A Pilot Study of Transdisciplinary Graduate Capabilities, Interpersonal Communication, and Technical Competence: Bachelor of Applied Information Technology and Master of Social Work Student Partnership

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Abstract

Academics at Griffith university envisioned a complementary learning and supportive relationship could be developed between Bachelor of Information Technology (BAIT) students and Master of Social Work (MSW) students. Discussions between discipline specific staff highlighted that each discipline had strengths and expertise that could assist students to overcome challenges brought about by systemic changes in tertiary education, gaps in skillsets and curriculum, and workforce expectations. Pressures included students attending university from culturally and linguistically diverse backgrounds, the increasing importance of information technology (IT) in the classroom and workplace, as well as the requirement to communicate effectively across a range of disciplines. Working, interacting, and communicating effectively in cross-discipline and culturally diverse environments is a requisite for all graduates, however academics found there were few opportunities for students to partner across disciplinary silos. Staff from both disciplines collaborated to develop a conversational pedagogical framework to underpin a pilot program to support peer learning, using active problem-based learning with IT and social work students. The pilot program evidenced a complementary transdisciplinary, learning partnership and enabled students from IT to help students from social work develop IT skills, while social work students assisted IT students to become more confident in their interpersonal communication skills.

Practitioner Notes

1. A systematic review of the literature on transdisciplinary, cross disciplinary and multidisciplinary teaching in tertiary education over the last 10 years did not identify any collaborations between the disciplines of social work and IT.
2. Academics developed a student interaction framework based on Laurillard's (2013) conversational framework to support peer learning, using active problem-based learning with IT and social work students
3. The pilot program evidenced a complementary transdisciplinary, learning partnership between social work and information technology (IT) students.
4. Further exploration of social work/IT partnerships is required to conceptualise future transdisciplinary approaches as would trialing the student interaction framework to test the replicability of the model and explore whether the outcomes seen in this small pilot project are consistent across larger cohorts of social work and IT student cohorts.
5. Trialing the student interaction framework within other disciplines to gain more data would test the robustness of the proposed model and findings to date and evidence the effectiveness (or not) of independent and open-ended learning

Keywords

Social work, IT, partnership, transdisciplinary, graduate capabilities, interpersonal communication, technical competence

Introduction

Digital competencies and cross-cultural, transdisciplinary, interpersonal competencies are imperative to full participation in the technologically connected global community of the 21st century. Within higher education, much of the academic content is delivered online using webinars, social networking, and online platforms rather than face to face in a classroom (Fleischmann, 2018; Hamilton & Tee, 2016; O'Connell, 2016). As is well-acknowledged, the shift to online learning in higher education was accelerated by the forced adoption of online learning due to the COVID-19 pandemic. However, even prior to the pandemic educators were leaning towards more engaging learning and delivery approaches 'adjusting to an on-demand, anywhere, anytime, any mode, any reason approach' (Hamilton & Tee, 2016, p.23). Students and graduates from all disciplines need to be capable of effectively using different online and digital technologies (Angus & Doherty, 2015). The pandemic exacerbated the pressure for students (and staff) to become familiar with the technology that enables online collaboration and learning and brought to the fore the necessity of building confidence and competency in technical and interpersonal skills needed to collaborate in technology-mediated environments, often with a globally and culturally diverse cohort.

Staff involved in this project observed that increased online learning was creating retention and engagement issues among students challenged by technology who faced barriers accessing course content. Additionally, the reliance on online communication was limiting individual interactions and the development of nuanced micro communication skills.

Motivated by the necessity of building technical and interpersonal competencies in students and noticing a complementarity between the skillsets of information technology (IT) and social work disciplines, the authors conceived of an innovative teaching program that brought together students from two diverse disciplines, IT, and social work, to engage in facilitated conversations and 'help each other'. In this way, the authors sought to meet the competency needs of students arising from changes in tertiary education and the wider society, such as more online learning, increasing diversity in the student population and a greater focus on communication skills. In this paper, we report on a pilot program devised by the authors. Prior to discussing the design of the student conversation process, and outcomes of the pilot program, we explore the context and use resulting knowledge to guide the formulation objectives and design of the program.

