An interdisciplinary, short-term mobility, work-integrated learning experiment: Education for change

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This article explores how a university-wide, short-term mobility, work-integrated learning (WIL) program at an Australian university developed students' interdisciplinary, adaptability and interdependence skills. We chose a case study methodology with a mixed methods approach to answer a key research question to better design online, short-term mobility programs. Data was collected from students who participated in a short-term mobility program through pre- and post-experience online surveys, and recorded focus group interviews. We utilise the findings from this study to provide specific recommendations to support online, short-term mobility practice, curriculum design and delivery. This study contributes to mobility, internationalisation of the curriculum and interdisciplinary education research fields for higher education.

Introduction

The Covid-19 pandemic has vastly impacted the short-term mobility sector within the higher education landscape, globally. For instance, the cancellation of travel as well as the need to transform mobility offerings from face-to-face to online delivery has raised concerns for its future. The recent global pandemic has shattered economies, touching every domain of life, including the catastrophic disruption of higher education for internationalisation of the curriculum. Despite the global pandemic disruption, universities are readily implementing new ways to design and deliver online short-term mobility to replace in-country experiences, which often require the management of multiple partners with international businesses, organisations, and communities. The Covid-19 pandemic has escalated this phenomenon with the need to integrate mass-scale technology to include virtual cultural immersion practices, online cooking, language classes and virtual group-based projects with industry, to name just a few. The rapid transformational changes have also created nostalgia amongst the mobility educator community, as they reflect on the value and benefit of face-to-face experiences pre-Covid days. Due to the global pandemic, mobility educators have needed to quickly transform practice to include online alternatives without international travel - a situation that has also created opportunities (Dean, Eady & Yanamandram, 2020).

Pre-Covid, mobility programs were in their infancy for being viewed as educational avenues to provide important employability skill advancement (Hains-Wesson & Ji, 2020). For instance, a mobility experience can help develop students' non-technical skills, such as creativity, critical thinking, problem solving, metacognition, communication, collaboration, citizenship and social responsibility (Binkley, Erstad, Herman, Raizen, Ripley, Miller-Ricci & Rumble, 2012). Other researchers were also noting similar observations, such as mobility being key to developing self-management, lifelong learning, innovative initiatives and enterprise (Bowman, 2010). Therefore, the mobility education literature was moving towards advocating that short-term field trip experiences improved

students' time-management, conflict management, cultural awareness, responsibility, business etiquette, good manners, courtesy, self-esteem, sociability, integrity/honesty, empathy, and work ethic (Schulz, 2008).

Despite the current pause on face-to-face mobility experiences due to Covid, there will be a continuing need for higher education to prepare its graduates to enter a rapidly transforming labour market. There are technological advances, artificial intelligence, robotics, and automation that industry need to contend with. Additionally, there is the global climate change issue, future pandemics, poverty, and the resettling of displaced peoples, open data disruption, security, the future of mass healthcare, renewable energy, and sustainability that will require consideration. It is, therefore, no surprise that employers will continue to place a great emphasis on graduates obtaining non-technical skills and illustrating employability enhancement for solving local, national, and global problems through internationalisation of the curriculum (Rowe & Zegwaard, 2017). Mobility experiences will continue to contribute to students' local and global employability relevant skill attainment pre-, during and post-Covid. This will include students working on complex problems with others who come from different and diverse disciplines and mindsets, such as interdisciplinary and international learning paradigms.

