Interprofessional team-based placements: The importance of space, place and facilitation by M L Brewer, H L Flavell & J Jordan [Accepted Manuscript]

ABSTRACT

Interprofessional education in practice settings typically requires greater resource investment than in the classroom or online. Increased interest in return on investment means research on the outcomes of practice-based interprofessional education is needed. In this article we report findings from a qualitative study involving a series of focus groups with health sciences' students during their interprofessional placements in three community health settings in Western Australia. An exploratory case study approach was adopted to determine students' perceptions of the placement and their learning. Verbatim transcripts were analysed by two researchers using an inductive approach to derive key themes. Findings illuminate a number of factors that strongly influenced student perceptions of their learning in interprofessional practice-based placements including: a dedicated space to collaborate and learn; exposure to a wide range of professions in practice settings; the approach of the facilitators; and students' previous clinical experience, year level and the timing of the placement. Students reported the placement enhanced their knowledge, professional communication, leadership, understanding of other health professions and collaboration. This study provides contemporary insight into key contextual factors that influence student learning during practice-based interprofessional placements.

INTRODUCTION

Through its tradition of clinical placement experiences to ensure work-readiness (Rodger et al., 2008), health has, in many ways, pre-empted the growing emphasis in higher education on work-integrated-learning to prepare graduates for professional practice (Smith, Ferns, Russell, & Cretchley, 2014). However, health practice is changing in response to

technological developments, shifting global demographics and increased population mobility (Davies, Fidler, & Gorbis, 2011). A key response to these changes in health has been interprofessional education, which aims to deliver graduates with collaborative practice capabilities including: communication, teamwork, role clarification, conflict resolution and client centred care. These capabilities are widely accepted as essential for current and future health professionals (World Health Organization, 2010). Given clinical placements are the preferred approach to ensure health graduates are work-ready, and interprofessional education is seen as the mechanism to develop interprofessional practice capabilities, it seems surprising that limited interprofessional clinical placements are reported in the literature (Guitard, Dubouloz, Savard, Metthé, & Brasset-Latulippe, 2010; Pollard, 2009). Significantly, interprofessional placements, where they do exist, typically lack opportunities for students to actively engage in the care of patients/clients as an interprofessional team over a sustained period (Brewer & Barr, 2016).

Interest in interprofessional education in practice settings is on the rise; recent literature reviews by Kent and Keating (2015) and Jakobsen (2016), for example, indicate over half the papers were published after 2009. Whilst this increased activity in interprofessional clinical placements is encouraging, the nature of the placement needs to be interrogated. Studies have found structured interactions between students and staff from different professions are limited during practice-based learning (Lapkin, Levett-Jones, & Gilligan, 2013; Waller, 2010). Many placements are short, thus providing limited opportunity for students to learn from, with and about each other. For example, Ford et al. (2013) describe a 20 minute discipline specific patient interview followed by a facilitated interprofessional care planning meeting. Similarly, O'Carroll, Braid, Ker, and Jackson (2012) provide an account of a short series of one hour clinical skills sessions in one placement setting. Other placements appear longer yet the interprofessional component is limited. For example,

Nisbet, Hendry, Rolls, and Field (2008) describe a four week placement where students participated in ward meetings, case discussions, assessment/treatment sessions, and reflections on their team's performance. Of note, the students' interprofessional experience comprised only 2.5 hours per week. Furthermore, an examination of the literature on interprofessional education for students in healthcare settings by Davidson, Smith, Dodd, Smith, and O'Loughlan (2008) revealed that the majority of experiences involved non-patient related activities (e.g. project work, presentations); very little time was spent in healthcare delivery. This limited involvement in collaborative service delivery may be contributing to the lack of evidence demonstrating interprofessional education positively influences students' practice (Reeves et al., 2011). It seems timely, therefore, to further investigate the elements of learning design in clinical placements that foster the development of students' interprofessional practice capabilities. This paper reports on one such study, which aimed to understand students' perceptions of the impact of an interprofessional placement on their learning. Focus groups were conducted with students towards the end of an interprofessional clinical placement in late 2014. An overview of the clinical placement structure and learning design is provided below. The research has been framed using the 3P model of learning and teaching adapted to the interprofessional education context (Freeth & Reeves, 2004). The three Ps capture interdependent aspects of learning and teaching which in this study are: (1) presage - the context, the characteristics of the students and the characteristics of the staff facilitators, (2) process - the design and implementation of the program, and (3) product - the overall student learning outcomes. Freeth and Reeves (2004) argue the adoption of the 3P model allows the untangling of the many factors which influence learning and teaching thus facilitating more informed and timely decisions.

BACKGROUND (PRESAGE AND PROCESS)

Presage

The study took place in Perth, Western Australia, at three sites where Curtin University students completed a team-based interprofessional placement (Brewer & Barr, 2016). These sites were two primary schools and an aged care facility. Challis Community Primary School has approximately 880 children and Brookman Primary School 350 students. Both schools cater for children aged four to 11 years and have a 'Parent and Child Centre' on site. Qualified health professionals including nurses, speech pathologists and psychologists provide services to the local community from these centres. In contrast to the two schools, Juniper Annesley is a 104 bed residential aged care facility for people with dementia. The team at Annesley includes registered and enrolled nurses, occupational therapists, physiotherapists, a visiting medical practitioner, care workers, catering staff, a chaplain, and aromatherapist. Students at each site were provided with a dedicated space to work with each other and university staff. The provision of this space addressed the host organisations' concerns about the burden for staff of having a high volume of students sharing their work and social space.