Context

Increasingly students from non-traditional university entry pathways and full fee-paying students from overseas are attending university (Economou, 2021; Havery et al., 2019; Iyer-Raniga & Andamon, 2016; Thomsen et al., 2018). These students may need greater support to be confident in verbal and written expression as well as becoming familiar with the culture and the demands of university study in Australia (Beatty et al., 2014; Economou, 2021; Maldoni & Lear, 2016). Workplaces expect graduates to have effective communication skills, self-awareness, interpersonal skills, initiative, and adaptability (Gandhi et al., 2014;

Marchioro et al., 2014). The role of universities in establishing the skills needed to maintain interpersonal relationships has become more central to graduate employability (Levin et al., 2019).

Additionally, many graduate jobs require high level information and communication technology skills (Chan & Holosko, 2016; Young & Delves, 2009) but the social work lecturers are aware that many Master of Social Work (MSW) students have not studied online before. Anecdotal evidence suggests it is difficult for MSW students who studied their first degree several years ago, who studied overseas or who used electronic platforms of different universities, to adapt to a new electronic platform. Many MSW students lack the self-efficacy and confidence to engage fully with online course material because they find the interface difficult to navigate and the lack of face-to-face interactions create further barriers to accessing timely and accurate information. Young et al. (2018), highlight further barriers to digital literacy for social work education and practice, including a lack of access to personal electronic devices, lack of experience of technology and technical platforms, and limited understanding of electronic interfaces. It is therefore important to engage MSW students in virtual learning environments to facilitate the development of digital literacy (Gallagher et al., 2015). The Bachelor of Information Technology (BAIT) program is techno-centric, so these students are tech savvy and exhibit high confidence with using technology. Staff felt confident that BAIT students would be able to help their MSW peers.

IT staff at Griffith university observed that there was a need for more emphasis on developing BAIT students' interpersonal skills and communicative capabilities, for example understanding the perspective of people unskilled in the use of IT, gaining insight into design issues and problem-solving skills. The program of study for BAIT learning draws on the global skills and competency framework for the digital world (SFIA, 2021) which states that IT professionals require skills in observation, task analysis and other social methods to identify the needs, motivations, and behaviours of a diverse community of users and to make systems, services, and products accessible and useable by everyone. Interviews with industry for the development of the BAIT discipline's business plan in 2019 also highlighted the need for a focus on developing IT students' communication abilities particularly in networking and presenting their ideas to an inexpert audience (Yunus Centre, 2019). The BAIT Business Model research reported '… graduates tend to lack soft skills, such as pitching, networking, presenting their ideas to a non-technical audience' (Yunus Centre, 2019, p. 9). It was anticipated that MSW students would be able to help BAIT students to extend their interpersonal communication skills especially in online environments.

MSW students have an undergraduate degree which includes at least one year of full-time studies of the individual and society such as human services, social sciences, behavioural sciences, counselling, and psychological sciences. Learning outcomes in the first year include: discussion and application, in a range of contexts, of group facilitation and theoretical and practical interpersonal communication processes as well as applying interventions and problem solving in an interprofessional context (Griffith University, 2022a). Students therefore tend to have relatively strong interpersonal skills, be people-orientated and their study program revolves around developing knowledge and theories to support people and communities.

Other reasons to pursue the development of this innovative integrated educational experience included meeting the diverse learning needs of students. University educators should be facilitators and motivators, using many different practices and theoretical approaches (O'Connell, 2016; Thomsen et al., 2018). Students should have the opportunity and ability to collaborate with staff to identify knowledge and create unique experiential learning opportunities (Hamilton & Tee, 2016; Thomsen et al., 2018). Universities should not merely provide people trained for present workplace demands but should be seeking to shape society through advancing knowledge, technology, innovation, and excellence (O'Connell, 2016; Thomsen et al., 2018). Solving complex global problems requires an appreciation of multidisciplinary knowledge and skills (Marchioro et al., 2014;

Noy et al., 2017; Pedersen et al., 2017) '...to provide them with the broad perspective required for becoming an effective citizen and being prepared for the varied and transitional nature of working life.' (Marchioro et al., 2014, p. 360). Thus, graduates need to be able to work collaboratively to develop new and better ideas (O'Connell, 2016). This project sought to integrate both disciplines to explore a unique transdisciplinary approach that aimed to address the needs of students and our future society.