In terms of interdisciplinary skill attainment, this often sits outside a student's specialised degree (Bennett, 2019; Kensington-Miller, Knewstubb, Longley & Gilbert, 2018; Oliver & Jorre de St Jorre, 2018). To assist with ensuring students have the adequate skills to work across and with multiple discipline perspectives, international learning programs are key. For example, IIE (Institute of International Education, USA) estimated that about 10.9 percent of all undergraduates (including community college students), and 16 percent of all students were enrolled in baccalaureate and study abroad programs at some point during their degree (Hains-Wesson & Appleby, 2017; Hains-Wesson & Ji, 2020). It is, therefore, paramount that students are not only provided with high-quality, face-to-face mobility but also online options. This will better equip students to understand their core employability skills when seeking graduate positions, locally and globally (Jackson, Rowbottom, Ferns & McLaren, 2016), gain interdisciplinary skill attainment (Kidron & Kali, 2015), and problem-solving skills (Hains-Wesson & Ji, 2020; Martens & Lairamore, 2016).

To date, there are unmet challenges to provide students with a wide range of non-technical skill-based, focused mobility programs that are offered both face-to-face and online. There is even less evidence to show measurable employability competencies gained post-mobility completion. Another pressing challenge remains for mobility teachers to map, teach, evidence, and assess (Bennett, 2019) employability and interdisciplinary skill attainment (Hains-Wesson & Ji, 2020; Martens et al., 2016) through mobility experiences.

In this study, we explore students' perceptions of how a short-term, face-to-face, interdisciplinary mobility program assisted and hindered students to develop certain skills, namely adaptability and interdependence. We then use the findings to present key recommendations to design and deliver face-to-face and online work-integrated learning (WIL) mobility programs. We envisage that the recommendations presented here will

assist with meeting the needs of internationalising the curriculum, despite Covid disruption, which is pivotal to undertaking social interactions in the future.

Work-integrated learning

Work-Integrated learning (WIL) is often utilised to design and deliver experiential learning, allowing students to integrate theoretical learning with practical applications through a work-related context (Cooper, Orrell & Bowden, 2010; Daly & Barker, 2005; Koernig, 2007). WIL learning can include industry-based partnership interactions, which are integrated into the curriculum to provide an avenue for students to apply disciplinary knowledge (i.e., theory) with industry experience (i.e., practice) while also exploring solutions to complex and real-world business and societal problems. This type of educational framework can involve collaborations across different knowledge lenses (i.e., disciplinary and interdisciplinary), including diverse industry partnership arrangements that occur via diverse locations (international and local) and modes (face-to-face, online, and blended).

Now more than ever, there is an opportunity to critically reflect on pre-Covid-19 mobility WIL programs. By noting achievements, weaknesses, and shortcomings we can then better plan for online mobility design and delivery. The evidence is clear that graduates who participate in WIL programs are often better equipped to improve their interpersonal skills, such as communication, teamwork, critical thinking, and problem-solving (Hains-Wesson & Ji, 2020). Subsequently, short-term mobility, which can also incorporate WIL pedagogy and practice through an interdisciplinary learning framework, is an important part of improving graduate employability and employment destinations (Potts, 2019; Rowe & Zegwaard, 2017).

Interdisciplinary

The terms *interdisciplinary* and *multidisciplinary* are often used interchangeably and can mean different things to different people (Kidron & Kali, 2015; Klein, 2010; Klein, 2017). Additionally, a common occurrence is when the definitions for interdisciplinary or multidisciplinary are compared to disciplinary, and as a separate knowledge boundary. Kidron and Kali (2015) explained that multidisciplinary learning involves combining disciplinary perspectives but without systematically integrating other disciplinary views (Klein, 2017), because the identity boundary of each discipline and its knowledge structures are key to ensuring boundary separation. Other scholars have ascertained that an interdisciplinary approach to learning typically examines an issue that is germane to one discipline through the eyes of another discipline (Klein, 2010). For instance, when health science students explore social perspectives pertaining to the future of live theatre performances. Therefore, the term interdisciplinary can be viewed as transcending the divide between academic learning, its production, and the use of knowledge outside of a discipline or specific academy, co-creating new knowledge (Klein, 2005; Klein, 2010; Rudhumbu, Zhou & Nhundu, 2017; Toomey, Markusson, Adams & Brockett, 2015).

