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# Exploring benefits and challenges of online Work Integrated Learning for equity students

Amani Bell, Kathryn Bartimote, Lucy Mercer-Mapstone,  
Gulwanyang Moran, James Tognolini and Nora Dempsey

2021

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We respect and acknowledge the traditional custodians of the Countries we are researching from. We respect their Elders past, present and emerging and acknowledge their ongoing cultural practices and connection to Country.

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<https://vsfs.state.gov/>

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## Abbreviations and acronyms

AUD	Australian dollar
CI	chief investigator
DVC	Deputy Vice-Chancellor
FiF	first in family to attend university
IRU	Innovative Research Universities
NCSEHE	National Centre for Student Equity in Higher Education
NESB	non-English Speaking Background
SES	socioeconomic status
STEM	science, technology, engineering and mathematics
TEQSA	Tertiary Education Quality and Standards Agency
US / USA	United States of America
USD	US dollar
VSFS	Virtual Student Federal Service
WIL	Work Integrated Learning

## Notes about terminology

Clients - The clients of the organisation where the student is doing online WIL.

Equity students - in our study we are interested in the experiences of students from diverse / equity backgrounds. In Australia, the equity categories of interest to the Federal Government regarding higher education are low socioeconomic status students, students with Disability, Indigenous students, Women in Non-Traditional Areas, Regional students, Remote students, and Culturally and Linguistically Diverse students. However, we recognise that there are several other identities and circumstances which impact students' access to and experiences of higher education, such as being first in family to attend university, being LGBTQIA+<sup>1</sup>, having caring responsibilities, one's religious beliefs, being an older student, being a veteran, being a refugee, and so on. Students may belong to more than one of these groups - see Intersectionality below. In the US, such students may be referred to as being from a minority group or an under-served community.

Educators - we use this term to describe the supervisors of students undertaking WIL. We use the term "educators" in a very broad sense, because the focus of WIL is on education.

Gains – what students gained from their placement (i.e. benefits).

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<sup>1</sup> This acronym encompasses 'people of diverse genders, sexualities and/or intersex status, including but not limited to lesbian, gay, genderqueer, bisexual, trans\*, transgender, intersex, queer, questioning, asexual and more'. (Twenty10, 2020)

In-person WIL - for want of a better term, we have called WIL where students and educators / mentors are together face to face for the majority of their time “in-person WIL”.

Intersectionality - Kimberlé Crenshaw used the term “intersectionality” to describe the multiple and compounded forms of oppression experienced by Black women (1989). The term has now come to encompass “the intertwining of racial, class, and gender identities as well as the interrelatedness of racialised, classed, and gendered social institutions throughout the social world” (Elias and Feagin, 2016, p. 250).

Online WIL - Also known as virtual WIL or remote WIL. Wood et al., (2020) provide the following definition: “*a WIL experience focused on the student completing authentic, relevant actual tasks for an organisation through a remote connection to the workplace / community.* This means the student is physically separated from the workplace / community and located elsewhere ...” (p.333, original italics). These authors suggest that “[t]o avoid confusion between virtual and virtual reality, perhaps a shift to the term *remote* WIL [from virtual WIL] may provide greater clarity.” (p. 332, original italics).

School / College / University - these terms are sometimes used interchangeably in the US to refer to sites of higher education. In Australia, university is often abbreviated to “uni”.

Supports – the ways in which students are supported during the placement.

Telehealth – “Telehealth is the use of digital information and communication technologies, such as computers and mobile devices, to access health care services remotely and manage ... health care.” (Mayo Clinic, 2020)

WIL - WIL encompasses a range of activities and is known by a variety of terms: “work placements, work-terms, internships, practicum, cooperative education (Co-op), fieldwork, work-related projects / competitions, service learning, entrepreneurship, student-led enterprise, applied projects, simulations (including virtual WIL) etc.” (*International Journal of Work Integrated Learning*, n.d.). In the US, and particularly in the VSFS program which is a focus of our study, the term internship is common.

Zoom - Zoom is an online video conferencing platform.

# Executive summary

The Universities Australia audit of Work Integrated Learning (WIL) revealed alarming discrepancies in access to WIL for students from Regional and Remote areas, from Low and Middle socioeconomic status (SES), and Indigenous backgrounds: all are more than five percentage points below the average participation rate (Universities Australia, 2019). Students from these equity backgrounds reported that time pressures, financial responsibilities, caring commitments, and geographic location are barriers to their uptake of WIL (ibid). In this project, we investigated whether *online* WIL might be one way of overcoming these barriers.

Our project, building on previous and current NCSEHE research, explored the benefits and challenges of online WIL for students from equity groups in Australia and the US, as reported by students and educators. Our project includes perspectives via a collaboration with the Virtual Student Federal Service (VSFS), where students from across the US participate in “virtual internships” with US Government agencies. The program has offered over 5,000 such internships in the past ten years. These VSFS interns - or eInterns - work remotely from their university, home, or other locations, reporting by email, phone, or video chat to their workplace educators.

Our four research questions were:

1. What are the benefits and challenges of online WIL as reported by students from equity groups?
2. What are the benefits and challenges of online WIL as reported by educators?
3. What are the commonalities and differences between online WIL in the US versus Australia?
4. How might online WIL in Australia be enhanced and systematically supported to better meet the needs of equity students and educators?

We conducted a questionnaire for students who had participated in online WIL at any time over the past ten years (n=289) and interviewed students (n=32) and educators (n=15) who had participated in online WIL in Australia or the US.

The key findings from our analysis of the data are presented below under each research question, with the recommendations summarising our response to Research Question 4.

1. What are the benefits and challenges of online WIL as reported by students from equity groups?
  - Benefits for students included employability skills, meaningful work, affordability, and flexibility when coping with physical and mental health issues.
  - Challenges for students included missing out on workplace interactions, digital access and finding a private space in which to work.
  - Overall, equity students reported a greater number of gains from online WIL than non-equity students, however it was not possible to detect any differences between equity groups.

2. What are the benefits and challenges of online WIL as reported by educators?
  - Students from diverse backgrounds were viewed by educators as bringing positive contributions to the workplace.
  - Benefits for educators included better meeting the needs of diverse communities / clients, flexibility related to their own work schedules, and that it was a rewarding experience.
  - Challenges for educators included giving feedback and a high workload, and not being able to replicate some aspects of in-person work experiences.
  
3. What are the commonalities and differences between online WIL in the US versus Australia?
  - Students in Australia reported receiving structured, interpersonal support while on placement more often than those in the US.
  - There were no between country differences in the gains reported by students. Rather, it was the type of support received that was consistently related to students' perception of what they gain from placements.
  - In the US, educators were more likely to be aware of diversity issues and to view online WIL as one way of achieving workplace diversity.

## Recommendations on how online WIL in Australia might be enhanced and systematically supported to better meet the needs of equity students and educators

It is recommended that:

1. **Australian universities** continue to explore large scale, coordinated online WIL opportunities (noting several existing initiatives, including the IRU eWIL trial in collaboration with Government departments already underway).
2. **Universities and workplaces** provide support to and recognition of educators and other staff involved in providing online WIL, recognising that it brings benefits to workplaces but is also time consuming.
3. Professional development for educators provided by **universities and workplaces** should be updated to include online WIL, particularly equity issues related to online WIL. This could include taking a strengths-based view of diversity (e.g. making use of additional language skills, tapping into different cultural perspectives to improve the quality of work done) and providing guidance on how allowances for disability need to be adapted in the online context (e.g. for hearing loss, mental health issues etc.).
4. **Educators, students and other stakeholders** co-design inclusive online WIL - inclusion needs to be systemic rather than tokenistic. Such co-design can occur at individual unit of study and / or degree program level.
5. **Universities Australia** updates their policy/white paper on WIL to include more on online WIL in light of Covid, the IRU trial, these findings, and the potential for increased remote work in future.

6. Similarly, that **universities** include online WIL explicitly as a potential form of WIL in their teaching and learning policies, wherever placements are mentioned.
7. **Educators** draw on what is known about online learning and use that to improve/develop best practice design for online WIL. This could include the preparation of best practice guide/s on designing successful online WIL experiences focussing on structured interpersonal support. The guides could cover, for example, orienting students to the role, providing and supporting meaningful and high quality work, providing career transition opportunities, overcoming technical challenges, and building teams and relationships online.

# Introduction

Work Integrated Learning (WIL) is a valuable opportunity for students to gain situated knowledge, skills and experience (e.g. Orrell, 2018). Participation is believed to contribute to employability and to ease the transition from university to career (ibid). Given the wealth of benefits, it is increasingly expected that Australian universities provide all students with access to WIL. However, the 2019 Universities Australia report on WIL data provided by all Australian universities during 2017 showed significant disparities in WIL participation for students from equity groups. The table below, adapted from Figure 8 in the Universities Australia report (2019, p. 27) shows WIL participation rates (per cent), by student characteristics, noting that the overall average participation rate is 37.3%:

**Table 1. WIL participation rates by student characteristic (per cent)**

INDIGENOUS	NON-INDIGENOUS	
31.1	37.3	
LOW SES	MIDDLE SES	HIGH SES
27.8	32.4	48.6
REMOTE	REGIONAL	METROPOLITAN
27.2	34.1	37.7

Adapted from Figure 8 (Universities Australia, 2019, p. 27)

The report stated that “anecdotal evidence from low-SES students suggests that they are less likely to participate in WIL if they must forgo paid employment”, *and* “anecdotal evidence from regional and rural students indicates they face particular challenges in accessing WIL due to lack of proximity to employers, with some forgoing a WIL experience because they can’t afford the transport costs to the workplace” (Universities Australia, 2019 pp. 29-30). Solutions to these disparities must be found so as not to disadvantage equity students.

We posit that online WIL, where students complete their work experiences from a location that is remote from the workplace, is one way of addressing barriers to equity student participation in WIL. We do not view online provision of WIL as a panacea: we are aware of issues related to access and use of digital technologies and how these are nuanced (Selwyn, 2010). This project explored both the benefits and challenges of online WIL, from the perspectives of students and educators gathered via a questionnaire (students) and interviews (students and educators).

Our project includes perspectives from the United States of America (US), via a collaboration with the Virtual Student Federal Service (VSFS), where students from across the US participate in “virtual internships” with US Government agencies. The program has offered over 5,000 such internships in the past ten years. VSFS eInterns work remotely from their university, home, or other locations, reporting by email, phone, or video chat to their workplace educators.

There are smaller-scale initiatives at Australian universities - more so since the Covid-19 pandemic (Covid) reached Australian shores in early-2020 - and the Innovative Research Universities (IRU) are trialing online WIL projects in Australian government agencies, inspired by the VSFS (IRU, 2020). However, to date, there has been limited (if any) focus in Australian higher education research on the experiences and outcomes of students from equity groups who undertake online WIL.

Our four research questions were:

1. What are the benefits and challenges of online WIL as reported by students from equity groups?
2. What are the benefits and challenges of online WIL as reported by educators?
3. What are the commonalities and differences between online WIL in the US versus Australia?
4. How might online WIL in Australia be enhanced and systematically supported to better meet the needs of equity students and educators?

We investigated these questions via a questionnaire with students in the US and Australia (n=289) and interviews with students (n=32) and educators (n=15) in the US and Australia.

Note: In our study we are interested in the experiences of students from diverse / equity backgrounds. In Australia, the equity categories of interest to the Federal Government regarding higher education are low socioeconomic status students, students with Disability, Indigenous students, Women in Non-Traditional Areas, Regional students, Remote students, and Culturally and Linguistically Diverse students. However, we recognise that there are several other identities and circumstances which impact students' access to and experiences of higher education, such as being first in family to attend university, being LGBTQIA+, having caring responsibilities, one's religious beliefs, being an older student, being a veteran, being a refugee, and so on. Students may of course belong to more than one of these groups.

Our report is structured as follows. First, we provide a background literature review on WIL, online WIL and equity in WIL. We then detail our methods, including ethical considerations and how we analysed the questionnaire and interview data. In the findings section, we present the analysis of the questionnaire and interview data. We then provide a discussion, where we explore the findings and how they relate to the literature. We conclude with suggestions for future research and recommendations.

# Background

This literature review covers four key topics. First, we provide an overview of Work Integrated Learning (WIL). Next, we discuss the research on WIL and equity. We then explore online WIL, including some examples of existing programs. We conclude with issues related to online WIL and equity.

## Work Integrated Learning (WIL)

We begin with a definition of WIL:

*WIL encompasses a range of activities and is known by a variety of terms: work placements, work-terms, internships, practicum, cooperative education (Co-op), fieldwork, work-related projects / competitions, service learning, entrepreneurship, student-led enterprise, applied projects, simulations (including virtual WIL) etc. (International Journal of Work Integrated Learning, n.d.).*

*Through collaborative partnership, WIL integrates formal learning with the practical application of acquired skills and knowledge in an industry-infused environment... WIL offers exposure to industry through an authentic learning experience ... (Jackson, 2018, p. 24)*

TEQSA acknowledges that:

*The nature and scope of WIL may vary considerably, as will the extent of 'integration' of the workplace learning with the activities of the workplace or with the remainder of the student's course work ... The Standards do not prescribe any particular type or model of WIL; only that it is well-conceived, educationally sound and its implementation is quality assured and monitored by the provider. (TEQSA, 2017, pp.1-2).*

We note that in Australia, WIL is generally embedded within university curricula, with students receiving academic credit upon successful completion. In the US, while embedded activities for academic credit may occur, the model of unpaid internships undertaken during or after university is common (Perlin, 2012).

There are many benefits of WIL for students, employers and universities. For students, WIL helps them “develop a better understanding of the nuances of professional practice” *and* begin to form their professional identities (Jackson, 2018, p. 28). In addition, WIL may lead to improved academic outcomes, and improved confidence in setting and attaining career-related goals (Purdie et al., 2013). Other gains for students include deeper disciplinary knowledge, self-efficacy, leadership skills, self-management, analytical systems and critical thinking, self-awareness, self-confidence, effective communication, time management, networking, project management skills and teamwork (Jackson, 2018).