As frequently cited in the literature (e.g. Cahn, 2014; Lawlis, Anson, & Greenfield, 2014), the lack of alignment in placement scheduling meant the length of placements varied from one to 14 weeks (see Table 2). The number of students on site at any time ranged from six to 12 (with a target of 10 per day). The majority of students were in their final year although the nursing students were either in the second year of a three and a half year degree course or were international students converting from a diploma to a degree qualification.

The supervision model from the training wards in Europe (Jakobsen, 2016) was adapted for this program. Supervision was provided by a full time onsite interprofessional education facilitator, a position job shared by a maximum of two staff. Facilitators were selected on the basis of their: knowledge of, and positive attitude toward, interprofessional education; experience in working with multiple professions; and experience supervising

students in practice settings. The facilitators in 2014 were from speech pathology, dietetics, pharmacy, and one had both dietetics and primary school teaching qualifications. The facilitator preparation consisted of a program orientation, a one day introduction to facilitating interprofessional education and, several months later, a two day leadership program on interprofessional education and practice (Brewer, Flavell, Smith, Trede, & Jones, 2014). General clinical education training was also provided. Profession-specific supervision was provided by visiting university staff.

Process

The program was informed by Wenger and colleagues (2002) community of practice theory. As recommended by Lees and Meyer (2011), the facilitators focused not only on the quality of the services delivered but also the students' participation and reification (via daily briefing and debriefing sessions, co-planning of assessment and interventions, and regular joint presentations and projects), and on their autonomy (via allocation of much of the decision making responsibility). In addition, the facilitators were encouraged to focus on the psychological and sociological aspects of learning with frequent debriefing and reflection sessions related to the students communication, role clarification, team function and conflict in accordance with the interprofessional capability framework (Brewer & Jones, 2013) that informed the design, implementation and evaluation of the placements (Brewer & Barr, 2016). One example of interprofessional service delivery was an activity group for pre-primary students. Led by physiotherapy and occupational therapy students, this intervention focused on improving gross motor and ball skills, coordination, flexibility and strength. Speech pathology students wove language goals into the group sessions such as teaching prepositions (over, under, through) to increase the children's vocabulary.

By the end of their placement, students were expected to demonstrate six interprofessional learning outcomes (Table 1) as well as outcomes specific to their discipline.

Interprofessional outcomes were assessed both formatively and summatively based on behavioural observations conducted daily by facilitators, with input from other staff at the site (see Brewer & Barr, 2016 for further information).

[insert Table 1 about here]

METHOD

An exploratory case study approach (Baxter & Jack, 2008) was adopted to allow participants' perspectives on their interprofessional placement learning experience to emerge. This approach has the potential to provide insight into the complex mechanisms that impact on the student learning experience with the aim of supporting improvements in practice-based interprofessional education.

Recruitment

All students participating in one of the interprofessional placements at Challis, Brookman or Annesley in the second half of 2014 were invited to participate. This study was approved by the University's human research ethics committee.

Participants

Thirty eight students participated in eight focus groups; 33 females and five males. As shown in Table 2, the majority (30/38) were in the final year of a four year course; the remaining were in the middle of a three and a half year course (3/38) or in post-graduate dietetics and counselling psychology courses (5/38). Study participants represented 40% of the total number of students on placement at the time. All participants were in the final one to two weeks of their placement.

[insert Table 2 about here]

Data collection

As the lead researcher was directly involved in the program being examined, two research assistants were recruited to facilitate focus groups. A selection process was undertaken to ensure these researchers had prior experience in conducting qualitative research and had no conflict of interest with the study participants.

A semi-structured interview schedule was developed to elicit the students' perceptions of their interprofessional placement and the outcomes achieved including their understanding of interprofessional practice, the capabilities required, and the strategies employed to develop those capabilities (see Appendix 1). Focus groups were conducted at the three placement sites between August and December 2014. Three focus groups were conducted at Juniper (aged care setting) while the other five were conducted at the schools (three at Challis and two at Brookman). Duration ranged from 20 to 40 minutes. All were audio recorded.

Data analysis

Recordings were transcribed verbatim and checked for accuracy by the research team. Qualitative data was initially analysed by an independent, experienced qualitative analyst (JJ). An inductive approach was utilised to allow key perceptions to emerge without presupposition (Patton 2002). The analysis began with a process of familiarisation with each transcript, followed by coding line by line and identification of broad themes for each transcript. Through a process of constant comparison of themes and data across transcripts over a period of time, key themes were developed until no further themes emerged and data redundancy was achieved (Patton, 2002). Descriptions of key themes were then developed and relevant quotes extracted from the data. The transcripts were reviewed independently by a second researcher (MB) who identified key themes across transcripts. Following this, the second researcher reviewed and compared key themes developed from the initial analysis (JJ). Findings were discussed amongst the research team to reach consensus with further refinements made to key themes as a result.

RESULTS (PRODUCT)

In exploring students' perceptions of their interprofessional placement experience, two main themes emerged: (1) factors students felt influenced their learning, and (2) key interprofessional learning outcomes.

Students' perceptions of presage and process factors that influenced their learning

Three key factors perceived by students as strongly influencing their learning were: a dedicated space to collaborate and learn; exposure to a wide range of other professions in practice settings; and the facilitator's approach. Additionally, students' previous clinical experience, year level, and the timing of the placement were perceived as important.

Dedicated space for students

The communal spaces where students from different professions were able to discuss and share information and knowledge was consistently identified as a valuable feature. Students across sites highlighted that, through both formal and informal group discussions in these spaces, they were exposed to and gained great insight into a range of topics across different professions.

