowledge, willingness and ability to assess oral health needs and deliver oral health advice to RACF residents and staff.

Results: Sixty seven students attended the placement programme, 50 (77%) completed the pre- and post- placement questionnaires. Mean Likert scores showed that students reported knowledge to assess the oral health needs of residents with Alzheimer’s significantly improved post placement (P<0.0001) as did their knowledge of how to produce oral hygiene educational material for RACF staff (P<0.0001). An improvement in ability to assess the oral health needs of residents with dementia was significant (P<0.01) and students reported feeling less nervous following the placement (P<0.0001). Student willingness to provide oral hygiene instruction, routinely work with older people in RACFs and speak confidently to RACF staff did not change as a result of the placement.

Conclusions: The placement programme enhanced students’ reported knowledge and ability to assess oral health needs and provide oral hygiene instruction for older residents including those with Alzheimer’s and dementia. However, other aspects of the programme had no positive impact and require further research.

Key words: Special care dentistry, student placements, service learning, dental hygiene students, care of older person, dental education

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Introduction

Whilst the aim of education is to enable students to learn, teaching has to be considered as a series of activities that stimulate, facilitate and progressively guide the learning process, culminating in a graduate who has the skills to engage in self-directed reflective learning (Oliver et al., 2008). Community based service learning dental education programmes have been in existence for many years; however, information on the value of this type of teaching in dental hygiene training programmes is limited (Elkind et al., 2005a; Schonwetter et al., 2006). Community based service learning dental education programmes provide a real life learning experience for students, whilst providing a level of care that may otherwise not exist. The involvement of undergraduate students in the provision of preventive oral health care and education in RACF provides an opportunity to address the existing deficit in oral health care to this group of the population; in addition, it allows the student a significant experiential learning opportunity and enhances links with the community (Elkind et al., 2007; Mascarenhas, 2007). The institutionalised elderly have long been identified as a risk group for dental disease and poor oral hygiene care. Residents display some of the poorest oral health in Australia; this is directly linked to the inability to access dental services and in particular,
preventive dental care. Residents within aged care facilities (RACF) face significant barriers to good oral hygiene care, including lack of available staff with the appropriate oral health knowledge and skills (Hopcroft et al., 2008).

The philosophy of student placement programmes under the heading of community based service learning dental education (CBSLDE) is built on a pedagogy of experiential learning through which students apply their academic skills and knowledge, by solving real problems and addressing needs using theoretical classroom learning in a real world context. This practical experience provides an opportunity for the student to improve confidence, develop initiative and gain the ability to interact with other students, residents and staff within the RACF environment. CBSLDE is a means of achieving local relevance in teaching and learning activities so that education is intimately engaged with the community, which then becomes the learning environment (Elkind et al., 2005b; Ruvimbo et al., 2010).

Students are asked to reflect on their experiences during a placement programme, enabling them to draw meaning from their reflection and use this experience to enhance their knowledge and skills. Experiential learning is a process by which the learner reflects on their experience and draws significance and meaning from such reflection (Strauss, 2003; Waldman et al., 2005). CBSLDE placement programs are based on instructional methods that combine community service with classroom instruction, focusing on critical, reflective thinking as well as personal and civic responsibility (Furco, 1996). Dental educators have long recognised the need to prepare students for the care of the older population with its accompanying panorama of medical complications (Waldman et al., 2005).

The Faculty of Health, University of Newcastle decided to implement a student placement programme as part of a strategy to provide dental hygiene students with a ‘real life’ learning experience, specific to the oral health needs of the older person. This paper reports on the effectiveness of the placement programme in terms of its effect on students’ knowledge and ability to provide oral hygiene care for older people and whether the program increased student willingness to routinely provide oral care in the future for the older person living in RACFs.

Materials and method

This exploratory study was approved by the University of Newcastle, NSW, Australia, Ethics Committee (Ethical approval number H2010 – 0036). All 67 final year Bachelor of Oral Health students were asked to participate in the study. Questionnaires were distributed for self completion during the aged care student placement orientation workshop. Non-respondents were followed up by email to remind them about the research project and encourage their participation.

The placement was offered in 17 different RACFs for 12 weeks, one day per week for a period of 4 hours. Students worked in pairs with some guidance from the RACFs, management and access was available throughout the placement to a faculty teaching staff member to answer their queries. A pre placement orientation programme provided them with an insight into aged care facilities and the emotional, physical and oral health needs of the older person. To assist their learning experience, students were provided with kits containing oral hygiene products and dental mirrors to assess the residents’ oral health needs. Whilst on placement, students were required to demonstrate oral hygiene instruction to both residents and RACF staff. The end of placement assessment comprised the production of a presentation for staff on the importance of oral health and good oral hygiene practices for older people.

Those students who volunteered to participate in the research were asked to complete pre and post placement validated identical questionnaires (Keselyak et al., 2006) which were derived from a literature review and amended to change the focus from special needs patients to older people with medical conditions common to the older age group. The questions were formulated to seek the students’ opinions on the RACF student placement programme, to obtain thoughts on their ability to assess the oral health needs of older people, to provide oral hygiene education to residents in RACFs, including those with Alzheimer’s disease and dementia and to gauge any effect the programme had on them. The questionnaire consisted of 18 statements covering the topics of:

- Knowledge about oral health problems of the older person
- Willingness to work with older people
- Reported ability to offer care to older people.

Students were asked to score how well they agreed or disagreed with each of the 18 statements using a five point Likert scale ranging from Strongly Agree to Strongly Disagree. Pre- and Post- mean Likert scores were produced for each question and P values were calculated using standard t-tests.

Results

Sixty seven students attended the RACF placement programme and 50 (77%) completed both the pre- and post-placement questionnaires. Students reported knowledge was shown to increase significantly following the student placement (Table 1), particularly in terms of understanding how to assess the oral health needs of the older including those with Alzheimer’s disease (P<0.0001). Students also reported a significant improvement in their understanding of how to produce presentations for RACF staff (P<0.0001).
The placement programme had little effect on either student willingness to work in RACFs or with older people (Table 2). Students reported enjoyment of providing oral health care to elderly residents did not change following the placement programme with a mean score of 2.6 pre-placement and 2.4 post-placement, neither could they see themselves routinely treating older patients in RACFs. Students reported a slight reduction with a mean score of 3.6 prior to the placement experience and a mean score of 3.5 post placement in the area of working with individuals who have Alzheimer’s, hearing or vision impairment or memory disorders.

Table 1. Pre- and Post-placement mean Likert scores for knowledge related questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-placement Mean (SD)</th>
<th>Post-placement Mean (SD)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have experience working with people in RACF</td>
<td>4.1 (1.1)</td>
<td>1.9 (0.9)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>I have family members that live in RACF</td>
<td>3.9 (1.4)</td>
<td>4.0 (1.2)</td>
<td>0.61</td>
</tr>
<tr>
<td>I understand how to assess the oral health needs of residents with Alzheimer’s disease</td>
<td>3.6 (1.0)</td>
<td>2.7 (1.1)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>I understand how to assess the oral health needs of the elderly</td>
<td>2.7 (0.8)</td>
<td>2.1 (0.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>I understand how to produce oral health presentations for RACF staff</td>
<td>3.0 (0.9)</td>
<td>1.8 (0.8)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>I understand the unique needs of vision and hearing impairment</td>
<td>2.9 (1.0)</td>
<td>2.6 (1.1)</td>
<td>0.03</td>
</tr>
</tbody>
</table>

1=Strongly Agree 5= Strongly Disagree

Table 2. Pre- and Post- mean Likert scores for willingness related questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-placement Mean (SD)</th>
<th>Post-placement Mean (SD)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would not like to work in a setting other than private practice</td>
<td>3.8 (1.1)</td>
<td>3.4 (1.2)</td>
<td>0.06</td>
</tr>
<tr>
<td>I enjoy providing oral hygiene care to residents in RACF</td>
<td>2.6 (0.6)</td>
<td>2.4 (1.2)</td>
<td>0.24</td>
</tr>
<tr>
<td>I find providing care for older persons with special needs rewarding</td>
<td>2.1 (0.8)</td>
<td>2.1 (0.7)</td>
<td>1.0</td>
</tr>
<tr>
<td>I would prefer not to work in RACF’s</td>
<td>3.5 (1.0)</td>
<td>3.2 (1.2)</td>
<td>0.18</td>
</tr>
<tr>
<td>I would prefer not to work with individuals who have Alzheimer’s, hearing or vision impairment or memory disorders</td>
<td>3.6 (0.9)</td>
<td>3.5 (0.9)</td>
<td>0.89</td>
</tr>
<tr>
<td>I enjoy working with patients different from me</td>
<td>2.0 (0.7)</td>
<td>1.8 (0.6)</td>
<td>0.16</td>
</tr>
<tr>
<td>I forsee myself routinely treating older patients in RACF</td>
<td>3.0 (0.9)</td>
<td>3.1 (1.1)</td>
<td>0.40</td>
</tr>
</tbody>
</table>

1=Strongly Agree 5= Strongly Disagree
Table 3. Pre- and Post-mean Likert scores for ability related questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-placement Mean (SD)</th>
<th>Post-placement Mean (SD)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am comfortable speaking with staff in RACF</td>
<td>2.2 (0.7)</td>
<td>2.5 (1.1)</td>
<td>0.12</td>
</tr>
<tr>
<td>Providing care to residents in RACF makes me nervous</td>
<td>3.0 (1.0)</td>
<td>3.8 (0.9)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Working with people with special health care needs is stressful</td>
<td>2.8 (0.9)</td>
<td>2.8 (1.0)</td>
<td>0.23</td>
</tr>
<tr>
<td>I am able to assess the oral health needs of patients with dementia</td>
<td>3.1 (0.7)</td>
<td>2.6 (1.0)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>I find presenting Oral Hygiene Instruction to RACF staff stressful</td>
<td>3.2 (0.7)</td>
<td>3.5 (1.1)</td>
<td>0.45</td>
</tr>
</tbody>
</table>

1=Strongly Agree 5= Strongly Disagree

Discussion

The Outcomes of this study are consistent with current literature on service-learning which recognises the link between academic course work and community student placement programmes in providing students with an opportunity to gain a deeper understanding of the subject matter (Elyer and Giles, 1999; Yoder, 2006). In addition to the experience of providing oral hygiene care to residents in RACF, this programme ensured that students met a diverse range of residents with a variety of oral health needs in an environment where oral hygiene care was often poor or nonexistent. The experience has the potential to promote student thinking and influence their attitudes to the general care of elderly people. Dental education should cultivate graduates who have a broader understanding of health enabling them to become advocates for community members in need (Yoder, 2006).

In this study, the response rate from the students was good with 77% completing the pre- and post-placement questionnaires. The programme targeted final year dental hygiene students and took place over a 12 week period where students were allocated to RACFs spending four hours a week assessing oral health needs and providing oral hygiene instruction. Many students provided oral hygiene advice to residents with dementia and Alzheimer’s disease. Research in this area is limited since student placement programmes for dental hygienists in RACFs are relatively new to Australia (Wallace et al., 2010), so, comparison with other Australian programmes could not be undertaken. Likert scale methods were used to provide quantitative data for this research and although a validated questionnaire (Keselyak et al., 2006) was used, self-reporting has the potential for bias and students might be tempted to provide answers that they perceive as desirable by the researcher. The use of Likert scale questions also limits the student response and prohibits elaboration of their experiences. To clarify student learning experiences and identify knowledge gained from the placement, completion of newly designed pre- and post-knowledge tests which focus on medical and oral health conditions specific to the older person may provide a more accurate measurement of improved student knowledge, and at the same time reduce the potential for bias of student self-reporting. Students’ reflective folios will also be examined to identify learning and reflective practice benefits gained from the programme. This will be part of a new strategy to improve the learning experience.

The student placement programme was successful with students reporting increased knowledge and ability in the area of assessing oral health needs of elderly residents with particular reference to those suffering from Alzheimer’s disease and dementia. This improvement is particularly encouraging since these conditions present challenging management for the most experienced of dental professionals. Students also reported improvement in their knowledge of preparing oral health educational presentations for RACF staff, although disappointingly their confidence when speaking or presenting to RACF staff did not improve. Further investigation is required to ascertain the reasons why students still lacked confidence in the presence of RACF staff.

The placement had a positive effect by reducing students’ apprehension and nervousness of treating the older person in RACFs; however, it was envisaged that the RACF placement experience would increase student willingness to work with the elderly in RACFs and increase their enjoyment of working with the older people, but this did not occur with little recorded change between pre- and post-placement. It was hoped that the placement experience would inspire students to want to work with these older people in RACFs after graduation; again, however this
was not the case. Clearly the programme is not working in these two areas and further research and development are required to identify the barriers prohibiting students from wanting to work in the RACF environment and to increase student learning.

In addition to a newly designed medical and oral health pre- and post-knowledge test, students will be provided with a pre-placement orientation programme that includes representation of ‘real life’ RACF scenarios. Students who have completed the RACF placement will be working alongside students who have not yet commenced the placement, this will provide students with an opportunity to learn from each other and potentially model their behaviour to improve the RACF learning experience.

The challenge here is to identify why students’ willingness to provide care to elderly residents and routinely work in the RACF environment showed no improvement and why after a significant period of exposure, students still felt uncomfortable speaking to RACF staff. Identification of these barriers may provide an insight into future planning where improvement to the program will enable students to positively benefit from all aspects of the placement programme experience.

Conclusions

The RACF service learning student placement programme increased student knowledge and ability in terms of assessing oral health needs of the elderly including those with Alzheimer’s disease and dementia. Students reported a significant improvement in producing presentations for RACF staff and feeling less nervous about providing care to residents after the placement. The programme did not increase student willingness to work with older people in RACF in general, nor did it improve student comfort or confidence to speak and present oral hygiene information to RACF staff.

References

CHAPTER FOUR

Reflective folios for dental hygiene students: what do they tell us about a residential aged care student placement experience?
Reflective practice enables students to explore their experiences in order to lead to a new understanding and appreciation of their capabilities; it promotes critical reflection on experience and practice so that students can identify their learning needs and prevent replication of errors. Reflective practice concepts are well documented in the literature (47, 48, 61, 62, 71) and play an integral role in the development of student learning.

The RACF student placement program for dental hygiene students incorporates reflective practice techniques (based on the works of Schön (62, 75), combined with theoretical and practical experience to provide them with an experiential learning opportunity providing oral hygiene care and education to older people in residential aged care.

The aim of this chapter is to investigate students’ experience and perceived learning during their 12 week placement in RACFs. This was achieved by examining reflective journals which they completed on a weekly basis throughout their placement. Students were asked to record their experiences by self-reflection journaling after each placement session, they had to describe an event, consider their thoughts and feelings and then evaluate the event. Emergent themes were identified and used to formulate an understanding of students experience and perceived learning.

The study in this chapter is published in the European Journal of Dental Education:

This study is being presented at the:

Dental Hygienists Association of Australia Inc. Annual Seminar Day, ‘Golden Age’-
Living longer, Living better, November 2013
Reflective folios for dental hygiene students: what do they tell us about a residential aged care student placement experience?

J. P. Wallace¹, A. S. Blinkhorn² and F. A. Blinkhorn¹

¹ School of Health Sciences, Faculty of Health, University of Newcastle, Ourimbah, NSW, Australia, 
² Faculty of Dentistry, University of Sydney, Westmead, NSW, Australia

Abstract

Introduction: Community-based education programmes provide students with an experiential learning opportunity in a real-life context. The purpose of this study was to examine reflective journals to identify students’ experiences and perceived learning during a 12-week placement programme in residential aged care facilities (RACF) on the NSW Central Coast, Australia.

Methodology: All final year dental hygiene students from the University of Newcastle, Australia attended an aged care orientation workshop prior to commencing the RACF student placement programme. Throughout the placement, students were asked to record their educational experiences in reflective journals. Student reflections were based on the ‘Gibbs Reflective Cycle’, diarising experiences and feelings. Qualitative data was analysed using the constant comparative method and unitised to identify emergent themes.

Results: Sixty-seven students completed reflective journals during the placement programme; emergent themes indicated students felt ill-prepared for the placement programme despite attending the orientation workshop. They were apprehensive and nervous prior to commencement of the placement. The general consensus after week 6 was that the placement became a more positive experience where students began to feel comfortable in the RACF environment and residents, and staff started to respond more positively to their presence. Overall, they thought the placement was challenging and confronting, but had improved their skills and knowledge in care of older people and increased their confidence in working with other healthcare professionals.

Conclusion: The reflective journals provided students with the opportunity to record and reflect on their experience and perceived learning during the placement programme. Student reflections identified negative experiences at the commencement of the placement, suggesting a need for additional orientation prior to the RACF programme.

Introduction

Community-based teaching programmes provide students with potential learning experiences to reflect on, enhance their knowledge and clinical skills whilst facilitating personal and professional development(1). Moon (2) describes reflection as a ‘generic term for those intellectual and affective activities in which individuals explore their experiences to lead to a new understanding and appreciation’. Reflection exceeds the gaining of knowledge itself by creating an understanding of the foundation of knowledge and increasing the awareness of the factors that influence
understanding. Schön (3) identified ‘reflection in action’ and ‘reflection on action’ as important aspects of reflective practice. He described reflection as the ability to look to our experiences, connect with our feelings and attend to theories in use, whilst building new understandings to inform our actions and respond in a situation that is unfolding. The focus on reflective practice is not recent within the health professions (4). Nursing has a long tradition of formal reflective practice and positive benefits to student learning have been reported, including enhancing student capacity to self-reflect and refine skills through the continuous process of setting and attaining revised goals. It allows students to gain new insights and understanding about themselves and their environment, whilst using reflective practice to consolidate their critical thinking skills and problem-solving expertise (5). Strauss et al. (6) have emphasised the importance of structured reflection as a mechanism that challenges students to achieve these goals. Structured reflection makes learning deliberate and active, enabling students to learn from their experiences and reduce the possibilities of repeating poor work practices. Most models of reflection (3, 7–9) contain critical reflection on experience and practice so that students can identify their learning needs. The use of a theoretical model (10) ensures that the reflective process is structured in a logical order and assists the user in making sense of their reflection, whilst enabling them to move towards a positive plan of action. Reflective practice also encourages development towards best practice outcomes for patients, and once this reflective process becomes part of daily thought and work practice, students potentially increase their ability to offer quality patient care. A reflective practitioner is therefore someone who consciously thinks about particular experiences, making the link between practice and theory (11).

The use of reflective journals to assist students in reflective practice can improve their ability to integrate theory with practice, encourage self-awareness and reflection and provides an opportunity for them to identify their learning needs (12).

Through continuous cycles of reflection and adjustment in practice, professionals maintain or improve their practice over potentially long careers. A lack of ability to reflect or adapt may result in poor insight and poor performance (13). Students will not always find the answers in their reflections; however, it may help them make sense of real-life practical experience, whilst understanding that in addition to theoretical practice other factors come into play, in the form of personal perspectives, beliefs, values and assumptions of need. Reflective inquiry is part of this process, whereby students learn to understand themselves and their work (14). Reflective practice can be confronting as students are required to reflect on their own abilities and skills and identify any deficiencies and this may put them outside their comfort zone. However, it is important to explain that reflective practice should not be a threatening experience, where individuals feel over scrutinised, but one that promotes self-improvement. Reflection opens the possibility for personal growth and professional development (15).

The Discipline of Oral Health at the University of Newcastle, NSW, Australia introduced a community student placement programme to provide final year dental hygiene students with an experiential learning environment in Residential Aged Care Facilities where they provided oral hygiene care to residents and health education sessions to the staff. This article describes how student reflections were analysed to identify the experience and perceived learning during the programme.

**Methodology**

Final year dental hygiene students were allocated to one of 17 participating residential aged care facilities (RACFs) for a period of 4 h, one day per week for 12 weeks. The placement was a compulsory course component, and students were required to complete the placement to be eligible to receive their degree. In preparation of the placement students had to attend a pre-placement orientation workshop during which they were provided with medical and dental information specific to older people living in RACF’s. Specific information relating to Dementia, Alzheimer’s disease and medical conditions common to the elderly and the specifics of the RACF environment were provided by visiting consultants.