With different points of view and schools of thought, it thus becomes increasingly difficult to define interdisciplinary and disciplinary without comparing these terms with one another. To assist with defining the term "disciplinary" for this study, establishing a clear domain around the term interdisciplinary learning, we turn to Aristotle. Aristotle considered disciplines to be determined by the nature and properties of their respective subject matter with the term "discipline" being viewed as *organised* around definable and distinctive domains. The same can be said by Menken and Keestra (2016) who posited that even though it is difficult to assemble a set of criteria that a field of inquiry must meet, and before it can be called a "discipline" (p. 27), nevertheless, this is often how we view the term *discipline*. Subsequently, the term *discipline* is determined by three major domains, which are (1) the natural sciences: (2) the social sciences; and (3) the humanities (p. 29). For example, when students learn through an interdisciplinary framework, they will ideally be driven by the norms and frameworks of their discipline domain and therefore its boundary. It is, therefore, important for teachers to create a learning space whereby students from different disciplines learn together through the lens of *interdisciplinary* knowledge making (Klein, 2005) and across disciplines (Kidron & Kali, 2015; Spelt, Biemans, Tobi, Luning & Mulder, 2009). Ideally, interdisciplinary learning is essentially about breaking down the boundaries between disciplines to create new ones around knowledge and practice (see Klein's taxonomy of interdisciplinary, 2010; Kidron & Kali, 2015). It is therefore crucial that students are supported, taught, and assessed to measure their effectiveness when developing interdisciplinary skills for job-readiness, which is a key employer requirement (Hains-Wesson & Ji, 2020).

Interdisciplinary skills

WIL programs that teach and assess interdisciplinary skills through short-term mobility programs help graduates to equip themselves with international business awareness, inter-knowledge, and intercultural understanding as well as adaptability (Ballestas & Roller, 2013; Daly & Barker, 2005; Fantini, Arias-Galicia & Guay, 2001; Koernig, 2007; Lang, Cacciattolo & Kidman, 2016; Porth, 1997; Tucker & Weaver, 2013). This is ensured further when the opportunities are complex, authentic, and experiential (Gray, Murdock & Stebbins, 2002; Martin, 2012; Martin, Nejad, Colmar & Liem, 2012; Webb, Mayer, Pioche & Allen, 1999). For instance, employees who adapt to fast changing conditions, work with linguistically, culturally, or ethnically diverse groups of individuals, are highly sought after in the labour market. Such employees are often viewed by employers as highly adaptable and flexible (Webb et al., 1999).

In this study, we measured students' skill progress for interdisciplinary skills development pre- and post- a short-term, face-to-face mobility program. The results of the study highlighted two main employability skills, helping us to answer the following research question:

> What are the key elements of successful face-to-face short-term mobility WIL curricula that are ideal to integrate into online modes?

Context

The mobility WIL programs that we used for our case study were selected according to the criteria: (1) part of a university-wide program; (2) open to all undergraduate students; and (3) delivered consistently during 2014-2017. The programs' details around the curriculum, activities, and the interdisciplinary learning and teaching framework have been reported elsewhere and will not be revisited here in its entirety (Hains-Wesson & Appleby, 2017, Hains-Wesson & Ji, 2020). To briefly summarise, the programs occurred in multiple, international destinations (Samoa, India, Malaysia, China, and the Philippines) and were designed and delivered by an Australian university, during out-of-semester timings, such as intensive winter or summer teaching terms. The programs used an interdisciplinary pedagogy and practice framework, which consisted of a two-week learning framework that was conducted through an in-country program. Students from different disciplines were required to collaborate through pre-selected interdisciplinary mixed groups to investigate global issues and/or undertake an industry-linked project. For example, students were required to create a marketing plan for a social enterprise organisation to improve attendance at a community-based arts cafe.