> I've heard the speechies [speech pathologists] talking about one of the clients and about things I've never learned before and I find myself really wanting to find out more about that and learn some of their side of things (Group 4)

The dedicated space was described by students as providing a supportive environment where they had the opportunity to share experiences and feelings and establish connections which allowed them to develop as a team early in the placement.

> … have easy accessibility to each other so we can come and have chats about our clients really easily (Group 3)

However the dedicated space was also perceived to have a downside, with students in the primary schools having limited opportunities to build working relationships with teachers, resulting in a sense of division between the groups.

> I think that by not going into the staff room for lunch time; that's a really missed opportunity and it's a shame because rapport with the teachers has been definitely one of the most difficult challenges in trying to get them onboard with what we're doing (Group 2)

Students also noted that it was challenging at times to complete required tasks such as client notes and report writing in the communal space because often the informal discussions were more interesting and consequently a distraction.

Exposure to a wide range of other professions in practice settings

Participants were highly appreciative of the practical nature of the placement which enabled interaction with a range of students and staff from different health professions and with others often absent from healthcare teams (e.g. teachers, chaplain, aromatherapist, volunteers, catering staff, teaching and therapy assistants, and care workers). Students felt this provided valuable insight as to how others approached client assessment and care with many students citing that this had broadened their knowledge and practice in dealing with clients.

> I don't want to be like I was being the OT but just some of their strategies that they; that I saw them using … it was sort of like taking their knowledge and incorporating it into what we know (Group 4)

Students felt working collaboratively with a diverse range of health professionals, particularly at the aged care facility, broadened their knowledge and fostered confidence in their ability to work in a team.

Students in one focus group at the aged care facility did express disappointment that they had limited contact with psychology students, despite trying to actively engage with them. The students commented on this issue in relation to client confidentiality issues.

> …but I think because of the confidential issue we can't sit in their sessions… (Group 1)

Approach of the facilitators

The facilitators' approach, including the nature of their supervision, leadership skills and the extent to which they interacted with students, were identified as critical to a positive learning

experience. Supervisory attributes greatly valued by students across the different sites included respecting students' views, treating them as health professionals, encouraging them to make decisions autonomously, and their capacity to motivate.

> It's not the environment where they kind of look at you and go 'surely you must know this answer by now' (Group 1)

Students also highlighted how the facilitators used the process for managing the referral of new clients to the service to promote interprofessional learning and practice.

> … each referral coming in and it would be discussed straight away in a group where there is speechies, there's physios, there's OTs, there's nurses; so we talk about it as a group… (Group 1).

Several students contrasted the supervision on the interprofessional placement to previous clinical placements, commenting that the approachability of the facilitators was conducive to learning as it reduced their anxiety and made them more determined to develop their skills. In particular, students highlighted the facilitators focus on their strengths rather than weaknesses and their encouragement to ask lots of questions -

> … if they focus more on your strengths as opposed to trying to belittle you and use that very domineering you know 'what do you know?' 'what do you know?' 'what do you know?' It makes you more confident… they sort of guide you that way versus you know pointing it blatantly out to you and then hounding you about it … We all know where we need to grow (Group 1)

Being strong advocates and role models for interprofessional practice, and providing clear direction and opportunities for collaborative activities, were also supervisor qualities valued by students. The majority of students were appreciative of the leadership provided by the facilitators.

> I think it's exposed us to a different kind of leadership as well … they're really encouraging like; they're not controlling of us or restricting; they're good role models… (Group 2)

However, students in one focus group at the aged care facility commented that expectations were unclear and collaborative approaches to client care often felt forced.

> I guess it wasn't really clear as to what everyone was supposed to be doing and why … The whole thing was…like forcing them together with you rather than you needing them… (Group 5)

It was evident from examination of the transcript these students lacked clarity on interprofessional practice. For example, a previous placement in a hospital was described as interprofessional yet the description provided by the student aligned with the definition of multiprofessional teamwork from the *Journal of Interprofessional Care's* terminology list: 'an approach where team members work alongside one another: in other words, parallel rather than interactive work'.

Students' previous experience

Students who had prior clinical placement experience were more appreciative of the opportunities provided by the interprofessional placement, particularly with respect to interacting with a wide range of health professions. Additionally, they were able to compare and contrast different healthcare environments which gave them more insight into the differences between traditional hierarchical practice and interprofessional practice.

> I don't know about you guys but I think this is the most open facility I've had … at hospitals it's more like a hierarchal sort of thing… you wouldn't even get to ask the [other] professions very rarely… (Group 1)

Similarly, students who were in the later stages of their degree felt they had a greater ability to focus on collaborative activities as they were more confident in their professional capabilities. This contrasted with the more junior second year nursing students who found it challenging to juggle both professional and interprofessional practice.

> I think the students are not at the; the nursing students are not the same level as us …they're still learning and they are like obsessed over the wrong; not the wrong things but the different things (Group 5)

Timing and demands of the placement

An additional barrier to interprofessional learning was the differing placement schedules which made it challenging to have diverse professions on site at the same time. This lack of

overlap was particularly evident for those professions who had part-time placements.

Opportunities for interprofessional practice were also limited by the demands placed on

students to meet both their professional and interprofessional learning outcomes.

> It would be nicer if we could sort of mesh a bit more together but it's just; timing becomes an issue because obviously we're here different days... it's quite hard for us to negotiate you know; we've got our own timetables… (Group 1)

Perceptions of learning in an interprofessional learning context

Students perceived a range of interprofessional learning outcomes resulted from the

placement. These were categorised into three themes: (1) understanding what

interprofessional practice entails, (2) enhancing professional skills and attitudes, and (3)

broadening professional knowledge and practice which aligned closely with the prescribed

outcomes provided earlier (Table 1).