During the placement, students were expected to initiate oral hygiene care for the residents and raise the profile of oral health with RACF staff. They were given a certain amount of autonomy as this was an experiential learning programme; however, a member of Faculty staff visited each facility on a number of occasions to provide guidance, and support was available by email or mobile phone.

Students were asked to record their experiences by self-reflection journaling immediately after each placement session. Based on the ‘Gibbs Reflective Cycle’ (10), students had to describe an event, consider their thoughts and feelings and evaluate the event. Each reflective report had a word limit of 250 and was kept in a journal. Prior to the placement, students received training on how to reflect, including looking at case studies and then having an open discussion about feelings, questions and the meaning of reflection. Feedback provided to students after each placement reflection was constructive and supportive, in that it was immediate (after each placement session), helpful, confidential, respectful and encouraging. Staff providing the feedback were trained in tertiary teaching, which covers feedback in its many forms. Their role was to support student learning however, at no stage did they assist with writing the reflections.

Qualitative data in reflective journals were analysed by two Faculty members, after unitising the data, using the constant comparative method in which newly collected data are compared with previous data collected in earlier studies as outlined by Lincoln and Guba (16). A previous study of student placement in RACF’s (17) identified a number of emergent themes, which were then compared with the themes identified in this study. Students gave consent to analyse the data in their reflective journals in this study. Data were de-identified before the collation of student reflections commenced. Ethics approval was gained from the University of Newcastle, NSW, Australia.

**Results**

All 67 final year students completed a reflective journal for the duration of the placement programme. Analysis of the reflective journals identified emergent themes pertaining to the students’ placement experience, including student ability to transition
from the classroom to the RACF placement, knowledge of the RACF environment, student awareness of oral hygiene care and oral health status of the older person living in RACF’s and student willingness to provide oral hygiene care and work with the older person living in the RACF’s. During the initial weeks, students reported feeling frightened and nervous about the placement, expressed concern at feeling ill-prepared, despite their participation in the pre-placement orientation workshop. They reported feeling very worried about dealing with residents with Dementia and Alzheimer’s disease in particular and expressed concerns at not being able to communicate with elderly residents. Students reported not knowing what to do during the placement sessions and feeling awkward and out of place (Table 1). They were particularly concerned and anxious about their lack of ability to provide oral hygiene care to residents with Dementia and Alzheimer’s disease and reported that even some carers were unable to get close to some of the residents. They reported feeling frustrated at the lack of oral health services within the facilities, and identified that complex medical conditions were impacting on the oral health status of residents.

Students expressed concern that staff had high workloads and that this contributed to the lack of oral hygiene care for residents. Several students reported a lack of referral pathways for dental care in the RACF and identified that it was often the family that had to organise dental visits for their older relatives (Table 2). Students also reported concerns that staff did not seem aware of the more common oral conditions suffered by the residents and the availability of simple treatments. They reported that some residents were unwilling to participate in the oral hygiene programme, that sometimes they felt in the way and that staff were busy trying to manage everyday needs of the residents, often within unrealistic time frames and as a result oral hygiene practices were ad hoc. Student reflective journals identified a lack of available dental care and the seemingly low priority of oral hygiene practices within the RACF’s (Table 3). Many students expressed feelings of frustration and sadness that at this vulnerable stage of their lives the residents were often not receiving appropriate oral hygiene care. Students were united in their feelings that the situation could be rectified by employing dental hygienists/oral health therapists in all residential aged care facilities and that this would especially benefit those residents in high dependency facilities coping with Dementia and Alzheimer’s disease. A final entry in one of the female student’s reflective journals stated, ‘I feel there is limited orientation prior to the placement and little instruction for dealing with residents with disabilities and behaviours issues; perhaps a DVD could be created to demonstrate to students. This would help them feel more comfortable in providing care for residents in this challenging environment’.

By week six, students reported an improvement in their ability to communicate with residents and noticed that both residents and staff had started to respond more positively to their presence. They reported a reduction in their anxiety, whilst providing oral hygiene care and increased confidence in giving care for those residents with Alzheimer’s disease and Dementia. Students reported an improvement in their knowledge of medications and were able to identify the relationship between polypharmacy and its effect on the oral health of the older person. They also found an improved confidence in interacting with other health professionals within the aged care environment (Table 4).

As the placement further progressed, students reported an improved awareness of the older persons’ oral hygiene needs, an increased ability to identifying their oral health conditions and an improvement in providing oral health advice for both the residents and staff. Students identified the necessity to build rapport with residents and developing a trusting relationship before being able to provide any oral hygiene care. By week six, there was a paradigm shift in the reflective journal entries, where students began to recognise and document an
improvement of physical and emotional comfort during the placement, they acknowledged an increase in perceived knowledge and skills and an enjoyment of working with the residents and staff. The more positive comments seemed to be related to acceptance of the student presence within the facilities and the building of rapport with both residents and staff. Some reflections started to include reports of feeling pleased and proud to be able to help the residents improve their oral hygiene and a definite acknowledgement that the placement was a worthwhile learning opportunity that had increased their knowledge of the oral health needs of the elderly person. Final journal entries reported that although the placement had been challenging, it had been an experience they would not have gained from theoretical classroom teaching. One reflective journal entry expressed the following sentiments, 'I found this placement programme experience enlightening, educational, challenging and confronting all at the same time'. Another stated 'Upon reflection the placement was influential and improved my knowledge and oral health practices for the elderly, despite several elements being challenging and at times making the experience difficult.' At the conclusion of the 12-week placement, students acknowledged a better understanding of the educational value of the placement and expressed enthusiasm for the learning experience.

Discussion

In this study, students attended placement for 12 weeks, during which they were required to complete reflective journals. The validity of student reporting was considered in reference to 'making up events', students were asked at the outset to be honest and open with regard to their reflective journals, and the entries were all taken at face value. Early reflective journal entries diarised that some students disputed the value of the RACF programme; expressing frustration at not knowing what to do, and not understanding the concept of an experiential service-learning opportunity. Many students expressed feelings of nervousness and anxiety at the thought of spending time at a RACF and reported that even though they had participated in a pre-placement orientation workshop, they still felt ill-prepared, confused and unable to be self-directed. This theme continued to be reported by the majority of students until half way through the placement programme.

As the placement progressed students gained an understanding of the experiential teaching pedagogy and as a result, their reflections began to report positive perceived learning from the placement experience. They expressed feelings of ease in the RACF environment and documented their ability to communicate oral health messages. It seems that the students in this study required a ‘settling in period’ to enable them to feel at ease in their new environment. Once they felt accepted and comfortable their perceived learning, confidence and enjoyment of the placement was evident.

These results are consistent with an earlier study (17) of this RACF placement programme, where 78% of students acknowledged concerns about attending the placement programme, which included anxiety about getting sick, lack of confidence about what was expected during the placement, worry that the residents might not want to participate, nervousness about dealing with patients with Dementia, and fear of the unknown and being exposed to confronting situations. Although there are consistencies between these two sequential studies, the results cannot be generalised as applicable to other healthcare professions.

This study links academic course work and experiential learning in service learning and supports the use of reflective journals as a useful tool in promoting critical thinking professionals. Current research supports the connection between academic study, community service and structured reflection as contributing to learning that is deeper, longer lasting and more portable to new situations (18), and encourages students to use higher-order learning processes (19).

Students’ reflective journal entries provided a valuable insight into student learning during the RACF placement and highlighted a number of additional positives for the placement including the enjoyment and value of working with other healthcare professionals. This supports research by Yoder (20) and Keselyak et al. (21), which acknowledges the benefits of learning from community partner mentors who are highly skilled in working with special populations and reported an increase in student confidence when communicating with people they met during placement.

Student reflective journals identified that students felt ill-prepared for the placement experience and that the pre-placement orientation workshop did not provide students with a realistic insight into the needs of the older person, nor did it provide sufficient information to help students communicate or provide oral care to residents with Dementia or Alzheimers disease.

The results of this study showed lack of student learning in the early stages of the RACF placement programme, confirming the results of a previous study (17). This issue needs to be addressed in order that students can commence learning from the very first week of placement and not have to wait until half way through the programme before nervousness and anxiety give way to comfort and confidence in providing oral hygiene care for the residents.

TABLE 4. Examples of student reflections on their willingness to work within residential aged care facilities and provide oral hygiene care to residents

<table>
<thead>
<tr>
<th>Reflection</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending the residential aged care facilities (RACF) placement has been a great learning opportunity it has given me the opportunity to recognise the deficit in oral health care for residents and has allowed me to realise the importance of communication I really believe all RACF should have a hygienist/oral health therapist on staff to care for the residents oral health</td>
<td></td>
</tr>
<tr>
<td>The placement has improved my knowledge of medications and highlighted the relationship between oral health and general health This placement should continue for other students, it’s a real win, win opportunity, staff and residents get specialised education sessions, whilst students gain valuable firsthand knowledge and skills, not just as hygienists, but as community minded compassionate people This placement has taught me to work with other health professionals and has grown my confidence This placement has opened my eyes and been extremely beneficial and a great learning experience</td>
<td></td>
</tr>
<tr>
<td>I really believe all RACF should have a hygienist/oral health therapist on staff to care for the residents oral health</td>
<td></td>
</tr>
<tr>
<td>The placement has improved my knowledge of medications and highlighted the relationship between oral health and general health This placement should continue for other students, it’s a real win, win opportunity, staff and residents get specialised education sessions, whilst students gain valuable firsthand knowledge and skills, not just as hygienists, but as community minded compassionate people This placement has taught me to work with other health professionals and has grown my confidence This placement has opened my eyes and been extremely beneficial and a great learning experience</td>
<td></td>
</tr>
<tr>
<td>The results of this study showed lack of student learning in</td>
<td></td>
</tr>
<tr>
<td>the early stages of the RACF placement programme, confirming the results of a previous study (17). This issue needs to be addressed in order that students can commence learning from the very first week of placement and not have to wait until half way through the programme before nervousness and anxiety give way to comfort and confidence in providing oral hygiene care for the residents.</td>
<td></td>
</tr>
</tbody>
</table>
It may be beneficial for students to participate in a more comprehensive orientation workshop, where real-life scenarios of the placement programme are re-enacted to provide an observational learning experience (22). This would enable students to learn from the re-enactment and potentially model this behaviour during the early stages of the residential aged care student placement programme. However, it will be nigh on impossible to prepare a young person for very alien sights and smells consistent with the aged care environment in a one day workshop.

To make changes to the orientation process and improve the student experience, interviewing students who have successfully completed the placement to identify and further clarify the deficit in preparation would be advantageous. A series of focus groups held in an open forum to encourage student interaction and participation could potentially improve the student residential aged care student experience.

Conclusion

The reflective journals enabled students to identify inadequacies in the pre-placement orientation workshop and to journal both their experience and perceived learning during the placement. Data from the reflective journal entries indicated that the placement had many learning benefits, including reducing anxiety in the RACF environment, improvement in providing oral hygiene care to residents with Dementia and Alzheimers disease and a clearer understanding of oral health and medical needs of the older person. Nevertheless, a more comprehensive pre-placement orientation is required if students are to transition from the classroom to a real-life setting in a manner conducive to early placement learning.

References

CHAPTER FIVE

An assessment of the educational value of service-learning community placements in residential aged care facilities
PREFACE

The utilisation of dental hygienists to provide oral health care for older people in RACFs in other countries of the world is part of normal clinical practice (41, 42). This is not the case in Australia, with few RACFs providing specific oral hygiene care for their residents; moreover, oral hygiene care in RACFs is managed in an ad hoc manner, resulting in poor oral health for this older demographic (5, 6, 7, 8).

The aim of this chapter is to investigate whether final year dental hygiene students from the University of Newcastle, Australia gained any knowledge about the medical and dental care of elderly residents living in RACFs and whether they gained any knowledge about the RACF environment; with particular respect to its services, routines and general workings during a semester long, student placement program in RACFs on the NSW, Central Coast, Australia.

The dental hygiene students attended a 12 week RACF placement and were asked to complete pre and post placement questionnaires about their knowledge of medical and dental issues relating to older people living in RACFs and their knowledge about the RACF environment and its daily routines. The pre and post questionnaires (Appendix 2.3) were compared using five point Likert scales, ranging from strongly agree to strongly disagree; pre and post mean scores were produced for each question and P values calculated using a paired t-test.

The study in this chapter was submitted to:

The International Journal of Dental Hygiene and accepted for publication in November 2013.

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An assessment of the educational value of service-learning community placements in residential aged care facilities

JP. Wallace¹, AS. Blinkhorn² and FA. Blinkhorn¹

¹ School of Health Sciences, Faculty of Health, University of Newcastle, Ourimbah, NSW, Australia
² Faculty of Dentistry, University of Sydney, Westmead, NSW, Australia

Abstract

Aims: The aim of this investigation was to determine whether dental hygiene students attending residential aged care facilities (RACFs) during a placement program gained any knowledge about the oral care of elderly patients and the RACF environment.

Location: Aged Care Facilities on the Central Coast of New South Wales, Australia.

Methodology: Final year dental hygiene students undertook a 12 week placement, one day per week, in one of 17 RACFs on the NSW Central Coast. They were asked to complete pre-placement and post-placement questionnaires which recorded their knowledge of medical, dental and environmental issues related to older people. The placement questionnaires used five point Likert scales, ranging from strongly agree to strongly disagree, pre and post mean scores were produced for each question and P values calculated using a paired t-test.

Results: Thirty three students attended the placement, 26 (79%) completed both the pre and post – placement questionnaires. Post placement mean scores as compared to pre-placement mean scores showed significant improvement in student
knowledge of medical (p<0.05) and dental (p<0.05) conditions specific to the older person and improvement in knowledge (p<0.05) about the residential aged care facility environment.

**Conclusion:** The placement program enhanced student knowledge across three subject categories; medical and dental conditions of the older person and the structure and services of the residential aged care environment.

**Introduction**

The University of Newcastle introduced a new service-learning student placement course in residential aged care facilities (RACFs) for undergraduate dental hygiene students for the first time in 2009. Since then final year students have been providing oral health advice to residents and staff at 17 RACFs on the New South Wales, Central Coast, Australia, as part of their undergraduate degree program. Although the course was designed to promote student oral health promotion skills, this study investigated whether there would be a change in the students’ medical and dental knowledge about older people and their knowledge about the RACF environment.

The opportunity to consolidate theoretical learning with a real world experience during service-learning is of benefit to students and the community. Jacoby (1) stated that service-learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and
development. Many community student placement programs exist and service-
learning has been used by a number of organisations to provide students with a
realistic learning experience (2, 3). Research into experiential learning, shows that
service- learning positively affects student attitudes towards community service (4)
and increases their self-efficacy. Similar programs at other dental schools positively
influenced students’ attitudes to community service and increased their motivation (5).
Service-learning can create a mechanism by which dental hygiene students can
acquire skills that enable them to become culturally competent by providing
opportunities to work with ethnically diverse populations and individuals with special
needs (6). Service-learning has become an important component of higher education
and integrating service-learning into dentistry and dental hygiene curricula may well
foster graduates who are better prepared to work effectively among diverse
populations and able to function dynamically in the health policy arena (7).

The aged care student placement program commenced in 2009 and all final year
dental hygiene students at the University of Newcastle have been required to attend
one day a week for one semester at a RACF. During the placement students were
asked to provide dental health education sessions for residents and staff,
demonstrate cleaning of teeth and/or dentures, provide advice on dental products for
dry mouth, ulcers and other minor oral ailments, and raise the profile of oral health in
the RACFs. During the placement, students were required to submit a number of
summative assessment tasks including reflective journal entries after each
placement session to complete their Bachelor of Oral Health degree.

There were no Australian research studies in this area until the publication of the
initial results of this program in 2010 (8,9). Both studies reported that the service-
learning community placement had increased understanding of aged care oral health needs. This study investigates whether the placement program improved students’ knowledge of medical, dental and environmental issues pertaining to older people living in RACFs.

**Methodology**

All final year (n=33), dental hygiene students from the University of Newcastle attended a pre-placement orientation program that provided them with an overview of older people living in RACFs. The program took the form of a one day workshop which included information about Dementia, Alzheimer's disease and oral health issues affecting the elderly and frail. The students were allocated to one of 17 RACFs for a 12 week placement. The placement was a compulsory course component for the Bachelor of Oral Health degree. All final year students were invited to join the evaluation study; participation was voluntary and they were made aware that their participation in the research had no influence on their final course mark. The study was approved by the University of Newcastle, NSW, Australia, Ethics Committee (Ethical approval number H2010 – 0036).

Students completed pre and post- placement questionnaires, consisting of 40 questions, the format of which had been previously tested (9). The placement questionnaires used five point Likert scales, ranging from strongly agree to strongly disagree, with a marking allocation of 1 to strongly agree and 5 to strongly disagree. Pre and post placement mean scores with standard deviations were produced for each question and P values were calculated using a paired t-test.
The questionnaires were designed to identify specific themes; listed in three separate categories:

**Category 1: Medical knowledge pertaining to the older person**

To investigate student knowledge of medical conditions and pharmacology specific to the older person, including, Alzheimer’s disease, Dementia, Tardive Dyskinesia and co-morbidities all of which have a negative impact on oral health.

**Category 2: Dental knowledge specific to the older person**

To consider student knowledge of the prevalence of dental caries, periodontal disease and oral mucosal lesions; as well as the availability of dental care and dental hygiene practices for older people living in RACFs.

**Category 3: Knowledge of the RACF environment**

To ascertain student knowledge of whether staff in RACFs receive training in oral health and whether the training provides them with the ability to provide appropriate oral health advice and oral hygiene care for residents. Students were also asked about the availability of oral hygiene care provided to residents and whether RACF staff could recognise dental problems and prescribe appropriate oral hygiene products for older people living in RACFs.
Results

Thirty three students attended the placements and 26 (79%) completed both pre and post-placement questionnaires. The results are presented in three categories:

- **Category 1 - Medical knowledge pertaining to the older person**

Table 1 shows students reported improvement in the area of knowledge pertaining to medical conditions of residents in the RACF. Their knowledge improved significantly in the area of understanding that residents living in RACFs were at risk of developing complex oral diseases \( (p<0.01) \) and that residents with Dementia were unable to report dental pain \( (p<0.05) \). Knowledge of the impact of polypharmacy contributing to poor oral health also improved \( (p<0.01) \). There was, however no statistically significant change in knowledge relating to the connection between co-morbid medical conditions influencing oral health for RACF residents, with most students having a sound understanding of this prior to the placement (Table 1).

- **Category 2 - Dental knowledge specific to the older person**

Table 2 displays students' reported improvement in the area of dental knowledge relevant to residents living in the RACF. There were improvements in reported knowledge that residents have a higher prevalence of oral mucosal lesions \( (p<0.05) \), and that residents with Alzheimer's Disease have reduced saliva flow \( (p<0.05) \). The students reported prior to the placement that they believed most residents wore dentures, this was not the case and the realisation that dentate patients are the norm rather than the exception was found to be significant \( (p<0.05) \). Student knowledge about dental decay and periodontal disease being more common in older people
living in RACFs, and residents experiencing dental pain more often did not change. The pre and post-placement scores on these topics showing that prior learning in the pre-placement orientation workshop had equipped them with high levels of relevant knowledge in these areas.

- Category 3 - Knowledge of the RACF environment

Table 3 shows improvements were found in knowledge relating to the residential aged care environment showing student knowledge improved in numerous areas, discounting students pre-placement notions that RACF staff provided good oral hygiene care to residents with Dementia ($p<0.01$), that oral health risk assessments are undertaken yearly ($p<0.05$), that qualified Hygienists are providing patient care in RACFs ($p<0.01$), that oral hygiene products were readily available for residents to purchase ($p<0.001$); and that RACF staff cleaned dentures regularly ($p<0.05$). The knowledge change revealed that students realised that their pre-conceived beliefs about RACFs and oral health care for residents were not supported by their placement experience and following the placement students were significantly more aware that there are numerous barriers for RACF staff providing oral hygiene care for residents ($p<0.05$).