The programs, no matter which international destination was undertaken, consisted of the same unit learning outcomes and assessment criteria, and irrespective of students' discipline areas of study. The participating cohort who took part in this study (N=114; Table 1) were from the following disciplines: business, science, technology, engineering and mathematics (STEM), social sciences, creative industries, and health. We therefore ensured that each student group had a good mix of different disciplines, although many participants were in their second undergraduate year of study in the social science fields.

Table 1: Student demographics and destinations (2014-2017; N=114)

Year	Destination	No. students	Female (%)	Male (%)	Mature age (%)	Under 25 (%)
2014	India	23	54.0	46.0	8.7	91.3
2015/16	China	47	52.0	48.0	6.4	93.6
2016/17	Philippines	16	56.3	43.7	12.5	87.5
2016	Samoa	10	80.0	20.0	20.0	80.0
2016/17	Malaysia	18	50.0	50.0	5.5	94.5

Methodology

We implemented a case study as our preferred methodology. We also integrated a mixed-methods approach. Both case studies and mixed methods have been proven to be effective evaluation research processes. The choice of methodology and methods was important to us because we required a theoretical framework that would assist us to highlight differing opinions, at different times and from diverse cohorts (Eisenhardt, 1989; Flyvbjerg, 2004; Vishwanath & Mummery, 2019). The research project received ethics clearance with all data being rendered anonymous (SHR Project 2015/284). The de-

identifying of data occurred prior to the mixed methods analysis for the emergence of themes (SHR Project 2015/284).

Methods

The incorporation of a mixed methods approach was achieved by using open and closed ended questions through several pre- and post-experience online surveys, as well as undertaking several recorded focus group interviews.

Surveys

We administered all survey instruments one week before students travelled and one week after arrival back in Australia. The first survey, *Employability Development Profile* (EDP), was used because it had been previously tested and validated by Dacre Pool, Qualter and Sewell (2014). For this survey, participants were invited to self-assess a range of employability skills via a Likert scale with one being 'strongly disagree' and seven being 'strongly agree'. Students were then invited to complete another two previously tested and validated surveys, titled *Brief Perceived Cultural Distance Scale* (BPCD) and *Brief Psychological Adaptation Scale* (BPAS) (Demes & Geeraet, 2014; Ward & Kennedy, 1993, 1999). Overall, the pre- and post- surveys helped us to measure participants' adaptability on a day-to-day basis during and post-the learning experience. The survey instruments also helped to gauge how students managed stress and emotion while being overseas, as well as pin-pointing employability skill growth, and post-learning.

Interviews

Upon students returning to Australia, we conducted recorded focus group interviews. We invited students from the same international destination to participate in each focus group interview, and only after they had completed the surveys and unit assessments to avoid cohesion. We completed seven focus group interviews, accommodating for smaller groups, with no more than five participants in each group. It is important to note that at least one focus group was undertaken for each international destination. The focus group interviews consisted of participants from different disciplines. In the interviews, participants were prompted to freely express their ideas, feelings, and experiences about the short-term mobility learning experience, such as how they believed they had developed interdisciplinary workability skills, and if the interdisciplinary experience assisted them or if not, why.

Data analysis

We used the Wilcoxson signed rank test to compare the mean differences between the pre- and post- data sets from each survey. We focused on the employability skills listed in the *Employability Development Profile* (EDP) with a key focus on the research question being posed. In terms of the interviews, the recordings were transcribed verbatim into word documents for thematic analysis, using *NVivo*. We adopted an eyeballing technique to scrutinise, code and analyse the qualitative data sets, and as noted by Ryan and Bernard

(2003). Ryan and Bernard's technique includes colour coding participants' key phrases to visually identify common patterns, such as respondents' interdisciplinary learning behaviours, key elements of curriculum success stories and taking note of students' perceptions to improve the mobility program and why. The eyeballing technique also included a line-by-line analysis of the data, carefully reading larger blocks of texts, reviewing, and confirming codes through consensus, and before the confirmation of the emergence of themes was agreed upon.

