Informal Learning Opportunities Matter: The Interprofessional Learning Experiences of Undergraduate Speech Pathology Students

Disheng Zhao*
University of Sydney, Australia

Srivalli Nagarajan
University of Sydney, Australia

Gillian Nisbet
University of Sydney, Australia

Abstract

Despite increasing recognition of the importance of interprofessional learning (IPL) for interprofessional practice, it is unclear how and where speech pathology students are developing their interprofessional competencies within the university curriculum. This study aimed to clarify how interprofessional competencies develop in students by using a qualitative approach to explore speech pathology students' perceptions of their university interprofessional learning experiences. Nine individual semi-structured interviews were conducted. Thematic analysis was used to analyse the data. Two major themes emerged: (i) occurrence of informal interprofessional learning (including informal IPL opportunities/context and its contribution to interprofessional learning experiences), and (ii) factors influencing interprofessional learning (role of placement, clinical educators and student's motivation to engage in IPL activities). Participants reported valuing their interprofessional learning experiences, which were mainly informal interactions with professionals that occurred during clinical placements. The findings suggest that informal interprofessional learning experiences are a valuable source of interprofessional learning which can assist students to develop competencies for interprofessional practice. Recommendations for universities to more effectively support students' interprofessional learning are provided.

Keywords: clinical placements; Interprofessional learning; qualitative method; speech pathology students

Corresponding Author: Disheng Zhao, c/o S. Nagarajan Faculty of Health Sciences, Cumberland Campus C42, The University of Sydney PO Box 170, Lidcombe NSW 1825, Australia   *Email:* jdszhao@gmail.com

Introduction

Interprofessional learning (IPL)[1] is increasingly considered a viable means for preparing healthcare students to work collaboratively as professionals and improve health services (Thistlethwaite 2012). These IPL competencies are necessary for delivering safe, effective, efficient and patient-centred healthcare (World Health Organisation 2010). Speech pathology professional associations, such as Speech Pathology Australia (SPA) and American Speech-Language Hearing Association, have now explicitly recognized the importance of IPL, especially at the pre-qualification level (Goldberg 2015, Speech Pathology Australia 2011). For example, SPA's Competency-based Occupational Standards (CBOS) were recently revised to state that "interprofessional practice (IPP) is a critical component of competence for an entry-level speech pathologist" (Speech Pathology Australia 2011). However, it is unclear how speech pathology (SP) students in Australian universities are currently developing these interprofessional competencies.

Many IPL initiatives are described in the literature, with SP students included as some of the participants (e.g. Copley *et al*. 2007, DiVall *et al*. 2014, Kent *et al*. 2014, Nisbet *et al*. 2008, Pechak *et al*. 2013). Formal structured IPL initiatives are commonly reported, where students are on placements that are explicitly planned to provide them with IPL experiences (Anderson and Thorpe 2010, Lachmann *et al*. 2013, Pelling *et al*. 2011). In other words, students interact with students and professionals from other disciplines to specifically learn how to work with other disciplines. These studies reported that students perceived their IPL experience to be valuable, with some developing better understanding of other professionals' roles and the importance of IPP.

Despite reports of the benefits of formal IPL initiatives, their implementation by universities has been limited by barriers such as student timetabling conflicts and financial costs (Gilbert 2005), restricting access to large numbers of SP students. Morrison, Lincoln and Reed (2011) interviewed ten experienced speech pathologists about how they learned to work in teams with other disciplines. They found that only four participants recalled university classes or clinical placements that contributed to their development of teamwork abilities and knowledge of other professions. It is unclear whether traditional SP curricula were successful in incorporating IPL opportunities for students. In addition to formal IPL, students have informal learning opportunities. Informal IPL refers to the predominantly unstructured and implicit learning that occurs when students/professionals from two or more disciplines interact (Freeth *et al*. 2005, Nisbet, Lincoln, and Dunn 2013). This type of learning is minimally described in the literature but recognized as a likely source of IPL for students on clinical placements, particularly when the curriculum lacks formal IPL opportunities (Russell *et al*. 2006).