A systematic review of the literature on transdisciplinary, cross disciplinary and multidisciplinary teaching in tertiary education over the last 10 years in Australia identified 23 articles. Social work was included in two studies (Cleveland & Kvan, 2017; McAllister et al., 2014) about collaborations with nursing in a multidisciplinary clinical situation. The information technology discipline was mentioned in three articles (Chester, 2012; Maldoni & Lear, 2016; O'Connell, 2016). The collaborative subjects were English skills development, accounting, and marketing (Madoni & Lear, 2016), fashion, design, business, health sciences and planning (Chester, 2012) and education (O'Connell, 2016). No articles examining a collaboration between information technology and social work disciplines were identified so an exploratory methodology was used when designing the pilot program.

This pilot program was designed to realise the goals that both disciplines have in common i.e., understanding the needs of others to provide inclusive and accessible services, confidence, and capabilities in the use of technologies for study and career success, proficiency in studying and working collaboratively, forming supportive networks across disciplines and competency in working in culturally diverse contexts. Academics identified a lack of recognition of the rich opportunities with such culturally diverse cohorts. The pilot project also sought to achieve broad objectives aligning with the University's strategic plan 2020-2025 (Griffith University, 2022b) with respect to digital literacy, retention, positive student experience and international accessibility. The objectives were to facilitate supportive and collaborative academic relationships in a cross-discipline, culturally diverse space, and develop students' self-efficacy in communicating in diverse settings through the online medium. Further aims were to develop skills in using technology, to expose students to a diversity of perspectives and facilitate the development of their ability to understand those perspectives, and to realise the implications of those perspectives to their professional practice.

The pilot program was therefore developed to help students develop collaborative and respectful partnerships, critical thinking, reflection, and problem-solving abilities to augment the skills taught in each program (Blundo, 2010; Harkavy, 2004; Lemieux & Allen, 2007; Petracchi et al., 2016). Using an 'experiential learning through conversation' technique (Baker et al., 2005; Kolb, 2002; Laurillard, 2013) a transdisciplinary learning partnership activity was developed based on the strengths of each cohort that aimed to support each discipline to learn about the perspectives of the other. This article will report on the experiences and reflections of students and staff who voluntarily participated in four facilitated online sessions as well as exploring how MSW and IT students helped and supported each other in developing technical and interpersonal and communication skills.

Process

Activities in the project were framed by conversational learning as an experiential approach to knowledge creation (Baker et al., 2005). Conversational learning recognises that the subjective and personal lenses of the learner/listener will shape understanding and enable people from disparate experiences to move through a reflexive learning process (Kolb, 2002; Von Glasersfeld, 1991). A supportive online learning structure was created to enable both cohorts of students to engage in competent conversations to explore barriers, inexperience, and lack of knowledge about technology and interpersonal skills, whilst acknowledging each other's expertise and differences (Taylor, 2018).

According to Vygotsky (1981, p. 161), it is 'through others that we develop into ourselves'. Salmon (2011) demonstrated that well planned online learning can facilitate better linkages into a community of learning where students can socialise, share information, construct new knowledge, and develop procedural knowledge for professional expertise all in an online space.

The authors developed a student interaction framework to follow a structure consistent with Laurillard's (2013) conversational framework. This included the four steps of Discussion, Adaptation, Interaction and Reflection, as outlined in Table 1 below.

Table 1

Laurillard's Conversational Framework

Steps	Participants	Process
1 Discussion	between the teacher and the learner	• Teachers' and learners' conception should be mutually accessible • Both should agree on learning objectives
2 Adaptation	of the learners' actions and of the teacher's constructed environment	• Teacher must adapt objectives with regards to existing conceptions • Learners must integrate feedback and link it to theirown conceptions
3 Interaction	between the learner and the environment defined by the teacher	• Teacher must 'adapt to world', i.e., create an environment adapted to the learning task given to the learner • Teacher must focus on support for task and give appropriate feedback to the learner.
4 Reflection	of the learner's performance by both teacher and learner	• Teacher should support the learner to revise theirconceptions and to adapt the task to learning needs • Learners should reflect with all stages of the learning process (initial concepts, tasks, objectives, feedback, ...)