Employment after graduation, another potential benefit of WIL, has been the focus of several studies. For example, Jackson and Collings (2018) found that students' participation in WIL did not produce an increase in full-time employment rates (in two samples of students from one university, N = 628 and N = 237). However, a 2019 study by McCarthy and Swain with a large Australian data set - 30,000 data points covering 21 fields of study across 41 universities and 4988 courses - found that courses with a mandatory work component had significantly better employment outcomes than courses without a mandatory work

component. They “adjusted for the fact that field of study and institution also have a large impact on employment outcomes and obtained the same result i.e. after taking into account both University and field of study, courses with a mandatory work component had significantly better employment outcomes than courses without a mandatory work component” (2019, p. 4). McCarthy and Swain found that “students enrolled in any course with a work component are more likely to be employed in any capacity – full time or part time, and they are more likely to be in full time employment than their peers in courses without work components” (2019, p. 8). For a thorough exploration and critique of WIL and employability, see the review by Palmer and colleagues (2018).

Benefits of WIL for employers include recruitment pathways, partnerships with universities, workplace ready graduates, giving back to their industry or profession, meeting their corporate responsibilities (Orrell, 2018) and developing the mentoring skills of staff. Benefits of WIL for universities include partnerships with external organisations and developing students’ professional learning and graduate capabilities. WIL may lead to further ventures in research, knowledge exchange and commercialisation (Jackson, 2018; Orrell, 2018).

Alongside the benefits, there are also risks associated with WIL. TEQSA (2017) has provided several examples of potential risks related to WIL, including variation in outcomes across placement sites, difficulties in sourcing placements, poorly prepared workplace educators, and difficulties for students in accessing support services while on placement.

Lack of evaluation of WIL, especially at the whole of institution level, has been identified as another risk, due to the possibilities of variation in quality and missed opportunities for improvement. Few Australian universities have a centralised and systematic approach to evaluating WIL - and it is a complex endeavour due to “the involvement of multiple stakeholders, large variations in the way that WIL courses are designed/delivered, as well as the diverse array of experiences available to students” (Rowe et al., 2018, p. 274).

WIL evaluation often occurs at the subject level and can be ad hoc, so it can be difficult for universities to identify trends over time, and within and across disciplines and faculties (Venville et al., 2018). Evaluation of WIL is often focused on the student experience, rather than other stakeholders (Rowe et al., 2018). The evaluation of the Professional and Community Engagement (PACE) University-wide WIL program at Macquarie University is one exemplar of a systematic approach to WIL evaluation (Rowe et al., 2018).

## WIL and equity

Tara Fenwick writes that “... issues of race, gender and sexuality equality, commonly discussed in educational literature, are rare in studies of professional learning and education.” (2018 p. 375). That said, our literature review has revealed some projects and studies that have explored WIL and equity in the Australian context, including the following national projects, funded by the National Centre for Student Equity in Higher Education (NCSEHE) and the Office for Learning and Teaching (OLT):

- *Access to Work Integrated Learning: Influence of Communities of Practice* (Lloyd, 2017), findings of which included that internships added to the financial and time pressures experienced by equity students;
- *WIL Wellbeing: Exploring impacts of unpaid practicum on student wellbeing* (Grant-Smith & Gillett-Swan, 2017), which found that better training, support, and vetting of potential WIL workplaces and supervisors is required;

- *Building institutional capacity to enhance access participation and progression in Work Integrated Learning* (Peach et al., 2016), which developed strategies, principles and guidelines for inclusive WIL, focused on building staff, student and workplace capacity;
- 'Mind the Gap!' Exploring the post-graduation outcomes and employment mobility of individuals who are first in their family to complete a university degree, (O'Shea, 2019), which highlighted the need to support students from disadvantaged backgrounds to access WIL and to provide graduates with timely, structured support as they transition into the workforce; and
- Principles, Guidelines and Strategies for Inclusive WIL to support higher education institutions in making WIL accessible (Winchester-Seeto et al., 2015) which stressed the need for deliberate design for inclusive WIL.

Recently, David Eckstein, 2020 NCSEHE Equity Fellow, found that students with disability are underrepresented in graduate employment outcomes. Students with disability identified lack of work experience as one of the top four challenges they face in gaining meaningful work (Eckstein, 2020).

Palmer and colleagues' (2018) review of WIL and employability made some salient points about equity:

*It has been suggested that any positive association between WIL activities and graduate employability is in part due to work placements reproducing/mirroring existing graduate labor market inequalities – that is, that the students least able to participate in WIL are the same students who face systematic graduate labor market barriers (p. 373).*

They reviewed a study by Divan and McBurney about science students' employability, who found that students missed out on WIL due to "ill health ... not being able to relocate, and financial constraints" (Palmer et al., 2018, p. 373). Another study discussed by Palmer and colleagues found that "managers responsible for the recruitment of undergraduate industrial placement students ... [showed] indirect discrimination on the basis of social groupings, including class ... (Wilton, 2014)" (2018, p. 374). Similarly, Theobald draws our attention to the need to examine the societal inequalities that are reproduced through WIL and notes the "breach [that] has formed between researchers and policy makers involved in WIL and practitioners who administer these placements" (2018).

Some studies have investigated the WIL experiences of students from non-English speaking backgrounds (NESB), particularly given the high numbers of international students now completing their university studies in countries such as Australia, the US and the UK (Wall et al., 2017). International students have lower participation in WIL in degree programs where WIL is not compulsory (Gribble et al., 2015). Employers and university staff have concerns about international students' communication skills (Gribble et al., 2015). University staff also express concerns about "international students' lack of familiarity with local jargon and terminology, undertaking activities and tasks considered taboo in their own culture, and not fully understanding management hierarchy and organizational structures" (Jackson, 2017, p. 251). International students agree that cultural differences (Jackson 2017) and their language skills are barriers to accessing and succeeding in WIL (Gribble et al., 2015).

We propose that online WIL may be one way of reducing the barriers to WIL experienced by students from equity backgrounds. In the next section, we discuss the literature on online WIL and provide an example of a large, long-running online WIL program in the US.

## Online WIL

Within the literature and in practice online WIL is known by many names, including remote WIL, virtual WIL and eWIL. We use the following definition from Wood and colleagues (2020): “a *WIL experience focused on the student completing authentic, relevant actual tasks for an organisation through a remote connection to the workplace / community.*” This means the student is physically separated from the workplace / community and located elsewhere ...” (p. 333, original italics).

Schuster and Glavas (2017) propose a typology of online WIL (which they term eWIL) consisting of four types of online WIL: 1) technology-supported, 2) technology-facilitated, 3) technology-blended and 4) technology-based. The first two types are where technology is used to support WIL, whereas types 3 and 4 are where technology is used to deliver WIL, either partially (technology-blended) or fully (technology-based). In our study, we focussed only on technology-based online WIL.

A recent meta-analysis of WIL found several examples of online WIL and the authors concluded that “remote WIL could therefore be a strength and preferred option for completing some types of WIL, especially when the student context is aligned with the purpose of the project” (Wood et al., p. 348). Hora and colleagues (2020) found that: “pre-internship orientations, self-regulated learning, sufficient technology, and effective supervision are important for successful experiences” (p. 2).

Risks of online WIL include potential “lack of supervision and low exposure to workplace culture” as well as the difficulties in developing “a sense of connection when using digital technologies for communication” (Wood et al., p. 348). Hora and colleagues warn that “...considerable variation exists among online internships, especially with respect to the host organization (i.e., employers or third-party vendors), compliance with standards for legitimate and high-quality internships, and duration” (2020, p. 2). To address these risks, Glavas and Schuster (2020) propose four design principles for online WIL: (1) authenticity, (2) integration of technology, (3) effective support processes, and (4) fostering of co-presence and relationship building.

Our review of the literature on online WIL (to be published in full separately) has found that many studies are practical / descriptive in nature (e.g. Leath, 2009). Those that are investigative are often focused on comparing in-person WIL with online WIL (e.g. Jeske and Axtell, 2014). Benefits of online WIL include preparing students for remote work (Waters & Russell, 2016), cost savings for students and organisations (Jeske & Axtell, 2017) and international collaborations (Jeske & Linehan, 2020). Students sometimes perceived that online WIL would be more flexible in terms of time than in-person WIL but found that was not the case in practice (Waters & Russell, 2016). There was a need for preparation / pre-training and a structured approach (Franks & Oliver, 2012). Some students and educators commented on the lack of physical interaction and presence and missing out on incidental and social interactions (Leath, 2009). There were different contexts for online WIL such as online teaching (Waters & Russell 2016) and online counselling (Paterson et al., 2019), in

contrast to situations where students were working remotely with an organisation on project-based work. Pretti and colleagues found that “there is a gap in the WIL literature surrounding students’ thoughts and feelings regarding remote working and desired supports” (2020, p. 403).

We now turn to a key example of online WIL. One of the largest, if not the largest, online WIL program is the Virtual Student Federal Service (VSFS). The VSFS was established to make the processes of government more accessible to students by removing geographic and other barriers to undertaking work experience with government agencies. It began in 2009, with forty projects submitted by the US Department of State. Since then, the VSFS has grown to provide a total of around 5,000 US students with virtual internships at 60 federal agencies located across the US and at US embassies around the world. VSFS interns work remotely from their university, home or other locations, reporting by email, phone or video chat to their government educators. Some students have worked with their academic institutions to receive course credit for their VSFS project.

Students are expected to work on their projects for about ten hours per week from September until May. Projects cover a wide range of activities including graphic design, data visualisation, app development, literature reviews, digital diplomacy, public outreach liaison, environmental research, translation, blogging and more, and are submitted via Government departments to the VSFS team. Students apply via an online system, uploading their resume, transcript and a statement of interest for up to three projects. Each government educator will review applications for students who picked their respective project as one of their top three. There may be an interview process and / or a request for supporting documentation such as writing samples or a design portfolio. The VSFS team offers support to the government educators via a check-in process, a handbook, and support with any challenges that are encountered.

The number of available positions changes from year to year and depends on the needs of each agency. In 2020 the VSFS had more than 550 projects with over 1,200 positions and over 5,000 applicants. Applications from students greatly increased in 2020 due to Covid (Konkel, 2020) and VSFS staff have been advising Government departments on how to transform their in-person internships into virtual ones (Heckman, 2020).

In the next section, we turn our attention to online WIL and equity - what is already known?

## Online WIL and equity

In our review of the literature on online WIL, we found that there was a predisposition towards viewing online WIL solely as positive for students from equity backgrounds. Discussions of equity were often absent - if present, it was usually discussed briefly. Online WIL was mentioned as a positive for students who were remote (e.g. Franks & Oliver, 2012), had financial constraints (e.g. Jeske & Axtell, 2019), family responsibilities (e.g. Franks & Oliver, 2012) or disabilities (e.g. Jeske & Lineham, 2020). Negatives and possible barriers to online WIL such access to technology were rarely explored. Waters and Russell (2016) begin to problematise the supposed benefits of online WIL but put the responsibility back onto the students to “develop good time management skills” (p. 17). On rare occasions equity was mentioned in terms of the clients of the work in which students were engaged (e.g. Paterson et al., 2019). Our project extends these earlier studies by providing more depth about the experiences of students and educators regarding equity and online WIL.

## Methods

We primarily used a qualitative approach - via a questionnaire and interviews - to investigate our four research questions:

1. What are the benefits and challenges of online WIL as reported by students from equity groups?
2. What are the benefits and challenges of online WIL as reported by educators?
3. What are the commonalities and differences between online WIL in the US versus Australia?
4. How might online WIL in Australia be enhanced and systematically supported to better meet the needs of equity students and educators?

## Ethics approval

Approval for the research was granted by the University of Sydney Human Research Ethics Committee (2020/420) with the condition that the Ethics Office of each respective Australian university was approached, and approval from their university obtained before contact was made with staff from other Australian universities.

Each Australian university was contacted, and thirteen of 39 universities gave permission for WIL students to be contacted by their unit of study coordinator or WIL coordinator to invite them to participate in the questionnaire. In addition, the CI (Bell) was able to invite relevant staff members to participate in interviews.

The universities covered a range of locations and types - from all states except the Northern Territory and Tasmania, and from the following university networks: Group of Eight - three; Regional Universities Network - two; Innovative Research Universities - two; Australian Technology Network of Universities - two; and Other - four.

A distress protocol was in place for the interviews; however, no interviewees became distressed during the interviews.

Gift cards (\$25 USD / \$40 AUD) were provided to interview participants in order to encourage participation and to show that we valued their time.

All identifying information (e.g. names of people, organisations and places) has been removed from the data, and an alphanumeric acronym was assigned to each participant e.g. S1 for student one and E1 for educator one.

## Sample

A purposive sample (i.e. a non-probability sample selected based on characteristics of a population and the objective of the study) of students was chosen to participate in the study, namely, those having at least one experience of online WIL in the past decade. There is no intention to generalise the results of the study beyond the sample of respondents, as the objective of the study is to compare the characteristics of the program as it has been carried out in two countries and identify potential practices that may have been successful in one country (US) and may be transferable in the other (Australia).

The sample was selected using a range of techniques. US participants were contacted via the closed Virtual Student Federal Service (VSFS) LinkedIn Group; an email to past VSFS participants; and Twitter. The potential sample is approximately 5,000 students as that is the

approximate number who have participated in the VSFS over the past ten years, the length of the time that the program has been running. US respondents all completed a government based placement, whereas the Australian respondents completed placements in a range of settings e.g. healthcare, legal organisation, media organisation.

Australian participants were invited in various ways by the thirteen universities who agreed for their students to be approached to complete the questionnaire. While such permission was given, the universities did not allow the CI to approach their students directly for permission. The universities themselves invited their students to participate and this process was quite ad hoc, for example, emailed to students by a unit of study or a Work Integrated Learning (WIL) coordinator. It is not possible under these conditions to estimate the number of Australian students who have participated in online WIL.

More detailed information about the questionnaire and interview samples is provided at the beginning of each of the respective Findings sections later in this report.