Discussion

The outcomes of this study are consistent with a body of research that recognises the link between classroom theory and service-learning community student placement programs to progress student learning and consolidate theoretical concepts with ‘real life’ experiences enhancing knowledge and skills (10,11,12,).
Service-learning brings together the academic institution and the community in a relationship in which meaningful outcomes can occur for both the student and the community (13).

In this study the response rate was good with 79% of the students completing the pre and post-placement questionnaires. The pre-placement questionnaires indicated most final year dental hygiene students started the RACF placement with an acceptable level of knowledge about dental and oral health conditions and a good understanding of the medical conditions commonly found in older people. This existing knowledge is in all probability linked to their exposure to older people during clinical training and general information gained from under-graduate lectures, tutorials and the pre-placement orientation workshop.

The results indicate that most students prior to the placement thought that residents had yearly oral health risk assessments, received oral health care from hygienists and had their teeth and dentures cleaned regularly. However in the post placement questionnaire they reported that residents were unable to access regular dental and oral health care, those residents with cognitive deficits were unable to report dental pain and cleaning of teeth and dentures was ad hoc. Students reported that RACF staff faced many barriers to providing residents with these basic oral health needs, including inadequate time, limited access to dental products and insufficient training to provide oral health care assessments and a lack of individualised oral health care plans.
This is highly significant and indicates that students existing knowledge and preplacement orientation does not provide them with a realistic idea of the placement structure and available RACF procedures and services.

The Likert scale method was used to provide quantitative data for this research and a modified validated questionnaire (14) was used to quantify knowledge after the placement program. The limitations of this study are in the small numbers of students and the fact that it is only a one year cohort. The self-reporting questionnaires have the potential for bias; however the structure of this questionnaire was focused on knowledge themes rather than student perceptions and students were advised that their answers had no bearing on their final grades.

Students also completed reflective journals during their placement and the information from these entries confirmed the findings from the questionnaires. Their answers can therefore be taken to be a true reflection of their knowledge and experiences. To further explore student knowledge of their experiences in the RACF environment a focus group study is underway.

Post-placement data showed that students were aware of the barriers staff face in providing residents with appropriate oral health care and the interdependency faced by residents in sustaining their own oral health. In general, the data indicated that the placement program enlightened the students to the challenges of RACF living and the difficulties for older people living in RACFs in maintaining their oral health to a satisfactory standard.

The increase in follow-up knowledge of the RACF environment highlights the naivety of students prior to the placement and indicates that even with knowledge of older
people’s medical and dental needs, the RACFs and their workings is a very unfamiliar environment for dental hygiene students.

In this study students identified a lack of existing dental and oral hygiene care in RACF and highlighted obstacles to providing good oral hygiene care for residents. This is supported by an earlier Australian study (15) in which Hopcraft et al, identified that RACF residents face significant barriers to good oral hygiene care including the lack of trained staff with appropriate oral health knowledge and skills. With the Australian aging population increasing (16, 17) and aged care a rapidly growing concern, the oral hygiene needs of residents are destined to increase dramatically over the next decade. The implementation of service-learning student placement programs for dental hygiene students in RACFs was a new initiative for Australian Universities with the University of Newcastle instigating the first program in 2009. The program was designed to provide oral hygiene care for residents, help RACF staff to increase their oral health knowledge and to supports student learning by providing them with an experiential learning environment.

Data from this study shows that students’ dental and medical knowledge was at an acceptable level prior to the commencement of the placement, for them to benefit from the RACF experiential learning program. However, Yoder 2006 (7) presented a framework for service-learning, detailing ten separate elements that constitute a successful context for service-learning. In element number four Yoder described; ‘Broad Preparation’ – which emphasises the importance of providing students with an understanding of the target group, the facility and the work required.
The results of this study indicate that students had a very limited understanding of the RACF workings prior to the placement and as such the educational value of the placement learning experience may have been reduced in the early weeks when students were orientating themselves to their new learning environment. This is supported by two earlier Australian studies (8, 9), where students reported being apprehensive and nervous during the first few weeks of the RACF placement program. There is therefore, scope to address the issue of pre-placement orientation in more detail to ensure that students are more prepared for the RACF environment itself, enabling them to commence service-learning from the very beginning of the program making the placement immediately more accessible and educationally more valuable.

**Conclusion**

In this study, students reported considerable improvements in knowledge of medical and dental conditions common to older people living in RACFs and reported significant improvements in their knowledge about the RACF environment after the placement, including identifying the lack of organised oral health care for the majority of RACF residents. The results of this study confirm the value of service-learning in RACFs and its benefits for both students and residents with oral health gaining a higher profile in the RACFs during the student placement program.
Table 1: Category 1 - Pre and post placement mean Likert scores for student knowledge of medical issues of residents living in RACF

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-placement Mean (SD) n=26</th>
<th>Post-placement Mean (SD) n=26</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents in RACFs are at risk of developing oral diseases and dental problems</td>
<td>1.6 (0.6)</td>
<td>1.0 (1.0, 2.0)</td>
<td>*</td>
</tr>
<tr>
<td>Most residents with Dementia are able to report dental pain</td>
<td>3.4 (0.8)</td>
<td>3.9 (0.8)</td>
<td>*</td>
</tr>
<tr>
<td>Polypharmacy contributes to poor oral health</td>
<td>2.1 (0.8)</td>
<td>1.4 (0.6)</td>
<td>*</td>
</tr>
<tr>
<td>Co-morbid medical conditions rarely influence oral health in RACF residents</td>
<td>3.9 (0.9)</td>
<td>4.0 (0.8)</td>
<td>0.8019</td>
</tr>
</tbody>
</table>

1=Strongly Agree 5= Strongly Disagree

* Denotes a statistically significant change between pre and post placement Mean Likert scale scores
Table 2: Category 2 – Pre and post placement mean Likert scores for student knowledge of dental conditions of residents living in RACF

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre – placement Mean (SD) n=26</th>
<th>Post – placement Mean (SD) n=26</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents in RACFs have a higher prevalence of oral mucosal lesions</td>
<td>2.3 (0.8)</td>
<td>1.7 (0.7)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Residents with Alzheimer’s disease have reduced saliva flow</td>
<td>2.8 (0.6)</td>
<td>2.3 (0.7)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Most RACF residents wear dentures</td>
<td>1.8 (0.7)</td>
<td>2.4 (0.5)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Periodontal disease is higher in residents in RACFs</td>
<td>2.0 (0.7)</td>
<td>1.7 (0.7)</td>
<td>0.0951</td>
</tr>
<tr>
<td>Dental decay is higher in residents in RACFs</td>
<td>2.1 (0.7)</td>
<td>1.7 (0.7)</td>
<td>0.0830</td>
</tr>
<tr>
<td>Residents in RACFs generally have good oral health</td>
<td>3.8 (0.5)</td>
<td>3.9 (0.9)</td>
<td>0.5021</td>
</tr>
<tr>
<td>Residents in RACFs have minimal interest in their oral health</td>
<td>3.1 (0.8)</td>
<td>2.9 (1.2)</td>
<td>0.6402</td>
</tr>
<tr>
<td>RACF residents often have dental pain</td>
<td>2.5 (0.8)</td>
<td>2.7 (1.1)</td>
<td>0.6563</td>
</tr>
</tbody>
</table>

1=Strongly Agree  5= Strongly Disagree
Table 3: Category 3 - Pre and post placement mean Likert scores for student knowledge about the RACF environmental

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre – placement Mean (SD) (n=27)</th>
<th>Post – placement Mean (SD) (n=26)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff provide good oral hygiene care to residents with Dementia</td>
<td>3.3 (0.6)</td>
<td>4.0 (0.7)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>RACF residents are given an oral health risk assessment every 12 months</td>
<td>3.0 (0.4)</td>
<td>3.7 (1.1)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Hygienists provide oral hygiene services at RACFs</td>
<td>2.5 (0.7)</td>
<td>3.4 (1.1)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>RACF staff provide good oral hygiene care to residents</td>
<td>3.3 (0.6)</td>
<td>3.7 (0.7)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Oral hygiene products are available at RACFs for residents to purchase</td>
<td>3.1 (0.6)</td>
<td>4.0 (0.7)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Residents have adequate access to appropriate dental services in RACFs</td>
<td>3.2 (0.6)</td>
<td>4.0 (0.8)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Staff in RACFs have barriers to providing oral hygiene care for residents</td>
<td>2.3 (0.8)</td>
<td>1.8 (0.9)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Residents have their teeth and dentures cleaned by RACF staff regularly</td>
<td>2.8 (0.5)</td>
<td>3.3 (1.2)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Residents have their dentures cleaned after meals</td>
<td>3.4 (0.6)</td>
<td>3.9 (0.8)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

1=Strongly Agree  5= Strongly Disagree

References:


CHAPTER SIX

Dental hygiene students’ views on a service-learning residential aged care placement program
Service-learning is an experiential teaching strategy that provides students with opportunities to learn both in the classroom and in the real world (87, 89, 96). It connects universities, community services and students to meet academic learning objectives whilst providing a service to meet community need.

This chapter explores the views of final year dental hygiene students from the Bachelor of Oral Health program at the University of Newcastle, Australia to determine their ability to transition from the classroom to the ‘real-life’ experience of a residential aged care environment. Following their placement students were invited to participate in focus groups to give feedback on the RACF placement.

Focus group discussions were conducted to enable students to discuss their experiences during the placement program and hear their peers discuss their experiences in a supportive environment. The focus groups highlighted several concerns, including students feeling overwhelmed, apprehensive and anxious during the first few weeks of the placement.

The study in this chapter was submitted to:

The American Journal of Dental Hygiene and accepted for publication in August 2013.

- Wallace JP, Blinkhorn, AS, Blinkhorn FA. Dental hygiene students’ views on a service-learning residential aged care placement program.
Dental hygiene students’ views on a service-learning residential aged care placement program

JP. Wallace1, AS. Blinkhorn2 and FA. Blinkhorn1

1 School of Health Sciences, Faculty of Health, University of Newcastle, Ourimbah, NSW, Australia
2 Faculty of Dentistry, University of Sydney, Westmead, NSW, Australia

Abstract

Objective To record the views of final year dental hygiene students from the University of Newcastle, Australia about a placement in a residential aged care facility (RACF).

Location Seventeen residential aged care facilities, on the NSW Central Coast Australia.

Methodology Final year dental hygiene students undertook a 12 week placement, one day per week, in one of 17 residential aged care facilities. They were asked to participate in focus group discussions after the placement to determine their ability to transition from the classroom to the real-life experience of the RACF placement.

Results Students felt ill-equipped for the aged care placement program even though they had attended a pre-placement orientation. Students expressed feelings of being overwhelmed by the residential aged care environment, particularly by the smells and unexpected sights of the aged, fragile and cognitively impaired residents, and the difficulties in providing them with oral hygiene care.
Conclusions

To enable students to transition from the classroom to the aged care environment in a more effective manner, a more realistic pre-placement orientation program is necessary.

Introduction

The roots of service-learning can be traced back to the early part of the twentieth century (1) and one part of the social reform and educational movements promoted by Dewey and colleagues from the University of Chicago. They changed the concept of learning from an authoritarian method to a more experiential process whereby students are encouraged to learn through experimentation and practice (2). The focus was on ‘reflection’ to assist in problem solving and using experience to understand key learning objectives. Dewey’s early work was developed and refined by Lewin’s (3, 4) model of action research and Kolb and Fry (5) who gave even more of a role to experience in the learning. Kolb (6) later developed a ‘Learning Style Inventory’ based on four components of the experiential learning model which included reflection on a concrete experience, thoughtful observation, abstract conceptualization and active experimentation. A model developed by Grundy (7) in the 1980s proposed that the reflective process should be considered within the experiential learning of a group. Learners need to have the freedom of choice and a level of autonomy without the influence of the ‘teacher’ for self-reflection to occur. The key concept being that of ‘equal power relationships’ which must occur within the experiential framework to enable students to achieve autonomy in learning. This concept has influenced the subsequent framework of most ‘service-learning’ models of education.
Service-learning is a teaching strategy which provides students with opportunities to learn both in the classroom and in the wider world. The philosophy is one of service and learning that occurs in experiences, reflection, and civic engagement within a collaborative relationship involving community stakeholders. Students engage in activities that address both individual and community needs together with structured opportunities designed to promote student learning and development (8).

Service-learning is different from volunteer experiences because of its direct links with course objectives and community interaction to meet specific educational needs. It can also be distinguished from internships because of its civic engagement and the reflection element (9). Service-learning engages faculty, students and community partners in a structured program to meet academic learning objectives and potentially creates an apparatus by which dental hygiene students can gain skills that enable them to become more competent to work with different populations and individuals with special needs. It also enables students to meet objectives outlined in educational accreditation standards while also addressing the core competencies for entry into the dental hygiene profession (9 - 14).

Participation in service-learning schemes enables educational institutions to reach out to different communities to foster partnerships (15). Yoder, in 2006, (16) noted service-learning has become an important component of higher education and integrating service-learning into dental hygiene curricula should deliver graduates who are better prepared to work effectively among diverse populations with the ability to function dynamically in the health policy arena.
Application of service-learning in Australian dental hygiene education is a new concept along with the employment of dental hygienists in Australian RACFs. In order for students to benefit from service-learning, the University of Newcastle, Australia, implemented an innovative service-learning residential aged care facility (RACF) placement program for final year dental hygiene students in 2009. Since then students have attended placements each year as part of their undergraduate studies. The placement program was based on an experiential education model in which students engaged in activities that addressed community needs together with structured opportunities designed to promote student learning with a clear connection between placement activities and course learning objectives. Although based on an experiential model, the development and structure of the RACF placement program was an original concept for dental hygiene education in Australia.

To prepare students for the RACF program a pre-placement orientation workshop was designed to provide them with an overview of the medical and dental issues common to older people living in RACFs. The structure of the orientation workshop consisted of a number of guest specialist presenters who discussed Dementia and Alzheimer’s disease, the effects of co-morbidities and poly pharmacy on oral and general health, the lack of existing dental and oral hygiene care in RACFs and the challenging behaviors directly linked to residents with reduced cognitive function.

Students were allocated to 17 RACFs for one session a week during the first semester of their final year. Students worked in pairs to provide dental education and oral hygiene care to residents and oral health education information sessions for RACF staff, with the aim of enabling them to provide oral hygiene care for residents.
Students were also required to complete formative and summative assessment tasks and make entries into their reflective journals after each placement. Initially the placement caused some problems for students and in the early weeks students reported that they were not adequately prepared for the RACF environment.

A number of evaluations of the Newcastle placement program have been undertaken including an analysis of student ability (20), willingness and knowledge gained after attending the placement (21,22). This study is linked to the earlier research and examines the process of student transition from the clinical classroom to the RACF environment.

**Method**

All final year dental hygiene students (n=35) who volunteered for the RACF student placement program were asked to participate in a qualitative research study. Focus groups and interviews were conducted gathering data to identify student transition from the classroom to the RACF environment.

The placement was offered for 12 weeks, with students being required to attend their RACFs one day each week for a period of 4 hours. Students worked in pairs and were allocated to the RACF nurse educator with whom they could interact while working in a predominantly autonomous capacity. At a faculty level, students had access to the course co-ordinator at all times by email or phone. During the placement students completed formative and summative assessment tasks and made entries into their reflective folios after each placement session. In addition, they were required to provide dental education and oral hygiene care to residents and dental education sessions to RACF staff.
During the focus groups, students were asked to concentrate their discussions on three main research questions:

- What did you find most difficult about the transition from the classroom orientation workshop to the real-life RACF student placement program?
- In retrospect what would have helped you to transition is a more positive way?
- Is there anything specific you would like to tell us about your RACF experience?

The focus groups took place in a supportive and friendly atmosphere over a period of one hour. The researcher encouraged interaction between students asking them to focus on the main topics during group discussions. However, the students were permitted to deviate from the themes where valuable information pertaining to the placement program was revealed. All focus group discussions were transcribed and annotated with concurrent field notes. All transcripts were read by two researchers and coded into themes using the constant comparative method (23). Each item within the data was compared with the rest of the data to establish the themes. Consensus of final key themes was achieved through discussion and re-reading of the transcripts. A final text was prepared by the researchers and individual identifying statements were removed in the final report. The results were presented to the participating students to gain agreement on content and accuracy. The study was approved by the University of Newcastle, NSW, Australia, Ethics Committee (Ethical approval number H2010 – 0036).
Results

Twenty two of the thirty five students attended the three focus group sessions and between 6 and 8 students were present at each. The twenty two students who participated in the focus groups were all female between the ages of twenty to forty seven years of age. The 2012 cohort was predominately female with only two male students. All students were actively involved contributing to focus group dialogues.

Discussions throughout the focus group established that students were confronted by the workings of the RACF environment, by images of older frail people, and by the challenging behaviours’ of people with cognitive disorders. Students discussed their feelings of inadequacy in their ability to communicate with residents who had Dementia and Alzheimer’s disease and felt they did not have the necessary knowledge or skills to communicate effectively with these RACF residents. Students reported that the first few weeks of the placement were particularly difficult because they were unsure of how to manage the resident’s oral hygiene care and unsure of how to provide oral hygiene information to people who seemed unable to understand or follow instructions.

The main discussion topics are presented according to the three predetermined questions:

1. **What did you find most difficult about the transition from the classroom orientation workshop to the real-life RACF student placement program?**

   Generally, students felt confronted by the RACF environment, citing smell, cognitive impairment and physical appearances of the older residents as being overwhelming (Table 1). Students expressed their frustration at not feeling confident to
communicate and build rapport with residents suffering from Dementia and Alzheimer’s disease and that often residents did not remember that they had spoken to them during the previous week’s placement session. Students found that providing oral hygiene care and instruction was difficult without a designated dental clinic setup.

2. In retrospect what would have helped you to transition is a more positive way?

Students discussed the need for a pre-placement orientation workshop that included realistic scenarios depicting the RACF environment including demonstrations of students providing oral hygiene care and education to residents and staff; and specifically to residents with cognitive impairments (Table 2). Students generally voiced the need to see more experienced students greeting residents and providing them with care, including a demonstration of an oral hygiene session. Some students went as far as to say that audio recordings of the noises made by some cognitively impaired residents would better prepare them for the RACF experience. Most students wanted to be shown how to develop rapport with residents, before commencing any oral hygiene instruction or care.

3. Is there anything specific you would like to tell us about your RACF experience?

Students reported that interest and support from RACF staff was at times insufficient because they were under great time pressure to provide residents with general and personal hygiene care, ensure meals were delivered and generally meet the needs
of the elderly residents. (Table 3). After the first few placement session, the students came to the conclusion that there was insufficient time for staff to devote to the residents’ oral hygiene needs. Students observed that residents’ weekly oral health plans they had devised often needed to be changed to accommodate the residents’ general mood, health or motivation on the day. Students discussed the fact that ‘text book’ idealistic oral hygiene practices were difficult to achieve for many residents. Students reported that although initially the placement was overwhelming, after a settling in period the majority started to enjoy the experience, were able to develop management strategies for residents’ oral hygiene care and reported that they had learned from the placement.

Discussion

Focus groups have been used in qualitative research for decades (24) and they have one feature which inevitably distinguishes them from other one to one interviews or questionnaires, specifically the interaction between the research participants. In qualitative research the potential for bias is always present. In this study, students had completed the unit of work associated with the RACF placement and had received their final mark before participating in the focus groups, thereby reducing the possibility of bias from students giving positive statements just to please the researcher. Those students participating in the focus group did so with honesty and enthusiasm. They were pleased to have the opportunity to comment on the RACF program and appeared to be relaxed during discussions.