This study aimed to explore the IPL experiences of undergraduate SP students at an Australian university. It sought to understand students' perceptions of their IPL experiences; where students have gained IPL experiences from; how students perceived the contribution of their IPL experiences towards their development of interprofessional competencies; and aspects of the SP university curriculum that students believe supported their IPL. This study considered SP students' formal and informal IPL experiences that occurred throughout their degree.

---

[1] "Learning arising from interaction between members (or students) of two or more professions. This may be a product of interprofessional education or happen spontaneously in the workplace or in education settings" (Freeth *et al*. 2005: 15).

Method

A qualitative research approach was appropriate for understanding SP students' perceptions of their university IPL experiences as it allowed for exploring participants' experiences of situations, including the commonalities and differences in how they perceive a situation (Creswell 2013). Semi-structured interviews were used for data collection. Theoretical sampling, constant comparison technique, theoretical saturation and thematic coding were employed for data collection and analysis (Gomm, Needham, and Bullman 2000).

Recruitment

Purposive sampling (Green and Thorogood 2009) was used to recruit SP students in their final year of a four year undergraduate degree programme from an Australian metropolitan university. Recruitment commenced at the end stage of their degree with an advertisement to the student cohort via recruitment flyers, email advertisements, and social media posts. Nine females participated in the study. At the time of the interviews, all participants had completed their final fourth year clinical placements. Participants were financially reimbursed with a $20 shopping voucher for their time. Ethical approval was obtained from a university ethics committee.

Data collection

The first author conducted a semi-structured telephone interview with each participant, with flexible use of an interview guide (see Appendix 1). Open-ended questions, such as '*Can you tell me about your experiences in interacting with students or professionals from other disciplines during your university degree?*' were used for exploration. The interviews ranged from 35 to 60 minutes. All interviews were audio-recorded and transcribed verbatim. Field notes were taken during and after each interview. These contained the researcher's reflections on the information obtained. Data collection and analysis occurred concurrently, with saturation reached on the ninth interview when no new ideas or themes in relation to the topic of interest emerged (Guest, Bunce, and Johnson 2006).

Data analysis

Thematic analysis was used to analyse the data, allowing for development of rich descriptions (Braun and Clarke 2006). Familiarization with the data occurred through transcription of interview data, repeated reading, and identification of units of meaning for each interview. Data extracts were coded by the first author and repeatedly refined following discussion with the co-investigators to achieve agreement with codes. This iterative process involved identification of new codes, collation of codes into categories, and comparison of codes within and between interviews to ensure consistent coding. Categories were then reviewed for common themes. Themes and sub-themes were generated through collaborative discussions with co-investigators, where thematic maps of collated codes were used to explore the relationships between codes (Hsieh and Shannon 2005). Themes were further refined by considering their relation to coded extracts, until a consensus was reached. NVivo 10 (QSR International, Australia[2]) and Microsoft Excel 2013™ assisted with management of data coding and analysis.

---

[2] ; see: www.qsrinternational.com/

Rigour

Credibility and trustworthiness of the findings was established using prolonged engagement with the data (the same researcher collected and analysed the data) and in-depth discussions with co-investigators to seek agreement throughout the research process (Lietz, Langer, and Furman 2006). Reflexivity was fostered with the acknowledgement of the first author as a SP student at the time of this study with her own understanding and experiences of IPL, and subsequent use of bracketing to set aside assumptions about this topic (Berger 2015). Involvement of other research members with different professional backgrounds reduced bias and increased the credibility of this study.

Results

Overall, study participants identified on-campus and clinical placement experiences that contributed to their IPL. However, most participants perceived minimal on-campus IPL as these opportunities were limited. Participants' on-campus interactions with students from other disciplines were primarily extracurricular and prompted by social activities/events organized by student-run organizations. These experiences were often limited by participants' lack of motivation to interact with other students as they perceived no real 'reason' to interact and/or were highly focused on their SP studies.

The key finding of this study was the contribution of placement experiences towards participants' IPL. Two major themes emerged.