Understanding what interprofessional practice entails

In describing interprofessional practice, three key aspects were identified by students:

collaboration, sharing knowledge or expertise, and achieving better client outcomes.

Students clearly recognised collaboration, with all members contributing their specialist

knowledge and expertise, assisted in more efficient and effective healthcare delivery and

enabled a more 'holistic' approach to client care.

> Say a child has really complex sensory needs and so can't comply to a task; if someone was just coming in and working on say a speech goal and didn't realise that the reason this child appears to be quite naughty is because of their sensory need then they're not going to learn (Group 3).

Students were also aware that with an increase in the prevalence of chronic diseases, many

clients present with complex conditions which benefitted from an interprofessional approach.

> People with quite chronic conditions need to see a range of people to manage their conditions and we need to work together to meet their needs and their expectations (Group 3).

Students described a number of factors that were essential to effective interprofessional

practice including having shared goals, being respectful, open minded, and sensitive.

Enhancing professional skills and attitudes

Tailoring language and information delivery to different audiences and listening to colleagues, and knowing how to facilitate discussions were highlighted by students as important skills they had learned.

> In my sessions I'm going to need to give instructions to a child so now I've learned appropriate ways to do that; to target it to their level from the speechies (Group 3).

Leadership was mentioned by a small number of students who acknowledged the need to know when to lead and 'when to take a back seat'. Other students discussed the need to be leaders (change agents) of interprofessional practice as graduates.

> I think being aware of what you have to offer and what your limitations are; like being able to take that step back and be like; 'well actually I'm not the right person to do that but I have this fantastic team with such massive, like, range of skills and abilities (Group 3)

Several students commented on the value of developing effective working relationships and how informal, social interactions contributed to this process.

> You have to treat them like a friend you know. I ask them about their life and stuff like that to establish that relationship first (Group 1)

Students identified relationship building—and related attitudes—as essential for interprofessional practice including: respect, equality, open-mindedness, sensitivity, and valuing others.

Broadening professional knowledge and practice

One of the most commonly cited learning outcomes was an enhanced understanding of other health professions. Students felt this understanding provided greater insight into what to look for when working with clients and when to refer to others. Some student discussions about learning different scopes of practice were very general (e.g. acknowledging the level of overlap between professions), while other students provided specific examples of the knowledge gained (e.g. that nurses are trained to do hearing and eye checks).

> To be upskilled to know what to look for… It's like 'ok I can see what that child is having difficulty with because I know what a physio does and I can make a referral appropriately (Group 3)

As a consequence of learning more about other professions, students expressed developing a greater respect towards other health professions and felt they were more likely to listen to and value different perspectives.

> ...valuing each other's inputs … and also understanding the overlaps in the role. It's really important in you know not getting precious about the boundaries between roles and just yeah being comfortable in the grey area (Group 2)

Students also commented on interprofessional education more generally and the placement being different from their expectations.

> It's more than a buzz word; like interprofessional is such a big thing that's pushed in the universities … but until you're actually in that team you don't realise how important it is (Group 3)

DISCUSSION

This exploratory case study of interprofessional education in three practice settings provides evidence of key factors that influence the student learning experience and their outcomes. First, a dedicated space for the students was a major factor which largely had a positive influence. Students reported building personal relationships as they formed their interprofessional communities of practice; communities evidenced by the students' use of the words 'we' and 'team' to refer to the group, and statements such as the other students 'have your back'. Further to this, students described these personal relationships—developed through informal, often social, communication—provided the basis for building their interprofessional working relationships. The emerging literature on the importance of space and place to interprofessional practice supports the co-location of students along with dedicated time to enhance communication and collaboration (Kitto, Nordquist, Peller, Grant, & Reeves, 2013; Oandasan et al., 2009; Milligan & Wiles, 2010). The spatial proximity of the group members for significant periods of the placement resulted in a sense of social and

emotional cohesion. This proximity, combined with the shared responsibility for clients, supports previous research suggesting interprofessional placements can provide a 'safe place with space' (Hallin & Kiessling, 2016) and rich learning experiences for the students that break down barriers and strengthen interprofessional relationships (Falk, Hult, Hammar, Hopwood, & Dahlgren, 2013). Other studies have also found that both formal and informal interprofessional communication were essential to effective teamwork (Aase, Hansen, Aase, & Reeves, 2016), and can lead to improved client outcomes such as a reduction in hospital length of stay (Pape, Thiessen, Jakobsen, & Hansen, 2013).

Whilst the dedicated space facilitated students' relationships and collaboration it also limited opportunities to build relationships with staff from the host organisation. This supports Oandasan and colleagues (2009) study which found spatial factors can impede interprofessional collaboration. In contrast, Milligan and Wiles (2010), in their work on 'landscapes of care', state that whilst a key stakeholder in the healthcare team may be physically distant, it is possible for them to be socially and affectively proximate. Facilitators should employ strategies to reduce the social and affective distance between students and relevant staff.