Laurillard (2013)

Originally it was conceptualised that these four steps would form the basis of the four sessions. However, taking into consideration the nature of knowledge creation and scaffolded learning, each of the four steps were included into all four sessions to support the development of peer learning and meaning making. i.e., each session included step one to four (Discussion, Adaption, Interaction and Reflection). This underpinned the active problem-based learning collaboration. Initially it was intended that students would have the option of face to face or online forums, but the pilot project ran in 2020 during Covid restrictions and lockdowns across Australia. Therefore, all sessions were run online using Blackboard Collaborate to offer an equitable experience for all participants. Human Ethics approval was applied for and approved to run the pilot project (Ethics Ref No: GU 2020/556).

This included recruitment, participation, and consent materials; confidentiality; questionnaire and focus group questions; methodology; and dissemination of findings. Methodology included recruitment of volunteer students, project goals, the collaborative learning session process, and data collection using pre- and post-questionnaires and a de-brief focus group with students.

Method

As there was no prior research about BAIT and MSW collaboration, no assumptions could be made, therefore, the pilot study design drew on experimental case study design (Flyvbjerg, 2006; Thomas, 2010; Yin, 2009). Case studies have long been accepted as a useful model for pilot research and create understanding for practice, increasing expertise and insights into underlying issues which may be used to design future experimental research or theory development (Flyvbjerg, 2006). This approach is useful when examining real life situations which rely on social interaction and are unpredictable with multiple uncontrolled influences (Flyberg, 2006; Thomas, 2010). Rather than relying on objectivity, case studies assume bias and use rich overlapping forms of data collection from researchers and participants to improve research rigor (Flyvbjerg, 2006). Assumptions are explored through triangulation, that is, data from multiple sources either agrees or is contradictory (Thomas, 2011; Yin, 2009).

Voluntary participants were sought from the Foundational MSW course and a variety of BAIT courses. These classes were chosen as students new to the MSW had been identified as needing support with technical skills, and BAIT students who were second year and above, had identified the need to develop their intercommunication skills. An announcement was posted on each course site inviting students to participate. This outlined the voluntary, non-assessable aspect of the project, and what was involved. Two group time options were offered (day and evening) as students were juggling work and study. This closely reflects the real-world experience of university students, which is a feature of case studies that ensures more relevant outcomes (Flyvbjerg, 2006; Thomas, 2010; Yin, 2009). Eight students volunteered. Students self-selected a group time option which resulted in two groups of four students. Each group included two students from the MSW and two from BAIT, i.e., a total of four students in each group. Of the students involved, there were three international and five Australian students, six female and two male students, two were interstate and six were living in Queensland.

The two groups of four students were deemed sufficient for a pilot study. There is a lack of discussion (and agreement) in literature on exactly how many participants are necessary for a pilot study in a social science domain and the suggestions differ according to the type of research. Some guidelines suggest numbers between 10 and 30 (Isaac & Michael, 1995), while others suggest 10% of the total intended population is sufficient for a pilot study. The group of eight students thus translates to 10% of a medium size student cohort of 80 – a common cohort size for many classes (Treece & Treece, 1977). Additionally, a case study methodology enables useful data to be gained from a small number of participants (Thomas, 2010). Furthermore, considering teaching as design of strategies, and the necessity of understanding the student experience for those strategies, the frame of user experience (UX) can be adopted. In UX studies it is recognised that as few as five participants can provide sufficient depth and breadth of insights to assess the nature of the participant experience (Nielsen, 1994; Nielsen, 2020). The small sample sizes in pilot studies have the advantage of simplicity and although the effects of larger samples are not present, small samples are more easily dealt with (Isaac & Michael, 1995). Against this background, the research team considered the small sample size of eight to be sufficient as an early pilot of the concept.

Broad goals for the conversation series were:

• IT students to seek understandings about the challenges in using technology for MSW students.

• MSW students seek to understand challenges for IT students in verbal communication and interviewing skills.

Prior to the voluntary collaborative learning sessions, the following objectives for the pilot project were made explicit to students.

1.   Develop a shared understanding of MSW student trepidation interacting with the university interface, and BAIT student concerns using a range of interpersonal skills.

2.   Scaffold discussions to understand different perspectives be they cultural, cross disciplinary, pedagogical, technological, educational etc. to develop more critical awareness of structural issues.

3.   Develop supportive and collaborative academic relationships with students from other disciplines.

4.   Develop problem-based learning skills with regards to communication, shared understandings, actively using the Griffith interface and seeking digital solutions.

