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**INTERPROFESSIONAL EDUCATION IN PRACTICE: EVALUATION OF A
WORK INTEGRATED AGED CARE PROGRAM**

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INTERPROFESSIONAL EDUCATION IN PRACTICE: EVALUATION OF A WORK INTEGRATED AGED CARE PROGRAM

ABSTRACT

Health professional clinical education is commonly conducted in single discipline modes, thus limiting student collaboration skills. [Aged care residential facilities](#), due to the chronic and complex health care needs of residents, provide an ideal placement to provide a collaborative experience. Interprofessional education is widely acknowledged as the pedagogical framework through which to facilitate collaboration. The aim of the evaluation was to assess student attitudes towards collaboration after active involvement in an interprofessional education program. Students studying nursing, occupational therapy, and aged care were invited to complete a version of the Readiness for Interprofessional Learning Scale before and after participating in a three-week pilot interprofessional program. A positive change in student attitudes towards other health professionals and the importance of working in interprofessional teams was reported with significant differences between two statements indicated: *Learning with health-care students before qualifications would improve relationships after qualifications*; and *I learned a lot from the students from the other disciplines*. The innovative pilot project was found to enhance student learning in interprofessional teams and the aged care environment. Further development of this and similar interprofessional programs are required to develop sustainable student projects that have health benefits for residents in [aged care residential facilities](#).

KEY WORDS

Aged care, interprofessional education, dementia

INTRODUCTION

Residential aged care facilities (RACF) have been identified as non-traditional environments in which to conduct clinical placements for health professional education (Molema, et al., 2014), particularly for many allied health disciplines (Liebig, 2008, Mezey, et al., 2008). The RACF is not a commonly sought after placement opportunity by students due to the perceived unattractive and sometimes confronting nature of ageing (Stevens, 2011). However, as the number of Australians over 70 years of age increases beyond 2.2 million in 2013 (Australian Bureau of Statistics, 2014), increased demands are being placed on RACF to provide high quality health care and foster healthy ageing. In order to effectively achieve this, innovative and collaborative forms of health care education and delivery are required.

Traditionally, student placements use a single discipline approach, whereby placements focus on the graduate outcomes for that discipline. Effective delivery of healthcare requires health care professionals to apply an integrative and collaborative approach whereby health professionals engage in interprofessional teams to work with residents and promote healthy lifestyles (Fowler, et al., 2000, Gilbert, 2005, World Health Organisation (WHO), 2010). To do this effectively a paradigm shift is required so that health professionals experience IPE at the training level to develop the skills and knowledge to work together and effectively address the growing complexities in health care (Cartwright, et al., 2015).

Interprofessional education (IPE) is widely recognised as a teaching and learning framework through which to transform the traditional modes of health care education

to an integrated and collaborative approach (Australian Health Ministers Conference, 2004, Health Canada, 2004, World Health Organisation (WHO), 2010). IPE is defined as occurring whenever “two or more professions learn with, from and about each other to improve collaboration and the quality of care” (Centre for the Advancement of Interprofessional Education (CAIPE), 2002). In the educational and clinical settings, IPE provides students with the skills, knowledge and attitudes to work with people from other health (and non-health) disciplines and in unfamiliar or non-traditional environments (Oandasan and Reeves, 2005), such as an [RACF](#). Current literature shows that students exposed to and working in interprofessional teams develop more positive attitudes towards other professions than the traditional single discipline approach (Lindqvist, et al., 2005). Recent reviews of IPE and its effect on clinical practice have shown positive effects for patient satisfaction, patient safety, and clinical team behavior (Mitchell, et al., 2010, Reeves, et al., 2008). At the higher education level, IPE has been shown to alter student attitudes towards other health professions, encourage interdisciplinary teamwork and improve cross-disciplinary communication (Mitchell, et al., 2010). For the individual, IPE is seen to foster professional development and identity of current and future health professionals (Bridges, et al., 2011, Department of Health and Ageing (DoHA), 2013).