Results

Two key overarching themes emerged from the data analysis process, which were (1) adaptability, and (2) independence. These two themes highlighted for us that adaptability and independence were most identified when students commented on the skills needed to help them work through difficult interdisciplinary group work productively. The two themes also emerged the most when students illustrated examples of developing adaptability and independence skills when working with industry partners for interdisciplinary learning. However, these skills were also noted as being challenging to master. To further illustrate our thematic findings, in the subsections below we provide a selection of students' views, concerns and data quotes, which are presented using non-identifying tags. The tagging system includes the year of the tour and the destination (i.e., S = Samoa, M= Malaysia, P = Philippines, I = India, and C = China).

Adaptability

Students suggested that adaptability was the most developed employability skill that they experienced during the in-country learning program, no matter the international destination. For instance, students said that they learnt to be flexible, open, and adaptable by working with others from different knowledge and cultural backgrounds (S, 2016; M, 2016 & 2017; P, 2016 & 2017; I, 2014; C, 2015 & 2016). Students also expressed that this was mainly due to feeling challenged or needing to "dig deep" within themselves to understand a complex or uncertain learning situation, especially during the interdisciplinary, industry-linked projects that they undertook (S, 2016). Students also advised us that they felt that they needed to build upon their limited adaptability skills to work within and across diverse disciplinary domains so that they could "come up with possible solutions" (P, 2017) for industry-specific problems. For example, students mentioned that they needed to become more accustomed to dealing with uncertainty and complexity quickly (I, 2014; S, 2016). Therefore, they felt better able to *adapt* to working with interdisciplinary teams and industry partners when they "remained open-minded and flexible" (I, 2014; C, 2015). On the other hand, the findings also revealed that students (C, 2016) who stated that they had already instigated specific tactics as a disciplinary learner did not necessarily feel that they had adapted easily when working on interdisciplinary projects.

We therefore hypothesise that this finding further supports the importance of providing learning intervention strategies for supporting interdisciplinary project work. This is especially important when teachers need to implement and support students to work more

effectively with interdisciplinary cohorts for industry gains (Martens & Lairamore, 2016). For example, students (P, 2016; P, 2017) pointed out that an important step might be to request teachers to provide them with a set example to illustrate how students are best placed to facilitate interdisciplinary group work. This, in turn, would ensure that different perspectives are included, voicing of novel ideas, listening to others, developing pre-framed questions, and communicating openly, respectfully, and honestly. By implementing such measures using examples, mobility teachers would then further support students who had not previously worked with others from different disciplines before (I, 2014; P, 2016; P, 2017; S, 2016). This would allow students to prepare for interdisciplinary complexity during an international experience, while also building upon their adaptability, improving students' psychological well-being for different socio-cultural settings.

To further back the claims being made, in Table 2 we present the results of students' perceived cultural distance between their home country and the host country through pre- and post- an international learning experience. The results in Table 2 indicate that the in-country learning experience significantly reduced the participants' perceived differences between students' home country and the host country for a complex social environment (i.e., size of the community, pace of life, noise), practicalities (i.e., getting around, using public transport, shopping), and food and eating (i.e., what food is eaten, how food is eaten, time of meals). The findings reminded us that, over time, students perceive cultural differences between their home country and host country as decreasing, strongly signifying that students progressively adapt to the local environment during their stay in the host country. However, the stress around this is exacerbated when working in an unfamiliar context, which also includes interdisciplinary group-based work in an international context.