## Questionnaire

The questionnaire is provided in Appendix 1. It is a qualitative survey - qualitative surveys offer the “openness and flexibility to address a wide range of research questions of interest to social researchers” (Braun et al., 2020. p. 2). The questionnaire has three main sections: (1) demographics and background; (2) nature and outcomes of the placement; and finally (3) experience of the placement. The outcomes of the placement are presented here in relation to some background information – in the questionnaire, participants were asked to select one or more ways that they were supported during the placement from a pre-set list of 10 options (supports), and also asked what they gained from the placement (gains), selecting from a pre-set list of 11 options. These supports and gains were identified via our literature review, in particular Pretti et al. (2020) and Jeske and Linehan (2020). Preliminary insight into participants’ placement experiences were accessed through two open response questions that asked about the personal benefits and difficulties of doing the placement remotely.

## Interviews

At the end of the questionnaire, students from both the US and Australia were asked if they were interested in participating in a 30-minute Zoom semi-structured interview to elaborate on their online WIL experiences.

Educators involved in supporting online WIL were invited to participate in a semi-structured 30-minute Zoom interview, to provide insight into the benefits and challenges, and how it might be enhanced. The interview questions are provided in Appendix 2.

The CI (Bell) conducted all the educator interviews. Gulwanyang Moran, an Indigenous student researcher, conducted all the student interviews. Students are often more candid and comfortable when being interviewed by a fellow student (Abbot, 2018). In addition, it is important to ensure cultural safety when interviewing Indigenous/ First Nations students (Bell & Benton, 2018). Please note that although our initial plan was to have one student researcher based in Australia and one in the US, unfortunately, we were unable to engage a student researcher in the US as advice from the University of Sydney was that we could not employ a staff member based overseas.

We interviewed 15 educators (10 from Australia involved in various online WIL programs, and five from the US, all from the VSFS). We interviewed 32 students (one from Australia, involved in an online WIL program, and 31 from the US, all from the VSFS). While ideally there would have been even numbers of participants from the US and Australia, we were not perturbed by this imbalance as one of the objectives of the study was to identify potential practices that may have been successful in a long-running, large online WIL program in the US that may be transferable to Australia.

The audio recordings were transcribed by a professional transcription service. Participants were asked if they wished to review their interview transcripts - several did so and returned their transcripts with some minor amendments.

## Analysis

### Questionnaire analysis

The questionnaire data were analysed using standard statistical methods for responses to the closed-ended questions using SPSS v25 software, along with thematic analysis for the open-ended questions. The specific focus of these analyses is to provide insight into Research Questions 1 and 3, that is benefits and challenges reported by equity students and commonalities and differences between online WIL in the US and Australia. These analysis efforts are framed by the overall objective of the project which was to compare the characteristics of online WIL as it has been carried out in the two countries, and identify successful practices in the US that may be transferable to the Australian context.

Demographic/background information is summarised by the following variables: country, equity status, study area, calendar year of placement, and who organised the placement. The equity category variable was derived via two-step cluster analysis<sup>2</sup> using responses to the eight equity options in the questionnaire, and provides for intersectionality. For the cluster analysis, a log-likelihood distance measure was selected and the number of clusters set to be determined automatically by the software using Schwarz's Bayesian Criterion (BIC) as the model-choice criterion.

The nature and outcomes of the placement were measured by the supports and gains participants selected from a list of options provided in the questionnaire. The variables were: total number of supports reported out of a possible 10 supports listed in the questionnaire; a 'support type' variable derived from a two-step cluster analysis of the 10 support options; and total gains reported out of a possible 11 gains listed in the questionnaire. Please note that a cluster analysis for the 11 gain variables produced a two-cluster solution that broke the sample into high and low gain groups, adding no new information, so the total gains variable was retained as an overall measure for gains. Individual gains were also examined.

Binary logistic regression analyses for total number of gains (out of 11), and each individual gain separately, were conducted using support type along with all the demographic/background variables as predictors. Interaction terms were created from significant main effect terms, and also tested for significance.

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<sup>2</sup> SPSS's two-step cluster analysis is a procedure uses a quick clustering algorithm up front followed by hierarchical methods. The model-choice criterion is used to select the optimal number of clusters from a number of clustering solutions tested as part of the automatic procedure.

## Interview analysis

The interview data were analysed thematically, following Braun and Clarke's (2006) six phases: (1) familiarisation with the data; 2) coding; 3) searching for themes; 4) reviewing themes; 5) defining and naming themes; 6) writing up themes. The interview data provide insight into Research Questions 1 and 2, namely the benefits and challenges of online WIL reported by students and educators.

## Notes about Covid

The Covid pandemic began after this project was conceived and impacted the project in several ways. Online WIL became much more prevalent in Australia, as Australian universities quickly "pivoted" to online learning. We were unable to meet as a research team in person, with a planned trip to Washington DC to meet our VSFS partners being cancelled. We navigated online meetings and research interviews across time zones and our situations, such as children at home attempting remote schooling for several weeks, separation from family members, Zoom fatigue, and anxieties about the state of the world. We also experienced some of the benefits of remote working mentioned by our participants, such as not commuting, flexible hours, and spending more time with family and pets. We learned a lot about remote working through our personal experiences, giving us deeper insight into the responses from our research participants.

# Findings

## Questionnaire - Descriptive statistics

Table 2 shows that 251 respondents had carried out their online placement in the US and 38 respondents did their online placement in Australia. The majority of US respondents' placements were from the years 2019 and 2020, and 2020 for the Australian sample. To enable computational convergence in the analyses, the year variable was collapsed to three levels: 2018 and prior, 2019, 2020. Table 3 shows the number of students by country where the placement was located and who organised it. In the US the majority of placements were organised by the VSFS, whereas in Australia the majority of placements were organised by universities.

**Table 2. WIL participation rates by student characteristic (per cent)**

YEAR	US	AUSTRALIA
2010	0	1
2011	0	0
2012	3	0
2013	1	0
2014	2	0
2015	1	0
2016	4	0
2017	4	0
2018	12	1
2019	104	0
2020	120	36
TOTAL	251	38

**Table 3. Number of students by country where online placement occurred and who organised it**

ORGANISER	US	AUSTRALIA
Student	9	2
University	2	35
Virtual Student Federal Service (US Department of State)	237	1
Other	3	0

### Field of study

Table 4 shows that the majority of students in the US ( $n = 153$ ) participated in online placements in the fields of Society and Culture (e.g. political science, sociology, social work, psychology, law, librarianship, language and literature, philosophy and religious studies, economics, sport and recreation). In Australia, health was the most popular field (e.g. medicine, nursing, pharmacy, dentistry, optometry, veterinary studies, public health, allied health, complementary therapies) with  $n = 24$ . Other fields included the Natural and Physical Sciences, IT, Engineering, Education, Management and Commerce, and the Creative Arts.

**Table 4. Number of students by country where placement occurred and subject area**

SUBJECT AREA	US	AUSTRALIA
Health	17	24
Society and Culture	153	4
Other	81	10

### Equity backgrounds

Of the 289 participants, 191 identified as being part of at least one of the following equity groups, and of that subset 76 identified as being part of two or more equity groups: a woman working/studying in a non-traditional area; having grown up speaking a language other than English (NESB); living in a remote/rural area; living with disability; and being first in family (FiF) to attend university/college. Amongst the whole sample, 134 agreed that their financial situation impacts their ability to access in-person placements, e.g. due to travel costs or not being able to take time off paid work. The two-step cluster analysis using responses to eight closed-ended equity questions produced a six cluster solution. Table 5 gives an overview of the attributes shared by more than half of the participants in each cluster, and Table 6 shows a breakdown across the two countries. The clusters are labelled:

- (1) Poor health, financially restricted, and non-NESB
- (2) Rural/remote and non-NESB
- (3) Woman in non-traditional area
- (4) Non-NESB
- (5) FiF and financially restricted
- (6) Well financed

In addition, in response to an open-ended question about identity, students described themselves as being in a range of minority groups, for example, Service member, Latinx<sup>3</sup>, Hispanic, Queer, Black, Black/African American, Latino, Arab, Asian, Religious minority. Some students described themselves as belonging to more than one minority group, e.g. “Black, female, and LGBTQ+”.

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<sup>3</sup> Latinx - a person of Latin American origin or descent, used as a gender-neutral or non-binary alternative to Latino or Latina

**Table 5. Equity category cluster descriptions**

LABEL	POOR HEALTH, FINANCIALLY RESTRICTED, & NON-NESB	RURAL / REMOTE & NON-NESB	WOMAN IN NON-TRADITIONAL AREA	NON-NESB	FIF AND FINANCIALLY RESTRICTED	WELL FINANCED
Common distinguishing features	Poor health + Finances very restrictive + speaks English as first language	Rural / remote + speaks English as first language + Finance or work may be limiting	Woman in non-traditional area + May or may not be NESB + Finance or work may be limiting	Speaks English as first language + Finance or work may be limiting	FiF + Finances very restrictive + May or may not be NESB	No financial limitations + May or may not be NESB
Description	Has physical or mental health issues that impact on capacity to maintain study commitments. May have registered for disability services whilst studying or not. Received financial aid/scholarship while studying. Finance or work situation impacted ability to access physical placements. Is not NESB. Is also not a woman studying in non-traditional areas, rural/remote, or FiF.	Is rural/remote. Received financial aid/scholarship while studying. Finance or work situation may have impacted access to physical placements. Is not NESB. Is not a woman studying in non-traditional areas, impacted by health issues or disability, or FiF.	Is a woman studying in a non-traditional area. Received financial aid/scholarship while studying. Finance or work situation may have impacted access to physical placements. May be NESB or not. Is not rural/remote, impacted by health issues or disability, or FiF	Is not NESB. Received financial aid/scholarship while studying. Finance or work situation may have impacted access to physical placements . Is not a woman studying in non-traditional areas, rural/remot e, impacted by health issues or disability, or FiF	Is FiF. Received financial aid/scholarship while studying. Finance or work situation impacted ability to access physical placements. May be NESB or not. Is not a woman studying in non-traditional areas, rural/remote, or impacted by health issues or disability.	Did not receive financial aid/scholarship while studying. Finance or work situation did not impact ability to access physical placements. May be NESB or not. Is not a woman studying in non-traditional areas, rural/remote , impacted by health issues or disability, or FiF
n	33	32	40	83	36	65

**Table 6. Number of students by country where online placement occurred and equity cluster**

EQUITY CLUSTER	US	AUSTRALIA
1. Poor health, financially restricted, & non-NESB	29	4
2. Rural-remote & non-NESB	29	3
3. Woman in non-traditional area	40	0
4. Non-NESB	81	2
5. First-in-family & financially restricted	32	4
6. Well financed	40	25

### Supports received

Participants reported receiving the specific supports given in Table 7. The most common were being provided with enough information, regular educator meetings, and being provided with meaningful work. Comparatively few respondents were able to participate more broadly in the experience through observing and shadowing others, participating in virtual social events or being able to build networks through introductions to colleagues. Very few were provided with technological support.

**Table 7. Support experienced during online placement**

SPECIFIC SUPPORT	N	PERCENTAGE	QUESTIONNAIRE SUPPORT NUMBER
Provided with enough information to carry out the role	185	64	4
Regular meetings with my supervisor	183	63	1
Provided with meaningful work	183	63	5
Encouraged to share my ideas	173	60	6
Informal interactions e.g. online chat / discussion	165	57	10
Attended meetings	134	46	9
Introduced to colleagues	114	39	2
Virtual social events	46	16	7
Observed/shadowed others	37	13	3
Provided with support to set up the hardware and / or software I needed	31	11	8

The cluster analysis of support responses resulted in a two cluster solution, the difference being the degree to which participants reported structured interpersonal support during their placements. Those in Cluster 2 ( $n = 89$ ) had more structured support, with two thirds being introduced to colleagues, having the opportunity to observe/shadow others, to attend virtual social events, and being provided with at elbow support in setting up hardware/software needed, and more than half attending meetings. Those in Cluster 1 ( $n = 200$ ) were less likely to receive these interpersonal supports. More than half in Cluster 1 reported regular meetings with their supervisor, being provided with enough information to carry out the role, and engaging in informal interactions. Table 8 shows a breakdown of support type experienced across the two countries.

**Table 8. Number of students by country where placement occurred and support type**

SUPPORT TYPE	US	AUSTRALIA
General support	180 (72%)	20 (52%)
Interpersonal support	71 (28%)	18 (47%)

## Gains

In the questionnaire, the 289 participants selected the specific gains given in Table 9. The three most common were concepts/skills that could be used in one's career, communication skills and acquiring a better idea of one's career path.

**Table 9. Gains from completing the online placement**

GAIN	N	PERCENTAGE	QUESTIONNAIRE GAIN NUMBER
Concepts / skills I can use in my career	179	62	10
Communication skills	174	60	3
Better idea of my career path	161	56	7
Confidence in my professional abilities	159	55	6
Concepts / skills I can use in my studies	143	49	9
Teamwork	137	47	4
Critical thinking	137	47	5
Networking	132	46	2
Mentoring	124	43	1
Better understanding of workplaces	95	33	11
Employment opportunities	65	22	8

## Questionnaire - Analysis of placement gains

### Preliminary regression analysis

An initial binary logistic regression model was run on the total number of gains (out of 11): with equity status (yes / no) and country (US, Australia) as predictors (Table 10). Equity status here was a rough indicator comprising those who identified as belonging to at least one of the following groups: a woman working/studying in a non-traditional area; having grown up speaking a language other than English (NESB); living in a remote/rural area; living with disability; and being first in family to attend university/college.

**Table 10. Total number of gains by Country and Equity status – Tests of model effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	4.547	1	.033
Country	.280	1	.597
Equity	8.961	1	.003
Country * Equity	1.744	1	.187

Table 10 shows that the interaction between equity status and country was not significant. The main effect for equity status was ( $P = 0.003$ ), indicating that the number of gains differed by equity status. From Table 11 the odds ratio (O.R.) < 1 and negative coefficient (B) shows that non-equity students have lower odds of gains from online placements than equity

students (the reference group in the regression). Table 12 shows that the average number of gains for students from an equity group was higher than non-equity students.