Theme 1: Occurrence of informal IPL

Informal IPL opportunities and contexts

All participants identified that the majority of their IPL experiences occurred during mandatory off-campus clinical placements in their final year of study (e.g. in hospitals, primary schools, and rehabilitation centres). Only one participant had participated in a formal structured IPL placement. Most student IPL experiences were informal, where IPL was not the focus of the placement. All participants reported active participation in work processes already in place (e.g. interprofessional case conferences and joint sessions with another professional). However, participants more frequently described unplanned interprofessional interactions – those spontaneously occurring on the ward, in the office or school classroom, and/or on the phone. Additionally, all participants had observational IPL opportunities (e.g. observing another professional's assessment/therapy session).

Across all participants, IPL experiences occurred more frequently with *professionals* than with other students. Such interactions with professionals included teachers, occupational therapists, physiotherapists, nurses, and doctors. Student-student experiences were limited by conflicting placement schedules, students seeing different clients, professions being in separate offices, and only SP students present on site.

For all participants, interaction with other professionals was usually centred on client care, including discussion of client goals and progress from different professional perspectives. In addition to participants' opportunities to learn from professionals, most also had IPL experiences where education of other professionals was the focus. Reciprocal learning appeared to occur at times:

> …*they [teachers] played a huge role in increasing my behaviour management skills. Whereas I was increasing their knowledge of SP skills* (Participant 5).

Some participants reported social discussions with other professionals during lunchtime on placement, but rarely perceived it as an IPL experience. However these social interactions

helped develop students' interpersonal relationships with professionals and aided more professional interactions.

> *I felt a bit more comfortable approaching them and talking to them because I'd had a chat with them beforehand. Or at least I knew who they were* (Participant 6).

Perceived value of informal IPL

All participants believed that they gained new knowledge and skills from their mostly informal IPL experiences. All participants believed that client-related aspects of care increased their awareness of client-centred practice, holistic management of clients and contributed to their IPL. Some participants only reported a greater awareness of these aspects, however others could further describe how this increased awareness impacted on their practice:

> *... I always find it super helpful to talk to other people involved in that patient or client's case. Because it just makes it so that the client isn't just seeing us as this professional, this professional, this professional...It's making sure that we see the client as our shared person that we need to help together. And we aren't just making those boundaries, we are making sure that everything comes together and that it works best for the client. So I really try to work with other people* (Participant 3).

The majority of participants believed that they developed new knowledge about the roles and responsibilities of other professionals in client care. A few participants elaborated on how they *used* this new knowledge to support their IPP and improve client care:

> *And so knowing what a psychologist and an OT does, and if I know that my client is also seeing an OT or seeing a psychologist, that's definitely going to help me know that there is a strong reason why I should liaise with them. Whereas I might not have before, I might have left them separate. But because I know there is so much that can be done together, and working on the same goals can really help the client overall, I think it's important to my practice and it's more motivating for me to liaise with those people and work holistically* (Participant 2).

All participants reported developing a greater awareness of other professionals' techniques and assessment tools. Further, all participants appeared to recognize and value other professionals' expertise and role in client care, with some participants explicitly articulating their increased respect for other professionals:

> *I learnt how much nurses know, their expertise. Not that I didn't before- but…they really do know a lot and you should respect that* (Participant 7).

All but one participant reported improved communication skills as a result of their interprofessional interactions. Most participants also perceived that they learnt how to collaborate with other professionals and the importance of IPP. The majority of participants believed they gained confidence in interacting with other professionals. This often resulted in their increased willingness to initiate interprofessional experiences:

> *I think having that [interprofessional] experience definitely helped my confidence more than anything. So I'm able to just gain the confidence and be able to call people up and talk about the client* (Participant 4).

Theme 2: Factors influencing IPL

Role of the clinical educator

All participants identified that their clinical educators (CE) played an important role during their IPL experiences. However, CEs' expectations of IPP and learning differed across placement experiences. Participants sometimes perceived it as an expectation that had bearing on whether or not they passed the placement, with some CEs explicitly encouraging interprofessional interaction:

> *…if we did a therapy session and we didn't really involve the teachers, our supervisor would be like what's going on there, why aren't you involving them enough* (Participant 5).

This explicit encouragement involved CEs actively seeking IPL opportunities for the participants and/or supporting IPL through verbal discussions (e.g. debriefing following the interaction).