Table 2: Brief perceived cultural distance scale (BPCD)
completed pre- and post- in-country program (N=44)

Survey questions		Pre-survey		Post-survey		Wilcoxon signed rank test	
		Mean	SD	Mean	SD	Z	Sig. (2-tailed)
In your opinion, how different or similar (1=very similar; 7=very different) are these two countries in terms of:	Climate	5.270	1.042	5.590	1.317	-1.361	0.174
	Natural environ.	5.930	1.043	5.820	1.402	-0.478	0.633
	Social environ.	6.200	1.112	5.700	1.472	-1.684	0.092*
	Living	5.360	1.382	5.180	1.674	-0.342	0.732
	Practicalities	4.950	1.462	4.300	1.651	-2.172	0.030**
	Food and eating	5.250	1.102	4.610	1.781	-2.204	0.028**
	Family life	5.070	1.437	5.270	1.387	-0.831	0.406
	Happiness	5.270	1.128	5.860	1.069	-2.527	0.011**

* Significance level at 10%; ** Significance level at 5%

Furthermore, we discovered that the findings from the Brief Psychological Adaptability Scale (Table 3) imply that students are significantly less sad to be away from Australia (pre-survey mean 3.372, post-survey mean 2.837, significant at 0.05 level) and less lonely

(pre-survey mean 3.233, post-survey mean 2.791, significant at 0.1 level), and after the program was completed. Whereas the overall psychological well-being (happiness) largely improved (at 0.1 level). We therefore hypothesise that these results occurred due to students learning to adapt quickly into the complex context of operation.

Table 3: Brief psychological adaptability scale (BPAS)
completed pre- and post- in-country program (N=43)

Survey questions		Pre-survey		Post-survey		Wilcoxon signed rank test	
		Mean	SD	Mean	SD	Z	Sig. (2-tailed)
Thinking about living in the host country, how often (1=never; 7=always) have you felt:	Excited in host country	5.884	0.905	5.861	1.014	-1.437	0.151
	Can't fit into culture	3.837	1.430	4.372	1.574	-1.652	0.098*
	Sad to be away from Australia	3.372	1.826	2.837	1.632	2.100	0.036**
	Nervous about how to behave	3.744	1.382	3.535	1.609	0.910	0.363
	Lonely	3.233	1.837	2.791	1.627	1.900	0.057*
	Homesick	2.907	1.784	2.535	1.623	1.583	0.113
	Frustrated by difficulties	3.279	1.548	2.977	1.669	1.345	0.179
	Happy in host country	5.861	1.014	5.977	0.963	-1.287	0.068*

* Significance level at 10%; ** Significance level at 5%

Also notably, while the results from the surveys suggest that students improved both their socio-cultural and psychological adaptability during their short-term, mobility program, the results also propose that the experience allowed participants to better perceive a deeper level of cultural barriers, such as how people feel happy about their daily life (from the BPCD survey, for instance, which is significant at 0.05 level, see Table 2).

This is important to note because mobility teachers need to realise that it may take a longer acculturation process for students to feel that they fit into the host country's culture compared to others, for instance (see BPAS survey results, which is significant at 0.1 level, see Table 3).