**Table 11. Total number of gains by Country and Equity status – Parameter estimates**

	B	Std. Error	Lower 95% CI	Upper 95% CI	X <sup>2</sup>	df	P	O.R.
Intercept	-.056	.0470	-.148	.036	1.433	1	.231	.946
Country=Australia <sup>a</sup>	.210	.1276	-.040	.460	2.719	1	.099	1.234
Equity group=No <sup>b</sup>	-.190	.0806	-.348	-.032	5.571	1	.018	0.827
Country=Australia*Equity group=No	-.300	.2275	-.746	.145	1.744	1	.187	0.741

<sup>a</sup> The reference level for Country = USA

<sup>b</sup> The reference level fo Equity group = Yes

**Table 12. Average total gains (out of 11) by Country and Equity status**

	AUSTRALIA	US	OVERALL
Equity group – No	4.58	4.83	4.80
Equity group – Yes	5.92	5.35	5.42
Overall	5.50	5.17	

### Broader regression analysis

To gain a broader view of the factors that may be related to gains reported by participants, a series of binary logistic regression analyses were run using a larger range of predictor variables, and using the equity category clusters presented earlier (Table 5). Models were fitted for each gain separately. (See tests of model effects results in Appendix 3 – the tables of parameter estimates with separate estimates for each level within each term are voluminous, and are available upon request).

For each analysis, initially a simple model containing only the main effects was fitted – where multiple main effects were significant, a second model with interaction terms comprising all combinations of these significant main effects was run.

In tables reporting tests of the model effects terms, those significant at  $P < 0.05$  are shown in bold. Tables of descriptive statistics are provided for significant terms in order to illustrate differences in gains from online placements across a range of variables.

The results of the analysis of total gains (a series of binary outcomes out of 11 possible gains) is shown here. In this broader analysis the equity cluster variable (see Tables 5 and 6) was used rather than the equity (yes / no), to see if there were detectable differences in gains between equity groups. In the initial model containing only main effect terms, Country, Organiser, and Equity clusters were not significant predictors of total gains (Table 13); however, Subject area, Year and Support type were. Interaction terms were added to the model for all combinations of the significant main effect terms (shown in Table 14).

**Table 13. Total gains – Tests of model main effects (initial model)**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.037	1	.848
Country	.072	1	.789
Organiser	1.402	3	.705
Subject area	10.573	2	.005
Year	6.813	2	.033
Equity cluster	2.854	5	.723
Support type	309.967	1	.000

**Table 14. Total gains – Tests of model interaction effects (final model)**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.013	1	.909
Country	.055	1	.815
Organiser	1.517	3	.678
Subject area	6.352	2	.042
Year	9.356	2	.009
Equity cluster	4.380	5	.496
Support type	159.725	1	.000
Subject area * Year	14.672	3	.002
Support type * Year	2.136	2	.344
Subject area * Support type	8.609	2	.014

**Table 15. Total gains – Parameter estimates (final model)**

	B	Std. Error	Lower 95% CI	Upper 95% CI	X <sup>2</sup>	df	P	O.R.
Intercept	1.034	.1440	.752	1.317	51.556	1	0.000	2.812
Country=Australia <sup>a</sup>	-0.77	.3303	-.725	.570	.055	1	.815	.463
Organiser=Student <sup>b</sup>	-.241	.2121	-.657	.175	1.289	1	.256	.786
Organiser=University/college <sup>b</sup>	-.053	.3318	-.703	.597	.025	1	.873	.948
Organiser=Other <sup>b</sup>	.173	.4003	-.612	.957	.186	1	.666	1.189
Subject area=Health <sup>c</sup>	.174	.2651	-.345	.694	.433	1	.511	1.190
Subject area=Other <sup>c</sup>	-.307	.1837	-.668	.053	2.802	1	.094	.736
Year=2018 and prior <sup>d</sup>	-.532	.2744	-1.070	.006	3.757	1	.053	.587
Year=2019 <sup>d</sup>	-.038	.2049	-.439	.364	.034	1	.854	.963
Equity cluster=Poor health <sup>e</sup>	.205	.1490	-.807	.498	1.899	1	.168	1.228
Equity cluster=Rural/remote <sup>e</sup>	.027	.1473	-.261	.316	.035	1	.852	1.027
Equity cluster=Woman non-trad <sup>e</sup>	-.025	.1413	-.302	.252	.031	1	.860	.975
Equity=Non-NESB <sup>e</sup>	-.036	.1184	-.269	.196	.095	1	.759	.965
Equity cluster=FiF <sup>e</sup>	.132	.1401	-.143	.407	.886	1	.347	1.141
Support type=General <sup>f</sup>	-1.349	.1380	-1.620	-1.078	95.530	1	.000	.259

	B	Std. Error	Lower 95% CI	Upper 95% CI	X <sup>2</sup>	df	P	O.R.
Subject area=H*Year=2019	-.369	.3128	-.982	.245	1.388	1	.239	.691
Subject area=O*Year=2018	.079	.2905	-.491	.648	.074	1	.786	1.082
Subject area=O*Year=2019	.595	.1879	.227	.964	10.040	1	.002	1.813
Year=2018*Support type=General	.191	.3028	-.402	.785	.400	1	.527	1.210
Year=2019* Support type=General	-.236	.2065	-.641	.169	1.308	1	.253	0.790
Subject area=H*Support type=General	-.763	.2635	-1.279	-.246	8.382	1	.004	0.466

a The reference level for Country = USA

b The reference level for placement Organiser = Virtual Student Federal Service (US Department of State)

c The reference level for Subject area = Society and Culture

d The reference level for Year = 2020

e The reference level for Equity cluster = Well-financed

f The reference level for Support type = Interpersonal

**Table 16. Average Total gains (out of 11) reported by Year and Subject area**

	Society and Culture	Health	Other
2018 and prior	4.63	-	3.70
2019	4.66	3.70	5.58
2020	5.98	5.19	5.12

**Table 17. Average Total gains (out of 11) reported by Support type and Subject area**

	Society and Culture	Health	Other
General support	4.29	2.72	3.97
Interpersonal support	7.98	8.13	7.82

There are significant interactions of Subject area with Year and with Support type. In keeping with good statistical practice, significant main effect terms are not interpreted when they are represented in an interaction.

The significant Year x Subject area interaction arises because those studying Other subjects reported a greater number of gains in 2019 than 2020. However for the Society and Culture and Health areas 2020 was the highest year. (See Table 16).

The significant Support type x Subject area interaction arises because in the high interpersonal support cluster Health students reported the greatest number of gains, whereas in the lower interpersonal support cluster, the Society and Culture students report the greatest number. The important finding is that those in higher interpersonal support settings report a greater number of gains, regardless of subject area. (See Table 17).

To sum up the above analyses:

- Students from equity backgrounds reported a greater number of gains from online WIL than non-equity students, however regression analyses did not reveal further information about which equity backgrounds in particular informed this finding.

- The type of support provided to students during online placements is vitally important. Those who experience more structured interpersonal support consistently report gaining more from placements across the breadth of outcomes explored here.
- After taking other variables into account, the gains reported by students from their placements did not differ across countries nor between equity groups.
- Students studying in the area of Society and Culture seemed to gain more career path clarity than Health students from their online placements, however as Health students have opted to study a professional degree they likely already to have career path clarity.
- Students in a highly structured, interpersonal support setting were more likely to report gaining concepts/skills useful to their studies, and this was even more so for Health students than Society and Culture students.

## Questionnaire – Online placement benefits and challenges

Respondents answered two open ended questions about the benefits and challenges of the online WIL placements. These were analysed thematically and reported in tables 18 and 19 below.

**Table 18. Benefits of online placements – summary of open ended responses**

BENEFITS OF ONLINE PLACEMENTS	NO. OF COMMENTS	EXAMPLE COMMENTS
Convenience / flexibility	184	<i>Being able to still work and study at the same time</i>
Gained skills	48	<i>Improving my video editing skills</i>
Location	44	<i>I was able to work for an agency that is located far away from my home</i>
Career networking	42	<i>I connected with really impressive mentors</i>
Cost savings	27	<i>I was able to save money as a student worker participating virtually</i>
Safety during Covid	10	<i>During the COVID outbreak I was able to keep myself better quarantined and safer with my health risks</i>
Learned about remote work	4	<i>How to work remotely way before the pandemic started</i>

**Table 19. Challenges of online placements – summary of open ended responses**

CHALLENGES OF ONLINE PLACEMENTS	NO. OF COMMENTS	EXAMPLE COMMENTS
Lack of communication / guidance / feedback	91	<i>Delay in getting questions answered</i>
Time zone differences	33	<i>I had to perform my internship duties at 4:30 am</i>
Lack of rapport	30	<i>Lacked a sense of workplace camaraderie</i>
Technology / internet issues	30	<i>Unstable internet connection at times</i>
High workload	22	<i>Balancing the intense workload with the other activities in my life</i>
Lack of motivation	13	<i>Hard time concentrating on work</i>

## Questionnaire – Availability of local, in-person placements

Students were asked if they could have had a similar work experience locally and in-person, and the results are summarised in Table 20 below. Students from Australia were more likely than students in the US to have access to similar in-person placements.

**Table 20. Availability of local, in-person placements**

	US	AUSTRALIA
Yes	92 (37%)	23 (61%)
No	96 (38%)	8 (21%)
Unsure	63 (25%)	7 (18%)

## Interviews

We did not collect demographic information from interviewees as such. Rather, we had an interview question where participants were able to self-disclose if they wished. Student interviewees identified with a range of equity categories - often more than one. We have included this information in the quotes where relevant, and also summarised the information in Table 21 below:

**Table 21. Equity issues disclosed by student interviewees**

EQUITY CATEGORY	STUDENT INTERVIEW NUMBER
Not disclosed	1, 3, 7, 13, 14, 16, 32
Ethnic minority	4, 17, 21, 23, 24, 26, 27, 28, 29, 30
Financial issues / low income	2, 5, 10, 12, 18, 22, 23,
Disability	6, 12, 19, 22, 31
Carer	8, 9, 22, 23
Mental health	15, 17, 20
Religious minority	23, 24
Remote	8, 31
Woman in STEM	11, 18
LGBTQIA+	19, 25
Black	18
Veteran	21

The findings from the interviews complement the questionnaire findings.

For brevity, please note that we refer to all interviewees who participated in online WIL as “students” even though they might now have graduated. We use the term educators in a very broad sense, because the focus of WIL is on education. So while interviewees included clinical educators, VSFS mentor / supervisors, and academics in charge of a WIL subject, we refer to them as educators. Note that some student interviewees use ‘mentor’ or ‘supervisor’ in their quotes.

Educator quotes are identified as E, followed by the participant number and participant location – either Australia or the US. Student quotes are identified as S, followed by the participant number, and location, noting that only one student interviewee participated in an Australian program.

We identified five themes across interviews with students and educators: 1) interactions / support; 2) preparation for employment; 3) benefits (other than employability); 4) challenges; and 5) equity considerations. We discuss each in turn below, with illustrative quotes. Note that since all but seven of the student interviewees disclosed equity issues, all of the themes touch on equity issues, but we delve into this area in more detail in theme 5.

### **Interactions / support**

Students and educators discussed a range of ways in which they interacted during online WIL, which provides further insight into the types of interpersonal support discussed in the previous questionnaire findings section. Students appreciated the efforts of their educators in checking in, for example via “weekly check ins” and regular texts and emails, tailoring projects to student interests, and providing feedback:

*My supervisor was amazing. ... she was really great about giving me things that were to my interests. She was constantly checking in and making sure you're not doing too much or too little. And she gave me lots of really great feedback on the work that I was doing so I could improve. (S5, US)*

*I was just super impressed by how involved my supervisor was and asking me like ‘what do you want? What are you interested in and how can we include that here [at this organisation]?’ (S6, US)*

In one case, the educator helped students prioritise their university coursework:

*My supervisor was so super organised and was so willing to make sure everyone was up to date with their own personal uni work. Uni was always first and so he was telling us ‘let me know what exams and what projects you have so we can work around it, so you can make sure you get your stuff done’. (S14, US)*

Educators elaborated on how they put in place structures and activities to welcome and orient students, and connect them with their team and peers:

*... the first assignment was to create a team poster, which was a roster of all our awesome interns ... And we did a team channel or group text so they could have a team identity and really work together. (E4, US)*

Some educators had enacted strategies to ensure that all students had opportunities to contribute and to ask questions by creating space for quieter students to participate:

*You can tell very quickly early on who are the outgoing ones, the extroverts ... and then you notice that there's three or four that are quite quiet and not saying too much. We try to overcome that by having a staggered start. So everyone's in different teams, and rather than having all teams in at the exact same time, we'll say ‘ok from 9 till 9:15 team one is in’ and then they can drop out and then the next group can sort of roll in and that definitely helped with the quieter ones. They were more willing to speak up and contribute when they knew it was just them in the room. (E8, Australia)*

One educator explained why creating a comfortable environment for students to ask questions was important:

*... we wanted to make sure that they felt really comfortable and could ask questions and didn't feel worried about failing. Because innovation is all about*

*failing quickly and picking yourself back up and learning from it ... if you're doing an internship for the government you're probably very afraid to fail. (E4, US)*

Educators told us about additional opportunities that they created for students, for example to develop their leadership skills:

*We've been offering cross educational experiences with the different internships. So we have all the interns and we have all the mentors, but we have encouraged the mentors to allow other interns to either assist or observe some of the things that they're working on, which is new for us and I think that will help give our interns a broader perspective. The other thing that I instituted two years ago is we've been encouraging interns to sign up for a second year and in their second year they become team leaders. So their internship was specifically being a team leader of a new group of interns so they get some supervisory experience which normally you wouldn't get in an internship. (E5, US)*

Several students mentioned that their peers were an important source of support, and described how they used technology to collaborate and stay in touch with their peers:

*The entire internship was run on Teams<sup>4</sup> and although it's not without its issues, it was still fairly manageable in terms of document sharing and collaboration and working on documents at the same time. Also, it meant we were able to have a general chat ... and then we had a separate chat for our individual groups, where we could jump on and off calls and use the chat function to send messages and share documents and links. I got quite close with my group by the end of it actually. We worked really closely together and it's odd because none of us has ever met each other, but by the end of it we'd sort of chatted about everything internship related and not internship related. (S20, US)*

Some students talked about how they valued meeting their educators in-person after the online placement:

*Me and my mentor worked really closely together. I was actually in [Washington] DC the summer after I interned and I actually got to go to the State Department then meet her in person. And so that was really cool to meet everybody and walk around, and just see the people I knew virtually, but also had never met in person. And so that was fun. (S2, US)*

Overall, educators interacted with students via various mechanisms (e.g. email, text, Zoom, Teams) and students also used these tools to keep in touch with peers on the same online WIL placement. Students appreciated regular check ins, projects tailored to their interests, and the feedback provided by their educators. Some educators facilitated team building activities and were aware of the importance of creating a dynamic where students felt comfortable to participate.