They were comfortable with each other as they had shared three years of study and the discussions were wide ranging and unrestricted. The focus groups enabled
students to expand on their experiences of the RACF’s supporting each other’s comments. In retrospect, the participation rate might have been even greater if the focus groups had not been held at the end of the students’ clinical session when they were anxious to get home.

A common theme was established between the focus group findings and student experiences at each placement session by reading all of the students’ (n=35) reflective journals. Throughout the focus groups and in early journals entries, students reported feeling ill-prepared emotionally for the behaviours’ and appearances of older frail people with cognitive deficiencies. They discussed feeling emotionally unprepared for the day to day workings of the RACF environment, with its challenging and often visually disconcerting behaviours’ of residents with Dementia and Alzheimer’s disease. Students reported initially having difficulties communicating with residents and felt their preparation for the placement was deficient. They discussed feeling nervous and unsure of what was expected of them. They found the noises and movements made by people with Dementia and Alzheimer’s disease very distressing and confronting. The majority of students reported being very overwhelmed during the early stages of the placement, not knowing how to approach residents, not knowing what to say, or how to provide oral hygiene care in the RACF environment. The inability to effectively communicate with residents in the early stages of the placement was a common theme with students. An assumption has been made that the inability to communicate is linked to lack of skill and experience of dealing with people who have cognitive disorders rather than a generational communication gap. This assumption is supported by the fact that there was a wide age distribution within the student cohort ranging from twenty to
forty seven years of age. Students discussed the need to develop a friendly relationship with the residents and to build rapport before being able to look in their mouths. Students talked about the considerable time and effort this involved and their lack of understanding of this necessity prior to the placement experience. They explained that this communication and rapport building often had to be replicated on a weekly basis as many residents had no recollection of who the students were from week to week. Some developed strategies to remind residents of their previous visits by taking photos of themselves with individual residents. Students talked about the need to restructure their plans on a week to week basis and discussed the importance of being flexible in achieving realistic goals of oral hygiene education and care rather than being able to accomplish an idealistic theoretical model of care.

Students felt that the implementation of a more ‘real life’ orientation would assist them in settling into the placement sooner and would to some extent reduce the ‘shock’ of the early placement sessions. It seemed that students spent a good proportion of the first few sessions recovering from the impact and astonishment of the RACF environment, before they felt comfortable and able to provide appropriate oral hygiene care for residents and complete their assessment tasks.

Although the original format of the pre-placement orientation workshop had been evaluated and amended to meet student feedback on a yearly basis, results from this study indicate that the changes had still not provided students with a sufficiently realistic orientation. To address this, an educational DVD depicting the RACF environment is currently in production.
**Conclusion**

Based on the results of this study a comprehensive orientation to service-learning projects is required to ensure student comfort in an alternative learning environment. This orientation should include specific visual images of the RACF placement environment depicting a real-life documentary re-enactment of students demonstrating how to communicate and provide oral hygiene education and care for the elderly residents. In this way students would be more prepared for the RACF environment and the student experience would be enhanced enabling early learning to be maximized.
Table 1 Focus group discussions relating to difficulties transitioning from the classroom to the RACF environment

<table>
<thead>
<tr>
<th>Students comments during the focus group</th>
<th>Number of students reporting the same theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was really unprepared for what I saw and smelled at the RACF</td>
<td>20</td>
</tr>
<tr>
<td>The RACF was very confronting, it was worse that I had expected</td>
<td>15</td>
</tr>
<tr>
<td>I was not fully prepared in regards to approaching residents and the reality of what we were expected to achieve during the RACF placement</td>
<td>18</td>
</tr>
<tr>
<td>I thought I would be able to provide oral hygiene care easily, the reality was I had to build a relationship with the residents before I could get anywhere near their mouths</td>
<td>21</td>
</tr>
<tr>
<td>I was nervous and not sure how to deal with the elderly people</td>
<td>14</td>
</tr>
<tr>
<td>I found the first few weeks of the placement really difficult, it took me weeks to get used to the RACF</td>
<td>9</td>
</tr>
</tbody>
</table>
Table 2 Focus group discussions about what would improve the transition from classroom to RACF environment

<table>
<thead>
<tr>
<th>Students comments during the focus group</th>
<th>Number of students reporting the same theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>It would be helpful to see images showing the RACF environment and the residents</td>
<td>12</td>
</tr>
<tr>
<td>Watching role plays on the interactions between students providing residents with oral hygiene care would help us in the early stages of the placement</td>
<td>15</td>
</tr>
<tr>
<td>I would like to see ‘real life’ scenarios of what to expect when I get to the placement</td>
<td>17</td>
</tr>
<tr>
<td>It would be good to visually prepare us of what to expect before the placement</td>
<td>8</td>
</tr>
<tr>
<td>Watching re-enactments of students communicating with cognitively impaired residents would be helpful</td>
<td>17</td>
</tr>
<tr>
<td>Talking with students who have already done the placement would be a good idea</td>
<td>4</td>
</tr>
<tr>
<td>I would like to see a demonstration of students talking to residents and helping them care for their teeth</td>
<td>14</td>
</tr>
<tr>
<td>Students comments during focus groups</td>
<td>Number of students reporting the same theme</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Once I became familiar it was a good experience – we were able to see regular patients and I really enjoyed the interaction with the residents</td>
<td>12</td>
</tr>
<tr>
<td>The placement was a very good experience, I feel I gained a lot, I learned about the needs of residents/patients that required constant care. I really enjoyed it – very satisfying</td>
<td>17</td>
</tr>
<tr>
<td>The placement made me realize the need for oral health care in RACF’s</td>
<td>19</td>
</tr>
<tr>
<td>I would have liked a bit more of an orientation before the placement, it would have been helpful</td>
<td>22</td>
</tr>
<tr>
<td>We had to restructure our plans on a week to week basis to fit in with the residents</td>
<td>7</td>
</tr>
<tr>
<td>It was very difficult to gather all the RACF staff to give dental health education sessions to them</td>
<td>15</td>
</tr>
<tr>
<td>The placement made me realize the need for oral health care in RACF’s</td>
<td>22</td>
</tr>
<tr>
<td>need for oral hygiene care in RACF’s</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>The first few weeks were really challenging, but I eventually settled in and learned from the placement</td>
<td>20</td>
</tr>
<tr>
<td>Residents really need oral hygiene and dental care on a daily basis in RACF’s</td>
<td>22</td>
</tr>
</tbody>
</table>
References


24. Kitzinger J. The methodology of focus groups: the importance of interaction between research participants. Sociology of health and Illness 1994;16(1):103-119.
Improving the transition from the classroom to a clinical placement in a residential aged care facility for dental hygiene students by enhancing the pre-placement program
Experiential learning is well supported by the research literature (48, 50, 51) as a practical way of providing students with a ‘real world’ experience that enables them to consolidate theoretical learning with hands on experience. However, ‘real world’ experiences can be overwhelming, especially if you are a student providing oral hygiene care for older people living in residential aged care facilities.

Students who had attended the RACF student placement program identified the placement as challenging and expressed concern that they were not sufficiently prepared at the pre-placement orientation program for their aged care experience.

To assist the students to transition from the classroom to the aged care environment a DVD was developed depicting students providing oral hygiene care to residents with Dementia and Alzheimer’s disease and showing students at work in the RACF environment and communicating with both residents and RACF staff. The DVD was shown to the first cohort of dental hygiene students prior to them attending their placement in February 2013.

This chapter examines the effect of the specifically designed re-enactment DVD on students’ ability to transition from the classroom to the RACF placement program. Focus group discussions were conducted to identify if the DVD had improved the transition process for those students who had watched the specifically designed DVD.
The study in this chapter was accepted for publication in the International Dental Journal in November 2013

This research was supported by:

$20,000: Wallace J. NSW Health, Centre for Oral Health Strategy, Management Board (for production of the DVD)

In association with this study:

- The development, the designing, the planning, the production, and a copy of the DVD is included in Appendix 8
Improving the transition from the classroom to a clinical placement in a residential aged care facility for dental hygiene students by enhancing the pre-placement orientation program

JP. Wallace 1, AS. Blinkhorn 2 and FA. Blinkhorn 1

1 School of Health Sciences, Faculty of Health, University of Newcastle, Ourimbah, NSW, Australia
2 Faculty of Dentistry, University of Sydney, Westmead, NSW, Australia

Abstract

Introduction: A dental hygiene student placement program in Residential Aged Care Facilities (RACFs) is a new teaching initiative at the University of Newcastle, Australia. However, students have found the experience very challenging, particularly the initial change from the classroom to the Residential Aged Care Facility (RACF) environment. The aim of this study was to measure the effect of a DVD, specifically designed to help students transition to the clinical placement program with less personal anxiety and more confidence in communication skills.

Methodology: Final year students (n=47) were randomly allocated to one of 17 RACFs on the NSW, Central Coast, Australia. All students were then randomly allocated to a two-group study with the active group assigned to view the DVD prior to their placement. Post-placement focus groups were organised, recorded and transcribed verbatim. Data were collated, analysed and unitised into emergent themes. Representative quotes are presented in the results. The study was informed by four years of previous quantitative and qualitative process evaluation of the RACF program.
**Results:** Focus group discussions identified that those students who had seen the DVD reported a shorter timeframe to successfully transition from the classroom to the RACF and stated that the DVD provided them with a realistic expectation of the RACF environment and their role in the placement experience.

**Conclusion:** Following the positive feedback on the DVD, it will be used during orientation to enhance students’ ability to transition from the classroom to the RACF placement program in the Bachelor of Oral Health, Dental Hygiene Program at the University of Newcastle, Australia.

**Introduction**

Providing student health professionals with a variety of experiences during their studies, particularly with populations that historically have been underserved, offers them the opportunity to recognise the importance of community health services and their own role in service provision (1, 2). Community placement programs for university students are well established (3,4,5) with service-learning community placements providing students with a connection between classroom learning in such a way that it makes the theoretical understanding more informed by experiencing learning in the ‘real world’(6). Service-learning engages Faculty, students and community partners in a structured program to meet academic learning objectives whilst addressing a community need. However, the application of linking Dental Hygiene education with service-learning is a new concept in Australian.

In 2009, the Faculty of Health and Medicine at the University of Newcastle, Australia implemented an ongoing service-learning Residential Aged Care Facility (RACF) placement program for final year dental hygiene students at 17 RACFs across the
NSW, Central Coast. The students attend placements one session a week during the first semester of their final year of study. The program combines experiential learning models (7,8) and reflective practice concepts (9, 10, 11), in conjunction with Yoder’s (12) ten component framework of service-learning in dental education. The placement provided students with a ‘real life’ learning opportunity where they engage in activities that respond to community need while enhancing their learning. The placement program has undergone a number of alterations over a four year period, including; evaluation of the initial pilot program (13), evaluation of students’ ability and willingness to work with older people in RACFs (14) and students' knowledge of the RACF environment and its challenges of providing oral hygiene care to older people with reduced cognitive, physical and visual function (15).

Improvements and numerous adjustments to the pre-placement orientation workshop were implemented following the yearly evaluation process; changes included the use of specialist guest presenters and the viewing of instructional DVDs depicting oral hygiene techniques to be used for older people. Despite the changes made to the pre-placement orientation most students still expressed difficulty in transitioning from the protected classroom environment to the confronting world of ‘aged care’. Students suggested that a visual representation showing how to approach, communicate with, and provide oral hygiene care to older people in RACFs would have assisted them in the initial weeks of their placement experience (15). To address these concerns, a novel teaching tool for use in the pre-placement orientation, in the form of a re-enactment DVD, was developed and evaluated for a cohort of final year dental hygiene students to determine its effect on the transition from classroom to RACF the placement.
Methodology

A re-enactment DVD depicting the student experience during a RACF placement was developed to be shown at the pre-placement orientation workshop. The conceptual framework, content and narrative of the DVD were developed by using information from the evaluation studies of this program undertaken over a period of four consecutive years (13, 14, 15). Students who had previously completed the RACF placement identified four particular areas of concern:

1. communicating with older people during their time at the RACF was difficult, especially with those who had Dementia or Alzheimer’s disease.
2. they were also concerned at not feeling confident in approaching the elderly and not knowing how to talk or build rapport with them and were concerned about how to provide oral hygiene care.
3. in the early stages of the placement they expressed discomfort at the experience of attending the RACFs and described the environment itself as emotionally and visually challenging.
4. they took several weeks to settle into the placement and feel comfortable in the RACF setting.

This information was used to formulate a series of four scenarios within a RACF depicting students communicating with older people including those with Alzheimer’s disease and Dementia; providing oral hygiene care to residents with physical, cognitive and visual impairment and generally working within the RACF environment.

The DVD narrative took the form of a story depicting ‘a day in the life of dental hygiene students on placement in a RACF’. To capture the reality of the placement
recent graduates were employed to play the dental hygiene students, while consenting RACF residents and staff played themselves. There was no script as such, the actors were asked to draw upon their own past experiences from their undergraduate RACF placement to assist with the content. To support their memories, they were asked to read through their own student reflective journals which they had completed on a daily basis during their placement. The participating RACF staff were made aware of the scenarios, and residents responded spontaneously to the filming.

A professional film production company was engaged to produce the DVD. Prior to the final edit, RACF staff, residents and the ‘actors’ gave their feedback. Further editing took place, with the final DVD lasting 30 minutes. It was shown for the first time to the active group during the first semester of the 2013 placement.

All 47 final year dental hygiene students from the University of Newcastle, Bachelor of Oral Health program were asked to participate in the research project. The students were randomly allocated to 17 RACFs located in the Central Coast region of NSW. All students were then randomly allocated to a two-group study with the active group assigned to view the DVD prior to their placement. Both the active and control arms participated in a pre-placement orientation workshop. The workshop was the same for both groups with the exception that students in the active group also viewed the specifically designed re-enactment orientation DVD (Figure 1 shows the research pathway). Two independent facilitators were employed to conduct post-placement focus groups to record students’ views on their transition from the classroom to the RACF placement. The themes investigated were based on the four areas of concern identified by students who had attended previous placements.
These were directed separately for the active and control groups and lasted one and a half hours. Both groups were asked to participate in open discussions about their experience of transitioning from the classroom to the RACF environment. The active group was also asked to comment on the effectiveness of the DVD. Recordings were made of the focus group discussions and were transcribed verbatim by two researchers with no teaching responsibilities for this cohort of students. The data was analysed and unitised to identify emergent themes.

Ethics was approved by the University of Newcastle, Human Research Ethics Committee, Approval No. H-2012-0297.

Results

All final year dental hygiene students (n=47) attended a placement at 17 RACFs on the Central Coast, NSW, Australia. Seven students declined to participate in the study, forty students agreed to participate and two students who had originally consented, failed to attend the focus groups. Ultimately thirty eight students participated in one of six focus group discussions; three were held for the active group students and three for the control group. The distribution between the active and control groups was equal, with 19 students per group.

The focus group discussions were transcribed and presented under four separate theme headings derived from the conceptual framework:

1. The challenging RACF environment
2. The inadequate pre-placement orientation workshop
3. The initial settling in period

4. The influence of the specifically designed DVD

Individual student comments have been presented as either C=Control group or A=Active group with students numerically identified by a number from 1 – 19.

1. The challenging RACF environment

Students from both the active and control groups discussed the challenging environment of aged care. There was a general agreement between both groups that the RACF environment was a very different setting to the clinical environment that they were used to, and they were unsure of the RACF protocols. The majority reported being surprised by the frailty and ill-health of the older residents and were concerned about their poor oral health status. Several students from the control group commented on residents with Dementia and the difficulties they had experienced in managing these older people with cognitive impairment.

For example a female student (aged 22 years) complained about dealing with dementia cases:

‘C3 I didn’t know what to do, how to deal with someone with Dementia, how do you manage?’

While another student in the control group a mature female student (38 years) was very concerned about the poor oral health of residents:
‘C12 I was really overwhelmed by the poor oral condition of the residents, really shocked. I wasn’t at all prepared for what I saw, it was really upsetting’.

Another issue that added to the challenges of the placement was how little the residents could do for themselves; one student in the control group a young male (21 years) was very disturbed by the helplessness of some residents:

‘C17 I never realised how dependent on others the residents are, no wonder the RACF staff have difficulty keeping mouths clean when there is so much else to do!’

A female student (26 years) from the control group was quite anxious:

‘C4 I was really out of my comfort zone, everything was unfamiliar, I had a real fear of the unknown and it wasn’t a good feeling.’

Another male student (23 years) from the active group had issues with residents with Dementia:

‘A15 I found being in the Dementia Facility really confronting, I hadn’t ever been in a situation like that before.’

2. The inadequate pre-placement orientation workshop

There was a marked difference between the control group and the active group when discussing the pre-placement orientation workshop. The majority of students in the control group reported feeling unprepared and unsure of their role in the early stages of the placement and felt that the pre-placement orientation did not clearly explain what was expected of them. Nor did it prepare them for the barriers they
would face in providing oral hygiene care to residents or the disinterest of some residents and RACF staff in participating in the oral hygiene program.

One of the younger female students (25 years) from the control group commented that she was unprepared for the placement objectives:

‘C6 The pre-placement workshop didn’t give me an understanding of the placement objectives and how they tied into the practical work at the RACF. I didn’t really know what to do or where to start.’

Another male student (26 years) from the control group reported he was unprepared to manage the behaviour of residents with Dementia:

‘C18 The orientation didn’t prepare me for the placement, I didn’t have an understanding of the RACF demographic, and I wasn’t sure what to do and what was expected in terms of dealing with residents’.

Interestingly, most of the students from the active group who watched the DVD during the pre-placement workshop did not think the orientation was lacking in content.

3. The initial settling in period

The active group reported that the pre-placement orientation workshop which included the DVD provided them with a realistic view of the RACF environment and their role in the placement. As a result the majority reported feeling settled into the placement within a shorter timeframe than those students who had not seen the DVD. Most students from the active group settled into the placement within the first
two to three weeks compared with the control group students who didn’t feel comfortable for at least 6 weeks into the placement.

A female student (28 years) from the active group reported feeling confident with the placement within a short timeframe:

‘A9 I settled in quite quickly, really by week two I felt ok, the DVD helped, it gave me an idea of what to expect’.

Those students from the control group who did not view the orientation DVD reported taking much longer to feel comfortable. A female student (28 years) from the control group reported taking a long time to settle into the placement:

‘C2 I was anxious for about six weeks, it really took me a long time before I felt comfortable at the placement.’

Two students from the control group both female and in their twenties, expressed their concerns about the length of time it took them to come to terms with the placement:

‘C9 I was uncomfortable in the placement for about six to nine weeks, that’s too long’.

‘C13 It took me six to nine weeks to feel alright at the placement; I really had trouble settling in and then it finished at week 12’.

4. The DVD

Those students who watched the DVD reported that the information in the scenarios put all the other information that had been included in the orientation workshop into
context. It consolidated all the material and made sense of it. They reported that it provided them with a clear picture of how to communicate and provide oral hygiene care to residents with cognitive, physical and visual impairment. All the students who had watched the ‘enactment DVD’ reported that it gave a clear demonstration of how to approach and communicate with residents; it prepared them to be mindful of their actions and gestures, behaviour and expectations when dealing with residents and RACF staff.

One of the male students (35 years) from the active group was pleased with the orientation program:

‘A5 The DVD was really helpful and it prepared me for what to expect at the RACF and how residents would react to me.’

Another younger female student (22 years) from the active group commented on the way the DVD prepared her for the placement:

‘A7 The DVD showed me how to avoid upsetting the residents and how to provide them with helpful comforting oral hygiene care, the scenarios in the DVD really helped me to understand what my role was, how to communicate with older people, it was really good’.

All students who viewed the DVD commented that it had given them direction about what was expected of them during the placement and that the scenarios had demonstrated how to communicate with residents who had cognitive, visual and hearing impairment. They stated that it gave them an insight into how residents and
staff may react to them and gave them examples of the possible challenges they might face during the placement program.

One of the female students (27 years) liked the format of the story line in the DVD:

‘A14 The DVD was really helpful; I liked watching the hygiene students interacting with the older residents in terms of communicating with them and how to manage certain situations. It really put all the information into context and helped me get an idea of what I would be doing’.