> *At the beginning she [CE] introduced me to all the different heads of the departments and all the people… even arranged meetings with other disciplines, individually to learn about other things like dieticians* (Participant 4).

The CEs' expectation of IPP often prompted participants to engage in interprofessional interactions with other professionals. For some participants, the CE was an important role model for interprofessional interaction:

> *It was really helpful to be allowed to come along to trips like that, where you can actually watch your supervisor speak to them [other professionals]. Because in a year's time that might be you when you're actually qualified enough. And you get the experience to see how your supervisor speaks to them, you'll know how to speak to them as well* (Participant 3).

On other placements, IPP and learning was more of an option and usually occurred when the participant had 'extra' time.

Regarding student-student interactions, some participants attributed their lack of interaction with students from other disciplines to their CE not encouraging or expecting that they do so.

Placement related factors

Almost all participants reported appreciating the opportunity for experiential IPL provided by their placements:

> *…a lecturer might briefly say the role of a professional and how you might encounter them. But that stuff doesn't really stick in your mind. Whereas when on clinical placement, where you experience it and you're doing it for real, it does get more cemented in your mind* (Participant 5).

However, participants frequently identified time factors, where students and professionals had busy and/or conflicting schedules, as inhibitors of IPL:

> *I went to the physio every hour to see where she was. And basically hunted her down…just finding the person and finding the time would be the biggest hurdle* (Participant 1).

Most participants identified that their IPL opportunities depended on whether clients required input from multiple professionals. Some placement sites had clients requiring only SP management, which limited students' interprofessional interactions.

All participants identified that their interactions with professionals (other than their immediate CE) influenced their IPL. Participants perceived their IPL was enabled when professionals initiated interaction with the student; showed interest in SP; and shared their knowledge. However, most participants identified at least one encounter with a professional who did not appear interested in IPL or interacting with them as students:

> *I guess some teachers did not like the idea of us training them…Some teachers acted as if they weren't willing to learn basically* (Participant 8).

The majority of participants identified their experiences of observing other professionals (either in a structured context like a case conference, or more informally) aided their IPL. All professionals appeared to influence participants' engagement in IPP and learning. Some participants found that sharing office spaces with different professionals increased their opportunities to informally observe or interact with them:

> *I learnt how to communicate on the phone with different professionals and clients. Because we don't actually get to watch other people make phone calls, ever. So being able to observe that and how calm they [the health professionals] are, and the type of questions that they ask and how they ask the questions. That was quite interesting* (Participant 1).

Students' motivation towards engaging in IPL activities

Most participants described how university assessments (including interprofessional competencies assessed as part of clinical placement requirements) encouraged their engagement in interprofessional experiences. Several participants identified an interprofessional case report assignment that prompted them to seek out interprofessional experiences on placement to fulfil requirements:

> *…that [assignment] was the reason why I observed the physio and the OT doing a session each with my client* (Participant 5).

However, despite this assignment being a requirement for all students, not all participants identified this as an IPL experience.

A few participants reported high motivation to engage in interprofessional experiences following previous positive interprofessional interactions:

> *Probably I'd say my experience at [government health service] would've been one of the biggest influence towards that…the different disciplines were everywhere. And it was just necessary that you got in contact with them. So then in my following placements after that I looked towards that* (Participant 6).

A few participants explicitly described their enjoyment of working with others, which likely motivated them to seek further IPL experiences.

A frequently reported barrier to participants' IPL experiences was how they felt intimidated by professionals from other disciplines and/or lacked confidence in initiating interprofessional interactions:

> *I felt intimidated in a sense. Because obviously there's no wrong questions to ask, but you can't help but feel like you're taking a bit of their time out if you're asking the wrong question* (Participant 7).

This affected some participants' willingness to engage in IPP and may have limited their IPL. Another IPL barrier involved some participants perceiving IPP and learning as unimportant to

engage in when on placement. Where participants lacked motivation, other factors such as the nature of the placement and CEs' influence became important for their IPL:

> *Actually a lot of them were the supervisors saying would you like to observe them and then you say of course, I would love to observe…reflecting back I didn't think I took a lot of initiative in doing that* (Participant 4).