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<sup>4</sup> Teams - an online platform for collaboration, including meetings, documents and chat

## 1. Preparation for employment

Students and educators both discussed the benefits for students in being able to create artefacts or a portfolio of work during online WIL to demonstrate their achievements to potential employers:

*My name is on a good amount of things as far as publications and posts that I have on the website. I'm also a face in the 'our team' section, so it's really cool to say I'm part of that organisation. (S18, US)*

*They're design students, and what we try to ensure that they walk out with is a piece they can put in their showreel. Those kinds of things are very tangible. Employers want you to have real world experience. (E14, Australia)*

One student spoke about the online placement as a way of keeping their skills current:

*One of the main things I do for this internship is geographic information systems, data analysis and such. I'm not currently taking any classes in that, even though I have previously, so it's kind of a nice way to keep my skills current. I didn't want to get rusty. (S22, US)*

Several students and educators mentioned that online WIL has helped students to prepare for remote work - something that has become much more common during Covid:

*I felt like it set me up for working remotely because with everything that's been going on [Covid] I've been working from home for the last 6 months. With the online internship, I was working remotely all the time so I had experience of holding myself accountable. (S9, US)*

*... the students are very hesitant at the start, and they're all like 'aah, it's a telehealth placement'. But by the end of it they're like 'I learnt heaps, I can see the value of this type of service. I'm still helping people and there will be potential for telehealth supervision of patients in the future. And now I've developed those skills'. (E9, Australia)*

Conversely, one student found that online WIL was good preparation for in-person work due to developing their communication skills:

*It makes you a lot more flexible and it makes you a better communicator because those things are harder to do in a virtual environment. So to be able to learn how to successfully do them during a virtual internship I think sets you up to really excel at them in an in-person environment. You know, because you're 'well if I can do it in the most difficult of circumstances, then I can definitely do it in an office.' (S5, US)*

Career mentoring and networking were discussed by many students and educators as key benefits of the experience – educators set up informational interviews and students were able to meet “a lot of people in my field”:

*They really ask you 'what do you hope to get out of this? What are your career aspirations?' I told my mentor 'yeah I would love to do this one day'. And he was like 'we'll get you connected with other people because it can be hard to find a job in that sector. Alright, there's your recommendation for you. If we hear about any jobs we'll send them to you'. So that's just been really helpful for me. (S2, US)*

One educator mentioned that online WIL offers students a more realistic idea of what work a graduate in their particular area is likely to do – an “inside scoop”:

*We have a cohort of environmental science students and I think their default is to be in the middle of a forest counting possums. And the truth is that there's not that many jobs of that type and they're much more likely to do things like write policy for the government, so [the types of things they are doing as science virtual interns] like contributing to a report, writing policies, and looking at survey data [are good preparation]. (E6, Australia)*

The mentoring and networking provided and facilitated by educators has led to students successfully gaining Fellowships, jobs and entry into graduate school, for example:

*We have a really good track record of our former interns going on to do amazing things. So a lot of them go onto grad school - I've written several letters of recommendation. Some have gotten really prestigious fellowships. Some are working in [our department] now - yay - or elsewhere in government, so it's a good recruitment tool for us. (E4, US)*

In summary, online WIL helped prepare students for their careers by giving them an insider perspective, building a portfolio of work, experience of remote work, developing communication skills, networking, mentoring, and going on to achieve Fellowships, jobs and entry into graduate school.

## **2. Benefits (other than employability)**

Educators and students mentioned a range of other benefits associated with online WIL, including contributing to the work of the organisation:

*I think everyone was worried about what sort of experience were we going to get, but we have had a positive experience and also have felt like we were able to make a tangible difference to the clients and the work of the legal centre, even though we weren't able to be there in person. (S20, US)*

*The digital campaign we're working on right now we specifically wanted to target a younger audience and get people outside of our normal age cohort to understand what we do and so [the students have] been perfect for that. (E2, US)*

In some cases, online WIL enabled the expansion of projects that had previously been in-person:

*Some [of our] partners are Indigenous communities, which are often remote, where students traditionally do a field trip over a few days or weeks which is great, but it's very hard to build an ongoing project over the course of a few weeks or even months. So now what's happening is we're having to work on digital Country<sup>5</sup> basically. We're finding that the projects are getting longer and there's more opportunity to do different things because the timespan has stretched out because we're working online. (E7, Australia)*

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<sup>5</sup>Country - Country refers to an Aboriginal and Torres Strait Islander person's connection to their ancestral lands and seas. It is a greatly significant and reciprocal relationship (Common Ground, 2020). There is further information here <https://www.commonground.org.au/learn/connection-to-country>

Educators discussed some additional benefits of online WIL to those discussed by students, including targeting and structuring the learning, the “positive energy” of the students, and being able to balance the contributions of quieter and more outspoken students:

*We're finding academics saying the online environment is really democratic ... The extrovert students are easier to control for want of a better word, you know keep them in their timeframe. The introvert students are easier to draw out and engage because they feel like a playing field is more level. (E7, Australia)*

Educators reported that online WIL enabled them to access a pool of high quality students that would not be available in their local area:

*[the] quality of applicants absolutely ... All of these students are graduate students ... and where I am ... there just would not be as large of a pool...there's not even a Masters of Public Affairs program ... So absolutely I'm able to get better quality applicants, candidates. (E1, US)*

Educators expressed that mentoring the students was “very rewarding”, and developed their mentoring skills:

*It was so fun. For all of them it really made a difference in their lives which was great. They all said that they learned a lot. I feel like it put my team on better behaviour. It definitely made us live our values more. So I think in a lot of cases it held us to a higher standard. Because we knew people were watching, we wanted to be good mentors. (E4, US)*

Educators also enjoyed the flexibility of online WIL, including being able to work from “the comfort of my own home”:

*The flexibility of time is great. You can brief a student and they can go away and do it whenever it works for them. Similarly I can give them feedback when it works for me. (E14, Australia)*

*It was easier to supervise in an online environment ... because you can just fit into your day in little bits and pieces for the sessions. (E12, Australia)*

Clients in telehealth online WIL experienced particular benefits distinct from other types of online WIL, including being able to access the services from home and not risking their health during the pandemic:

*Especially because some clients are immunosuppressed or on immunosuppressants, so they're worried about their health and if they were to contract anything. (E9, Australia)*

*The online medium allowed them to access services that they wouldn't ordinarily. It allowed them to feel more comfortable in their own home environment versus a gym or a clinical setting. (E12, Australia)*

Another benefit of telehealth online WIL was that clients were more likely to persist with the program and were able to access support while isolated at home:

*Clients are in the comfort of their homes, they are sticking to the programs, they are booking three sessions a week, they don't miss one. Also, one very positive thing is we were able to reach the community and keep track of the mental health of our clients, especially the elderly and those who live alone. It has been really good to check up on them and to make sure they're doing their regular check ins with the GP<sup>6</sup>. (E13, Australia)*

To sum up this theme, students, educators and clients experienced a range of benefits due to online WIL. Students were able to contribute to work that makes a difference. Educators were able to access high quality students, found it rewarding to mentor students, and enjoyed the flexibility of being able to supervise students from home.

### 3. Challenges

Many students and educators noted the lack of in-person connection, such as “*hallway chats*” and social catch ups, and that its absence made it harder to build rapport and relationships:

*It was harder to develop that rapport and to really understand someone else's personality and work style without working with them in person on a regular basis. I think the biggest challenge was trying to establish those relationships ... (S10, US)*

The lack of in-person access during online WIL sometimes led to delays in communication between students and educators:

*Part of the difficulty of doing the internship is that you could pick up the phone and call them, but it's not the same as walking down the hall to somebody's office and saying ‘hey I got a question can you help me with this?’ and then it's resolved right then and there in a few minutes. Versus having to wait for somebody to either text you back, call you back, send you an email, and there's a gap in time. (S31, US)*

Some students and educators felt that students missed out on the learning that is possible in an in-person work environment such as observation, “*osmosis*”, client interaction, the “*smells and sounds*” of a hospital setting, and “*getting their hands dirty*” doing fieldwork:

*I think it's much better in person because as an intern you're trying to develop your professional habits and learn what it's like to actually be in the workplace. [with virtual internships] you can still do projects and other things like that, but it's the small little things that you pick up about how to be a professional that you don't necessarily get if you're doing it virtually. (S13, US)*

*I encourage the [in-person] students to be there as much of the time as they can. And just sit side-by-side. It's not direct conversations about the content necessarily, it's just sort of co-working. I think they can really pick up a lot in that environment. Not just from me but also being with the team, to hear those conversations. I think that's really beneficial. [the virtual interns] miss out on the context a little bit I think. (E14, Australia)*

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<sup>6</sup> General Practitioner (similar to family practitioner in the US)

Feedback, in particular, was something that educators found more challenging in online WIL, as it was necessarily more structured, less visual, and there were fewer opportunities for feedback from a range of educators:

*There's usually constant assessment and constant feedback, not just from your supervisor but from a range of different supervisors that you encounter. (E15, Australia)*

*There's on-the-fly feedback and scheduled feedback. We couldn't really do a lot of that on-the-fly stuff so it was very structured and strategic in the way that we provided feedback. So it had a rigidity, which meant that you lose that flexibility and it kind of diminishes a little bit of the learning outcomes I think. (E12, Australia)*

Although some students formed close connections with their peers, as noted in theme 1, others mentioned a lack of peer interaction:

*Because it's all virtual, there's not really that peer to peer interaction. (S11, US)*

*I had a supervisor and we touched base weekly via email, but I didn't feel super supported. I was the only intern on the team, so there wasn't anyone who was a peer that I could communicate with and check in with also. (S3, US)*

Some students struggled with motivation and scheduling, as being away from the workplace environment and lack of close supervision made it easier to procrastinate:

*I'm actually allowed to do my tasks whenever I feel like it, so long as they get done by the required deadline. The only problem with that is I've noticed I've had trouble structuring my days because it's up to me and there isn't a pressing figure over my shoulder checking in on me. I've noticed my schedule shifts greatly. Sometimes I'll be very productive at night and then I end up having random naps during the day. Other times I can manage to stick to that eight to five schedule I was used to in [my previous in-person internship]. (S23, US)*

There were challenges for students and also sometimes for their clients in learning to use the technology needed for online WIL. An additional challenge was that some educators found online WIL to be a high workload, whether due to managing students across several time zones, reviewing applications for the program, or having to quickly pivot to online WIL. Educators also mentioned that they found the style of supervision in online WIL to be intrusive because they couldn't observe from a distance, or observe a whole group of students at once:

*Supervision is difficult in those telehealth style placements because it's more intrusive. (E7, Australia)*

*Tracking how much progress they're making is a bit more difficult just because you can't see everyone in the room, and tracking what they're doing online feels a bit, I don't know, a little bit stalkerish, like whether they've been looking at files and things like that. (E8, Australia)*

“Zoom fatigue” was noticed by some educators as a challenge for students and educators:

*Spending so much time on the computer is really exhausting. The placement is only three days a week but it's eight hours a day. So if students aren't used to it*

*or if they became really fatigued from also doing coursework via Zoom, it was really tough for them. (E9, Australia)*

*By the end of May, early June, most of them were tired of being online. They did an excellent job engaging with patients but we found that their reflections and debriefs were tiring. The last thing that they wanted to do was speak to us on camera. I think we're all very tired of being online. (E15, Australia)*

Overall, the challenges of online WIL noted by students and educators included lamenting the lack of in-person connections and lack of experience in the physical workplace. Educators found it more challenging to provide students with feedback, and that online WIL was a high workload. "Zoom fatigue" was another downside of online WIL.

#### **4. Equity considerations**

Several students viewed their diversity as a strength that they brought to the online placement, often in terms of their fluency in languages other than English:

*I can't think or say I had any barrier. My diversity made me a strong candidate. It made me unique, and it made me the perfect person for it. (S26, US)*

*I am Latino. My family is from [country] but I think that was more an advantage than anything else, as I speak Spanish. So I was able to read sources that I might not have been able to read otherwise, which I think made a big difference. (S29, US)*

Educators confirmed that they viewed students' diverse backgrounds positively, as students could draw on their lived experiences of cultural and linguistic diversity, for example by suggesting ideas of how to better serve a particular group of clients:

*... she has Spanish language skills ... We want to attract a more diverse visitor pool... So the first step is making a real effort to try to get diversity both in the hiring, and visitors and in internship as well ... Having a background in another culture or language is fantastic because it helps you reach more people. (E3, US)*

*If we have a student who is fluent in Mandarin, and we've had a couple, that is very useful for us because it means that they can navigate through, say, WeChat, a social media platform that we can't otherwise navigate without those kinds of skills. And those interns can reach into different communities, which is helpful. It's really important to have access into those communities. And we find that having diverse backgrounds students is very useful for that kind of thing. (E10, Australia)*

Some students from diverse backgrounds found it supportive and empowering to be with peers who were also from diverse backgrounds:

*Out of the team of five [interns], three of us were people of colour. So one of the other girls is Black and then one of the other girls was Latinx, and I'm also Latinx. It wasn't really something that we talked about a lot, but I think we all just felt really comfortable knowing that we had each other, and that we were all doing the internship, and that we were all women of colour. That was just really empowering. (S30, US)*

Students appreciated learning about different cultures, and in some cases, educators created experiences to enhance that learning:

*One thing that we did to celebrate the diversity of the group is we had a thing called Forward Friday....Every Friday we would take turns and someone would lead the group for an hour, teaching them about something, anything that interested them. Because innovation requires you to have really diverse thoughts and experiences ... and so nothing was off topic ... We talked about Between the World and Me [a book by Ta-Nehisi Coates about being Black in the US] and the social justice protests going on in the US. Juneteenth is a holiday in the Black community here. June 19th is the day that news finally reached the slaves in Texas that the Emancipation Proclamation had happened. Two of the team members are Black and we asked 'How do you celebrate this? What could we do that's culturally appropriate?' and they said it's a day of learning and self-improvement. So we decided to take time as a team to learn about anything you want and report back. People did very different things based on what they needed to learn and I think that made us understand each other and appreciate each other better. (E4, US)*

One student initially questioned whether her acceptance into the online WIL program was tokenistic, but came to realise that her educator was a genuine champion for inclusion:

*At the very beginning, I was just like 'I wonder if being Black has had anything to do with the [internship] opportunities that I was given?' There are so many new ways of having to meet quota, like everyone is trying to diversify places and it's just like 'OK well this person's Black so maybe we should give it to them'. But now I honestly see it as a positive. My advisor is also the coordinator for diversity and inclusion [and I can see that] she is really rooting for me and she's making sure that there's going to be more representation with the STEM community. (S18, US)*

Educators, particularly those based in the US, confirmed that they were committed to increasing workforce diversity and saw the online placement as one way of achieving that goal:

*I'm excited that we might have a group of young women who represent the diversity that is the United States that we can sort of help them move up the ladder a little quicker. (E2, US)*

*... because the VSFS does not collect demographic information [about applicants] we [were wondering] 'how can we get more diversity?' ... we couldn't do it super explicitly but we looked at things like what school does someone go to. If they go to a Historically Black College or University<sup>7</sup> they're probably a diverse student. People mentioned being the first in their family to go to college. That's a plus. We looked at fluency in foreign languages - that would be an indicator. One person noted that they were D/deaf<sup>8</sup> and so 'OK I don't know how*

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<sup>7</sup> Historically Black College / University - Historically Black Colleges or Universities hold as their principal mission the education of Black Americans. There are over 100 such institutions in the US (US Dept of Education, 2020).