5.   Critically reflect on how information technology integrates and supports their own and the other discipline.

Collaborative Sessions

Four, one hour collaborative learning sessions were conducted for each group using Blackboard Collaborate. Membership of each group comprised of two social work lecturers, one IT lecturer, two MSW students and two BAIT students.

The first three sessions followed the following structure:

•   *Discussion/Adaptation*: Introduction, check-in, aims and goal setting for session. Facilitated discussion including academics and students (15 minutes).

•   *Interaction:* Student led break out room discussion. Academics with combined IT and social work experience remain in the main room to answer any specific disciplinary questions that arise (20 minutes).

•   *Reflection:* Whole group debrief and reflection. (20 minutes).

•   Concluding remarks (5 minutes).

The fourth session followed a similar format to the above with the exceptions that the *Interaction* involved all participants in the same online room and timings were adapted to allow a full discussion of focus group questions (outlined below).

The conversation themes in the four sessions were based on Laurillard's framework but modified to combine Adaptation and Interaction as overarching themes in sessions two and three to fully integrate reflexive learning. This was structured as follows:

Conversation 1: Discussion – Connecting and understanding. How can we help each other out? Students and facilitators negotiate and agree on their objectives/initial tasks/goals regarding interpersonal skills and IT concerns.

Conversation 2: Adaptation/Interaction - Commonalities/Differences between disciplines and shared understandings of each discipline's perspective of the benefits and challenges of technology. A reflexive process whereby each discipline develops a deeper understanding of the shared issues. Practical application of IT skills and interpersonal communication techniques.

Conversation 3: Adaptation/Interaction – Facilitate communication of new understandings including new ways of approaching technology, interpersonal communication, cross disciplinary working, effective group processes, use of online platforms, new learnings, and perspectives.

Conversation 4: Reflection – Reflection and debrief. A focus group style activity to evaluate the effectiveness of the conversations and gain insights into how the activities might be iteratively improved for wider use.

Data Collection

Both qualitative and quantitative data were collected to evaluate the experience and outcomes of the students in the pilot project. As well as emphasising that the student's perspectives were valued this enabled the construction of a detailed narrative, an important feature of this methodology (Flyvbjerg, 2006; Thomas, 2010). All the instruments (survey questions and focus group questions) were directly linked to the project objectives.

Surveys

This project was a pilot and was partly evaluated through pre- and post-questionnaires using Survey Monkey. The questionnaires were developed for the purpose of this project and based on objectives one to five. This was developed by the IT academic and tested for clarity by the two social work academics. The consent form and information sheet were shown on the front page of the online survey and participants were informed that completion of the survey would constitute consent to participate in the study. Before attending the collaborate sessions, participating students were asked to complete a short questionnaire (developed by the authors) to assess 'pre-intervention' self-efficacy in relation to using technology and self-confidence in communicating with people from diverse cultural backgrounds and different disciplines (linked to project objectives one, two, three, and four). After the survey was completed, students were asked to complete another brief survey to help assess self-efficacy in relation to technology and confidence levels in using a variety of interpersonal communication skills. This was further developed from the pre-intervention survey based on students' feedback, and conversations between academics and students (linked to project objectives one, two, three, four, and five). Due to the small sample size (7 out of 8 participants completed the surveys), the authors conducted descriptive analyses by observing the counts and frequencies in each of the questions. It should be noted that the pre- and post-survey questions did not ask the students to identify whether they were BAIT or MSW students as the academics wanted the students to feel comfortable identifying their strengths and areas of improvement. This decision is revisited in the discussion.

Focus Group

Conversation four, the final debrief and reflection session, was a focus group style activity to evaluate the effectiveness of the conversations and gain insights into how the activities might be iteratively improved for wider use. The focus group questions were developed to explore the project objectives in more depth and the results add detail that strengthens the study (Thomas, 2010). A focus group activity was used as this is helpful to gain an in-depth understanding of participants' understandings (Gill et al., 2008). This was recorded, and a transcript of the audio file was initially thematically analysed using an iterative approach and inductive reasoning (Lester et al., 2020). Due to the small size and scope of this pilot project, the initial process was undertaken by one of the social work academics until saturation of the data was reached. The other two academics then reviewed the themes and any disciplinary differences explored until common language was decided (Braun & Clarke, 2021) and full agreement reached through discussion.