Students' positive attitude towards working collaboratively with other professions was not surprising given this is commonly cited in other practice-based interprofessional education initiatives such as the Leicester Model (Anderson & Thorpe, 2010). The value of these experiences should be considered in light of the increased specialisation in the health workforce which has resulted in a decline in opportunities for interprofessional interactions (Hall, 2005). Specialisation has also led to each profession developing its own culture comprised of values, beliefs, attitudes, customs and behaviour (Hall, 2005). In this study, one group of students expressed difficulty working collaboratively with psychology students which they attributed to client confidentiality issues. Whilst psychologists are bound by

restrictions relating to sharing psychology records (Australian Psychological Society, 2012), perhaps this situation should be considered through a professional cultural lens. Understanding and appreciating other professions' cultures, cognitive maps (Hall, 2005), roles and responsibilities (Suter et al., 2009), and approaches to client care (Clark, 2011) are essential for effective interprofessional practice. Facilitators should ensure students explore professional differences explicitly (Carlson, Ewa, & Wann-Hansson, 2011). One such possibility would be a discussion of the code of ethics of the various professions involved, how these impact on interprofessional communication, and strategies that could ensure all students can engage in group discussions without breeching client confidentiality. Broader exploration of the sociohistorical aspects of today's healthcare is also warranted (MacMillan & Reeves, 2014).

Given widespread recognition of the critical role the interprofessional facilitator plays (e.g. Anderson, Cox, & Thorpe, 2009; Bray, 2008), it is not surprising the facilitators' approach played a crucial role in the students' perceptions of their learning experience. The elements of facilitation found most valuable—their positive, strengths-based and collaborative approach to supervision; role modelling interprofessional practice; and high level of approachability–match the findings of the survey of interprofessional education facilitators in the UK (Bray, 2008). Critical facilitation skills identified by the participants of this UK study included: maintaining a comfortable atmosphere that encourages open communication; acknowledging and using other's professional expertise; actively facilitating the social aspects of team learning; evaluating the interprofessional dimensions of the team; challenging the views expressed and not the person; and empowering all students to participate. The interpersonal dimension of facilitation was also highlighted in Reeves et al.'s (2016) review of the literature on facilitation and teaching in interprofessional education

which supported the use of enthusiasm, humour, and empathy to facilitate collaborative learning.

Although evident as a theme in only one focus group, the concern over interprofessional client care feeling 'forced' is worthy of examination. As discussed earlier, the students in the focus group that commented on this lacked clarity on what interprofessional practice was. This issue was raised by the World Health Organization's (2010) report on interprofesssional education which stated many health professionals think that by working alongside other professions they are engaged in interprofesssional practice. Facilitators must ensure the student learning experience is relevant to the students' future practice and the value of interprofesssional practice is evident to all. As described by Brewer (2016), the use of a competency or capability framework to help make sense of interprofessional practice is recommended.

In addition to the obstacles that arose from locating students separately from staff employed by the host organisation and client confidentiality concerns, two interrelated issues arose which impacted on the learning experience: the lack of alignment in placement schedules, and mixing students from different year groups with different clinical experiences. Interestingly, a review by Abu-Rish and colleagues (2012) of interprofessional education interventions for pre-qualifying students revealed the most commonly cited barriers were scheduling (39/83 studies) followed by matching students from compatible levels (15/83 studies). While students' attributed the nursing students' lack of preparedness to engage in interprofessional practice to their reduced level of experience, the accuracy of this needs to be questioned in light of the literature. The nursing student placements were only one week in the aged care facility and two weeks in the primary schools. These short placements contrast with the findings of an international study of over 350 nursing students' perceptions of their placements (Levett-Jones, Lathlean, Higgins, & McMillan, 2009) which found a 'settling in'

period of between two and four weeks was needed for students to become familiar and comfortable with the environment including the staff, routines, terminology, values and practices specific to the context. This finding suggests that the nursing students' lack of preparedness to engage in interprofessional practice may have been impacted by the length of their placement rather than their reduced level of experience alone. As with other aspects of the learning experience, facilitators can employ a number of strategies to minimise the impact of misaligned schedules and year levels. First, the students who have been on the placement for some time can function as 'cultural carriers' (Brewer & Barr, 2016), providing orientation to the placement's 'ways of working'. This ability to articulate the 'culture' of the placement demonstrates a level of understanding of the 'saying, doing and relating' (Kemmis, 2007) of interprofessional practice and the practice context. Second, peer coaching (Ladyshewsky, 2010) can be used to facilitate student learning. This peer coaching process could also be structured using Miller's (1990) model for clinical performance with junior students guided through the four-steps—knows, knows how, shows how, does—by senior students. The process would enable junior students to enter their 'zone of proximal development' (Vygotsky, 1978) while senior students consolidate their own learning. Near-peer teaching such as this has been shown to be beneficial both for those in the learning and the teaching role (Williams & Nguyen, 2016). The benefits of peer learning also align with increased calls for health students to obtain a level of capability in teaching during their training (Hudson & Tonkin, 2008) to prepare them for the demands of educating clients, carers, students, other health professionals and the wider community when they enter the workforce (Edwards, 2011).

The three key gains students described from the learning experience–increased understanding of interprofessional practice, enhanced professional skills and attitudes, and a broadened knowledge of professional practice–have all been identified as essential elements

of effective interprofessional practice (Bainbridge, Nasmith, Orchard, & Wood, 2010; Interprofessional Education Collaborative Expert Panel, 2011). Furthermore, increases in students' professional knowledge and skill have been reported elsewhere in the interprofessional literature (Evans, Henderson, & Johnson, 2012; MacDonald et al., 2010; Reeves et al., 2011; Suter et al., 2009).