<sup>8</sup> D/deaf - this format acknowledges the varied identities and experiences of D/deaf people. "deaf" acknowledges people who do not view themselves as part of the Deaf community. "Deaf" acknowledges people who identify themselves as culturally Deaf,

*we'll do that with Zoom but we'll figure it out because we need to because that's a really interesting perspective'. (E4, US)*

Many students and educators commented on financial issues, and how an in-person placement, particularly in a major city or remote location, would be unaffordable due to housing and transport costs:

*Many of the interns that would work in Washington, especially unpaid interns, would be white Americans and I'm getting definitely a larger range of Asian Americans, South Asian Americans and Black Americans. Just because of the fact that it is very difficult to live in Washington for free and work for free for a federal agency. You just have to bring a certain amount of resources with you which means that already cuts out a lot of the potential candidate pool. (E5, US)*

*If people had to travel to [our rural location] and pay for hotels and whatever, we won't get that many people interested. (E3, US)*

Similarly, students valued not having to travel, particularly those who had lost their jobs due to Covid:

*There wasn't really any internship experience in my field that I could get in [my home state]. Doing a virtual internship meant I could get some experience in my field without having to leave [home]. (S16, US)*

*It's been good for the students who have lost their jobs and were struggling and actually said 'well this is a blessing that I don't have to take public transport, I don't have to take my car and I can do it from my place'. (E13, Australia)*

The flexibility of the hours was appreciated by students who needed to work or care for family members:

*I could do the hours whenever I felt I could do them. That was really good because I was working three jobs and going to school. So being able to manage my time was really helpful. My thought process was 'I'm paying to go to school right now, so I have to be able to work to pay the bills to go to school' and this internship was giving me the time to do so. (S18, US)*

*I have four grandparents in the same house as me, so I have sort of a caretaker role that I play day to day. And because they're getting older and they're more immunocompromised, sometimes it's actually dangerous to leave them alone at home. So the fact that I can have an online internship means I can watch over them and make sure that they're doing ok throughout the day. Otherwise, I'm sure if I had a physical internship I would be constantly worried about whether or not they were OK if they were able to get up and down the stairs on their own, things like that. (S23, US)*

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part of the Deaf community, and do not view Deafness as a medical condition or disability, but rather as part of their identity. There is a more detailed explanation here <https://hearmeoutcc.com/capital-d-small-d-deaf/> (Khalifa, 2018).

Digital access was raised as an equity issue by students and educators, specifically internet access in remote areas:

*I live in a very rural area. Getting broadband internet is still a big thing for us around here. So it's one of those things that sometimes the connections weren't always that great. I constantly had to think there was there a storm coming or something like that going on outside, is the electricity going to go out? (S31, US)*

*... we're starting to get a lot of feedback from rural and remote and regional students to say they've got the equipment but they just don't have the connection. So country students who would normally come into the city and board in the city at one of the residential colleges haven't done that. They stayed back at home and they just don't have the capacity to do anything. So they're having to actually withdraw or suspend for a whole semester because they just can't do any learning at all let alone WIL. (E7, Australia)*

Alongside digital access was the issue that some students may not have adequate space and privacy to conduct their online WIL meetings:

*I am first generation, so my family immigrated here from [country]. I live with about four generations of family within the same house, so that takes its toll....I sometimes have to scramble to find a place to situate myself so I appear as professional as possible. I remember during one meeting last year, because I had my grandparents scattered about as well as my cousin and my aunt and my mom all throughout the house, I remember I had to lock myself in a closet and just turn on the light and hope it worked out. And no one knew, but it worked out. (S23, US)*

*They found it tricky to have their whole world exposed because they were doing it from their homes. So sometimes if they're in shared accommodation, their only space that was their own was the bedroom and so I think that could have made them feel a little vulnerable maybe. (E12, Australia)*

Another student noticed that educators may have had their own interruptions due to working from home, and educators and students extended some grace to each other, understanding the challenges of working from home:

*Because we were all at home I feel like both students and the clinical supervisor understood each other's lives better. We understood that we also had other things going on, because sometimes when we were in the Zoom room, her son would come in, or just life would be happening as well. (S17, Australia)*

*So we did notice [interruptions and tech issues] and sometimes interns were like 'I'm sorry' [and we reassured them that] we're not judging you ... So it pushed all of us to think about that and how do we bring ourselves to work and how do we treat each other with patience and just not worry about stuff like that? (E4, US)*

Several students mentioned physical and mental health issues. In many cases, they found online WIL to allow more flexibility and different ways of communicating:

*During my last years of College I had two major surgeries. And so I was on crutches for at least two months both times, so I wasn't able to work an office job*

*but I was able to continue doing remote work through the internship. So for me it was really valuable because I have a disability. (S12, US)*

*I suffer from quite strong anxiety and so I think there were times when the online environment made that easier to manage, sort of like I had more ownership over my own time and my own engagement around how I was feeling and how I wanted to present to people and engage with people at a particular time. And I think considering starting somewhere new, and internship and all of that, is all fairly daunting, being able to do that from afar and set my own pace was probably easier. (S20, US)*

One student, however, found that large online meetings were challenging due to hearing loss:

*I have bilateral hearing loss, so in both ears. We have all these meetings with different partners in addition to the ones with our supervisors. And most people don't like to turn their camera on and I'm able to lip read fairly well so when I can see someone's mouth moving and hear their voice, I can tell what they're saying if the sound is good enough. But a lot of times people don't turn their cameras on and many of them have very strong accents. Also my internet can be pretty slow sometimes and it can be pretty slow in [our partner country]. So between that, oftentimes I have no idea what any of them are saying. It's not as bad when it's with the other two interns and our supervisor, because I told them about the situation, and everyone keeps their cameras on. And if I don't hear something I can just ask them to repeat it. But when there's 10, 15, 20 people that's not really an option, so that's a bit challenging. (S22, US)*

One student mentioned that they disclosed their health issues to let educators know it would not impact the online placement:

*I am a veteran, so I am service-connected for certain disabilities, the invisible disabilities for the most part, with PTSD<sup>9</sup> and I have a minor TBI<sup>10</sup> as well. That was something I was very forthcoming about when I applied for the virtual internship because I wanted them to know it's nothing that hinders me in my everyday life. I can get through just fine. However, it's just something I like to let people know. I'm not ashamed, and I'm not afraid of my illness. (S31, US)*

An educator found that, for a student with Attention Deficit Hyperactivity Disorder (ADHD), the online format made it difficult to complete some tasks:

*I had a student with ADHD, and he said that the online setting makes it really difficult for him to commit to completing his admin work. Whereas I think in a face to face setting I'd be around. They wouldn't be able to leave until they had the piece of paper in front of me. (E9, Australia)*

One student spoke about having gender reassignment surgery during their online placement and advising their educator of their preferred pronouns at a subsequent placement:

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<sup>9</sup> Post Traumatic Stress Disorder

<sup>10</sup> Traumatic Brain Injury

*I actually had a major surgery in the middle of the internship. I was on bed rest for two weeks... So the surgery, I'll disclose, was transgender surgery, gender reassignment and that never really came up [during the internship]. I mean I didn't tell them what type of surgery it was because who cares? So it didn't impact anything during it. When my supervisor wrote my recommendation letter for my next internship she used some of the wrong pronouns, which we have never discussed because we have just spoken directly right? It's not like she had to talk to someone else about me. I just addressed it upfront with my new internship supervisor. It's awkward to open an internship with like, 'By the way, these are my pronouns and da-da-dah.' Especially because I was taking time off for the surgery, I feel like maybe I didn't want to disclose that to be honest and it felt like it shouldn't have a direct bearing on anything. So I didn't talk about it in that internship, but I kind of regret that and that's why I opened my second one [internship] with a pretty clear statement about it, and I feel like that was a better approach. (S19, US)*

Another student discussed their sexuality, and how doing online WIL meant that it might have gone “under the radar” because of the virtual space:

*I'm gay and I think especially with queerness there's a certain visibility element to it...At no point in my application was it ever asked, nor did I put it in my cover letter because that would be sort of weird. I talk in a queer accent and I don't particularly try to hide that and I think to a certain extent I wouldn't be surprised if people know in the internship program. But it wasn't something ever expressly said or mentioned in any way. It's entirely possible that it went completely under the radar. And I think that was helped based off of its virtualness ... because it was mostly based off of email and text, it really didn't come up ever. (S25, US)*

One educator spoke about online WIL being “more accessible” for staff from remote areas, and equity issues for staff are worthy of further consideration, as some of the affordances of online WIL for students from equity backgrounds likely apply to staff as well.

Overall for this theme, students' diverse backgrounds, particularly their cultural and linguistic diversity, brought valued perspectives to their online WIL projects and workplaces. Some educators in particular were strong champions for inclusion, and viewed the online WIL program as a way to increase workforce diversity. In-person WIL experiences are often out of reach for students from equity backgrounds due to high costs, whereas online WIL saved students time and money, and enabled them to keep working in their paid jobs and / or take care of family members. Digital access, particularly internet reliability, and space and privacy to participate in online WIL activities, was a barrier for some students. Online WIL offered more flexibility for students with physical and mental health issues. LGBTQIA+ students discussed their experiences with online WIL in nuanced ways.

# Discussion

We have organised the first part of the discussion according to our four research questions. We then discuss the limitations of the study, and conclude by providing suggestions for future research and recommendations.

## 1. What are the benefits and challenges of online WIL as reported by students from equity groups?

Students gained a range of benefits from online WIL, including preparation for remote work, job opportunities, networking, mentoring, and the satisfaction of doing meaningful work. One of the key findings from the questionnaire was that the total number of gains from online WIL for students from an equity group was higher than non-equity students. Further research is needed to unpack why that is that case. One possibility raised through our interviews was that students with mental and physical health issues find online WIL to be more flexible, in which case the benefits may be more keenly felt for such students, given that they may face barriers to participating in in-person WIL. Another possibility is that non-equity students already have access to mentoring and networking, and have been able to develop their employability in other ways.

Another benefit of online WIL for equity students was that it was more affordable, which has also been noted by other researchers: "... unpaid placements are more favourable for people with privileged backgrounds who can afford to live for extended periods without paid work" (Hoskyn et al., 2020, p. 441). Students in a recent study by Hoskyn and colleagues said that:

*Working from home reduced some of the hidden costs of being on placement. There was no longer a need to adhere to the dress code for students which can be costly. Students spent less time and money travelling to the workplace. Travel time to the workplace often extends the working day allowing less time for university assessments and / or other paid employment (2020, p. 446).*

These findings were echoed in a study of 50 Canadian students undertaking online WIL (Pretti et al., 2020). This is useful in signalling that one way we might more effectively recruit students from, for example, low SES backgrounds, into future or existing online WIL programs would be to foreground this affordability in recruitment efforts. Such targeted evidence-based communications may mean that students from low SES backgrounds may give the opportunity more consideration, rather than immediately dismissing it as not 'for them' given the many barriers such students face in partaking in such opportunities.

Several students saw that their diverse skills and experiences, such as fluency in a language other than English, were of value during their online WIL experiences. This was confirmed by educators and aligns with a movement of intentionally viewing diversity as a strength (e.g. Airini & Naepi, 2018). This strengths-based approach is in contrast with deficit views about students from diverse backgrounds, which are problematic due to strengthening stereotypes, low educator expectations, alienation of students, and neglecting to consider structural injustices (Smit, 2012). Such narratives may, in addition to the above points about accessibility and affordability, also help us to frame more targeted and inclusive communications around recruitment for WIL opportunities.

Peers were an important source of support and empowerment for students from equity groups undertaking online WIL. Salter and colleagues found that: “a peer learning model [allows students] to create their own small community of practice” (2020, p. 595), and peer learning is recognised as beneficial for all types of WIL (e.g. Tai et al., 2020). Students who were not connected with peers during online WIL felt isolated. This indicates that, as mentioned by some educators in interviews, setting up explicit space/structures for students to build community among peers online would be an important support resource to maximise the benefits of online WIL for equity students.