Discussion

The study findings revealed that informal IPL opportunities during clinical placements are a valuable source of learning for students to develop interprofessional competencies required for collaborative practice. Participants' interprofessional experiences were primarily with professionals rather than students from other disciplines, as student-student opportunities were limited on and off campus. The participants derived value from their experiential IPL, where it was perceived to contribute to their development of interprofessional competencies. Clinical placements appear to be a key aspect of SP curriculum that provides students with IPL opportunities.

Students' IPL was found to be influenced by three factors – namely, the role played by CEs, the nature of the placement, and the student's own motivation. It appears that when *all* the three factors are enabled, they create an environment that is conducive to students' IPL. However, each of these factors can become limiting if not appropriately exercised. In such instances, the other factors may be required to compensate. For example, one participant explicitly commented on her lack of motivation in proactively engaging in interprofessional interactions, relying on her CE to initiate IPL experiences for her.

Findings from this study provide support for the value of informal IPL experiences (Freeth 2010, Nisbet, Lincoln, and Dunn 2013), as participants perceived that they developed interprofessional competencies as a result of informal interprofessional work processes and unplanned interactions. The different interprofessional skills and knowledge described by participants largely correlate with IPL outcomes described in the literature (Thistlethwaite and Moran 2010). For example, study participants identified increased patient-centred practice and improved understanding of the roles and responsibilities of other professionals as a result of informal IPL experiences. However, some IPL outcomes outlined in the literature were not described by this study's participants, such as the ability to understand and question stereotyped views of other professions (Thistlethwaite and Moran 2010). This may have been due to the informal aspect of participants' learning where it was largely unplanned and implicit – learning occurred unconsciously and so was unrecognized by the participant at the time of learning. This suggests that some aspects of different interprofessional competencies may be better developed through more explicit and intentional learning. For example, Zarezadeh, Pearson and Dickinson (2009) provide a model of structured reflection for IPL experiences that can make the IPL process more explicit.

The study's findings, showing the influence of CEs in facilitating students' IPL experiences, are consistent with the literature (Ruiz, Ezer, and Purden 2013). CEs appear to be important role-models for both students' discipline-specific *and* interprofessional learning. Consistent with the literature, students were similarly influenced by how other health professionals role-modelled IPP (Murray-Davis, Marshall, and Gordon 2014, Pollard 2008): participants were negatively affected when professionals displayed negative role-modelling. Given that students are likely to be exposed to both positive and negative role-models during their placements and indeed careers; it is important that universities equip students with the capacity to differentiate between the two, and provide opportunities to de-brief and learn from these experiences.

IPL of a social nature was found to enable some participants' professional interactions when on placement. Such interactions could potentially support students' IPL, as it can foster students' confidence in engaging in interprofessional interactions and facilitate the breakdown of negative stereotypes held about other professions. This is supported by previous findings where informal

social activities between student participants outside of formal IPL placement hours led to further opportunities for IPL (Reeves 2000).

This study's findings suggest that university assessments have a role to play in motivating students to engage in IPL. However, not all participants explicitly stated that a compulsory interprofessional case report assignment was an opportunity for IPL. This suggests the importance of well-designed university assessments where IPL is made explicit to students. Previous literature has described the importance of university assessments for students' IPL, where a lack of assessment on placement decreased students' motivation to learn (Morison *et al.* 2003, Reeves 2000).

Barriers to the implementation of formal IPL initiatives are well documented in the literature (Gilbert 2005), and are arguably more considerable than the barriers encountered by participants in this study through their largely informal IPL experiences. As such, it is important to capitalize on these informal IPL placement opportunities as valuable complements to formal IPL initiatives. Further, support is provided for Nisbet, Lincoln and Dunn's (2013) recommendation of making informal IPL more explicit and intentional to improve the quality of students' informal IPL. Universities could work with placement sites to facilitate this through:

- Training CEs to better support students' IPL, including ways of creating IPL opportunities and/or capitalizing on existing interprofessional work processes for students; setting up an explicit expectation of IPL; and encouraging students' reflection on their IPL experiences;

- Designing assessment tasks with an explicit focus on IPL that students complete while on clinical placement. For example, students could be required to shadow a professional from a different profession and complete an assessed reflective statement about their experience. This has proved beneficial to some healthcare students' IPL (Wright *et al.* 2012);

- Briefing students on the interprofessional workplace setting prior to the commencement of their placements – this should involve explicit discussion on what students should expect in terms of IPL;

- De-briefing students post-placement to discuss their interprofessional placement experiences, including what they have learnt in terms of interprofessional competencies.