[IPE requires significant investment in teaching infrastructure \(Gilbert, 2005, Lawlis, et al., 2014\). Supportive models of clinical supervision are important for student learning in the workplace \(Billett, 2002\) and clinical supervision models for IPE are emerging \(Davidson, et al., 2008, Dubouloz, et al., 2009, Lam, et al., 2013, Reilly, et al., 2014\). Of particular importance to student learning, is a sense of engagement in the work \(Billett, 2002, Ranse and Grealish, 2007\).](#)

Due to the health complexities associated with ageing, [RACF](#) provide ideal environments in which to conduct interprofessional clinical placement for university and vocational health students (Liebig, 2008, Mitchell, et al., 2010). These environments not only expose the student to a variety of different and complex health care situations, for example, caring for people with different levels of dementia (Liebig, 2008), but are ideal environments in which to incorporate IPE [to promote innovation in practice](#) (Mitchell, et al., 2010).

To date, IPE has primarily focused upon health programs housed within one institution, often undertaking a similar level of study (Lawlis, et al., 2014). [The opportunity to explore IPE across disciplines housed in the technical and further education \(TAFE\) as well as the university presented itself in one Australian jurisdiction as part of a larger program to innovate in teaching and research in aged care.](#) Embedding IPE within health professional programs and utilising non-traditional settings provide alternatives to and enhance clinical placement opportunities. For these reasons the IPE in [residential](#) aged care program was developed.

[IPE in an RACF program](#)

The IPE study was conducted in a local [RACF](#) over three consecutive weeks (three hours/week) and involved twelve students from three health professions studying at three educational levels. [Table 1, describes each professional course and number of participating students.](#)

INSERT TABLE 1 HERE

The students were allocated to two interprofessional groups comprising two students from each profession to provide an equal mix of profession and educational level. The groups were allocated to a memory support household within the RACF. A memory support household is a residential area within the RACF for those residents that have been diagnosed with dementia. There are different levels of memory support households, each specific to the level of diagnosed dementia. For example, there is a household for those residents diagnosed with early onset dementia and another for residents who have progressed to more advanced forms of dementia. To facilitate IPE, each group was provided with a project with a nutrition focus that aligned with the ability of the residents and the type of care provided in each of the households. The respective clinical educators for each discipline (the onsite staff who are responsible for student learning) and the facilitators (staff from the University or Technical and Further Education institution) collaboratively designed and supervised the projects.

Group 1, primarily through observations, identified and implemented 'Dementia friendly eating tools' with the aim of improving residents' dietary intake. Group 2 undertook discussions with residents to create 'Food Memories' which could be used to make adjustments to the eating and food environment. In consultation with the facilitator and nurses from the RACF, the educators, and the students, a detailed project timetable was developed to progress students through each three-hour learning placement. In essence, weeks 1 and 2 were designed so that students either observed or interacted with the residents, with the intervention implemented during week 3. At the conclusion of each week a formal discussion session between the students,

moderated by the educators, was conducted to derive and agree on the activity or change for week 3 and reflect (individually and as a group) on working in an interprofessional team. The program is depicted in figure 1. The aim of this paper is to report the evaluation findings relating to changes in interprofessional attitudes, understanding and knowledge arising from an innovative IPE program conducted in memory support households of an [RACF](#).

INSERT FIGURE 1 HERE

Figure 1: Outline of the IPE in [RACF](#) program

The flow chart shows the progressive three-hour weekly program for each interprofessional group located in the memory support households.

RESEARCH DESIGN

A case study design, comprising a combination of quantitative and qualitative approaches was used to conduct this small descriptive evaluation on a novel IPE program. All twelve students enrolled in the IPE RACF program were invited to participate in the IPE evaluation. Data collection comprised a quantitative pre-designed survey (supplemented with 2 qualitative questions) and three formal group debriefing sessions. A modified version of the Readiness for Interprofessional Learning Scale (RIPLS) (McFadyen, et al., 2005, Parsell and Bligh, 2002) was used to assess student attitudes towards and knowledge of interprofessional learning. [Minor modifications to the RIPLS \(McFadyen, et al., 2005\) tool were made to reflect the Australian audience, for example ‘health-care students’ was changed to ‘health-care](#)

professionals'. The RIPLS survey was administered pre and post IPE RACF program, whereby the twelve students involved in the IPE RACF project were asked to indicate the degree to which they disagreed or agreed with the statement (Likert scale: 1= strongly disagree and 5 = strongly agree).

It must be noted and acknowledged that there is some conjecture in the literature regarding the validity of the RIPLS instrument (McFadyen, et al., 2005). Despite this, a number of studies have reported acceptable levels of validity and reliability through the use of RIPLS (Hind, et al., 2003, Williams, et al., 2012), while also acknowledging improvements to the scale are needed (McFadyen, et al., 2005). However, for the purposes of this study and given the small number of participants and ease of administering the survey, RIPLS provided a satisfactory tool with which to investigate changes in student attitudes and understanding, knowledge and experience pre and post program.