Some students found that motivation was harder in the online environment and that it was easier to procrastinate, indicating that, as with online learning, more scaffolding and structure may be required in the design of such programs to ensure meaningful engagement and learning. Online WIL was helpful for students with caring responsibilities, and for those with mental and physical health issues, including recovering from surgery. Different modes of communication were beneficial for a student with a verbal speech disorder (stuttering), and those with anxiety, however, one student with hearing loss struggled with large online meetings. Digital access was sometimes difficult, especially for students in remote / rural areas where the internet service was poor. Clearly a major consideration for supporting equity students to access online WIL is the provision of sufficient digital and technology resources. According to our questionnaire, these were the least received supports for students but perhaps for some, the most important. Access to adequate technology and reliable internet has been an issue that has been highlighted by many journalists and educators during Covid (e.g. Atherton, 2020).

Students in our study sometimes found it difficult to find a quiet, private space in which to conduct online WIL - the example given by S23 of locking themselves in a closet was certainly evocative. Issues with working / learning from home have also been noted by other researchers. For example, Bowen found that many students undertaking online WIL during Covid “lacked an appropriate space ... Students told me during this time that their new work spaces did not meet the standards for more professional work, and blurred the boundaries between work and home, affecting their motivation, and compounding their stress” (2020, p. 378). A recent study by Salter and colleagues (2020) confirmed this finding, as does a recent survey of 208 students and 71 staff at a UK university with a strong widening participation focus, which found that “over a third of staff and just over a quarter of students found it difficult to cope with online learning due to their home issues such as childcare” (Mulrooney & Kelly, 2020, p. 4).

A related issue that was not mentioned by our participants, but certainly something we and others have reflected on, is that in-person WIL can offer refuge or respite for some students. Going to the placement (or campus) rather than attending online from home can be a break and an escape. Selwyn challenges us to “... consider the terrors of living / working / being trapped in a household which is a site of domestic abuse, or similarly chaotic for many other reasons. The lockdowns have starkly illustrated the limitations of presuming digital education to be an immaterial process. Digital education always takes place somewhere....” (Selwyn & Jandrić, 2020, p. 993). This concern, in combination with the above workspace limitations, highlights that there needs to be careful consideration in the design of online WIL programs such that the intention to provide a more accessible WIL experience for equity students is not prevented by the pre-existing barriers they already face.

Students and educators both expressed that connections, rapport and camaraderie were often more difficult to develop in the online setting, as has sometimes been found in online university classes, particularly during Covid (e.g. Martin, 2020). It was similarly noted by Bowen that students who engaged in online WIL “lacked experience in working through the technological mediation of conversations and interactions that had been easier face-to-face in the office setting” (2020, p. 378), and Salter and colleagues found that “[m]anaging client relationships and the development of rapport in a virtual space required concerted effort due to the lack of face-to-face interaction” (2020, p. 596). Online WIL students in Canada also “missed the personal atmosphere of an in-office setting” (Pretti et al., 2020 p.406). Bowen warns that in “a work culture that is no longer apparent or accessible ... students may feel invisible and unnoticed behind a computer screen” (2020, pp. 381- 382). There is a large body of literature on how to build relationships and rapport among students, their peers and educators in online subjects in higher education. Many of the affordances and barriers we found in our study of online WIL are reflected in that context. Educators would be well placed in the design or review of future or existing online WIL experiences to consult that literature to inform how we can best structure online WIL programs to build relationships in the virtual space - something which in online classrooms is certainly possible with the right pedagogical approaches, such as the structured interpersonal support highlighted in our questionnaire findings.

Another challenge faced by students (and educators) doing online WIL, was “Zoom fatigue”. Selwyn observes that: “Many of us have experienced the phenomenon of ‘Zoom fatigue’, and the discombobulated feeling of spending all day online (supposedly working) and then all evening online (supposedly relaxing). Unfamiliar routines and rhythms where weekdays morph into weekends has made for an unsettling existence ...” (Selwyn & Jandrić, 2020, p.993). We suggest that strategies for managing online fatigue (e.g. regular breaks, other forms of communication where possible) are developed and discussed with online WIL students.

## **2. What are the benefits and challenges of online WIL as reported by educators?**

Many of the benefits and challenges discussed above also relate to educators. As mentioned in the previous section, educators saw that students from diverse backgrounds helped them better understand and meet the needs of their diverse clients / communities. In some cases, such as telehealth placements, educators also saw benefits for clients. And as with the students, educators were concerned about students missing out on particular aspects of the in-person workplace, such as physical presence, “sounds and smells” and skills to prepare them for the in-person workplace. Salter and colleagues (2020) describe this as “students [being] unable to embed themselves in and engaged informally with the community and organisational staff” (p. 596). We need to consider how to ensure that students from equity backgrounds don’t miss out on in-person WIL entirely. Clearly, online WIL cannot be the only option for equity students - barriers to in-person WIL such as finances, health, caring responsibilities still need to be addressed to ensure that the benefits and opportunities afforded by higher education are not distributed inequitably.

Educators in several cases found online WIL to be more flexible than in-person WIL. Similarly, Salter and colleagues found that telehealth enabled educators to have “more

flexibility to conduct shorter, but more frequent supervision sessions” (2020, p. 595). It also meant educators “who would not have been able to attend the placement if it was face-to-face (due to distance from placement site) were able to be involved” (ibid). In addition, online WIL was described as being more accessible for staff who lived a long distance from campus. This indicates potential benefits for staff as well as for equity students, i.e. online WIL may also foster greater participation from staff from equity backgrounds. Such an affordance has a multitude of beneficial ripple effects such as increasing visibility of equity staff as role models for students and diversifying a relatively exclusive and homogeneous academy.

While some educators found it easier to ensure that “quieter” students contributed in online spaces, they also found that giving feedback was more challenging in online WIL because it was more structured, it could not be “hands on” and students missed out on feedback from other educators who might usually be in the in-person workplace. Educators in our study also noted increased workloads, as has also been found in other recent studies (Mulrooney & Kelly, 2020; Salter et al., 2020). This extra workload has been compounded by the pressures of Covid, with Australian educators having to rapidly redesign in-person WIL due to the pandemic:

*The processes of responding to the pandemic to address student needs, maintain and reconfigure research, and move online have relied on academics and professional staff to work above and beyond their requirements. This is on top of decades of escalating expectations of research assessment, accountability and high student: academic ratios ... Consequently, academics already felt overworked, undervalued, underfunded in research, and exhausted with serial restructuring and contradictory policies and priorities (Blackmore, 2020, p.1334).*

Despite the increased workload, educators found mentoring and supervising online WIL students to be a rewarding and positive experience.

### **3. What are the commonalities and differences between online WIL in the US versus Australia?**

While similar challenges and benefits were expressed by students and educators in the US and Australia, the perspectives offered by participants in the long-running VSFS program are invaluable to the Australian higher education sector in its efforts to expand online WIL offerings to better serve all students. Large-scale initiatives have clear benefits, such as centralised organisation and support, and a level of coherence and quality control not afforded by the discipline-based ad hoc nature of the Australian WIL landscape.

We noted that US educators were very attuned to issues of diversity and inclusion and committed to increasing workforce diversity which, reflecting on our own experiences of working across the two contexts, seems to be reflective of the broader geocultural nature of the two higher education sectors respectively. Some educators based in the US took a lot of care to select and include diverse students and to celebrate diversity, such as interviewee E4’s Forward Friday example. Educators in the VSFS saw online WIL as one way to achieve their aim of increasing workforce diversity. We suggest that this commitment may partly be because the VSFS is a Federal Government program. It may also be because the VSFS is a selective program (i.e. students apply), whereas in Australia WIL programs are often linked to the curriculum, and with all students in certain degree programs undertaking WIL. In such

programs where these are offered as electives rather than core components—for example, this is often the case in generalist science degrees, our experience tells us that the opt-in model faces significant self-selection issues such that students who have the time, financial support, access, and networks to choose to undertake and potentially organise their own placement are those with the most privilege. This means that many equity students do not have fair access to the benefits of WIL within some Australian curricula. As a sector, we have much to learn from our US counterparts in moving towards more systematically designed and supported WIL programs—online or in-person—which intentionally embrace diversity rather than exclude it.

#### **4. How might online WIL in Australia be enhanced and systematically supported to better meet the needs of equity students and educators?**

Although online WIL already affords many benefits for equity students, we recommend that online WIL be deliberately designed to be inclusive. Hendren writes that: “... the most interesting creativity often results when there’s an unusual and urgent degree of friction in the meeting of body and world - whether that friction be born of capacity or history or demographic background.” (2020, p. 113) and this time, during a pandemic, is an opportune moment to reimagine online WIL. We suggest that the design process be participatory, with all stakeholders (students, educators, workplaces, clients of the workplaces) involved, and should consider several factors, detailed below.

It is important to ensure that if an online WIL program is competitive or not open to all students, that diversity is considered in the selection process with consideration and accommodation for barriers to the application process. Students may need additional financial or material support to undertake online WIL, for example to enable digital access and access to a private workspace. The mental and physical health needs of students should be considered. All participants in online WIL should be encouraged to take a strengths-based approach to share and celebrate diversity. Consideration should be given to creating environments which invite students to bring their whole, authentic selves to online WIL, for example, the use of gender pronouns in email signatures and Zoom meetings.

Educators need to create explicit opportunities for formal and informal interaction and network building among students and their peers, and also students and other staff, to replicate the experiences of an in-person workplace. Educators may wish to develop their mentorship / supervisory skills via relevant courses and training or informal learning, in order to develop a facilitative and relational approach to supervision. Educators should provide meaningful work that is supported with enough information about what the student role entails. The equity needs of educators, and of clients of the workplaces where online WIL is occurring, should also be considered, so that staff and clients from equity backgrounds can also benefit from online WIL.

Overall, barriers such as finances, health, and caring responsibilities still need to be addressed to ensure that the benefits and opportunities offered by online WIL are not distributed inequitably. We need to take care not to transfer the barriers to in-person WIL to online WIL.

## Limitations

Our project, while providing a rich data set, had some limitations. Although we put in considerable effort to recruit more student interviewees from Australia, there was an imbalance between the number of students interviewed from the US versus Australia. In addition, the questionnaire and interview invitations in Australia were sent to students by their unit coordinators meaning that former students were not usually targeted in invitations to participate. Further, the US program had a database of past participants to draw on, whereas the Australian sample was ad hoc. While ideally there would have been even numbers of participants from the US and Australia, we were not perturbed by this imbalance as one of the objectives of the study was to identify potential practices that may have been successful in a long-running, large online WIL program in the US that may be transferable to Australia.

Another limitation is that, in the US sample, the students and educators were all from the same program and were located in Federal Government departments, whereas the Australian students and educators included a mix of host organisations. We suggest further research exploring the nuances of different online WIL contexts e.g. clinical, for profit, government, not for profit, different organisation sizes, and so on.

# Conclusion

In our conclusion we provide suggestions for further research and practical recommendations.

## Suggestions for future research

We strongly suggest that researchers continue to explore issues related to equity and online WIL, including but not limited to:

- The experiences of students in particular equity groups including those with intersectional identities;
- The experiences of students who missed out on participating in online WIL (e.g. students who apply to the VSFS but are not selected);
- The nature of interactions in online WIL;
- Longitudinal studies of students and educators partaking in online WIL;
- Equity and workload issues for educators;
- The history of online WIL, for example, how existing programs were developed;
- Intersections between online learning and online WIL, and what they might learn from each other;
- Perspectives from countries other than Australia and the US;
- Comparisons of different models of online WIL—for example, the affordances and challenges of extracurricular versus curriculum-embedded online WIL opportunities; and;
- Comparisons of online WIL in different organisational types and sizes, e.g. government, for profit and not for profit organisations, small and medium sized enterprises and so on.

We note here that inspired by the VSFS, in Australia in 2020 the Innovative Research Universities (IRU) group piloted eWIL (online WIL) in partnership with three government agencies “to scope the potential for students to participate in real projects as part of their work-integrated learning at university ... with the aim of providing opportunities for remote and equity groups to take part in future eWIL projects.” (IRU, 2020, p. 1). The pilot projects are as follows:

- Department of Defence and Flinders University – social learning platforms in government
- Department of Finance and Griffith University – women in finance leadership roles
- Northern Territory Department of Trade, Business and Innovation and Charles Darwin University – procurement in Northern Australia

We await with interest the outcomes of these pilot projects.

## Recommendations

Based on the findings of this study, our reading of the literature, and our practical experiences of supporting online WIL during the pandemic, we recommend that:

1. **Australian universities** continue to explore large scale, coordinated online WIL opportunities (noting several existing initiatives, including the IRU eWIL trial in collaboration with Government departments already underway).

2. **Universities and workplaces** provide support to and recognition of educators and other staff involved in providing online WIL, recognising that it brings benefits to workplaces but is also time consuming.
3. Professional development for educators provided by **universities and workplaces** should be updated to include online WIL, particularly regarding equity issues related to online WIL. This could include taking a strengths-based view of diversity (e.g. making use of additional language skills, tapping into different cultural perspectives to improve the quality of work done) and providing guidance on how allowances for disability need to be adapted in the online context (e.g. for hearing loss, mental health issues etc.).
4. **Educators, students and other stakeholders** co-design inclusive online WIL - inclusion needs to be systemic rather than tokenistic. Such co-design can occur at individual unit of study and / or degree program level.
5. **Universities Australia** updates their policy/white paper on WIL to include more on online WIL in light of Covid, the IRU trial, these findings, and the potential for increased remote work in future.
6. Similarly, that **universities** include online WIL explicitly as a potential form of WIL in their teaching and learning policies, wherever placements are mentioned.
7. **Educators** draw on what is known about online learning and use that to improve/develop best practice design for online WIL. This could include the preparation of best practice guide/s on designing successful online WIL experiences focussing on structured interpersonal support. The guides could cover, for example, orienting students to the role, providing and supporting meaningful and high quality work, providing career transition opportunities, overcoming technical challenges, and building teams and relationships online.