Another female student (42 years) said:

‘A19 The DVD showed me what to do with the residents, it helped me to see what I needed to do when I got to the RACF placement. I found it really helpful, realistic’.

**Discussion**

The use of videos, E-learning and YouTube films for teaching purposes in the field of dentistry is well documented particularly for demonstrating technical skills and clinical simulation. (16, 17, 18). It has also been shown to have beneficial effects for the development of interpersonal and communication skills especially in demanding psychological situations (19). Educational videos can complement the text, support lecture content and provide a concrete way to present information in a format that can be powerful, meaningful and instructional. Information presented in this format provides the student with flexible, available access to material that can support their learning.
The DVD content was based on four years of consecutive evaluation, conducted over four separate cohorts of dental hygiene students from the University of Newcastle. Information from the evaluations highlighted students’ difficulties in communicating and providing oral hygiene care for residents with cognitive and physical impairments; and their difficulties in communicating with and providing oral hygiene care to older people. This information was translated into re-enactment scenarios contained within the DVD narrative. The use of newly graduated students portraying dental hygiene students in the production of the DVD enabled undergraduate students in the orientation workshop to identify with their peers and put themselves in the same situation. There is support from other researchers to demonstrate that applying concepts they have come to understand not just as theories in a book, but concepts in action is beneficial (20, 21, 22, 23).

Focus group discussions indicated that those students in the active group settled into the placement more quickly, grasped the placement concept and their role more clearly than those students from the control group. Watching the re-enactment scenarios had been of great value to them in reducing anxiety and stress. However, the major influence of the DVD was reducing the time that students took to settle into the placement environment, as the scenarios provided information which enabled the students to understand their role in providing care for the older people, especially those with cognitive and physical impairments. In essence, the DVD provided them with a ‘real life’ orientation to the placement.

Yoder (12) states in her ten components of the ideal service-learning framework that ‘broad preparation’ is important to provide students with a sound understanding of the target group, the work required and the facility environment in which students will
spend their placement. Results from this study support her view that pre-placement orientation is vitally important, as the students from the active group demonstrated their ability to settle into the placement role more quickly than their control group peers. Earlier work on experiential learning by Heron (24) described the importance of students establishing a relationship with their total learning situation which is familiar, deep and optimistic; he felt that only when this was established could the student embrace all other aspects of thinking and practical experience. This concept is particularly relevant for students attending community placements and supports Yoder’s philosophy of ‘broad preparation’ which was the theoretical driver to spend more time and effort to improve the RACF pre-placement orientation for the dental hygiene students. It seems from the focus group discussions that Herons’ view about gaining familiarity with the learning environment is valid and has been demonstrated in the more positive experiences of those students in this study, who watched the DVD prior to commencing the placement.

Results from this study demonstrate that when given sufficient time to familiarise themselves with the RACF environment almost all students learned from the placement and in retrospect enjoyed the challenging experience. However, since a placement only lasts 12 weeks, it is imperative that students feel comfortable as soon as possible to maximise their learning experience.

The re-enactment DVD provided students with a quicker transition from the classroom to the RACF environment; therefore in future the pre-placement orientation program should include showing the re-enactment DVD to all students at the beginning of the orientation workshop. It would provide the students with a realistic depiction of the RACF placement program, the students’ role in the
placement and the DVD scenarios should help them communicate and provide oral hygiene care to residents with physical and cognitive deficits. By showing the DVD right at the beginning of the pre-placement orientation workshop it should help ensure all the other information becomes more relevant and should ultimately lead to a more effective student orientation.

This study has limitations in that it was confined to only one year group of students. However, the strength of this study is the continuous evaluation of the RACF student placement program over five consecutive years. It is therefore likely that the data accurately represents student experiences and has prompted the development of an appropriate learning tool (the DVD) to improve the orientation program.

Conclusion

The results of this study indicate that students who watched the re-enactment DVD depicting dental hygiene students providing oral hygiene care for residents in RACFs settled into the placement more quickly than those students who did not view the DVD. Moreover, the DVD group of students were better prepared for the RACF environment, along with its daily routines and importantly were aware of their role in the placement experience. Inclusion of the DVD at the beginning of the pre-placement orientation workshop for all future students is likely to improve student transition from the classroom to the RACF environment and in doing so will provide an appropriate orientation to this service-learning dental hygiene student placement program.
40 students agreed to participate in the research project and join a focus group at the end of the placement.

Random allocation to Active and Control Groups

Active Group 20

Control Group 20

All students attended a 12 week placement in their designated RACF

38 Students’

(2 students withdrew prior to the Focus Groups)

19 students from the Active Group

19 students from the Control Group

Focus group 1
6 students

Focus group 2
6 students

Focus group 3
7 students

Focus group 4
6 students

Focus group 5
6 students

Focus group 6
7 students

Data collected and themes identified
References:


CHAPTER EIGHT

Concluding remarks
8.1 Overview of main findings

During the five year period of the RACF dental hygiene student placement program there has been a detailed evaluation of its strengths and weaknesses (36, 109, 110). Every attempt has been made to ensure that the program is beneficial to student learning whilst at the same time maintaining the trust of the RACF managers and delivering a useful, preventive dental service to the elderly residents, which is the essence of service-learning (10, 11, 14).

The strength of this research is in the consistent evaluation of the program over a period of five consecutive years. Each evaluation has highlighted a need to make changes to the program structure, with the evaluations culminating in the production and inclusion of, an intervention (the DVD) to address the inadequacies of student preparation at the pre-placement orientation workshop, which hampered learning in the early weeks of the placement. The potential weakness of this research is that it has taken place within one tertiary education institution; however, this is common for academics who are evaluating their own teaching and learning programs.

In year one, the views of RACF managers regarding dental services within their institutions were recorded and the data clearly showed that they thought:

- residents’ were suffering because of poor oral health
- poor oral hygiene was common amongst the residents
- dental hygiene care was ad hoc in RACFs
- dentists were not readily available to provide dental care for residents
Because of these problems the RACF staff were receptive to the offer of hosting placements for dental hygiene students on an ongoing basis. It was a simple and economical solution to their concerns about dental services for their residents.

This educational initiative involving a total of 227 dental hygiene students from five different cohorts has been carefully evaluated over five consecutive years, with the evaluation of the RACF service-learning student placement program presented across six publications:

1. **Student focused oral health in residential aged care facilities**

   *(Chapter 2)*

   *Published in the International Journal of Health Promotion and Education 2010; 48 (4):111-114.*

   In 2009 a student placement program was developed to provide final year dental hygiene students with an opportunity to participate in a service-learning opportunity by providing health promotion to elderly residents and staff in RACFs. Currently this is the only evaluation of a service-learning placement program for dental hygiene students in Australian Universities.

   The study *(36)* evaluated student communication skills and oral health knowledge pertaining to older people living in RACFs and investigated the existing levels of oral health awareness and services provided within the RACFs. In 2009, a total of 54 students were placed in 17 RACFs on the Central Coast of NSW, Australia.
Over half (54 percent) of the students reported they had no experience of interacting with elderly people prior to the placement, with the remaining students only having experience with older family members who were not necessarily living in RACFs. The majority (78 percent) of students were concerned about attending the placement, particularly about getting sick; they were nervous about residents with Dementia and fearful of being exposed to confronting situations. During the placement students developed oral health promotion aids for the RACFs, including posters depicting aged care oral hygiene practices. They wrote oral health policies to be included in admission processes and provided staff and residents with oral hygiene education. Most students (85 percent) reported their understanding of aged care oral health needs had improved as a result of the placement. In addition the experience was beneficial to their learning and their confidence to work independently had improved.

RACF managers reported that oral hygiene training for staff was ad hoc and access to dental services was a major concern for RACF staff. They reported that dental care was often the responsibility of relatives. All RACFs wanted to continue participating in the student placement program.

This study highlights the deficit in oral hygiene care for residents in RACFs and the significant contribution made by dental hygiene students in providing oral hygiene care for residents that otherwise would not exist.
2. An assessment of a service-learning placement program in residential aged care facilities for final year dental hygiene students

(Chapter 3)

*Published in the Journal of Disability and Oral Health 2012; 13/14 163-167.*

In 2010 a pre and post placement quantitative study of student feedback on a service-learning RACF student placement program in its second year was conducted (Chapter 3) across three areas:

(1) to identify students’ ability to assess oral health needs of patients with cognitive impairment and students ability to deliver oral health messages to RACF staff and residents

(2) to investigate students’ knowledge of working in RACFs with older people with cognitive, vision and hearing impairment and to measure their knowledge of how to produce oral health presentations for RACF staff

(3) to ascertain students’ willingness to work with older people in RACFs

Sixty seven students attended the placement program and 77% (n=50) completed the pre and post questionnaires relating to knowledge, willingness and ability to assess oral health needs and deliver oral health advice to RACF residents and staff. Mean Likert scores showed that students reported knowledge of how to assess the oral health needs of residents with Alzheimer’s significantly improved post placement (P<0.0001) as did their knowledge of how to produce oral hygiene educational material for RACF staff (P<0.0001). Student ability to assess the oral health needs of residents with Dementia improved (P<0.01) as did their feelings of nervousness
following the placement (P<0.0001). Other aspects of the program were not as successful, the program did not increase student willingness to work with older people in RACFs in general, nor did it improve student comfort or confidence to speak and present oral hygiene information to RACF staff. Sadly, it did not result in students wanting to work with older people in RACFs after graduation.

3. Reflective folios for dental hygiene students: what do they tell us about a residential aged care student placement program?

(Chapter 4)

*Published in the European Journal of Dental Education 2013. DOI: 10.1111/eje.12044*

To further evaluate the residential aged care student placement program in 2010 (Chapter 4), a qualitative study involving the same participants from the study in Chapter 3 was conducted to investigate students’ experiences and perceived learning during their 12 week RACF placement program. Students completed self – reflection journals based on the ‘Gibbs Reflective Cycle’ where they had to describe an event, consider their thoughts and feelings and evaluate the event. Qualitative data in the reflective journals was analysed using the ‘Constant Comparative’ method in which data is compared with previous data collected in earlier studies (Chapter 2). Emergent themes identified that students felt ill-prepared for the RACF placement program and that nervousness and apprehension overwhelmed them prior to commencing the placement. They reported feeling worried about dealing with residents with Dementia and Alzheimer’s disease and were concerned about
not being able to communicate with the residents. Entries in students reflective journals stated that they felt ill-equipped to manage residents with cognitive conditions and that their pre-placement orientation program needed to be re-evaluated.

This study identified that students improved in their ability to provide oral hygiene care to residents with Dementia and Alzheimer’s disease and gained a clearer understanding of oral health and medical conditions of the elderly. However, students needed a settling in period of approximately 6 weeks before they felt comfortable and able to learn in the placement environment.

This study highlights the need for students to receive additional information during the pre-placement student orientation workshop to enable them to settle into the RACF environment more quickly and begin learning earlier in the placement. This study informs the next phases of the research.

4. An assessment of the educational value of service-learning community placements in residential aged care facilities

(Chapter 5)

Accepted for publication in the International Journal of Dental Hygiene in November 2013

A quantitative study (Chapter 5) to investigate whether dental hygiene students gained any knowledge about (i) the oral care of elderly residents living in RACFs,
and (ii) the RACF environment, was conducted during the RACF placement program in 2011. Thirty three students attended the placement with twenty six (79 percent) completing pre and post placement questionnaires. Five point Likert scales, ranging from strongly agree to strongly disagree were used to determine changes. Pre and post-placement mean scores were produced for each question and p values calculated using a paired t-test. Mean scores showed significant improvement in knowledge of medical (p<0.05) and dental (p<0.05) conditions typical in the older person and an improvement in knowledge about the RACF environment (p<0.05) and the daily routines.

This study highlights the value of service-learning in RACFs, in terms of its benefits for both the students and the residents, with oral health gaining a higher profile throughout the duration of the placement. Post-placement questionnaires identified that students would benefit from a more realistic pre-placement orientation prior to them commencing the RACF program.

5. Dental hygiene students’ views on a service-learning residential aged care placement program

(Chapter 6)

*Accepted for publication in the American Journal of Dental Hygiene in August 2013*

To identify the views of final year dental hygiene students’ about their RACF placement program in 2012, focus group discussions were conducted after the
placement, to determine students’ ability to transition from the classroom to the real-life experience of the RACF placement. Results from this qualitative study support the findings from earlier studies (Chapter 2, Chapter 3 and Chapter 4) where students identified that they were apprehensive about the RACF placement, that they felt ill-prepared to deal with the challenging RACF environment and that despite numerous changes to the orientation workshop each year, it still did not offer the appropriate training and advice. Students wanted to see more experienced students providing oral hygiene care to older people with cognitive, physical and visual impairment and to see demonstrations of how to communicate and build rapport with the residents before providing oral hygiene care.

This study highlights the need for a more effective and more realistic pre-placement orientation program that must include visual material to provide a ‘real life’ demonstrational overview of the placement and the students’ role in the placement.

6. Improving the transition from the classroom to a clinical placement in a residential aged care facility for dental hygiene students by enhancing the pre-placement orientation program

(Chapter 7)

Submitted to the International Dental Journal in September 2013

This evaluation employed a two-group qualitative study designed to measure the effectiveness of a specifically designed re-enactment pre-placement orientation DVD on the transition of students from the classroom to the RACF student placement environment. The study was informed by four years of qualitative and quantitative
evaluations of the University of Newcastle RACF dental hygiene student placement program from 2009 to 2012.

The DVD provided the active group with a ‘real life’ depiction of the placement program while those students allocated to the control group only participated in the standard pre-placement orientation workshop. Those students who viewed the DVD reported that its content had given the information provided in the pre-placement orientation workshop context. It had assisted them to appreciate how to communicate and manage residents with cognitive, physical and visual impairment while providing them with oral hygiene care and it had also helped them to understand their role in the RACF placement experience. Most importantly it had decreased the transition time from the classroom to RACF setting.

Findings from this study highlight the positive impact of the specifically designed RACF student placement DVD on the students’ ability to transition from the classroom to the RACF environment feeling more confident and more prepared for their placement experience.

8.2 Recommendations and directions for future research

The focus of this PhD has, for the most part, been on monitoring and improving a community preventive oral health placement program for dental hygiene students in RACFs. The five year evaluation has successfully taken a pilot program and improved it such that it is now embedded within the dental hygiene curriculum.

The findings and processes of this service-learning student placement program could be used in future research to establish a variety of non-traditional student placements, for example:
• expand dental hygiene student placement programs in residential aged care facilities throughout Australia
• implement dental hygiene student placements in hospital environments, including spinal injury units, geriatric, palliative care and intensive care wards
• instigate dental hygiene student placements with community nurses during home visits
• establish dental hygiene student placement programs in special needs facilities

Research into these non-traditional student placement settings provides infinite possibilities for expanding educational opportunities for the facility, the student and the patient/client group.

Furthermore the research has identified that dental hygiene students are able to provide preventive oral health care for RACF residents including those with Dementia and Alzheimer’s disease and that there is a need in RACFs to provide professional oral health care to residents as part of normal everyday personal hygiene practices.

8.2.1 Research development – ‘Seniors Smiles’ an oral health care intervention for older people living in Residential Aged Care.

The consistent message from the dental hygiene students over a five year period was that oral health in RACFs is ignored and as a result patients are suffering. This
recurring theme greatly concerned me and led me to develop a new model of care to provide older people in RACFs with dental examinations, oral hygiene care plans and referral pathways for dental treatment. This research needs testing and so the research project entitled ‘Seniors Smiles’ involving the employment of a dental hygienist/oral health therapist to provide oral health care to residents in participating residential aged care facilities on the Central Coast, NSW Australia is commencing in 2013.

A dental hygienist/oral health therapist will work within a collaborative dental team which includes a dentist, to provide dental examinations for residents, develop oral hygiene care plans, provide oral hygiene services, establish referral pathways for those residents who require dental treatment and provide ongoing support and oral health education to residents, carers, and RACF staff as appropriate within the participating residential aged care facilities.

The Discipline of Oral Health, within the Faculty of Health and Medicine, at the University of Newcastle, Australia will record and monitor this project providing quantitative and qualitative data to establish literature in this new area of research.

This project ‘Seniors Smiles’ is funded by a grant of $100,000 from Medicare Local, Central Coast, NSW, Australia, and is due to commence in 2013.

(The research plan initiative is presented in Appendix nine)
8.3 Concluding remarks

The use of service-learning to provide meaningful learning experiences for students in community settings is widespread in health (111, 112), particularly in medicine and nursing (113-118). Comparatively, there are far fewer studies related to the use of service-learning in either dental or dental hygiene education.

Providing students with the opportunity to increase their skills and knowledge in a ‘real life’ environment can be challenging for academic institutions. The ability to incorporate community placements within a curriculum involves a considerable amount of effort, planning, monitoring and evaluation in order to achieve a meaningful learning experience where students can develop personal and professional confidence and expertise. Literature from medical and nursing studies supports the positive learning outcomes of service-learning and its many attributes found in this research. A common denominator between many medical and nursing service-learning programs and this dental hygiene program is the fact that students report personal growth in knowledge and skills during the community placement programs (36, 109, 110, 113, 114).

Service-learning in medicine and nursing, shows development in students personal satisfaction, professional growth and critical thinking skills (52, 53, 54, 111, 112-119). The RACF placement program for dental hygiene students support these findings with students acknowledging that their ability to provide care for older people in residential aged care facilities improved as a result of their placement experience (36, 109, 110). Studies involving medical and nursing students acknowledge that students increase their awareness of unmet needs in clients, families and communities (114,
and that this enhances social awareness and the desire to provide appropriate care (119,120). The dental hygiene placement program was also successful in increasing student knowledge of community needs, with students reporting from the very first year of the placement program that oral health is not managed well in residential aged care facilities and that older people are suffering as a result. The positive benefits of service-learning in medicine and nursing have been mirrored in this RACF service-learning placement program for dental hygiene students.

Service-learning in the field of dental hygiene is in the early stages of development in Australian universities, the positive results from the research in this thesis contribute to the knowledge about the experiences and learning of dental hygiene students during a service-learning placement program in residential aged care facilities. The following are the key conclusions:

1. Service-learning placements in RACFs improve dental hygiene students’ understanding and knowledge of aged care oral health needs.

2. Knowledge, willingness and ability to assess oral health needs and provide oral hygiene instruction for older people with cognitive, physical and visual impairment improved during the service-learning RACF student placement program.

3. Dental hygiene students’ medical, dental and general knowledge of the RACF environment was enhanced during the service-learning placement program.

4. Dental hygiene students were ill-prepared at the commencement of the service-learning residential aged care facility placement program.
5. Dental hygiene student reflective folios and focus groups provided an insight into the RACF placement and highlighted negative experiences at the beginning of the placement suggesting the need for evaluation of student orientation prior to commencement of the placement.

6. Pre-placement orientation that includes a specifically designed re-enactment DVD depicting the student experience is beneficial to a positive student transition from the classroom to the residential aged care placement environment.

This thesis comprises a series of studies that enhance the body of knowledge relating to dental hygiene students learning experiences during a residential aged care student placement program. The thesis established that the service-learning placement program improved student understanding and knowledge of aged care oral health needs, enhanced student knowledge, willingness and ability to assess residents oral health and provide oral hygiene instruction for older people with physical and cognitive impairments. It improved students’ knowledge of medical and dental conditions associated with older people and provided an understanding of the RACF daily routines. The research showed that students developed professional skills and personal attributes during the placement and although initially found the environment daunting, the placement had provided many positive learning opportunities, with some students identifying an interest in working with older people in RACFs after graduation.

These findings provide an insight into dental hygiene students' learning experiences during a service-learning RACF placement program and the comprehensive five year evaluation of the program has enabled a pilot program to become a valuable part of
the dental hygiene student learning experience at the University of Newcastle, Australia.