In addition to RIPLS, the formal notes taken by the program educators at the completion of the weekly placement formal debriefing sessions were used to supplement the survey information. During these sessions students discussed their group projects, the impact/influence of interprofessional teamwork and working in aged care.

The quantitative data from RIPLS were managed and analysed using IBM SPSS version 21 statistical management system for means and ANOVA. Statistically significant results were identified when $p < 0.05$. Thematic analysis, as described by Miles and Huberman, was used to categorise the formal debriefing notes and

qualitative questions in the survey (Miles and Huberman, 1994). Thematic analysis is an iterative process whereby meanings are assigned to the descriptive information by categorising into themes (Miles and Huberman, 1994). Ethics approval to conduct the pilot program evaluation was obtained from the relevant University Human Research Ethics Committee.

RESULTS

All students involved in the pilot program completed the pre and post surveys. Four students indicated they had worked in a clinical setting prior to enrolling in their current course. Eleven students had been exposed to interprofessional learning either through practice-based interprofessional events (n=7), teaching led by a health professional other than their own (n=6) and/or combined postgraduate/undergraduate events (n=3).

Comparison of the pre and post survey findings indicated an overall positive change in student attitudes and knowledge arising from their involvement in the IPE RACF program as shown in Table 2. A significant difference in student attitudes and understanding between the pre and post survey was observed for two statements. Prior to the IPE program students generally agreed that *Learning with health-care students before qualifications would improve relationships after qualifications*. After the IPE program however, the students more strongly agreed that post-qualification relationships can be improved if developed pre-qualification [F(1,12)=5.5, p0.028]. Similarly, students were initially neutral in terms of the statement *I learned a lot from the students from the other disciplines* [F(1,12)=4.4, p0.046], however, at the

completion of the IP program the students indicated that the collaborative environment increased their learning of other professions.

INSERT TABLE 2 HERE

Debriefing sessions supplemented the survey and allowed the students to verbally reflect upon their individual professional learning, learning within an interprofessional group, and greater understanding of working in aged care. Over the three weeks there was a shift in how students interacted with the project, other students and the aged care residents. In week 1, students focused more on situating themselves in their individual professions within the aged care environment. They became more aware of the surroundings and were able to identify things they'd not previously seen when working or on clinical placement:

“Since we were not working (or task focused) we were more mindful of what was actually happening” [Student from Dementia Friendly Eating Tools group].

Features that would not normally be observed by students when on clinical placement or working included: the mealtime table having a ‘clinical’ feel, due to the “the table cloths were a white colour – same as the food plates”; the setting was impersonable and “lacked social dynamics”; and, the relationship between staff and residents was limited. In addition, nursing and aged care students also observed those from their own profession and compared staff actions to their own experiences. A Group 2 student stated that:

“meals were simply placed in front of residents with little eye contact or any interaction – that’s not how I would do it” [Student from Dementia Friendly Eating Tools group].

Towards the end of week 1 and throughout week 2, the learning focus shifted, from the individual learning to teamwork, as students became aware of the different ways in which each of them looked at the same situation. As stated by a student during the debriefing sessions:

“It is interesting at how we observed the mealtime differently. The nursing students seemed to focus more on everyone getting food, where I [from Occupational Therapy] was more focused on the difficulties some residents had when trying to eat the food” [Student from Dementia Friendly Eating Tools group].

At the completion of the 3-week project, students were able to reflect on their experiences and identify the areas of professional development. A summary of the themes describing these learning experience, based on data from the debriefing sessions and qualitative components of the survey can be found in Table 3.

INSERT TABLE 3

Through this self-reflection students were able to identify their current strengths and weaknesses not only in terms of IPE but also when working in an RACF. The students stated that the project improved their ability to communicate with students from other disciplines and work more effectively in a team environment, thereby

supporting the survey findings. They also stated they had a greater respect for and valued the knowledge and opinions of other health professionals.

Further, students indicated they had a greater understanding of the role of other health professions when providing care in an RACF, particularly for people with dementia. The students also stated that they had a greater understanding of the aged care environment and the different and complex factors that influence the health and wellbeing of people with dementia. Overall, the students felt the project provided them with an experience they could not obtain in single discipline programs, in the classroom, or in single discipline placement opportunities. As summarised by the following student:

“I found it rewarding working with other disciplines in a real project rather than theoretical projects at University” [Student from Food Memories group].