One process to emerge from the students' recollections was their increased knowledge of, and respect for, the contribution of others which students described as leading to an increased level of confidence and comfort in seeking advice. Students also reflected on the importance of the collaboration and reported they had made changes to their client interventions as a result of what they had learned from other professions. Further to this, students described a number of attitudes they felt were essential for interprofessional practice. This finding is perhaps not surprising when examined in the light of community of practice theory where knowledge is viewed as dynamic, individual and social; it is in these communities that explicit and tacit knowledge is shared, the knowledge (and gaps in knowledge) of individuals and the group are mapped, ideas are explored and problems solved (Lees & Meyer, 2011; Wenger et al., 2002). Developing personal relationships and ways of interacting are also critical within these communities of practice (Lees & Meyer, 2011; Wenger et al., 2002) and can facilitate group members learning from, with and about each other.

Finally, the emergence of leadership as a minor theme for the students is worthy of discussion. Whilst a recent review of the literature indicated growing interest in leadership in the interprofessional field (Brewer, Flavell, Trede, & Smith, 2016), it also revealed a lack of clarity around leadership terminology, definitions and conceptualisations. Perhaps in the context of this study—where the facilitators focused on the psychological and sociological aspects of learning, used an interprofessional capability framework to help students

understand the key elements of interprofessional practice, and modelled effective interprofessional collaboration and leadership—students were able to develop their leadership capabilities. As a result, leadership in an interprofessional context did not emerge as a major issue for them. Alternatively, the complexity of leadership in interprofessional teams (Reeves, MacMillan, & van Soeren, 2010) may have contributed to students' lack of understanding of leadership in this context and thus reluctance to discuss the topic. The need for graduates to function as agents of change was a clear recommendation from the global commission on health professional education (Frenk et al., 2010) and thus leadership should be explored within extended interprofessional practice placements.

A major limitation of this study was the use of only self-reported student behavioural changes which have been shown to lack alignment with assessment by external examiners (Davis et al., 2006). To address concerns over self-reports, an observational study of the students' behaviour during these interprofessional placements was undertaken. This data will be presented in a forthcoming paper. Also, as the majority of students graduated from university at the conclusion of this study, member checking was not possible. A further limitation was that the students were based in different clinical contexts (e.g. aged care verses primary schools) which impacted on the experiences of the students.

Conclusion

This study adds to the interprofessional field by examining students' perceptions of the key factors that impacted on their learning within an interprofessional placement experience. The results suggest that a dedicated space for students from different professions to interact with and learn from one another, the length and timing of the placement and, very importantly, the skills, attitudes and capacity of placement facilitators were factors students perceived to support their development of interprofessional practice capabilities. Students reported that their understanding of interprofessional practice, professional skills and attitudes, as well as

professional knowledge and practice were enhanced through their interprofessional placement experience.

Declaration of interest

Acknowledgements

References

Aase, I., Hansen, B. S., Aase, K., & Reeves, S. (2016). Interprofessional training for nursing and medical students in Norway: Exploring different professional perspectives. *Journal of Interprofessional Care, 30,* 109-115.

Abu-Rish, E., Kim, S., Choe, L., Varpio, L., Malik, E., White, A. A. … Zierler, B. (2012). Current trends in interprofessional education of health sciences students: A literature review. *Journal of Interprofessional Care, 26,* 444-451.

Anderson, E. S., Cox, D., & Thorpe, L. N. (2009). Preparation of educators involved in interprofessional education. *Journal of Interprofessional Care, 23,* 81–94.

Anderson, E. S., & Thorpe, L. N. (2010). Learning together in practice: An interprofessional education program to appreciate teamwork. *Clinical Teacher, 7*, 19–25.

Australian Psychological Society. (2012). *Psychologist's records: Management, ownership and access.* The Australian Psychological Society, Flinders Lane, Victoria. Retrieved from https://www.psychology.org.au/Assets/Files/Management-ownership-access-psychologist-records.pdf

Bainbridge, L., Nasmith, L., Orchard, C., & Wood, V. (2010). Competencies for interprofessional collaboration. *Journal of Physical Therapy Education, 24*, 6–11.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers .*The Qualitative Report*, *13*, 544-559.

Bray, J. (2008). Interprofessional facilitation skills and knowledge: Evidence from a Delphi research survey In E. Howkins & J. Bray. (Eds). *Preparing for interprofessional teaching: Theory and practice*. Oxford: Radcliffe. pp 27-39.

Brewer, M. (2016). Exploring the potential of a capability framework as a vision and "sensemaking" tool for leaders of interprofessional education. *Journal of Interprofessional Care, 30,* 574-581.

Brewer, M. L., & Barr, H. (2016). Interprofessional education and practice guide no. 8: Team-based interprofessional practice placements. *Journal of Interprofessional Care, 30,* 747-753.

Brewer, M., Flavell, H., Smith, M., Trede, F., & Jones, S. (2014). *Creating a collaborative practice environment which encourages sustainable interprofessional leadership, education and practice*. Retrieved from http://healthsciences.curtin.edu.au/studying-health-sciences/interprofessional-education/leadership-programme/

Brewer, M. L., Flavell, H., Trede, F., & Smith, M. (2016). A scoping review to understand "leadership" in interprofessional education and practice. *Journal of Interprofessional Care, 30,* 408-415.

Brewer, M. L., & Jones, S. (2013). An interprofessional practice capability framework focusing on safe, high quality client centred health service. *Journal of Allied Health, 42*, e45-e49.

Cahn, P. S. (2014). In and out of the curriculum: An historical case study in implementing interprofessional education. *Journal of Interprofessional Care, 28,* 128–133.

Carlson, E., Ewa, P., & Wann-Hansson, C. (2011). The team builder: The role of nurses facilitating interprofessional student teams at a Swedish clinical training ward. *Nurse Education in Practice, 11*, 309-313.