Focus group questions were as follows:

1.   Have the collaborate sessions & peer partnership activities increased your digital literacy and ability to navigate the Griffith online platform? And how? (Linked to project objective one)

2.   Have you increased your interpersonal communication skills, including interviewing skills? And how? (Linked to project objective one)

3.   Have you improved your understanding of interprofessional learning? And how? (Linked to project objectives two, three, four and five)

4.   Have you increased your confidence as a student and an emerging practitioner? And how? (Linked to project objectives one, three and five)

5.   How may this experience increase your employability skills? And in which aspects? (Linked to project objectives two, four and five)

6.   Please provide your suggestion on how this transdisciplinary interaction (IT and Social Work) could be improved in the future?

Results

Surveys

By comparing the differences in answers to the same questions in the pre-and post-survey, the authors identified some positive changes in participating students' communication skills and IT skills. In general, they felt more confident in communication with others, including peers from diverse cultural and disciplinary backgrounds. There was a high level of support for the course with 100% of students stating they enjoyed the pilot, and all indicated that it was useful to their learning. All students agreed that the course helped them feel more prepared for the workforce and said they would recommend the course to their peers. Table 2 reflects some of the positive results from the pre-test and post-test surveys.

Table 2

Comparison of Some Key Variables in the Pre- and Post-Online Survey (n = 7)

Sample Questions	Pre- test	Post - test
Q3: Using video enabled communication tools I prefer/would prefer to communicate …	using video whenever the network is able to support it = 4	using video whenever the network is able to support it = 5
	using only my voice and have video off, whenever the network is able to support it = 2	using only my voice and have video off, whenever the network is able to support it = 2
	using text chat rather than voice or video = 1	using text chat rather than voice or video = 0
Q4: In using technology, I feel confident that I could…		
Q4.16: use a variety of technologies in my learning	Strongly Disagree = 0	Strongly Disagree = 0

	Disagree = 1	Disagree = 0
	Neutral = 1	Neutral = 0
	Agree = 3	Agree = 4
	Strongly Agree = 2	Strongly Agree = 3

Q4.17: complete a fully online course successfully	Strongly Disagree = 0	Strongly Disagree = 0
	Disagree = 0	Disagree = 0
	Neutral = 1	Neutral = 0
	Agree = 4	Agree = 2
	Strongly Agree = 2	Strongly Agree = 5

Q5: In academic or work settings especially, it is likely that you will need to converse with people from a variety of demographic, cultural and disciplinary backgrounds

Q5.2: I feel confident that I could actively participate in a discussion with a group of people from different disciplinary backgrounds	Strongly Disagree = 0	Strongly Disagree = 0
	Disagree = 0	Disagree = 0
	Neutral = 2	Neutral = 2
	Agree = 4	Agree = 1
	Strongly Agree = 1	Strongly Agree = 4

Q5.5: I can arrive at a clear understanding of the perspective of other	Strongly Disagree = 0	Strongly Disagree = 0
	Disagree = 0	Disagree = 0
	Neutral = 1	Neutral = 1
	Agree = 6	Agree = 2
	Strongly Agree = 0	Strongly Agree = 4

Q7: I am comfortable conversing with other people for the purpose of work or study in face-to-face situations	Strongly Disagree = 0	Strongly Disagree = 0
	Disagree = 0	Disagree = 0
	Neutral = 1	Neutral = 1
	Agree = 2	Agree = 4
	Strongly Agree = 4	Strongly Agree = 2
Q8: I am comfortable conversing with other people for the purpose of work or study using social media tools	Strongly Disagree = 0	Strongly Disagree = 0
	Disagree = 1	Disagree = 1
	Neutral = 0	Neutral = 0
	Agree = 4	Agree = 5
	Strongly Agree = 2	Strongly Agree = 1

Focus Group

The focus group responses were thematically analysed until saturation was reached and six themes emerged. These are presented in the table below. Themes one and two identified additional relational benefits of the conversational framework, which were not specifically asked about in the focus group. However, themes three to six aligned more closely to the focus group questions.