DISCUSSION

This paper introduces and describes a unique and innovative IPE RACF program involving students from different health professions and higher education institutions. While the basis of such interprofessional teams is not novel itself, the conduct of the program in the dementia households of an RACF and the involvement of students from three different educational levels (vocational, undergraduate and masters), is to our knowledge unique and innovative. The successful collaborative involvement of students from the three educational levels supports the argument and importance of providing IPE opportunities to students pre-qualification (Hind, et al., 2003). Hind and colleagues (2003) suggest that the provision of interprofessional activities during

the early stages of a student's career prevents the development of negative stereotypes. Early involvement in IPE programs also fosters a student's understanding of their own professional identity and role in the healthcare team which underpins their developing understanding of other professionals roles in health care delivery (Bridges, et al., 2011). The current project supports Hind (2003) and subsequent studies (Cartwright, et al., 2015, Curran, et al., 2010), in that the practical exposure of students to the complexities of aged care early in their educational programs, through interprofessional programs, was shown to have a two-fold positive impact on student learning.

Firstly, the collaborative teamwork environment provided opportunities for the students to develop interprofessional skills, knowledge and respect for other professions and themselves. Secondly, the teaching team provided a supportive infrastructure whereby students could experience and understand the health complexities of aged care, particularly those with dementia. This was evident in the current study as the teachers and educators were the primary drivers shown through their passion and enthusiasm for student learning and IPE. However, the development of the project and supervision requirements were significant for the respective teachers, consistent with other IPE studies (Davidson, et al., 2008, Dubouloz, et al., 2009, Lam, et al., 2013).

In addition to these benefits, the interprofessional environment provided the opportunity for students to assess the environment from multiple dimensions, thus formulating a more effective and holistic approach to group project development. Further, this project provided an innovative way to explore nutritional needs in the

dementia population. Future research should include resident responses to the health-focused activities at the core of the students' learning experience. Benefits to student learning require students to engage in a collaborative capacity. In the current project, students' enthusiasm, willingness to participate, focused involvement and engagement in the IPE program enhanced the collaborative learning experience, [consistent with other studies \(Billett, 2002, Ranse and Grealish, 2007\)](#).

There are some limitations to this study. Due to their nature, pilot programs involve a small number of participants and as a result data analysis cannot be reported by year of study, degree and gender so as to maintain confidentiality. However, a [pilot descriptive](#) study such as this provides an opportunity to determine the IPE program's feasibility and validity and address the challenges for future IPE programs. While the generalisation of findings across the wider student cohorts also cannot be made, the success of the current [study](#) and the positive change in student attitudes and understanding, in terms of IPE and aged care, provides the impetus and support for the inclusion of similar IPE programs in health professional education curricula. Further refinement in program design, stakeholder communication and implementation of the pilot program are key and essential to effectively embedding IPE in the health professional pedagogy and to ensure future program success (Curran, et al., 2010). Further, the effect of the interprofessional interventions, dementia-friendly tools and food memories on dietary intake for residents could be explored.

CONCLUSION

This unique and innovative IPE pilot program provided students with an opportunity to work in interprofessional teams within an [RACF](#), while providing innovative approaches to promote nutrition with residents. Overall, the students gained a greater understanding of, positive attitudes towards and experience working within collaborative teams. While the IPE component was the basis for the project, interprofessionalism was enhanced through the program's secondary focus, improving student awareness and knowledge in health care for elderly people, in particular those individuals with dementia. The success of this pilot program supports the inclusion of similar interprofessional education programs in health professional work integrated learning and clinical placement opportunities, particularly in non-traditional domains such as the aged care environment.

CONFLICT OF INTEREST STATEMENT

Conflicts of interest: none.

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Table 1: Description of participant profession and university course

Course name	Institution	Number of students	Profession and course description
Advanced Diploma Aged Care	Canberra Institute of Technology	4	Aged care professionals lead activities relating to the promotion of an individual's wellbeing and community participation. Graduates can work in a variety of settings including: residential and home-based aged care (Canberra Institute of Technology, 2015).
Bachelor level Nursing	University of Canberra	4	This course provides the foundations for nursing practice with graduates eligible to apply for registration in Australia. Graduates attain the skills and knowledge to work across a variety of health care areas (University of Canberra, 2015a).
Master of Occupational Therapy	University of Canberra	4	Occupational Therapy is a client-centred health profession concerned with promoting health and well-being through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life (University of Canberra, 2015b).