Clark, P. G. (2011). Examining the interface between interprofessional practice and education: Lessons learned from Norway for promoting teamwork. *Journal of Interprofessional Care, 25,* 26–32.

Davies, A., Fidler, D., & Gorbis, M. (2011). *Future Work Skills 2020.* Retrieved from www.iftf.org

Davidson, M., Smith, R.A., Dodd, K. J., Smith, J. S., & O'Loughlan, M. J. (2008). Interprofessional pre-qualifying education: A systematic review. *Australian Health Review, 32,* 11-120.

Davis, D. A., Mazmanian, P. E., Fordis, M., van Harrison, R., Thorpe, K. E., & Perrier, L. (2006). Accuracy of physician self-assessment compared with observed measures of competence: A systematic review. *JAMA, 296,* 1094-1102.

Edwards, D. (2011). Paramedic preceptor: Work readiness in graduate paramedics. *The Clinical Teacher, 8,* 79–82.

Evans, J. L., Henderson, A., & Johnson, N. W. (2012). Interprofessional learning enhances knowledge of roles but is less able to shift attitudes: A case study from dental education. *European Journal of Dental Education, 16,* 239–245.

Falk, A. L., Hult, H., Hammar, M., Hopwood, N., & Dahlgren, M. A. (2013). One size fits all? A student ward as a learning practice for interprofessional development. *Journal of Interprofessional Care, 27*, 476-481.

Ford, C. R., Foley, K. T., Ritchie, C. S., Sheppard, K., Swayer, P., Swanson, M. … Brown, C. J. (2013). Creation of an interprofessional clinical experience for healthcare professions trainees in a nursing home setting. *Medical Teacher, 35,* 544–548.

Freeth, D., & Reeves, S. (2004). Learning to work together: Using the presage, process, product (3P) model to highlight decisions and possibilities. *Journal of Interprofessional Care*, *18,* 43-56.

Frenk, J., Chen, L., Bhutta, Z.A., Cohen, J., Crisp, N. Evans, T. … Serwadda, D. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an independent world. *The Lancet, 376,* 1923-1958.

Guitard, P., Dubouloz, C., Savard, J., Metthé, L., & Brasset-Latulippe, A. (2010). Assessing interprofessional learning during a student placement in an interprofessional rehabilitation university clinic in primary healthcare in a Canadian francophone minority context. *Journal of Research in Interprofessional Practice and Education, 1,* 231-246.

Hall, P. (2005). Interprofessional teamwork: Professional cultures as barriers. *Journal of Interprofessional Care, 19,* 188-196.

Hallin, K., & Kiessling, A. (2016). A safe place with space for learning: Experiences from an interprofessional training ward. *Journal of Interprofessional Care, 30,* 141-148.

Hudson, J. N., & Tonkin, A. L. (2008). Clinical skills education: Outcomes of relationships between junior medical students, senior peers and simulated patients. *Medical Education, 42*, 901-908.

Interprofessional Education Collaborative Expert Panel. (2011). *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Washington, D.C.: Interprofessional Education Collaborative. Retrieved from http://www.aacn.nche.edu/education-resources/IPECReport.pdf

Jakobsen, F. (2016). An overview of pedagogy and organization in Clinical Interprofessional Training Units in Sweden and Denmark. *Journal of Interprofessional Care, 30,* 156-164.

Journal of Interprofessional Care. *Instructions for authors.* Retrieved from http://www.tandfonline.com/loi/ijic20

Kemmis, S. (2007). Action research as a practice-changing practice. *Educational Action Research, 17,* 463-474.

Kent, F., & Keating, J. K. (2015). Interprofessional education in primary health care for entry level students: A systematic literature review. *Nurse Education Today, 35,* 1221-1231.

Kitto, S. C., Nordquist, J., Peller, J, Grant, R., & Reeves, S. (2013). The disconnections between space, place and learning in interprofessional education: An overview of key issues. *Journal of Interprofessional Care, 27,* 5-8.

Ladyshewsky, R. K. (2010). Building competency in the novice allied health professional through peer coaching. *Journal of Allied Health, 39,* 77–82.

Lapkin, S., Levett-Jones, T., & Gilligan, C. (2013). A systematic review of the effectiveness of interprofessional education in health professional programs. *Nurse Education Today, 33,* 90–102.

Lawlis, T. R., Anson, J., & Greenfield, D. (2014). Barriers and enablers that influence sustainable interprofessional education: A literature review. *Journal of Interprofessional Care, 28,* 305–310.

Lees, A., & Myer, E. (2011). Theoretically speaking: Use of a communities of practice framework to describe and evaluate interprofessional education. *Journal of Interprofessional Care, 25,* 84–90.

Levett-Jones, T., Lathlean, J., Higgins, I., & McMillan, M. (2008). The duration of clinical placements: A key influence on nursing students' experience of belongingness. *Australian Journal of Advanced Nursing, 26,* 8-16.

MacDonald, M. B., Bally, J. M., Ferguson, L. M., Murray, B. L., Fowler-Kerry, S. E., & Anonson, J. M. S. (2010). Knowledge of the professional role of others: A key interprofessional competency. *Nurse Education in Practice, 10*, 238–242.

MacMillan, K., & Reeves, S. (2014). Interprofessional education and collaboration: The need for a socio-historical framing. *Journal of Interprofessional Care, 28,* 89–91.

Miller, G. E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine, 65,* s63-s67.