In addition, placement sites with strong interprofessional work practices should be flagged so that students can experience at least one placement with positive interprofessional role models.

Limitations

This study has focused on students' perceptions of their IPL experiences rather than their achievement of IPL outcomes. The study is limited by the small sample size. Participation in the study was voluntary: possible sample bias may have occurred as students interested in IPL may have elected to participate. Moreover, participants were only from one institution and the IPL experiences described by the participants might not be applicable to SP students from other institutions.

Conclusion

This study has provided insight into SP students' IPL experiences by describing their perceptions of their experiences. Clinical placements appeared to be a valuable part of the SP curriculum that provided students with largely informal IPL opportunities. Informal IPL was perceived by participants to contribute to their development of interprofessional competencies;

however opportunities for this varied between placements. We highlighted several factors that contributed to a favourable IPL environment for students on placement.

Universities and clinical placement sites both have an important role to play in preparing students for IPP in the workplace. This study has provided several recommendations for supporting SP students' IPL while on placement, particularly focusing on making informal IPL more explicit. Future research could explore optimal strategies for increasing the intentionality of informal IPL to facilitate students' development of interprofessional competencies. It would be of interest to compare this study's findings to the IPL experiences of: (i) SP students from other institutions, particularly those with well-established formal IPL initiatives; and (ii) students from other health disciplines. Achieving a better understanding of how students are currently meeting interprofessional competencies will allow for development of strategies that can further support their preparation for post-qualification IPP.

Acknowledgements

References

Anderson, E. S., and Thorpe, L. (2010) 'Learning together in practice: an interprofessional education programme to appreciate teamwork'. *The Clinical Teacher* 7 (1), 19–25. doi: 10.1111/j.1743-498X.2009.00331.x

Berger, R. (2015) 'Now I see it, now I don't: Researcher's position and reflexivity in qualitative research'. *Qualitative Research* 15 (2), 219–234. doi: 10.1177/1468794112468475

Braun, V., and Clarke, V. (2006) 'Using thematic analysis in psychology'. *Qualitative Research in Psychology* 3 (2), 77–101. doi:10.1191/1478088706qp063oa

Copley, J. A., Allison, H. D., Hill, A. E., Moran, M. C., Tait, J. A., and Day, T. (2007) 'Making interprofessional education real: A university clinic model'. *Australian Health Review* 31 (3), 351–357. doi:10.1071/AH070351

Creswell, J. W. (2013) *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. 3rd edn. Thousand Oaks, CA: Sage

DiVall, M. V., Kolbig, L., Carney, M., Kirwin, J., Letzeiser, C., and Mohammed, S. (2014) 'Interprofessional socialization as a way to introduce collaborative competencies to first-year health science students'. *Journal of Interprofessional Care* 28 (6), 576–578. doi: 10.3109/13561820.2014.917403

Freeth, D. (2010) 'Interprofessional Education'. In *Understanding Medical Education: Evidence, Theory and Practice.* ed. by Swanwick, T. London: Wiley-Blackwell, 53–68

Freeth, D., Hammick, M., Reeves, S., Koppel, I., and Barr, H. (2005) *Effective Interprofessional Education: Development, Delivery and Evaluation*. Oxford: Blackwell Publishing

Gilbert, J. H. V. (2005) 'Interprofessional learning and higher education structural barriers'. *Journal of Interprofessional Care* 19 (S1), 87–106. doi:10.1080/13561820500067132

Goldberg, L.R. (2015) 'The importance of interprofessional education for students in communication sciences and disorders'. *Communication Disorders Quarterly* 36 (2), 121–125. doi:10.1177/1525740114544701