The student placement program has had additional benefits, in that it has identified a need for oral health care, particularly preventive care for older people living in RACFs. These findings prompted Medicare Local, Central Coast, Australia to fund future research utilising dental hygienists/oral health therapists to provide oral health care for older people living in residential aged care facilities – ‘Seniors Smiles’ (Appendix nine).

It is hoped that this research will demonstrate the benefits of utilising dental hygienists/oral health therapists in residential aged care facilities to provide oral healthcare for older people, ultimately this new model of care may lead to policy change culminating in the employment of dental hygienists/oral health therapists providing oral healthcare for older people in all residential aged care facilities throughout Australia as standard practice.
APPENDIX ONE

Ethics approvals
Thank you for your **Response to Conditional Approval** submission to the Human Research Ethics Committee (HREC) seeking approval in relation to the above protocol.

Your submission was considered under **Expedited** review by the Chair/Deputy Chair.

I am pleased to advise that the decision on your submission is **Approved** effective **05-Mar-2010**.

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National Statement on Ethical Conduct in Human Research, 2007, and the requirements within this University relating to human research.

Approval will remain valid subject to the submission, and satisfactory assessment, of annual progress reports. *If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.*

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal **Certificate of Approval** will be available upon request. Your approval number is **H-2010-0036**.
Notification of Expedited Approval

| To Chief Investigator or Project Supervisor: | Associate Professor Fiona Blinkhorn |
| Cc Co-investigators / Research Students:    | Associate Professor Jane Taylor     |
|                                            | Mrs Janet Wallace                  |
| Re Protocol:                                | A service-learning model of oral health promotion in the residential aged care environment for dental hygiene students: A qualitative study |
| Date:                                      | 09-Oct-2012                        |
| Reference No:                              | H-2012-0297                        |
| Date of Initial Approval:                  | 09-Oct-2012                        |

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I am pleased to advise that the decision on your submission is **Approved** effective **09-Oct-2012**.

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National Statement on Ethical Conduct in Human Research, 2007, and the requirements within this University relating to human research.

Approval will remain valid subject to the submission, and satisfactory assessment, of annual progress reports. **If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.**

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal **Certificate of Approval** will be available upon request. Your approval number is **H-2012-0297**.
APPENDIX TWO

2.1 Questionnaires used for journal article in Chapter 2

2.2 Questionnaires used for journal article in Chapter 3

2.3 Questionnaires used for journal article in Chapter 5
2.1 Questionnaires used for journal article in Chapter 2

---

**Student Pre Placement Survey**  
2009

Instructions: Using the following scale, please circle the number that most closely describes your level of agreement with each statement and provide comments where specified.

Do you consent to the anonymous data you have provided in this evaluation being used for reporting at conferences or published in academic journals? Only group data will be reported. Yes/No

<table>
<thead>
<tr>
<th>A1. Have you had any previous exposure to residents within an Aged Care Facility?</th>
<th>YES □ NO □</th>
</tr>
</thead>
<tbody>
<tr>
<td>In what capacity?</td>
<td></td>
</tr>
</tbody>
</table>

| A2. How confident are you that your existing skills will enable you to provide oral hygiene education & instruction to residents within an Aged Care Facility? |
|---|---|---|---|---|---|
| Extremely confident | Very confident | Confident | Not very confident | Unconfident |
| 5 | 4 | 3 | 2 | 1 |

What would improve your skills and confidence?

| B1. How important is oral hygiene education & instruction for staff working within Aged Care Facilities? |
|---|---|---|---|---|---|
| Extremely important | Very important | Important | Not very important | Unimportant |
| 5 | 4 | 3 | 2 | 1 |

B2. How might your placement assist staff in gaining these skills?

| C1. Please list any barriers or concerns you have regarding this placement. |
|---|---|
| |

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186
Student Post – Placement Feedback Survey
2009

Instructions: Using the following scales, please circle or tick the number that most closely describes your level of agreement with each statement and provide comments where specified.

Do you consent to the anonymous data you have provided in this evaluation being used for reporting at conferences or published in academic journals? Only group data will be reported. Yes/No

<table>
<thead>
<tr>
<th>A1. Has your exposure to residents within an Aged Care Facility improved your understanding of their oral health needs?</th>
<th>YES □ NO □</th>
</tr>
</thead>
<tbody>
<tr>
<td>In what way?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| A2. To what extent has your knowledge and teaching ability improved as a result of this placement program? |
|---|---|---|---|---|---|
| Considerably Improved | Some Improvement | Improved | Unsure | No Improvement |
| 5 | 4 | 3 | 2 | 1 |

How have they improved?

<table>
<thead>
<tr>
<th>B1. Have you provided oral health education sessions for staff working within your placement Aged Care Facility?</th>
<th>YES □ NO □</th>
</tr>
</thead>
</table>

What percentage of staff attended the education session/sessions?

C1. Do you feel the Aged Care Facility you attended was suitable for student placements? YES □ NO □

If no, why not?

D1. Please list any suggestions you may have to improve the placement program.

Thank you for taking the time to complete this survey
2.2 Questionnaires used for journal article in Chapter 3

**Pre-placement QUESTIONAIRRE 2010**

"Evaluation of a service-learning model of oral health promotion in the residential aged care environment for dental hygiene students"

**“Residential Aged Care Resident Ability, Attitude, and Willingness Survey”**

Residential aged care residents are defined as “Older people living in residential aged care facilities (RACF) who require some level of care to assist them with daily life activities.”

*Please read each of the following statements and using the scale below mark the rating that most closely matches your response to the statement*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>A Agree</th>
<th>N Neutral</th>
<th>D Disagree</th>
<th>SD Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have experience working with people in residential aged care</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>2. I have family members that live in residential aged care</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>3. I understand how to assess the oral health needs of the older person</td>
<td>SA</td>
<td>A</td>
<td>N</td>
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<td>SD</td>
</tr>
<tr>
<td>4. I understand how to assess the oral health needs of patients with Alzheimer’s</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>5. I would not like to work in a setting other than private practice.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>6. I am comfortable working with staff in RACF</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>7. Providing care to residents in RACF makes me nervous</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>8. I enjoy providing oral health care to residents in RACF</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>9. Working with patients with special healthcare needs is stressful</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>10. I enjoy working with patients different from me</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>11. I am able to assess the oral health needs of patients with dementia</td>
<td>SA</td>
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<td>N</td>
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<tr>
<td>12. I understand the unique needs of vision and hearing impairment</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>13. I foresee myself routinely treating older patients in RACF</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>14. I would prefer not to work in a RACF</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>15. I find providing care for older persons with special needs rewarding</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>16. Discussing smoking cessation with patients makes me uneasy</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>17. I would prefer not work with individuals who have Alzheimer’s, hearing or vision impairments or memory disorders</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>18. I understand how to produce oral health presentations for RACF staff</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>19. I find presenting oral health information to RACF staff stressful</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>20. What do you hope to gain from participating in this academic service learning placement?</td>
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<tr>
<td>21. What do you think may like most about this academic service learning placement?</td>
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<tr>
<td>22. What do you think you may like least about the academic service learning placement?</td>
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<tr>
<td>23. What concerns do you have about the academic service learning placement?</td>
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</table>

Post-placement QUESTIONAIRE 2010

"Evaluation of a service-learning model of oral health promotion in the residential aged care environment for dental hygiene students"

"Residential Aged Care Resident Ability, Attitude, and Willingness Survey"

Residential aged care residents are defined as "Older people living in residential aged care facilities (RACF) who require some level of care to assist them with daily life activities."

Please read each of the following statements and using the scale below mark the rating that most closely matches your response to the statement

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree (SA)</th>
<th>Agree (A)</th>
<th>Neutral (N)</th>
<th>Disagree (D)</th>
<th>Strongly Disagree (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I have experience working with persons in residential aged care</td>
<td>A</td>
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<td>SD</td>
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<td>3</td>
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<td>SD</td>
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<tr>
<td>4</td>
<td>I understand how to assess the unique needs of patients with Alzheimer’s</td>
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18. I understand how to produce oral health presentations for RACF staff

19. I find presenting oral health information to RACF staff stressful

20. What do you hope to gain from participating in this academic service learning placement?

21. What do you think you may like most about this academic service learning placement?

22. What do you think you may like least about the academic service learning placement?

23. What concerns do you have about the academic service learning placement?

2.3 Questionnaires used for journal article in Chapter 5

**PRE TEST KNOWLEDGE QUESTIONAIRRE 2011**

A service-learning model of oral health promotion in the residential aged care environment for dental hygiene students.

Residential aged care residents are defined as “Older people living in residential aged care facilities (RACF) who require some level of care to assist them with daily life activities.”

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residents in RACF are at risk of developing complex oral diseases and dental problems</td>
<td></td>
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<tr>
<td>2. Dental care in RACF is available for Residents</td>
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<tr>
<td>3. Electric toothbrushes are the best oral health aid for RACF Residents</td>
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<tr>
<td>4. Residents in RACF have a higher prevalence of oral mucosal lesions</td>
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<tr>
<td>5. Staff provide good oral hygiene care to residents with dementia in RACF</td>
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<tr>
<td>6. RACF residents are given an oral health risk assessment every 12 months</td>
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<tr>
<td>7. Hygienists provide oral hygiene services at RACF</td>
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<tr>
<td>Question</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Uncertain</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
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<tr>
<td>8. RACF Residents are happy to participate in the oral health placement program</td>
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<tr>
<td>9. Dental decay is higher in Residents in RACF</td>
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</tr>
<tr>
<td>10. Periodontal disease is higher in Residents in RACF</td>
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<tr>
<td>11. RACF staff provide good oral hygiene care to Residents</td>
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<tr>
<td>12. Oral hygiene products are available at RACF for Residents to purchase</td>
<td></td>
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<tr>
<td>13. Residents have adequate access to appropriate dental services in RACF</td>
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<tr>
<td>14. Staff in RACF have barriers to providing oral hygiene care for Residents</td>
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<tr>
<td>15. Residents have their teeth and/or dentures cleaned by RACF staff regularly</td>
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<tr>
<td>16. Polypharmacy contributes to poor oral health</td>
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<tr>
<td>Questions</td>
<td>Strongly Agree</td>
<td>Agree</td>
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<td>Strongly Disagree</td>
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<tr>
<td>17. Residents in RACF generally have good oral health</td>
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<tr>
<td>18. Residents in RACF have minimal interest in their oral health</td>
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<tr>
<td>19. Co-morbid medical conditions rarely influence oral health for RACF residents</td>
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<tr>
<td>20. Residents have their dentures cleaned after meals</td>
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<tr>
<td>21. Residents with Alzheimer’s disease have reduced saliva flow</td>
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<tr>
<td>22. Residents in RACF manage their own oral health</td>
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<tr>
<td>23. Tardive dyskinesia is common in most RACF Residents</td>
<td></td>
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<tr>
<td>24. Most RACF Residents wear dentures</td>
<td></td>
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<tr>
<td>25. Private Dentists visit RACF Residents regularly</td>
<td></td>
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<tr>
<td>26. Residents in RACF have minimal interest in their oral health</td>
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<tr>
<td>27. Chaining helps Residents to clean their teeth</td>
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<tr>
<td>Questions</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Uncertain</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
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<tr>
<td>28. Embarrassment is a barrier to oral health in RACF</td>
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<tr>
<td>29. RACF Residents often have dental pain</td>
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<tr>
<td>30. RACF are trained to provide oral hygiene care for Residents</td>
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<tr>
<td>31. RACF staff attend training to support good oral hygiene strategies and practices in RACF</td>
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<tr>
<td>32. RACF Residents have access to information that helps them choose the best oral hygiene product for their needs</td>
<td></td>
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<td>33. Public Dental services provide a good dental service for RACF Residents</td>
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<tr>
<td>34. Most Residents with Dementia are able to report dental pain</td>
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<tr>
<td>35. RACF staff have allocated time for Residents dental hygiene care</td>
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<tr>
<td>36. Providing oral hygiene care for the older person requires additional knowledge and skills</td>
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<tr>
<td>Questions contd.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Uncertain</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
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<tr>
<td>37. RACF Residents experience higher prevalence of oral mucosal lesions</td>
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</tr>
<tr>
<td>38. RACF staff use Bridging strategies when providing oral hygiene care to Residents</td>
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<tr>
<td>39. Are RACF staff aware of the connection between oral health and general disease in the older person</td>
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<td>40. Students find it easy to provide RACF Residents with oral hygiene information</td>
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**POST TEST KNOWLEDGE QUESTIONAIRRE 2011**

A service-learning model of oral health promotion in the residential aged care environment for dental hygiene students.

Residential aged care residents are defined as "Older people living in residential aged care facilities (RACF) who require some level of care to assist them with daily life activities."

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<th>Question</th>
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<tr>
<td>1. Residents in RACF are at risk of developing complex oral diseases and dental problems</td>
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<td>2. Dental care in RACF is available for Residents</td>
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<td>3. Electric toothbrushes are the best oral health aid for RACF Residents</td>
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<td>4. Residents in RACF have a higher prevalence of oral mucosal lesions</td>
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<td>5. Staff provide good oral hygiene care to residents with dementia in RACF</td>
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<td>6. RACF residents are given an oral health risk assessment every 12 months</td>
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<td>7. Hygienists provide oral hygiene services at RACF</td>
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<td>8. RACF Residents are happy to participate in the oral health placement program</td>
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<td>9. Dental decay is higher in Residents in RACF</td>
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<td>10. Periodontal disease is higher in Residents in RACF</td>
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<td>11. RACF staff provide good oral hygiene care to Residents</td>
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<td>12. Oral hygiene products are available at RACF for Residents to purchase</td>
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<td>13. Residents have adequate access to appropriate dental services in RACF</td>
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<td>14. Staff in RACF have barriers to providing oral hygiene care for Residents</td>
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<td>15. Residents have their teeth and/or dentures cleaned by RACF staff regularly</td>
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<td>16. Polypharmacy contributes to poor oral health</td>
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<td>17. Residents in RACF generally have good oral health</td>
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<td>18. Residents in RACF have minimal interest in their oral health</td>
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<td>19. Co-morbid medical conditions rarely influence oral health for RACF residents</td>
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<td>20. Residents have their dentures cleaned after meals</td>
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<td>21. Residents with Alzheimer’s disease have reduced saliva flow</td>
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<td>22. Residents in RACF manage their own oral health</td>
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<td>23. Tardive dyskinesia is common in most RACF Residents</td>
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<td>24. Most RACF Residents wear dentures</td>
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<td>25. Private Dentists visit RACF Residents regularly</td>
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<td>26. Residents in RACF have minimal interest in their oral health</td>
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<td>27. Chaining helps Residents to clean their teeth</td>
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<td>Questions</td>
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<td>28. Embarrassment is a barrier to oral health in RACF</td>
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<td>29. RACF Residents often have dental pain</td>
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<td>30. RACF are trained to provide oral hygiene care for Residents</td>
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<td>31. RACF staff attend training to support good oral hygiene strategies</td>
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<td>and practices in RACF</td>
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<td>32. RACF Residents have access to information that helps them choose</td>
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<td>the best oral hygiene product for their needs</td>
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<td>33. Public Dental services provide a good dental service for RACF</td>
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<td>Residents</td>
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<td>34. Most Residents with Dementia are able to report dental pain</td>
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<td>35. RACF staff have allocated time for Residents dental hygiene care</td>
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<td>36. Providing oral hygiene care for the older person requires additional knowledge and skills</td>
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<td>37. RACF Residents experience higher prevalence of oral mucosal lesions</td>
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<td>38. RACF staff use Bridging strategies when providing oral hygiene care to Residents</td>
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<td>39. Are RACF staff aware of the connection between oral health and general disease in the older person</td>
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<td>40. Students find it easy to provide RACF Residents with oral hygiene information</td>
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APPENDIX THREE

Co-authors statements
CO-AUTHORS' STATEMENT CONFIRMING AUTHORSHIP CONTRIBUTION

This is to certify that the manuscript entitled 'Student focused oral health promotion in residential aged care facilities' submitted by Janet Wallace in partial fulfilment of the requirements for the degree of Doctor of Philosophy (Oral Health) is the result of the following contributions:

- Janet Wallace designed the surveys, recruited participants, collected data, planned and organized statistical analyses, wrote the manuscript, managed submission; and responded to review.

Mrs. Janet Wallace  
School of Health Sciences  
The University of Newcastle

A/Professor Jane Taylor  
School of Health Sciences  
The University of Newcastle

Mrs. Linda Wallace  
School of Health Sciences  
The University of Newcastle

A/Professor Debra Cockrell  
School of Health Sciences  
The University of Newcastle
CO-AUTHORS’ STATEMENT CONFIRMING AUTHORSHIP CONTRIBUTION

This is to certify that the manuscript entitled ‘An assessment of a service-learning placement programme in residential aged care facilities for final year dental hygiene students’ submitted by Janet Wallace in partial fulfilment of the requirements for the degree of Doctor of Philosophy (Oral Health) is the result of the following contributions:

- Janet Wallace designed the surveys, recruited participants, collected data, planned and organized statistical analyses, wrote the manuscript, managed submission; and responded to review.

Mrs. Janet Wallace  
School of Health Sciences  
The University of Newcastle

A/Professor Fiona Blinkhorn  
School of Health Sciences  
The University of Newcastle

A/Professor Jane Taylor  
School of Health Sciences  
The University of Newcastle
CO-AUTHORS’ STATEMENT CONFIRMING AUTHORSHIP CONTRIBUTION

This is to certify that the manuscript entitled ‘Reflective folios for dental hygiene students: what do they tell us about a residential aged care student placement program?’ submitted by Janet Wallace in partial fulfilment of the requirements for the degree of Doctor of Philosophy (Oral Health) is the result of the following contributions:

- Janet Wallace designed the surveys, recruited participants, collected data, planned and organized statistical analyses, wrote the manuscript, managed submission; and responded to review.

Mrs. Janet Wallace
School of Health Sciences
The University of Newcastle

A/Professor Fiona Blinkhorn
School of Health Sciences
The University of Newcastle

Professor Anthony Blinkhorn
Faculty of Dentistry
The University of Sydney
CO-AUTHORS’ STATEMENT CONFIRMING AUTHORSHIP CONTRIBUTION

This is to certify that the manuscript entitled 'An assessment of the educational value of service-learning community placements in residential aged care facilities' submitted by Janet Wallace in partial fulfilment of the requirements for the degree of Doctor of Philosophy (Oral Health) is the result of the following contributions:

- Janet Wallace designed the surveys, recruited participants, collected data, planned and organized statistical analyses, wrote the manuscript, managed submission; and responded to review.

Mrs. Janet Wallace
School of Health Sciences
The University of Newcastle

A/Professor Fiona Blinkhorn
School of Health Sciences
The University of Newcastle

Professor Anthony Blinkhorn
Faculty of Dentistry
The University of Sydney
CO-AUTHORS’ STATEMENT CONFIRMING AUTHORSHIP CONTRIBUTION

This is to certify that the manuscript entitled ‘Dental hygiene students’ views on a service-learning residential aged care placement program’ submitted by Janet Wallace in partial fulfilment of the requirements for the degree of Doctor of Philosophy (Oral Health) is the result of the following contributions:

- Janet Wallace designed the surveys, recruited participants, collected data, planned and organized statistical analyses, wrote the manuscript, managed submission; and responded to review.

Mrs. Janet Wallace
School of Health Sciences
The University of Newcastle

A/Professor Fiona Blinkhorn
School of Health Sciences
The University of Newcastle

Professor Anthony Blinkhorn
Faculty of Dentistry
The University of Sydney
CO-AUTHORS’ STATEMENT CONFIRMING AUTHORSHIP CONTRIBUTION

This is to certify that the manuscript entitled 'Improving the transition from the classroom to a clinical placement in a residential aged care facility for dental hygiene students by enhancing the pre-placement orientation program' submitted by Janet Wallace in partial fulfilment of the requirements for the degree of Doctor of Philosophy (Oral Health) is the result of the following contributions:

- Janet Wallace designed the surveys, recruited participants, collected data, planned and organized statistical analyses, wrote the manuscript, managed submission; and responded to review.