Independence

The results from the Employability Development Profile (EDP) survey indicated that participants' independence skills significantly reduced when working in interdisciplinary teams in an international context. This finding was apparent no matter which international destination students lived and worked (Figure 1). For instance, the data revealed that prior to students undertaking the short-term mobility program, 19 respondents from all locations agreed with the statement, "I work well independently" with 21 strongly agreeing with this statement (mean = 6.39, SD = 0.66). When students completed the same question post-program, 21 informants from all locations agreed with the statement, with only 16 strongly agreeing and one student disagreeing (mean = 6.11, SD = 0.97).
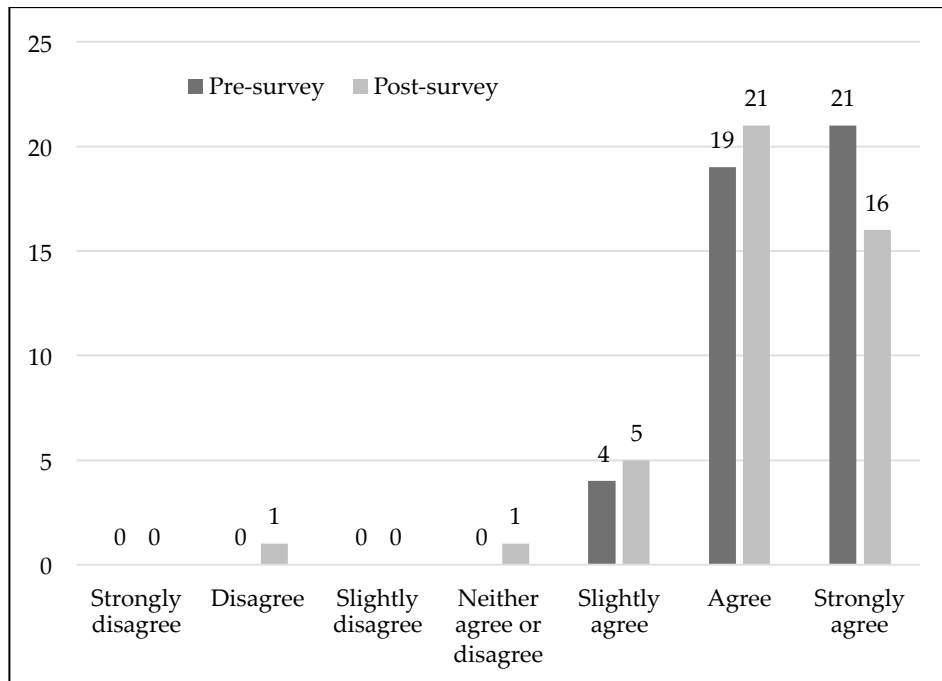
Figure 1: Pre- and post- employability survey (ES) question for
confidence gained when undertaking independent learning

This result shows a significant mean difference (at 0.01 level) between pre- and post-learning results. However, it is also important to note that the interpretation of results for this section of the study did not equate to an actual reduction in students' ability to work independently. Rather, we hypothesise that the decrease in students' confidence when answering this statement post-program could be attributed to an increased self-awareness of the benefits associated with working with others from different disciplines in an international context (I, 2014; C, 2015; C, 2016; P, 2016; P, 2017; S, 2016; M, 2016; M, 2017). This finding also points towards the importance of the mobility teacher's role to effectively support and monitor students' adaptability and independence skills (Figure 1). A finding that also illustrates that it is imperative that mobility teachers are sufficiently trained to support students' employability skill growth, but also how they can best undertake interdisciplinary teaching and learning to increase student's independence (Mansilla, 2017; Kidron & Kali, 2015; Klein, 2010). As one student noted, "the best learning opportunity actually arose when we collaborated with other group members" (M, 2016).

Discussion

In this study, we discovered the importance of providing training to both mobility teachers and students to support the transition from discipline context learning to

interdisciplinary learning environments. This discovery is also key to further understanding how to best design and deliver face-to-face and online mobility programs that are Covid-proof ready, especially when travel is paused. Additionally, students often suggested that they found transitioning to an international context stressful, and that this potentially affected their ability to adapt and to be independent. Therefore, these are key employability skill attainment goals that need to be included in online mobility programs.

The findings also revealed that students' adaptability increased when the international destination was "fairly westernised" because (as students proposed) local citizens were often "used to tourists and therefore very welcoming and accepting" (M, 2016; C, 2015). Therefore, the "welcoming nature" or "culturally diverse experience" (I, 2014; M, 2016, P, 2017; C, 2015) of an international destination may also lead to students significantly increasing or decreasing their ability to work in an interdisciplinary context. This is especially the case when they are required to interact with peers and industry clients from other disciplines through a complex international destination (S, 2016; S, 2017), which also needs to be considered for online mobility programs.

We also discovered that students recommended taking initiatives when connecting and collaborating with interdisciplinary teammates during mobility learning (S, 2017; P, 2017). All participants suggested that being in a complex environment and experiencing cultural diversity, increased stress. However, it was much easier to borrow wisdom from their interdisciplinary teammates and to problem solve with multi-angle lenses (I, 2014; M, 2016; C, 2015). Consequently, the experience became less fearful, even in an unfamiliar environment (C, 2016).