Table 3

Focus Group Findings

Theme	Student Comments
1 All eight students appreciated the help, support, and friendships initiated and developed throughout the pilot project. Increased confidence leading to greater student satisfaction was evident.	'We have made good relationships. This has become a network' BAIT1
	'My learning has all been online so far. I've made friends and now have confidence to shift my focus to joining clubs' BAIT2
	'I feel like I'm not alone' BAIT4
	'This has helped me navigate assessment pain points' MSW4
	'I think we need to set up a social work IT buddy system in first year' MSW2

2 Most students shared that they joined the project without high expectations, but it ended up with some surprising outcomes – such as increased confidence to interact with other peers, greater understanding of culture and diversity, practised and developed group skills, reassurance, and affirmation of their chosen academic study pathway.

'I guess there is some truth in the stereotypes of IT and social work personalities, but I think we all surprised each other' MSW2

'I think I'm on the right career pathway for me' (Nods of agreement all round). 'But it was only by seeing how different we all are that confirmed it' BAIT3

'(IT student) has a great communication style. They didn't make me feel judged or stupid' MSW3

3 MSW students gained IT skills, developed increased digital literacy and more ability to navigate the Griffith online platform

'I didn't know which tech skills I needed but when I reached out to (IT student) we did an online mini tutorial outside of the group time and it was one hour of power' MSW3

'I've now got confidence in navigating the course sites and submitting assignments. I now have known pathways but I'm not yet ready to deviate to try new pathways' MSW4

'Tech can be big or small. I get the difference now and realise we're all (students and facilitators) in this (online Covid education) together' MSW1

4 IT students developed interpersonal communication skills and new understandings of their own skills, and greater confidence to communicate in high stakes situations like interviews.

'I gained confidence to come out of my shell and talk' BAIT3

'This is a space where I feel comfortable talking about different inter-personnel skills' BAIT1

'I realised I had more (communication) skills than I thought I had. I feel more confident. I just did a job interview and I got it' BAIT4

5 All the students suggested that the project be extended to a community service project, and all were open-minded about developing the project into an assessment item, integrating marks and grades in the project in the future. However, two students said that they felt the voluntary aspect was important to maintain

'It would be great to be assessed to get marks to interact and learn' MSW2

'This would be a great assessment item later in the program once I have my social work identity and can feel confident to articulate this' MSW1

'Assessment across disciplines would help me work in multidisciplinary teams' BAIT2

their commitment to an organic process without additional assessment expectations	'I think we should develop a course/internship on digital inclusion. Like how do people with low socioeconomic backgrounds access tech?' BAIT3
	'We need more community programs between different groups of students of different backgrounds' BAIT1
	'But it's nice this was informal. There was no pressure to be good at IT and that was valuable' MSW4
6 Most of them developed a better understanding of interprofessional learning and the transdisciplinary nature and implications of IT and Social Work. They found the project and peer interactions helpful for their resume, employability skills and future career development e.g., online telehealth (MSW) and communication with clients (IT)	'I'd love to learn more about social work' BAIT1
	'I'm now thinking about how different groups of people, like people with a disability, interact with interfaces and what they need' BAIT2
	'Social workers are people people, but that's not going to be the case in the future. We need to get good at this [IT] stuff or how will we meet future online needs?' MSW2

Discussion and Future Directions

A conversational learning model was used utilising participatory learning and learner engagement which fostered connections and shared learnings across two disciplines which up until now are rarely connected in terms of cross disciplinary teaching. The student responses demonstrated that students were able to learn from their peers. The academics did not ask the students to identify their discipline in the pre- and post-survey questions to avoid labelling and promote an equitable reflexive learning process. Furthermore, our focus was on mutual influence of inter-disciplinary conversation rather than on the specific benefit received by one discipline or the other. However, identifying disciplines would provide opportunity to explore the interplay between specific disciplines and lead to frameworks to guide student collaborations across specific disciplines. Hence, identifying disciplines is encouraged in further research.

While this was a small exploratory study, the results are promising. Triangulation demonstrated a high level of consistency between the student survey, focus group responses and reflections by the academics involved. This overlap means the conclusions drawn are strongly supported and have validity (Thomas, 2010; Yin, 2009). Outcomes can be useful in a variety of situations even if there are differences in the context (Thomas, 2010). Educators and researchers may find the insights revealed by this pilot study relevant even if their situations are different.