Gomm, R., Needham, G., and Bullman, A. (2000) *Evaluating Research in Health and Social Care.* London: Sage

Green, J,. and Thorogood, N. (2009) *Qualitative Methods for Health Research*. 2nd edn. London: Sage

Guest, G., Bunce, A., and Johnson, L. (2006) 'How many interviews are enough?: An experiment with data saturation and variability'. *Field Methods* 18 (1), 59–82. doi:10.1177/1525822X05279903

Hsieh, H. and Shannon, S. E. (2005) 'Three approaches to qualitative content analysis'. *Qualitative Health Research* 15 (9), 1277–1288. doi:10.1177/1049732305276687

Lachmann, H., Ponzer, S., Johansson, U., Benson, L., and Karlgren, K. (2013) 'Capturing students' learning experiences and academic emotions at an interprofessional training ward'. *Journal of Interprofessional Care* 27 (2), 137–145. doi: 10.3109/13561820.2012.724124

Lietz, C. A., Langer, C. L., and Furman, R. (2006) 'Establishing trustworthiness in qualitative research in social work: Implications from a study regarding spirituality'. *Qualitative Social Work* 5 (4), 441–458. doi:10.1177/1473325006070288

Kent, F., Drysdale, P., Martin, N., and Keating, J.L. (2014) 'The mixed-discipline aged-care student clinic: An authentic interprofessional learning initiative'. *Journal of Allied Health* 43 (1), 51–56.

Morison, S., Boohan, M., Jenkins, J., and Moutray, M. (2003) 'Facilitating undergraduate interprofessional learning in healthcare: Comparing classroom and clinical learning for nursing and medical students'. *Learning in Health and Social Care* 2 (2), 92–104. doi:10.1046/j.1473-6861.2003.00043.x

Morrison, S. C., Lincoln, M. A., and Reed, V. A. (2011) 'How experienced speech-language pathologists learn to work on teams'. *International Journal of Speech-Language Pathology* 13 (4), 369–377. doi:10.3109/17549507.2011.529941

Murray-Davis, B., Marshall, M., and Gordon, F. (2014) 'Becoming an interprofessional practitioner: Factors promoting the application of pre-qualification learning to professional practice in maternity care'. *Journal of Interprofessional Care* 28 (1), 8–14. doi:10.3109/13561820.2013.820690

Nisbet, G., Hendry, G., Rolls, G. D., and Field, M. J. (2008) 'Interprofessional learning for pre-qualification health care students: An outcomes-based evaluation'. *Journal of Interprofessional Care* 22 (1), 57–57. doi: 10.1080/13561820701722386

Nisbet, G., Lincoln, M., and Dunn, S. (2013) 'Informal interprofessional learning: An untapped opportunity for learning and change within the workplace'. *Journal of Interprofessional Care* 27 (6), 469–475. doi:10.3109/13561820.2013.805735

Pechak, C., Gonzalez, E., Summers, C., and Capshaw, S. (2013) 'Interprofessional education: A pilot study of rehabilitation sciences students participating in interdisciplinary international service-learning'. *Journal of Allied Health* 42 (3), 61E-66E

Pelling, S., Kalen, A., Hammar, M., and Wahlström, O. (2011) 'Preparation for becoming members of health care teams: Findings from a 5-year evaluation of a student interprofessional training ward'. *Journal of Interprofessional Care* 25 (5), 328–332. doi: 10.3109/13561820.2011.578222

Pollard, K. C. (2008) 'Non-formal learning and interprofessional collaboration in health and social care: The influence of the quality of staff interaction on student learning about collaborative behaviour in practice placements'. *Learning in Health and Social Care* 7 (1), 12–26. doi:10.1111/j.1473-6861.2008.00169.x

Reeves, S. (2000) 'Community-based interprofessional education for medical, nursing and dental students'. *Health and Social Care in the Community* 8 (4), 269–276. doi:10.1046/j.1365-2524.2000.00251.x