Table 2: Student interprofessional learning attitudes and understanding

Statement*	Pre-Survey mean (±SD)	Post-Survey mean (±SD)
Patients would ultimately benefit if health-care professionals worked together to solve patient problems	4.75 (0.45)	4.92 (0.28)
Shared learning with other health-care professionals will increase my ability to understand clinical problems	4.50 (0.52)	4.75 (0.45)
Learning with health-care students before qualifications would improve relationships after qualifications** (0.028)	4.00 (0.85)	4.67 (0.49)
Communication skills should be learned with other health-care professionals	4.42 (0.90)	4.58 (0.66)
Shared learning will help me think professional about other professionals	4.42 (0.66)	4.42 (0.66)
For small group learning to work, health professionals need to trust and respect each other	4.67 (0.49)	4.58 (0.66)
Team-working skills are essential for all health-care professionals to learn	4.83 (0.38)	4.58 (0.51)
Shared learning will help me understand my own limitations	4.42 (0.51)	4.50 (0.52)
I don't want to waste my time learning with other health-care professionals	1.25 (0.62)	1.25 (0.45)
It is not necessary for health-care professionals to learn together	1.25 (0.45)	1.25 (0.45)
Clinical problem-solving skills can only be learned with health-care professionals from my own department	1.75 (0.75)	1.75 (0.75)
I would welcome the opportunity to work on small-group projects with other health-care professionals	4.50 (0.52)	4.33 (0.49)
Shared learning will help to clarify the nature of patient problems	4.17 (1.46)	4.50 (0.67)
I am not sure what my professional role in aged care is	1.33 (0.65)	1.25 (0.45)
I need to improve my inter-professional effectiveness (knowledge and skills)	3.67 (1.43)	3.50 (0.67)
I have a comprehensive understanding of the roles of other health professionals	3.08 (1.37)	3.50 (1.00)
I learned a lot from the students from the other disciplines** (0.046)	3.33 (1.37)	4.25 (0.62)
I related well with my co-students from the other disciplines	3.50 (1.31)	4.08 (0.66)
I generally feel high levels of respect for other health disciplines	3.50 (1.50)	3.83 (1.40)
I generally feel highly respected by students of other health disciplines	2.92 (1.56)	3.83 (1.40)
I feel my role is misunderstood by students of other disciplines	2.75 (0.35)	2.58 (1.31)

I feel competent interacting with students of the other disciplines	3.50 (1.44)	4.17 (0.57)
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Likert scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly disagree

* Modified from Parsell and Bligh (Parsell and Bligh, 2002). Statements modified to reflect Australian terminology.

** Means show a statistically significant difference, $p < 0.05$

Table 3: Student benefits of the pilot program in fostering interprofessional attitudes, understanding, teamwork and learning.

Themes	Sub-themes	Summary of comments	
Individual learning	Greater awareness of situation	<ul style="list-style-type: none"> • More mindful of what was actually happening 	
	Greater awareness of self	<ul style="list-style-type: none"> • Made me think differently about what I do differently and my limitations 	
	Communication	<ul style="list-style-type: none"> • Improved my communication and teamwork 	
	Adapting to change	<ul style="list-style-type: none"> • It was difficult to manage last minute changes in terms of balancing IP, project outcomes and the residents 	
IPE learning	Teamwork	<ul style="list-style-type: none"> • I have a more positive outlook on interprofessional group work compared to previous negative experience I've had at Uni. • This project improved my teamwork • Network building 	
	Rewarding	<ul style="list-style-type: none"> • I found it rewarding working with other disciplines in a real project rather than theoretical projects at University • Working together provided changes to enhance health and well-being of the residents. 	
	Understanding other professionals	<ul style="list-style-type: none"> • Increased knowledge about other professions/disciplines and the role they play in the aged care setting • Able to exchange [professional] knowledge • Highlights the roles of other professionals in the care of the same patient/person 	
	Communication	<ul style="list-style-type: none"> • I gained a better understanding of other professions • I now have better relationships with people of other disciplines 	
	Understanding of environment	<ul style="list-style-type: none"> • Recognising the variability's and opinions of other professionals is important in health care. • I gained a better understanding of the situation/condition • It is important to build relationships with the residents 	