Finally, the findings show that students highly appreciated and valued the interdisciplinary nature of the short-term, mobility program, especially when they were encouraged to work with peers and industry clients from different disciplines to their own. Students commented, for instance, that "back in normal university life, everyone is pretty much the same people, while in the study tour program, we were given an insight into what other disciplines do and how they operate" (C, 2015). Students also added that it was eye-opening when sharing knowledge with students from other disciplines (I, 2014; P, 2016; S, 2017), such as "I would never have thought about those ideas without the interdisciplinary conversations" (C, 2015).

Conclusion

The overall results confirm that students believe that the short-term, mobility WIL programs allowed them to be more open, receptive to others' ideas, opinions, experiences, and diverse disciplinary theories. Subsequently, the interdisciplinary WIL framework permitted students to practise their adaptability skills during complexity and to understand more deeply the challenges associated with transitioning from a disciplinary learning style to an interdisciplinary one. For one, most students felt they had adapted well to the international destination, and despite students' adaptability and independence levels being

influenced by the international destinations' cultural differences or similarities to a student's home context.

The results from this study also underline students' self-assessed confidence for independent learning, which decreased substantially after the in-country learning experience. This is an interesting finding. We, therefore, hypothesise that this finding was potentially due to students' previous disciplinary learning patterns. However, this finding also stresses the importance of students exploring new ways of understanding the value of interdisciplinary learning, adaptability, and independence skill expansion, but only alongside the need for mobility teachers to provide further support in this area. As a student from the Samoa cohort (2016) commented,

> One of the highlights of the program was that it gave us a different perspective on the world. My perspective on things has now changed, even things I have been dead set on.

Recommendations

Covid has created many disruptions to mobility but also opportunities. Therefore, it is timely to grasp what has worked well (pre-Covid) to utilise these lessons to help gain a better understanding of how to design and deliver face-to-face and online mobility programs. This will ensure that the higher education community continues to provide innovative internationalising of the curriculum and WIL experiences into the future. We, therefore, recommend the following key face-to-face mobility curriculum elements be included in online mobility programs:

1. Online mobility should focus on supporting students' learning by teaching and assessing interdisciplinary, adaptability and independence skill competencies that include the complexities of face-to-face models.
2. Higher education should provide students with tailored-designed support materials (face-to-face and online) around managing stress during complexity.
3. Mobility teachers should consider purposefully incorporating multiple, complex incidents/situations for interdisciplinary group-based work that suits both online and face-to-face mobility learning.
4. Higher education should consider integrating and managing students' capabilities to work in interdisciplinary, group-based work through preparation activities for mobility learning.
5. Mobility teachers should consider providing relevant feedback to students pre-, during and post-mobility experiences, which focuses on interdisciplinary, adaptability, and independence skill development.

Limitations

There were some limitations to this study, which could be addressed by future research endeavours, building upon the results presented here. For instance, this study only focused on one type of mobility WIL experience, namely short-term study tours that were based on interdisciplinary learning goals via several industry-linked projects. This was achieved retrospectively and pre-Covid disruption.

Future research

There are other types of mobility experiences that could be a focus for future research projects, such as long-term field trips, internships, and placements. A comparative study, using the same research methods presented here, might also yield useful results about students' perceptions when developing employability skills for interdisciplinary work-readiness. Future research on a broader scale could also test the accuracy and consistency of the findings presented here. This would assist with Covid-proofing mobility programs via online modes. A comparative study that centres on differences and similarities between face-to-face and online mobility learning outcomes would be ideal.

Finally, further research could be conducted to empirically measure employability skill attainment that focuses on interdisciplinary learning, including industry's perspectives of students' adaptability and independence skills, especially when undertaking face-to-face and/or online mobility programs.

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