As hoped by the teaching team, thematic analysis of student responses showed that students from the BAIT were able to develop their communication skills in ways that will enable them to successfully present their work, sell their ideas, understand people, and be understood by people

without a technical background. The MSW students became more confident in the use of IT in their studies and could see the importance of technical skills in their future careers. Therefore, this model was useful to support students to meet the additional professional skills required by their respective disciplines. Mastering these skills will make students more ready for the workforce, potentially improving employment outcomes. Additionally, the results indicate that the collaboration between the two disciplines was successful in enabling students to work in multi-disciplinary teams, another trait valued by employers.

The professional ethics of social workers was apparent in guiding both MSW and BAIT students. Consideration of minority groups and social justice are important ideas for BAIT students who could be involved in setting up IT systems -which need to be as inclusive as possible and may also be involved in the development of software programs and machine learning. The capacity for the profession of social work to provide ethical insights to professions like IT is an area needing further exploration and research.

The collaboration also led to students thinking in innovative and entrepreneurial ways. BAIT students reported ideas for using and communicating technology to meet, for example, the needs of people with disabilities. MSW students considered how technology could change how their profession interacts with clients and began to plan how to adapt their practices. This demonstrates the development of reflexive learning, skills which will help students to deal with complex, evolving global issues.

The growth in students' competence with technology use and interpersonal communication is beneficial for educators in the light of further restrictions in face-to-face methods due to the Covid-19 pandemic, extreme weather events and increasing demand for flexibility in university education (Hamilton & Tee, 2016). It seems likely that online teaching will continue, and educators need to develop diverse and innovative ways to help students grasp complex concepts. Communication skills are impacted by the online context so having strategies, such as this, to help students become confident communicators is important.

The students who participated in the pilot enjoyed the course, indicating this model could be applied to increase student retention. Responses included enhanced social connection which is beneficial for student mental wellbeing and resilience. The structured framework outlined makes it possible to replicate this process with larger numbers of students, with the proviso that the conversational approach leads to multiple understandings and meanings during the Adaptation and Interaction phases.

The two groups operated very differently in how they supported each other, their goals, the connections made outside of the group and how they facilitated each conversation within the structure. One of the groups had both males and two out of the three international students and the increased diversity potentially made a difference to the operational style of the other group. The diversity in the group highlights how a conversational learning approach can account for the needs of different learning styles and cultural backgrounds whist still meeting agreed goals.

Overall, the findings from the focus group found more commonalities than differences in meeting the learning objectives, which was surprising as the educators had assumed that due to the vastly different approaches taken, the outcomes would have been quite different. However as noted, the goals and outcomes, from the Discussion and Reflection stages, were similar across both groups, raising the question of whether the robustness of the conversational structure developed, facilitated a common objective, whilst supporting diverse, yet scaffolded journey. As this was a pilot program with a small number of participants, it would be beneficial to test the generalisability of this innovative conversational learning framework by offering the program again with a larger number of participants to explore whether the outcomes seen in this small pilot project are consistent across

larger cohorts of social work and IT students. Indeed, trialling the student interaction framework within other disciplines could evidence the effectiveness (or not) of this approach. This will require consideration of voluntary participation verses transdisciplinary curriculum and assessment development, which would require broader university support and further evaluation.

The academics who convened this pilot program also reflected on the process of designing experiences that explicitly support teachers/learners to reflect on their assumptions, consider alternative perspectives, develop a common 'language,' and make explicit connections between theory and practice. It was noted that this was the closest the lecturers had been to open ended learning and whilst student feedback was overwhelmingly positive, further exploration is needed to assess the evidence to support the effectiveness of independent and open-ended learning in this format.

Conclusion

This project evidences a complementary relationship between IT and Social Work where each discipline supported the others' development needs, with the emphasis of social work in the human communication domain complimenting the emphasis of IT on technology. The pilot project engaged IT and MSW students in a transdisciplinary learning partnership, enabling skill development based on the strengths and perspectives of each cohort. While this was small pilot project, the results indicate this transdisciplinary approach to education has potential to be replicated and provide students with greater skills and confidence which are traits viewed positively by employers. The project provides educators with a framework to help students meet disciplinary requirements in a way that is meaningful and enjoyable through an online context.

Conflict of Interest

The authors disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their respective university.

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