Ruiz, M. G., Ezer, H., and Purden, M. (2013) 'Exploring the nature of facilitating interprofessional learning: Findings from an exploratory study'. *Journal of Interprofessional Care* 27 (6), 489–495. doi:10.3109/13561820.2013.811640

Russell, L., Nyhof-Young, J., Abosh, B., and Robinson, S. (2006) 'An exploratory analysis of an interprofessional learning environment in two hospital clinical teaching units'. *Journal of Interprofessional Care* 20 (1), 29–39. doi:10.1080/13561820500476473

Speech Pathology Australia (2011) *Competency-based Occupational Standards for Speech Pathologists: Entry level.* [online] available from http://www.speechpathologyaustralia.org.au/library/Core_Assoc_Doc/CBOS_for_Speech_Pathologists_2011.pdf [25 November 2014]

Thistlethwaite, J. (2012) 'Interprofessional education: A review of context, learning and the research agenda'. *Medical Education* 46 (1), 58–70. doi:10.1111/j.1365-2923.2011.04143.x

Thistlethwaite, J., and Moran, M. on behalf of the World Health Organization Study Group on Interprofessional Education and Collaborative Practice (2010) 'Learning outcomes for interprofessional education (IPE): Literature review and synthesis'. *Journal of Interprofessional Care* 24 (5), 503–513. doi:10.3109/13561820.2010.483366

Wright, A., Hawkes, G., Baker, B., and Lindqvist, S. M. (2012) 'Reflections and unprompted observations by healthcare students of an interprofessional shadowing visit'. *Journal of Interprofessional Care* 26 (4), 305–311. doi:10.3109/13561820.2012.678507

World Health Organization (2010) *Framework for Action on Interprofessional Education and Collaborative Practice.* [online] available from http://whqlibdoc.who.int/hq/2010/WHO_HRH_HPN_10.3_eng.pdf [1 December 2015]

Zarezadeh, Y., Pearson, P., and Dickinson, C. (2009) 'A model for using reflection to enhance interprofessional education'. *International Journal of Education* 1 (1), E12. doi: 10.5296/ije.v1i1.191

Appendix 1

Interview Guide

1. Tell me about your experiences in interacting with students or professionals from other disciplines during your university degree.

Prompts for the interviewer:

- If the participant talks about their clinical placement experiences:
    - Tell me more about that experience
    - Did you find that experience beneficial? Why do you say that?
        - What, if anything, did you get out of that?
    - What supported or helped your learning? Were there any challenges or barriers?
    - Have you had any other similar experiences?
- Was it an explicit part of the placement –the focus; expected of you?
    - Incidental vs. informal vs. structured
- How did the [IPL] experience come about?
    - How about your CE? What involvement did they have?
    - Who initiated it? Student initiated or CE initiated or?
- Did you get to observe any other professions?
- Students
    - Were you aware of other students?
    - Have you had any experiences in interacting with them?
    - How did that come about? Was there any particular reason why you didn't?
    - What stopped/encouraged you from interacting with them?
- Did it [IPL experiences] influence your clinical practice in any way?
- School placements – tell more; interaction with education professionals, e.g. teachers

2. Can you tell me (more) about your experiences of this that occurred on-campus at university?

Prompts for the interviewer:

- What about any formal opportunities on campus?
    - Tell me more about that experience
    - How did you get involved in that?
    - Did you find that experience beneficial? Why do you say that?
    - What supported or helped your learning? Were there any challenges or barriers?
    - Have you had any other similar experiences?
    - Any academic work requiring you to interact with students or professionals from other disciplines?

- What about any informal or social opportunities for interactions?
  - Tell me more about that experience
  - How did you get involved in that?
  - Did you find that experience beneficial? How was it so?
  - What supported or helped your learning? Were there any challenges or barriers?
  - Have you had any other similar experiences?
  - Do you feel this benefited/impacted on your ability to work with other professionals in a more clinical context?

3. What experience from your university studies (including, placements, lectures, any on-campus activities) do you feel has been most beneficial to your learning about how to work with other professions?
   - Prompt for the interviewer: What was it about that experience?

4. Do you feel like your university studies have prepared you for collaborative work with professionals from other disciplines?

5. What did you get out of these interprofessional learning experiences?