Mrs. Janet Wallace
School of Health Sciences
The University of Newcastle

A/Professor Fiona Blinkhorn
School of Health Sciences
The University of Newcastle

Professor Anthony Blinkhorn
Faculty of Dentistry
The University of Sydney
APPENDIX FOUR


International Journal of Dental Hygiene

Editor-in-Chief Marjolijn Hovius

INSIDE
Abstracts for the ISDH conference 2010
Abstracts

The significance is the concern that the provision of oral care during intubation, in an attempt to decrease the incidence of VAP, may pose a risk of increasing ICP.

Methods: The study was approved by the institutional review board. Subjects included 45 consecutive intubated patients at the Barrow Neurological Institute (Phoenix AZ USA) Neuroscience ICU during 2006-07. Eligible patients were 18 years or older. Intubation was within 24 hours of admission, and informed consent was obtained from next of kin. Exclusion criteria included fewer than 6 teeth, maxillofacial trauma, unstable cranial fractures, and expected extubation or death within 48 hours. Microbiological data from oral cultures and clinical data using an oral assessment guide were collected every 72 hours throughout intubation and 48 hours after extubation. Occurrence of VAP and ICP associated with oral care were recorded.

Results: Mean oral health scores deteriorated significantly in every patient during intubation and improved to almost baseline levels 48 hours after extubation. During intubation, the number of oral gram-negative bacteria and yeasts increased. The incidence of VAP was 24% among patients enrolled for 4 to 10 days. During or after 879 occurrences of oral care, overall ICP did not increase. During this phase of the study, nurses were not required to follow a standardised protocol for oral care. Among 30 instances in which ICP was greater than 30 mm Hg before oral care, pressure decreased during and in the 30 minutes after the procedure.

Conclusions: Intubation may contribute to worsening oral health among patients in neuroscience ICU. Performing oral care does not affect ICP adversely. Oral care can be safely provided in patients in neuroscience ICUs and may positively affect incidence of VAP.

Abstract No. 32
Janet Wallace
School of Health Sciences, The University of Newcastle, Ominah, New South Wales, Australia

A service-learning model of oral health promotion in residential aged care facilities for the elderly by dental hygiene students: a qualitative study

Objectives: The objectives of this study were to determine the effect that the oral health undergraduate student placement program had on the oral health knowledge of residents and staff within Residential Aged Care Facilities (RACF) on the Central Coast Australia and how the placement program affected student knowledge and skills development.

Methods: A database of RACF was established and they were invited to participate in the pilot oral health student placement program in March 2009. Seventeen RACF accepted and were visited prior to the commencement of the student placement program, management were individually interviewed and asked to identify existing oral hygiene practices within their RACF and the level of existing staff oral health awareness. A student placement protocol was developed and 34 Students were then allocated to RACF according to the size of the facility and its capacity to support student placements. Students completed pre and post surveys to identify existing knowledge and areas of acquired knowledge as a result of the placement program. In addition to the surveys, students were required to complete tasks as part of the assessment process for this unit of work. These tasks included providing staff oral hygiene education sessions, keeping a reflective folio and conducting an oral health needs analysis to determine information to design an oral health education information poster, specific to each individual RACF.

Results: All RACF Managers reported favourably about student involvement and expressed an interest in participating in the student pilot placement program in 2010. A total of forty eight (48%) of the surveys were returned. Forty six (85%) of students reported that the placement improved their understanding of aged care oral health needs. Fourteen (26%) of students reported that their knowledge had improved considerably, sixteen (30%) of students reported some improvement, nineteen (35%) reported improvement in knowledge, four (7%) were unsure of any improvement, while one (2%) reported no improvement. A total of forty eight (48%) students reported that they had provided education sessions to RACF staff while five (11%) provided no staff training sessions. A total of forty two (78%) of students advised their RACF was suitable for student placement, twelve (22%) of students expressed concern that their RACF placement was not suitable.

Conclusions: The objectives of this program were achieved, the program provided a supportive learning environment where students, staff and residents increased oral health knowledge and developed oral hygiene skills related to care of the older person. The placement program provided a real life learning opportunity and resulted in positive experiences for the undergraduate oral hygiene students from the University of Newcastle, Australia. The pilot program is now part of permanent student placements within the undergraduate Bachelor of Oral Health degree.

Abstract No. 41
Sandy.cobban@uaberta.ca

The scoping review: another tool for dental hygienist researchers

Sandra J. Cobban, Eunice M. Edgington, Jacinda Nelson, Michelle Sutanto
Dentistry-Pharmacy Centre, Dental Hygiene Program, University of Alberta, Edmonton, Canada

Objectives: In dental hygiene’s progression toward the status of a profession, the development of dental hygiene’s body of knowledge for practice plays an integral role. Key to this development is the expansion of the cadre of researchers contributing research findings. This also leads us to examining methods for dental hygiene research, including the potential contributions of a scoping review as a tool for dental hygienist researchers. The purpose of this presentation is to describe the range of activities and purposes of scoping reviews, and to provide examples of such reviews from the literature and the authors’ experiences.

Methods: A search of key databases (Medline, EMBASE, CINAHL) and health organization websites (NHS, CIHR) was conducted to identify a definition for a scoping review and to identify the range of literature presenting as scoping reviews. Search terms used were scope, scoping review, and scoping study. Key characteristics were extracted.

Results: Three main types of scoping activities were identified: scoping search, scoping review, and scoping study. Purposes of these activities included preliminary activity for a systematic review, description of current states of research activity and findings in a given area, and identification of gaps in research activity and knowledge. Iterative stages in a scoping review included identifying the research question, identifying and selecting relevant studies, charting the data, and summarizing and reporting results. A role for user consultation was identified. Unlike systematic reviews, scoping reviews did not typically address quality assessment. Use of scoping reviews is increasing in health, social, and educational fields.

Conclusions: There is a lack of clarity in the literature regarding scoping reviews. This presentation sheds light on the range of
Oral Health - New Concepts for the New Millennium
New technology for preventing and treating oral diseases including alternative treatments

1st - 3rd July 2010

Programme

18th International Symposium
on Dental Hygiene

Scottish Exhibition & Conference Centre,
Glasgow, Scotland
Free Communications

Schedule for 30 and 15 Minute Oral Presentations in Dochart Room, Loch Suite

There will be a prize for the best 15 minute abstract and presentation and the best 30 minute abstract and presentation.

Friday 2nd July

Session 3c 11.45 - 12.40
Chair: Professor Ken Eaton

- 11.45 Introduction to the Free Communications sessions
  Speaker: Elin J. Rojo
  [No. 2]

- 12.10 - 12.27
New Rules for Dental Hygienists in Europe
30 minute oral presentation
Speaker: Dr. Claudia Ludzak-Dorneberger

Session 4c 13.30 - 14.30
Chair: Margaret Ross

- 13.30 An update on the Drug Prescribing Activities of Dental Hygienists
  Prescribers in Alberta
30 minute oral presentation
Speakers: Stacey Madrie & Dr. Ann Estenau Spolarich

- 14.15 Maximaling Dental Hygiene Student Proficiency in Local Anaesthetics
  30 minute oral presentation
Speaker: Laura J. Webb

Session 5c 15.00 - 16.00
Chair: Dr. JoAnn Gurrenlian

- 15.00 Findings from the Bench: Treatments for Toothbrush Habit-Specific Erosion Cell Carcinoma
  30 minute oral presentation
Speaker: Dr. Tars Johnson

- 15.45 A Collaborative Oral Health Project in Nepal Involving the Local Community
  30 minute oral presentation
Speaker: Dr. Ron Knevel

Session 6c 16.00 - 17.00
Chair: Professor Ken Eaton

- 16.00 Oral Health in Pre-school Children with Asthma - Followed from 2-6 Years
  15 minute oral presentation
Speaker: Matl Stensson, Co-authors: Lill-Kari Windahl, Gudrun Kofod, Mats Nilsson, Gleen Oldsted, Dowen Birkhed

- 16.15 Management of Peri-implant Pathology in Relationship to Excess Lingual Cement
  15 minute oral presentation
Speaker: Mary Mowbray

- 16.30 The Mind and the Mouth: Impact of Psychiatric Illness and Dental Management Considerations
  15 minute oral presentation
Speaker: Dr. David Clark

- 16.45 Oral Care in Vascular Patients
  15 minute oral presentation
Speaker: Cindy Kleinman

Saturday 3rd July

Session 8c 10.30 - 11.30
Chair: Margaret Ross

- 10.30 Fostering Oral Health Therapy Practice in Australia's Remote North
  30 minute oral presentation
Speaker: Dr. Julie Sadler

- 11.15 Adult Survivors of Childhood Sexual Abuse are often our Clients: A Fine-tuning Dental Hygiene Care using Research-based Guidelines
  30 minute oral presentation
Speaker: Dr. Candice Schaefer, Co-authors: Laura MacDonald, Fran Rickard

Session 9c 11.30 - 12.15
Chair: Dr. JoAnn Gurrenlian

- 11.30 A Service-learning Module of Oral Health Promotion in Residential Aged Care
  Facilities for Older Ethnic by Dental Hygiene Students: A Qualitative Study
  15 minute oral presentation
Speaker: Janet Wallace

- 12.10 The Scoping Review: Another Tool for Dental Hygienists Researchers
  15 minute oral presentation
Speaker: Sandra Cobban, Co-authors: Ronnie M. Edgington, Jacinda Neilson, Phebie Sansome

- 12.15 Critical Thinking Strategies for Dental Hygiene Practice
  15 minute oral presentation
Speaker: Laura MacDonald, Co-authors: Lorinda Coon, Joyce Hudson, Dianne Gallagher

Session 10b 13.45 - 14.45
Chair: Professor Ken Eaton

- 13.45 The Influence of Dental Endoscopy on Periodontal Instrumentation
  30 minute oral presentation
Speaker: Anna Mowhinny Partson

- 14.00 Dental Hygiene Students' Self-Assessment and Perspectives on their Professional Development
  15 minute oral presentation
Speaker: Denise Bowen, Co-authors: Carole Christie, Carina Parnham

- 14.15 The Winning Internship: A Student's Perspective Run Health Clinic at WIsr for Access to Care
  15 minute oral presentation
Speaker: Kyle Cornwall, Co-authors: Lorinda Roberts, Katie Hildbrandt, Mickey Emmons Weber, Laura MacDonald

Session 11c 14.45 - 15.15
Chair: Margaret Ross

- 14.45 Tobacco Cessation Activities among Dental Hygienists in Sweden
  15 minute oral presentation
Speaker: Pia Andersson, Co-authors: S. Wilsholmen, A Johansson

- 15.00 Interdisciplinary Cleaning: An Evidence-based Approach
  15 minute oral presentation
Speaker: Dr. Dagmar Sloe

Top 20 Posters

These posters will be displayed on both 2nd and 3rd July in Dochart Room, Loch Suite where the oral presentations are given. There will be a prize for the best 20 abstract and poster.

The abstracts for all 20 oral presentations and the Top 20 posters will be published in the International Journal of Dental Hygiene.
APPENDIX FIVE

- Abstract - The role of dental hygiene students in aged care facilities – the benefits? 21st Congress of the International Association for Disability and Oral Health, Melbourne Australia October 2012

- Presentation- The role of dental hygiene students in aged care facilities – the benefits? 21st Congress of the International Association for Disability and Oral Health, Melbourne Australia October 2012
Consent, assent and communication for people with dementia
Ting G

Caring for patients with dementia requires the use of a variety of skills by the dental team. Communication with the patient (as their dementia allows), relatives, caregivers and other personnel is essential in the care process. Diagnosis of oral health problems may be difficult as clinical examination and treatment planning may be hampered by poor cooperation from the person with dementia. Practitioners should try to plan treatment from the patient's perspective and balance this with the requirements of sound clinical care. The consent process must be approached in a manner that fulfils ethical responsibilities and acknowledges patient rights. This presentation will explore issues surrounding communication with the patient, the consent process and the practicalities of provision of oral health care to people suffering from dementia. Attendees will review practical techniques that enable them to engage with patients suffering from dementia, encourage cooperation with dental treatment and optimise self-care at home. Practitioners will be stimulated to think about the informed consent process and how they communicate with all concerned with the welfare of the patient. In doing this, the wants and needs of patients and families and factors on a broader-than-clinical basis can be used to enhance the care bought to this group of interesting and often challenging patients.

Oral health therapy in Japan. Dental hygienist provision of dental care for the disabled in Japan
Tsutsui M

Few dental hygienists began their career in Special Need Dentistry (SND) on completion of training. The majority worked in general dentistry before becoming involved in SND. In FY2008, the Japanese Society for Disability and Oral Health established their system of dental hygienist certification. There are 4,304 members in total; 835 are dental hygienists, with 280 certified by the Japanese Society for Disability and Oral Health. The duties of dental hygienists outlined by the Japanese Society for Disability and Oral Health include attaching monitoring equipment, monitoring and recording, eating training (direct and indirect), obtaining impressions from severely disabled patients, rubber dam isolation, pharyngeal suction, myofunctional therapy, psychological behaviour modification and treatment and education of autistic and related communication-handicapped children, speech therapy training, physical and neurophysiological behaviour modification, tracheal aspiration during eating training, blood sampling during general anaesthesia and feeding tube insertion. The main duties differ amongst workplaces; dental hygienists providing dental care for disabled people in Japan can be principally classified as primary (general clinical dentistry), secondary (such as oral health centres), and tertiary (such as university hospitals) care sites. The main duties for primary care dental hygienists include oral health guidance and care assistance during dental treatment, whilst secondary and tertiary care includes behavioural therapy and assistance during general anaesthesia. Dental hygienists play a role in lifestyle support for disabled patients through oral health guidance. The presentation will use video to visually report on the content of dental hygienists' duties in Japan.

The role of dental hygiene students in aged care facilities - the benefits?
Wallace J
University of Newcastle, Ourimbah, Australia
Janet.Wallace@newcastle.edu.au

Whilst the aim of education is to enable students to learn, teaching has to be considered as a series of activities that stimulate, facilitate and progressively guide the learning process, culminating in a graduate who has the skills to engage in self-directed reflective learning. Student placement programmes are potentially a useful way of providing on the job learning experiences, where students can combine classroom theoretical learning with real life experience. The aim of this study was to record student feedback on a placement programme where students offered oral health assessments and oral hygiene advice to older people living in Residential Aged Care Facilities (RACFs) on the Central Coast Region of NSW, Australia.
iADH2012
21st Congress of the International Association for Disability and Oral Health
28-31 October, 2012
Sofitel Melbourne on Collins
Melbourne Australia

Program Book

Sponsored by
Colgate

Hosted by

www.iadhs2012.com
# Scientific Program

## Sunday 28 October

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
</table>
| 0830 - 1000 | **Motivational Interviewing**  
Drs Don Morrow, Jennifer Irwin | **Autism Spectrum Disorder**  
Dr Wendy Bellis, Dr Susan Hinckfuss | **Domiciliary Downunder**  
Dr Peter King |
| 1000 - 1015 | **Morning Tea**                     |                                    |                                    |
| 1015 - 1200 | **Morning Tea**                     |                                    |                                    |
| 1200 - 1300 | **Lunch**                           |                                    |                                    |
| 1300 - 1415 | **Drs Don Morrow, Jennifer Irwin** | **Dr Wendy Bellis, Dr Susan Hinckfuss** | **Partnerships between private and public health**  
Karen Sleishman |
| 1415 - 1430 | **Afternoon tea**                   |                                    |                                    |
| 1430 - 1600 | **Drs Don Morrow, Jennifer Irwin** | **Dr Wendy Bellis**  
Dr Susan Hinckfuss | **Australian aged dental care - a private approach**  
Mark Braund |
| 1800 - 1900 | **Welcome Reception**  
IAHD 2012 |                                    |                                    |

*Please note that the program is subject to change without notice.*
APPENDIX SIX

Presentation- Education programs and dental auxiliaries, Centre for education and research on ageing (CERA) Oral health & dementia workshop, Sydney Australia

November 2012
# Program

**Oral Health and Dementia Workshop**

Friday 23rd November 2012

Nexus Room, Pullman Hotel
Sydney Olympic Park

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Speaker(s)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Registration and Coffee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08:45</td>
<td>Welcome to Country</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:00</td>
<td><strong>The Nature and Dimension of Dementia in Australia</strong></td>
<td>Dr Helen Creasey, Geriatric Medicine Specialist, Melbourne Dental School</td>
<td>The nature of dementia in Australia.</td>
</tr>
<tr>
<td>09:40</td>
<td>Key Speakers</td>
<td>A/Prof Matthew Hopcraft, Dr Peter King, Special Needs Dentist</td>
<td>Oral health of those with dementia.</td>
</tr>
<tr>
<td>10:10</td>
<td>Panel Discussion</td>
<td>Vasi Naganathan</td>
<td>Principles of dental care for those with dementia.</td>
</tr>
<tr>
<td>10:40</td>
<td>Morning Tea</td>
<td></td>
<td>Key speakers, plus</td>
</tr>
<tr>
<td>11:00</td>
<td>Panel Discussion</td>
<td>A/Prof Vasi Naganathan</td>
<td>Ms Jennifer Gibney, Speech Pathologist.</td>
</tr>
<tr>
<td>11:00</td>
<td>Panel Discussion</td>
<td>A/Prof Vasi Naganathan</td>
<td>Ms Jayne Brannsteiner, Dental Hygienist.</td>
</tr>
<tr>
<td>11:00</td>
<td>Panel Discussion</td>
<td>A/Prof Vasi Naganathan</td>
<td>Ms Anne Tunk, Dementia Advisor.</td>
</tr>
<tr>
<td>12:30</td>
<td><strong>Lunch</strong></td>
<td></td>
<td>Managing saliva and the oral environment to enhance comfort and function.</td>
</tr>
<tr>
<td>13:00</td>
<td>Early Interventions and Planned Management</td>
<td>Prof Ian Meyers, University of Queensland, University of Melbourne</td>
<td>Cultural dilemmas and clinical solutions.</td>
</tr>
<tr>
<td>13:30</td>
<td>Key Speakers</td>
<td>A/Prof Rodrigo Marino, Ms Janet Wallace, Newcastle University</td>
<td>Educational programs and dental auxiliaries.</td>
</tr>
<tr>
<td>14:00</td>
<td>Panel Discussion</td>
<td>Prepared A/Prof Peter Dennison</td>
<td>Key speakers, plus</td>
</tr>
<tr>
<td>14:30</td>
<td>Panel Discussion</td>
<td>A/Prof Peter Dennison</td>
<td>Dr John Cullen, Senior Specialist, Geriatric Medicine &amp; Clinical Director, Aged Care, Concord Hospital.</td>
</tr>
<tr>
<td>15:40</td>
<td><strong>Afternoon Tea</strong></td>
<td></td>
<td>Dr Peter Foltyn, Consultant Dentist, St Vincent’s Hospital.</td>
</tr>
<tr>
<td>16:00</td>
<td>Your Issues and Comments on Resolution</td>
<td></td>
<td>Ms Donna Sutherland, DON, Linburn Nursing Home.</td>
</tr>
<tr>
<td>16:30</td>
<td>Plenary Session and Feedback Considerations</td>
<td></td>
<td>Ms Monika Hall and Mr Bradley Williams, Uniting Care Ageing, Sydney Region.</td>
</tr>
</tbody>
</table>

Program V5
APPENDIX SEVEN

Presentation - The dental hygiene student residential aged care placement program: what do we know about the student experience? Dental Hygienists Association of Australia Inc. NSW Annual Seminar – The Golden Age-living longer, living better, Sydney Australia November 2013
COME AND JOIN THE DHAA NSW IN SURRY HILLS FOR OUR ANNUAL SEMINAR DAY.

We have lined up four great speakers and a host of other events to make this an annual seminar day to remember. Topics to be will include...