Milligan, C., & Wiles, J. (2010). Landscapes of care. *Progress in Human Geography, 34,* 736–754.

Nisbet, G., Hendry, G. D., Rolls, G., & Field, M. J. (2008). Interprofessional learning for prequalification health care students: An outcomes-based evaluation. *Journal of Interprofessional Care, 22,* 57-68.

Oandasan, I. F., Conn, L. G., Lingard, L., Karim, A., Jakubovicz, D., Whitehead, C. … Reeves, S. (2009). The impact of space and time on interprofessional teamwork in Canadian primary health care settings: Implications for health care reform. *Primary Health Care Research and Development, 10,* 151–162.

O'Carroll, V., Braid, M., Ker, J., & Jackson, C. (2012). How can student experience enhance the development of a model of interprofessional clinical skills education in the practice placement setting? *Journal of Interprofessional Care, 26,* 508–510.

Pape, B., Thiessen, P. S., Jakobsen, F., & Hansen, T. B. (2013). Interprofessional collaboration may pay off: Introducing a collaborative approach in an orthopaedic ward. *Journal of Interprofessional Care, 27,* 496-500.

Patton, M. (2002). *Qualitative research and evaluation methods.* (3rd ed.). California: Sage.

Pollard, K. (2009). Student engagement in interprofessional working in practice placement settings. *Journal of Clinical Nursing, 18,* 2846–2856.

Reeves, S., Goldman, J., Gilbert, J., Tepper, J., Silver, I., Suter, E., & Zwarenstein, M. (2011). A scoping review to improve conceptual clarity of interprofessional interventions. *Journal of Interprofessional Care, 25*, 167–174.

Reeves, S., MacMillan, K., & Van Soeren, M. (2010). Leadership of interprofessional health
and social care teams: A socio-historical analysis. *Journal of Nursing Management,
18,* 258–264.

Reeves, S., Pelone, F., Hendry, J., Lock, N., Marshall, J., Pillay, L., & Wood, R. (2016).
Using a meta-ethnographic approach to explore the nature of facilitation and teaching
approaches employed in interprofessional education. *Medical Teacher, 38,* 1221-
1228.

Rodger, S., Webb, G., Devitt, L., Gilbert, J., Wrightson, P., & McMeeken, J. (2008). Clinical
education and practice placements in the allied health professions: An international
perspective. *Journal of Allied Health, 37,* 53–62.

Smith, C., Ferns, S., Russell, L., & Cretchley, P. (2014). *The impact of work integrated
learning on student work-readiness*. Sydney, NSW: Department of Education
Retrieved from http://www.olt.gov.au/resource-impact-work-integrated-learning-
student-work-readiness

Suter, E., Arndt, J., Arthur, N., Parboosingh, J., Taylor, E., & Deutschlander, S. (2009). Role
understanding and effective communication as core competencies for collaborative
practice. *Journal of Interprofessional Care, 23*, 52–57.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.*
Cambridge, MA: Harvard University Press.

Waller, S. (2010). *Contact is not enough: The impact of a directed interprofessional clinical
education placement (DICEP) compared to a standard clinical education placement
(SCEP) on therapy students' understanding of professional roles, teamwork, and
interprofessional practice.* Doctoral dissertation. Retrieved from
http://espace.library.uq.edu.au/view/UQ:219357

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A
guide to managing knowledge.* Boston, MA: Harvard Business School Press.

Williams, B., & Nguyen, D. (2016): Near-peer teaching in paramedic education: A repeated measures design. *Innovations in Education and Teaching International.* Published online 24 February 2016. DOI: 10.1080/14703297.2016.1146623.

World Health Organization. (2010). *Framework for action on interprofessional education and collaborative practice.* Geneva: WHO.

Appendix. Semi-structured focus group questions

1. Now that you've spent time on this placement working interprofessionally how would you describe interprofessional practice?

2. We use the term capabilities to refer to knowledge, skills, attitudes and values. What capabilities do you consider necessary for effective interprofessional practice?

3. What strategies have you employed to develop your interprofessional practice capabilities?

4. Is there anything you've learned from this placement that you think you could use to help build an interprofessional team in the future?

5. Are there any particular capabilities you will take into future placements, whether or not they're interprofessional?

6. Are there any final comments you would like to make about the placement?

Table 1. Interprofessional learning outcomes

1. Describe your professional knowledge, skills, attitudes and values, and limitations relevant to these.
2. Describe the contribution of other professions to healthcare.
3. Demonstrate effective communication with clients, relatives, students, health professionals and relevant staff to ensure safe, high quality healthcare.
4. Work in partnership with the client and other professionals to plan, implement and evaluate evidence-based healthcare including referring on as appropriate.
5. Facilitate effective team interactions and provide leadership when appropriate.
6. Evaluate the outcomes of interprofessional team collaborations, your own contribution to these and suggest improvements.

Table 2. Student participants professional profile (n=38)

Professions	No.	Level	Placement length
Occupational Therapy	12	Undergraduate Year 4 or Graduate Entry Masters Year 2	7 weeks full time
Speech Pathology	10	Undergraduate Year 4 or Graduate Entry Masters Year 2	10 weeks part time

Physiotherapy	7	Undergraduate Year 4 or Graduate Entry Masters Year 2	5 weeks full time
Dietetics	4	Postgraduate Year 1	2 weeks full time
Nursing	3	Undergraduate Year 2	1-2 weeks full time
Pharmacy	1	Undergraduate Year 4 or Graduate Entry Masters Year 2	1 week full time
Counselling Psychology	1	Postgraduate Year 1 and 2	12 weeks part time