- **Eight challenges for oral health in the future** (45 mins)
  Introduces the workshop and highlights some major issues that will increasingly face oral health with an aging dentate population. These include limited awareness of oral health by our health colleagues. The presentation includes the important role of Dental Hygienists and Oral Health Therapists in the coming years for this segment of the population.

- **Root surface caries - a refresher of the science and its implications for the Dental Hygienist** (60 mins)
  This is a paper that reviews the latest evidence based understanding of the disease, and examines the implications this has for a Dental Hygienist in the clinic and community.

- **The provision of Oral Care and the elephant in the room** (60 mins)
  This paper examines some key issues that are commonly not addressed when a person needs someone else to assist with oral care. This paper will be of particular interest to Dental Hygienists with an interest in persons who are no longer independent.

**FIVE GREAT SPEAKERS – ONE GREAT SEMINAR**

---

**THE VENUE**
The Sebel Surry Hills
28 Albion St, Surry Hills

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**FEES**
- Early bird: $290 (by September 30)
- Standard fee: $390 (after September 30)
- Student members: $290
- Non-members: $510
- Dentists: $510

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APPENDIX EIGHT

The making of a re-enactment DVD – 'Residential aged care facility oral health student placement program: the student experience'

- Story line documentation
- Call sheet information
- DVD
The making of a re-enactment DVD to provide dental hygiene students with a realistic orientation to a residential aged care student placement program

Objectives: The aim of this project was to develop a re-enactment DVD to provide final year dental hygiene students with a realistic orientation to a residential aged care facility (RACF) student placement program on the Central Coast of NSW, Australia.

Design: To develop a DVD narrative utilizing four years of data from evaluations of the University of Newcastle, Bachelor of Oral Health RACF student placement program were analysis. The data supported the need for a re-enactment DVD to be part of a pre-placement orientation program to assist students in their transition from the classroom to the RACF placement. A series of scenarios were designed to depict dental hygiene students communicating and providing oral hygiene care to residents with cognitive, physical and visual impairment. The DVD narrative was written, a RACF was approached to participate in the filming, and graduated oral health therapists were contracted to portray the student experience. A professional production company was engaged to produce a DVD and the project was supported by a $20,000 SEED grant. Consent was gained from the University of Newcastle, Ethics Committee (Approval number H 2012-0297).

Method: A comprehensive thirty minute narrative in the form of a ‘day in the life of dental hygiene students during a RACF placement’ was produced. The filming consisted of two full days of production involving four registered oral health therapists portraying dental hygiene students, a number of RACF staff and residents portraying themselves and the manager of the RACF providing valuable consultation and input into the DVD scenarios. The DVD was edited and approved by all participants prior to the final production process. The DVD was shown to half of the final year dental hygiene students from the 2013 cohort in semester one. The effect of the DVD on transition from classroom to RACF has been evaluated in the final paper of this thesis entitled 'Dental hygiene students' in residential aged care facilities, it's a challenging environment: how can we orientate them to transition from the classroom to the 'real world' experience of aged care?'.

Result: All participants involved in the DVD filming were happy with their contribution to the narrative and provided positive feedback prior to the final production of the re-enactment DVD. All scenarios depicted to assist dental hygiene students to communicate and provide oral hygiene care to older people with cognitive and physical impairments were completed in a realistic format.
Conclusion: The re-enactment DVD provided a realist representation of the student experience during a RACF student placement program and should positively assist students in their transition from the classroom to the RACF environment.

The Residential Aged Care Facility Oral Health Student Placement Program: the student experience

*Narrative researched and written by Janet Wallace*

Scenarios for RACF staff:

1. Colin (Manager of the RACF)

   Colin will establish the setting of the RACF environment and explain the importance of respect and communication with the residents. Colin will debunk some stereotypes and myths that exist with regard to residential aged care facilities and show how to build a good rapport with residents.

   Colin's primarily filming location will be in the entry foyer of the facility and in the common areas.

2. Sue (Deputy Manager of the RACF)

   Sue’s primary role is to show the importance of respectful and compassionate care with residents. She will be the linchpin between the experience and authority that Colin brings to this video and the enthusiasm and naivety the students bring. She will re-inforce the communication principles and level of care that Colin has introduced, and ensure the student viewer has a well-rounded understanding of each scenario presented throughout this video.

   The primary filming locations for Sue will be in the common areas near the resident's rooms.

3. Students

   The primary role of the workplace students in this video is to show the types of tasks student viewers can expect to perform during their placement. The students in the video will be placed in a number of realistic scenarios that will highlight the importance of the communication principles introduced by Colin at the start of the video, and the practices re-enforced by Sue.

   The primary locations for the students will be in resident's rooms and lounge areas.
Scenarios for students:

a. Students will attempt to communicate with the residents and develop some rapport by starting a conversation about family, hobbies etc while trying to start a dialogue about oral health care. Students will initially find this difficult and will have to work hard to gain rapport.

b. Demonstration and interaction with a resident while showing them how to brush their own teeth and how to clean their dentures. The students will attempt to develop some rapport with the resident before asking if they can look at their teeth. The resident might be unresponsive and the students will need to work hard to talk to the resident into participating in the oral hygiene session. The demonstration will include use of the toothbrush, denture cleaning and a discussion about oral hygiene products.

c. Students will attempt to provide oral hygiene care to residents with Dementia and or Alzheimer's disease. The students will have difficulty initially but after demonstrating strategies appropriate to residents with these cognitive conditions oral hygiene care will be demonstrated.

d. Students will demonstrate oral hygiene education sessions to RACF staff, using visual aids and oral hygiene equipment, etc. (Toothbrushes, toothpaste, products for dry mouth etc.).

In addition to the scenarios, students will be asked at the beginning of the DVD how they feel before commencing the RACF student placement program and what they are nervous about. At the end of the DVD filming students will be asked what they gained from the experience, and how the placement helped them with their knowledge of the older persons oral health.

4. The Residents

The primary role of the residents in this video is to address the myths that surround people who live in aged care facilities, and to provide a human face to the student placement program. They will be seen throughout every stage of the video in a number of scenarios.
5. Completion

A discussion at the end of the DVD will incorporate the students, Colin and Sue in an attempt to pull the story line together for future BOH students.

**Day 1:**

Initial filming site selection at the RACF; and background interviews with dental hygiene students (actors) and RACF staff. Students describe their feelings of nervousness and apprehension before commencing the RACF placement.
Voice levels and background shots are taken
RACF staff are interviewed and filmed discussing oral health issues of the residents
Day 2:

Discussions with RACF Manager and filming of scenarios
With thanks to:

UnitingCare for allowing the filming of the DVD

The residents and staff from Starrett Lodge, Hamlyn Terrace RACF

The oral health therapists’ who portrayed the student experience

Pineapple Media

GSK for dental products

Centre for Oral Health Strategy, NSW for a $20,000 grant to produce the DVD
Storyline Structure and Key Participants:
Janet Wallace – Oral Health Research DVD
Prepared by Richard Attleie
23 October, 2012

Storytelling Style:
This is a 20 minute mini-documentary based on the research by Janet Wallace at the University of Newcastle showing good communication skills in the context of oral health in residential aged care.

The video will present the information from the resident’s perspective, and will use an observational storytelling documentary style showing how an aged care facility works, the importance of good communication with residents of aged care facilities, and address the barriers to learning as identified in Janet Wallace’s research:

- students don’t know how to deal with old people
- illness of residents
- working with overworked staff

The video will show a number of interviews and scenarios to show the context of a workplace placement in aged care facilities, and focus on the experiences of oral health students.

Key Participants and Their Roles:
The documentary will be ‘carried’ by the key participants at various points showing and communicating their ‘role’ in the delivery of quality aged care. The key participants and their roles are:

1 – Colin McDonnell (4-5mins)
Colin’s primary role is to establish the setting of the workplace placement and the importance of good communication skills with residents. His role is to debunk some stereotypes and myths that exist with regard to residential aged care facilities and show how to build a good rapport with residents.
Colin’s primarily filming location will be in the entry foyer of the facility and in the common areas.

2 – Staff Member (Sue) (4-5mins)
Sue’s primary role is to show the importance of respectful and compassionate care with residents. She will be the linchpin between the experience and authority that Colin brings to this video and the enthusiasm and ignorance the students bring. She will re-enforce the communication principles and level of care that Colin has introduced, and ensure the viewer has a well rounded understanding of each scenario presented throughout this video.
The primary filming locations for Sue will be in the common areas near the resident’s rooms.

3 – Workplace Students (4 people) (10-12mins)
The primary role of the workplace students in this video is to show the types of tasks student viewers can expect to perform during their placement. The students in the video will be placed in a number of realistic scenarios that will highlight the importance of the communication principles introduced by Colin at the start of the video, and the practices re-enforced by Sue.
The primary locations for the students will be in resident’s rooms and lounge areas.

4 – The Residents
The primary role of the residents in this video is to address the myths that surround people who live in aged care facilities, and to provide a human face to the workplace placements. They will be seen throughout every stage of the video in a number of scenarios.
1. Int. Residential Aged Care Facility
- VISUAL MONTAGE cut with MUSIC to establish a ‘homely’ feel. This will show people reading, interacting with friends, watching television, etc.
- introduce the idea of the aged care facility being the elderly person’s home. The residents will either say ‘this is my home’ to camera, or we will leave the viewer feeling like they have just watched a number of people in their homes.

2. Ext. & Int. Starlett Lodge
Colin walks past the camera and into the foyer of the Lodge. It will be great to have a bus or van pulling into the driveway to show a level of activity. We catch up with Colin outside or in the foyer of the Lodge:

Colin to establish:
- what a residential aged care facility is from the perspective of the resident. (eg. Despite looking quite clinical, this is a home or a community that comprises of a number of homes)
- the level of care and service expected by aged care residents.
- how he views the residents.
- how he treats the residents.
- why this is all important.

As Colin is speaking, we see lots of overlay footage of the workings of Starlett Lodge. We may also follow Colin as he walks and talks his way around the common areas of the Lodge.

We see Colin interacting with the residents and his staff.

As this section comes to a close, Colin interacts with members of his staff (Sue and others).

3. Int. Starlett Lodge
From a montage of internal workings at the Starlett Lodge, we see Staff interacting with Residents on a number of levels, from helping to fix beds and brush hair, to social interactions and serving food. This is to give viewers of the video an understanding of the people they will be working with.

As we follow the Staff in their tasks, we establish the need for specialised care in aged care facilities in a number of areas, including oral health. The Staff member then talks about the importance of training future carers and practitioners, addressing some of the barriers that prevent students from learning in the first 6 weeks of their placements, and introduces a number of workplace scenarios that are foreign to most students when they first arrive.

* As Colin and the Staff walk and talks us through Starlett Lodge, they will be continually explaining how the resident views the lodge as their home, how the common areas like roads, parks and community centres, and explain the idea of the residents being at home. Eg. At Starlett Lodge, we have a number of neighbourhoods that exist under the one roof. Each neighbourhood is a different section of the building and has a number of homes, common areas and a diverse range of people who live there. The staff can also explain concepts like implicit and explicit memory.

As this section comes to a close, the Staff member takes us to a resident’s room where we see two students working with a resident.

4. Int. Room 1 – Scenario 1: Assessment, Teeth Cleaning. Denture Cleaning
We join the resident during an assessment being carried out by students. Through this scenario, we get an understanding of the clinical work that is expected of students. That is, the work that dental hygienists will do anywhere when dealing with elderly people.

In this section of the DVD, we may interview the Residents to get a better understanding of how they like to be treated and how they do not like to be treated. This interview will be covered with overlay of the assessment and cleaning footage.

5. Int. Starlett Lodge Common Room
We join one of the Staff members in the common room as they re-enforce the sentiments of how the residents like to be treated. The Staff member establishes an information session that students are expected to run as part of their placement.

The Staff member leads us to a discussion led by the students in the common room. There will be two students and about 5 or 6 staff. This will be an informal chat where the students will show how to run an information session.

For this section, we will interview a student with the group behind him/her and they will talk us through the process establishing what is expected, the type of work put into the presentation, etc.

The students will have pamphlets and information sheets to distribute.

6. Int. Dementia and Alzheimer’s Rooms
We meet up again with Colin who explains the layout and little of the psychology behind the Dementia and Alzheimer’s Rooms. Colin walks us through this section of the Lodge and addresses some of the stereotypes and myths that prevent effective student placements. Colin also talks about the importance of good communication when dealing with sufferers of Dementia and Alzheimer’s, and talks about some of the more common problems students face.

As Colin is speaking, we see a student working with a Dementia or Alzheimer’s resident where things are not going to plan. In this scenario, Colin highlights what can be done differently and how to avoid many of the common mistakes.

We then see another resident with another set of students where things are going right and Colin explains why this is happening, how the student prepared for the scenario, etc.

7. Closing Comments
This section can be a montage of thoughts by the residents, students and staff, or just from the staff. The closing comments are to leave the viewer feeling like they now know what they are ‘in for’ with respect to a residential aged care workplace placement.

The video will finish with an upbeat and positive feeling of hope and purpose.
DVD copy
APPENDIX NINE

9.1 Grant proposal

9.2 Letter of offer

9.3 Media release

9.4 Letter of congratulations from the Vice-Chancellor, University of Newcastle, NSW
<table>
<thead>
<tr>
<th>Initiative Name</th>
<th>‘Seniors Smiles’ - Oral hygiene care for older people in residential aged care facilities</th>
</tr>
</thead>
</table>
| **Description** | • Dental Hygienists/Oral Health Therapists would provide dental examinations for residents, develop oral hygiene care plans, provide oral hygiene services, refer on to a dentist where necessary and provide ongoing support and oral health education to residents, carers, and staff as appropriate, within Residential Aged Care Facilities.  
• Referral pathways would be developed enabling those residents who have been identified as needing clinical dental care to access services in a timely manner.  
• Dental Hygienists/Oral Health Therapists would be responsible for recording and monitoring the oral health of the residents |
| **Projected Outcomes** | • Increased oral health focus within Residential Aged Care Facilities (RACF’s)  
• Introduction of a dedicated oral health practitioner position to oversee, provide care and monitor oral health in RACF’s.  
• Implementation of oral health policies in RACF’s  
• Improved plaque scores for residents  
• Improved oral health outcomes influencing quality of life for residents |
<table>
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<tr>
<th>Timeframe</th>
<th>12 months</th>
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<tr>
<th>Evidence/Trialling</th>
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Australia is facing a huge challenge in respect to providing timely and appropriate oral hygiene care for the older person, especially those living in aged care facilities. As with the global perspective, Australia has an aging population that is growing rapidly with projections from the Australian Bureau of statistics that by 2050 more than 1 in 4 Australians will be aged over 65 years, (7.30 million) and an increase in the 85 years + age group, from 1.5 per cent (295,000) in 2004 to 5.8 per cent (1.62 million) by 2051 (1). There has also been a large increase in people living in residential aged care facilities.

The impact of residential aged care on oral health is well documented (2, 3, 4, 5) with residents oral health status rapidly declining after admission to residential aged care. Regular oral hygiene care is often ad hoc with more urgent needs such as toileting, bathing and feeding taking precedence. High oral disease rates of residents living in Residential Aged Care Facilities (RACFs) are directly linked to their inability to access dental services and in particular preventive dental care (6). Older people in RACF’s consume a disparate amount of the social and healthcare budgets, so future planning is important to implement programs which can reduce the morbidity for older Australians. As with other aspects of medical care for this group, their dental needs will become more resource intensive and therefore any preventive
programs would be cost effective (6).

A recent Australian study (7) recommended 'greater utilisation' of dental hygienists/oral health therapists in RACF's as an efficient and effective use of resources. Dental hygienists/oral health therapists have the necessary skills and knowledge to provide dental examinations for residents, develop oral hygiene care plans, provide oral hygiene services and refer to a dentist where necessary. In addition to clinical care, dental hygienists/oral health therapists are trained to provide ongoing support and oral health education to carers and staff strengthening their position in this cost effective preventive model of care.

| Cost     | $100,000.00 |
References


8 August 2013

Ms Laura Medioli
Research Section
The University of Newcastle
University Drive
CALLAGHAN NSW 2308
Via email: laura.mediolil@newcastle.edu.au

Dear Ms Medioli

RE: LETTER OF OFFER
‘Seniors Smiles’

On behalf of Central Coast NSW Medicare Local (CCNSWML) I would like to take the opportunity to offer the University of Newcastle a grant of $100,000 for a new initiative “Seniors Smiles” which will deliver oral hygiene care for older people in residential aged care facilities. The project will be conducted by the University of Newcastle and will operate on a 12-month period with an expected commencement date in October 2013. This funding would be subject to a successful contractual agreement between the University of Newcastle and CCNSWML.

The initiative will involve the following:

- A Dental Hygienist would be employed on a temporary basis to provide dental examinations for residents, develop oral hygiene care plans, provide oral hygiene services, refer residents to a dentist where necessary and provide ongoing support and oral health education to residents, carers, and staff as appropriate, within Residential Aged Care Facilities.
- Referral pathways would be developed enabling those residents who have been identified as needing clinical dental care to access services in a timely manner.
- Dental Hygienists/Oral Health Therapists would be responsible for recording and monitoring the oral health of the residents.
- The University of Newcastle will support the project by capturing data, and overall evaluation of the project.

Could you please advise Andrew Davison, Health Care Integration and Improvement Manager, in writing, if the University of Newcastle accepts this grant to enable CCNSWML to draw up a contract. If you have any queries please contact Andrew directly on 0432 178 988 or andrew@ccnswml.com.au.

Yours faithfully

Richard Nankervis
CHIEF EXECUTIVE OFFICER

www.ccnswml.com.au
167b The Entrance Road
ERINA NSW 2250
T 02 4365 2294  F 02 4365 3636

Medicare Locals gratefully acknowledge the financial and other support from the Australian Government Department of Health and Ageing

Central Coast NSW Medicare Local Limited (ABN 53 108 411 570)
University of Newcastle wins $100,000 grant for “Senior Smiles” dental visits on Central Coast

The University of Newcastle has been awarded a $100,000 grant from Central Coast NSW Medicare Local Limited for a “Senior Smiles” program to deliver oral hygiene to people in residential aged care facilities.

A Dental Hygienist will provide dental examinations, develop oral hygiene care plans, refer residents to dentists where necessary, and provide oral health education to residents, carers and staff.

A team of oral health professionals, led by University of Newcastle Oral Health Lecturer Janet Wallace, will record and monitor the oral health of residents.

“Elderly people living in Residential Aged Care Facilities are a high risk group for dental disease and poor oral hygiene. Older age brings with it many physical and cognitive conditions, such as Dementia and Alzheimers disease. This means that often residents are reliant on someone else to provide their oral hygiene care. Dental hygienists have the expertise to provide this service and address the deficit in oral health care that currently exists for our dependent elderly,” she said.

“The grant provides an opportunity for us to set up a new model of care to provide oral hygiene services for our most frail and vulnerable. It is hoped that this research may lead to a change in policy that instigates the employment of dental hygienists in all Residential Aged Care Facilities.”

For more information please contact Sharon Buckland, Media and Public Relations Unit, on 02 4985 4049.
Free dental treatment for elderly

Voice of the Hunter

Saturday

Newcastle

Mark Hughes Pages 4-5

Cover: The Fight Wagon
14 August 2013

Mrs Janet Wallace  
School of Health Sciences  
Faculty of Health and Medicine

Dear Mrs Wallace,

I wish to extend my warmest congratulations to you on receiving a substantial grant from the Central Coast NSW Medicare Local for the project ‘Seniors Smiles’.

Your success is a significant achievement and your contribution to the reputation of the University of Newcastle’s research standing is greatly appreciated.

With best wishes for the progress and outcomes of your research

Yours sincerely,

Caroline McMillen  
Vice-Chancellor and President
REFERENCES:


7. Chalmers JM, Carter KD et al. The oral health of older adults with dementia. AIHW cat. no. DEN 111. Adelaide: AIHW Dental Statistics and Research Unit (Dental Statistics and Research Series No. 29)2005.


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