The Covid pandemic has very much focused attention on remote work and study, societal inequalities and what the future might look like:

*The issues surrounding COVID-19 ... have ... given rise to issues of sociality – how, under the new conditions, might people within and across communities relate to each other, and what new cultural and social formations might emerge in their aftermath. How might we need to rethink and reimagine issues of global interconnectivity and interdependence? How might they lead to the emergence of a new kind of world society? And for us as educators, how might we rethink the basic purposes of education, and the pedagogic models better suited to the ever-present possibilities of insecurity, risk and relentless change? (Peters et al., 2020, pp. 1-2).*

In a similar vein, though perhaps more poetically, the author Arundhati Roy wrote:

*Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next. We can choose to walk through it, dragging the carcasses of our prejudice and hatred, our avarice, our data banks and dead ideas, our dead rivers and smoky skies behind us. Or we can walk through lightly, with little luggage, ready to imagine another world. And ready to fight for it (2020).*

We hope that, through heeding the voices of the participants in our study, we might imagine a more equitable version of WIL in a “post” Covid world.

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# Appendices

## Appendix 1: Questionnaire

### Student experiences of online placements / virtual internships

Q1

We are interested in the experiences of students undertaking online work integrated learning / internships in Australia and the USA - i.e fully remotely, from home.

If you are an educator / supervisor of online work integrated learning and interested in participating in an interview, please email [amani.bell@sydney.edu.au](mailto:amani.bell@sydney.edu.au)

Please read the participant information statement before starting the survey. [Participant Information Statement online WIL.pdf](#)

This survey will take about 10 minutes to complete. Your answers are confidential and anonymous.

Being in this study is completely voluntary and you do not have to take part. If you participate in the survey, submitting your completed survey shows your consent to participate in the study. You can stop the survey at any time and decide not to submit it. Once you have submitted it, your responses cannot be withdrawn because they are anonymous and therefore we will not be able to tell which responses are yours.

If you become distressed while completing the survey, please contact counselling services. For people living in Australia, [Lifeline](#) is a 24-hour nationwide service. For people living in the USA, the [Crisis Text Line](#) is a 24-hour, toll-free, confidential service.

Are you willing to begin the survey:

- Yes
- No

Q2 What year did your most recent virtual internship / online placement take place?

- 2010
- 2011
- 2012
- 2013
- 2014
- 2015

- 2016
- 2017
- 2018
- 2019
- 2020
- I have not completed an online placement / internship

Q3 When I completed the virtual internship / online placement, I was a student in

- Australia
- USA
- Neither

Q4 Considering your most recent virtual internship / online placement - was it organised by

- My university / college
- I organised it myself
- Virtual Student Federal Service (US Department of State)
- Other \_\_\_\_\_

Q5 When I completed the virtual internship / online placement I was also (please select all that apply)

- Working
- Studying
- Unemployed
- Other activity

Q6 I am currently (please select all that apply)

- Working
- Studying
- Unemployed
- Other activity

Q7 When I completed the virtual internship / online placement I was a

- Domestic student
- International student
- Other \_\_\_\_\_

Q8 What is / was your area of study? (please select all that apply)

- Natural and physical sciences (e.g. mathematics, physics, chemistry, earth sciences, biological sciences, medical science, food science)
- Information technology (e.g. computer science, information systems)
- Engineering
- Architecture and building (e.g. architecture, landscape architecture, urban design, interior design, building construction management)
- Agriculture, environmental and related studies (e.g. agriculture, horticulture, viticulture, forestry, fishery, environmental studies)
- Health (e.g. medicine, nursing, pharmacy, dentistry, optometry, veterinary studies, public health, allied health, complementary therapies)
- Education
- Management and commerce (e.g. accounting, business and management, sales and marketing, tourism, banking and finance)

- Society and Culture (e.g. political science, sociology, social work, psychology, law, librarianship, language and literature, philosophy and religious studies, economics, sport and recreation)
- Creative Arts (performing arts, visual arts, graphic and design studies, communication and media studies, journalism)
- Food, hospitality and personal services (e.g. hospitality, beauty therapy, hairdressing)
- Other \_\_\_\_\_

Q9 Do you identify as belonging to a minority / marginalised / underrepresented group? (for example, do you identify as LGBTQI+, a religious minority, an ethnic minority, First Nations / Indigenous, having a disability, etc.?)

- Yes
- No
- Not sure
- Prefer not to say

Q10 If you feel comfortable doing so, please identify which minority group(s) you belong to.

\_\_\_\_\_

Q11 Please respond to the following questions

	Yes	No	Unsure	Prefer not to say
Do you identify as a woman working / studying in a non-traditional area (e.g. engineering)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you grow up speaking a language(s) other than English?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When you completed the placement, did you live in a remote / rural area, far from a major town?

Do you have any physical or mental health issues that impact on your capacity to maintain study commitments?

Have you registered for disability services while at university / college?

Are or were you a recipient of a scholarship / financial aid for university / college?

Does your financial situation impact on your ability to access physical internships / placements (e.g. travel costs, can't take time off paid work)?

Are you the first person in your family to go to university / college?

Q12 How were you supported during your online placement / virtual internship? (please select all that apply)

- Regular meetings with my supervisor
- Introduced to colleagues
- Observed / shadowed others
- Provided with enough information to carry out the role

- Provided with meaningful work
- Encouraged to share my ideas
- Virtual social events
- Provided with support to set up the hardware and /or software I needed
- Attended meetings
- Informal interactions (e.g. online chat / discussion)
- Other \_\_\_\_\_

Q13 What did you gain from the online placement / virtual internship? (please select all that apply)

- Mentoring
- Networking
- Communication skills
- Teamwork
- Critical thinking
- Confidence in my professional abilities
- Better idea of my career path
- Employment opportunities
- Concepts / skills I can use / used in my studies
- Concepts / skills I can use / used in my career
- Better understanding of workplaces
- Other \_\_\_\_\_

Q14 Could you have had a similar work experience locally and in person?

- Yes
- No
- Not sure

Q15 Did you complete the online placement / virtual internship with one or more other students (i.e. doing the same placement with you at the same time?)

- Yes
- No

Q16 What were the personal benefits to you (if any) in doing the internship / placement remotely?

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Q17 What were the difficulties you faced (if any) in doing the placement / internship remotely?

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Q18 Any other comments

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Q19 Thank you for completing the survey.

If you would like to participate in an online interview and / or receive a summary of the findings and/or be put in a draw to win one of six \$80 AUD / \$50USD gift vouchers, please indicate your interest below. You may select more than one.

The prize draw is not connected to your survey responses, which will remain anonymous and confidential.

- Please send me a one-page summary of the findings to my email below
- Please put me in the draw to win one of the six gift vouchers, I have entered my email below
- Please contact me as I am interested in participating in an online interview (\$40AUD / \$25USD gift voucher), I have entered my email below

My email is \_\_\_\_\_

None of the above

## Appendix 2: Interview guide - students

### Introduction

Thanks for taking time out to support this project. I am [name], a researcher with the project team.

We are carrying out today's discussion to hear your feedback about your online work experience / virtual internship [with – add program name if applicable].

The information you are giving us will help us develop recommendations to improve online work experience, particularly for students from diverse backgrounds.

Today's session will take about 30 minutes.

Before we start...

- Participant Information Sheet – any questions?
- Consent form – signed and returned via email?
- Please only tell us what you feel comfortable sharing. You do **not need to tell us anything you feel uncomfortable sharing**.
- Everything you are telling us is valid. There is **no right or wrong**.
- Whatever you say is **confidential and will be anonymised** in the process of transcribing the recording.
- Are you okay if I switch the recording on?

### Interview commences

- Could you please briefly describe your current role (e.g. are you a student, perhaps you have graduated and now working etc)?
- I'd like to ask you to reflect on your online placement / virtual internship. Potential prompts -
- How did you come to hear about the opportunity?
- What made you decide to apply? (Are they doing this because there was no other way to gain this type of experience, or because they had to due to course requirements?)
- What is your 'dream' placement / internship? If there were no barriers...
- Could you please give an overview of your placement / internship experience – the project you worked on, how long it went for? Were you placed with other students or by yourself?
- What supervision did you receive?
- What support was provided (e.g. did your university / college provide any support)?
- Was this your first internship / placement? Your first online internship / placement?
- Do you feel that the placement / internship helped prepare you for employment? If so in what ways?

- If you have also undertaken a face-to-face internship / placement, what did you find to be the main differences between the two delivery modes? (positive or negative)
- What challenges did you encounter during your online work experience? (prompt to elaborate)

*Prompts:*

- Did you have someone to talk about this experience and debrief or get advice from? Who was that? Was that helpful?
- Was there anything about the circumstances in your life within or outside your studies at the time that contributed to making this a challenging experience?
- What would have helped improve or resolve the situation for you?

What were the positive aspects of your online work experience? (prompt to elaborate)

*Prompts:*

- What happened? Who was involved?
- What exactly made it such a positive experience?
- Do you think this positive experience could be replicated across other online workplace experiences? If so, how?
- Was there anything about the circumstances in your life within or outside your studies at the time that contributed to making this a positive experience?

## **Equity**

If needed–

We're particularly interested in experiences of students from diverse backgrounds – for example, First Nations or Indigenous, religion, ethnicity, having a disability, being from a remote area, caring for a family member, health issues and so on. If you identify with any of these and only if you feel comfortable sharing, do you feel that had an influence on your experience of your online internship? If yes, in what ways?

## **Ending**

We are now coming to the end of the discussion. Is there anything you would like to add that you feel is relevant to the topic?

Thank you very much for participating. We really appreciate that you have shared your experiences and views with us.

Wish to review transcript?

Switch off audio recording.

## Interview guide - educators / supervisors

### Introduction

Thanks for taking time out to support this project. I am [name], a researcher with the project team. We are carrying out today's discussion to hear your feedback about your online work experience / virtual internship [with – add program name if applicable].

The information you are giving us will help us develop recommendations to improve online work experience, particularly for students from diverse backgrounds.

Today's session will take about 30 minutes.

Before we start...

- Participant Information Sheet – any questions?
- Consent form – signed and returned via email?
- Please only tell us what you feel comfortable sharing. You do **not need to tell us anything you feel uncomfortable sharing**.
- Everything you are telling us is valid. There is **no right or wrong**.
- Whatever you say is **confidential and will be anonymised** in the process of transcribing the recording.
- Are you okay if I switch the recording on?

### Interview commences

I'd like to ask you to reflect on the online placements / virtual internships that you have supervised.

What made you decide to get involved?

Could you please give an overview of your experiences – the number of students you've supervised, the types of projects that the students worked on?

What support was provided (e.g. did a university / college provide any support, did the VSFS if applicable)? What support do you wish had been provided which wasn't?

Do you feel that the placement / internship helped prepare the student/s for employment? If so in what ways?

If you have also supervised face-to-face internships / placements, what did you find to be the main differences between the two delivery modes? (positive or negative)

What challenges did you encounter supervising students online?

What were the positive aspects of supervising students' online internships / placements?

We're particularly interested in experiences of students from diverse backgrounds (e.g. Indigenous, religious or cultural minority, disability, being from a remote area etc). If you feel comfortable sharing, do you have any comments on the benefits / challenges of online WIL for these students?

## **Ending**

We are now coming to the end of the discussion. Is there anything you would like to add that you feel is relevant to the topic?

Thank you very much for participating. We really appreciate that you have shared your experiences and views with us.

Wish to review transcript? Switch off audio recorder.

## Appendix 3: Individual gain regression analysis results

### Gain 1: Mentoring

**Table A.1. Mentoring – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.395	1	.530
Country	.140	1	.708
Organiser	3.670	3	.299
Subject area	3.473	2	.176
Year	6.531	2	.038
Equity cluster	2.188	5	.822
Support type	32.531	1	.000

**Table A.2. Mentoring – Tests of model interaction effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.327	1	.567
Country	.173	1	.678
Organiser	3.734	3	.292
Subject area	3.491	2	.175
Year	5.352	2	.069
Equity cluster	2.106	5	.834
Support type	19.553	1	.000
Year * Support type	.116	2	.944

**Table A.3. Proportion of respondents who reported Mentoring as a gain by Calendar year**

	MENTORING
2018 and prior	0.28
2019	0.34
2020	0.52

**Table A.4. Proportion who reported Mentoring as a gain by Support type**

	MENTORING
General support	0.31
Interpersonal support	0.71

In this sample, the highest level of mentoring reported was in 2020, at 52% of students. Also, those reporting mentoring as part of their placement were more likely to have experienced higher interpersonal support during their placement – 71% versus 31% for students in the lower interpersonal support cluster.

## Gain 2: Networking

**Table A.5. Networking – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.192	1	.661
Country	.973	1	.324
Organiser	2.071	3	.558
Subject area	1.235	2	.539
Year	2.407	2	.300
Equity cluster	3.222	5	.666
Support type	44.283	1	.000

**Table A.6. Proportion who reported Networking as a gain by Support type**

	NETWORKING
General support	0.32
Interpersonal support	0.78

Those reporting networking as a gain from their placement were more likely to have experienced higher personal support – 78% of students in this cluster saw networking as a gain, versus 32% in the other cluster.

## Gain 3: Communication skills

**Table A.7. Communication skills – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	1.232	1	.267
Country	.023	1	.880
Organiser	5.919	3	.116
Subject area	.579	2	.749
Year	.632	2	.729
Equity cluster	5.136	5	.399
Support type	25.449	1	.000

**Table A.8. Proportion who reported Communication skills as a gain by Support type**

	COMMUNICATION SKILLS
General support	0.50
Interpersonal support	0.83

Those reporting communication skills as a gain from their placement were more likely to have experienced higher interpersonal support – 83% of students in this cluster felt they gained further communication skills, versus 50% in the other cluster.

## Gain 4: Teamwork

**Table A.9. Teamwork – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.601	1	.438
Country	.006	1	.939
Organiser	.822	3	.844
Subject area	3.053	2	.217
Year	2.512	2	.285
Equity cluster	6.831	5	.234
Support type	27.788	1	.000

**Table A.10. Proportion who reported Teamwork as a gain by Support type**

	TEAMWORK
General support	0.37
Interpersonal support	0.72

Those reporting teamwork as a gain from the placement were more likely to have experienced higher interpersonal support – 72% of students in this cluster saw teamwork as a gain versus 37% in the other cluster.

## Gain 5: Critical thinking

The model estimation process did not converge, and so results are not available for the critical thinking gain.

## Gain 6: Confidence in professional abilities

**Table A.11. Professional confidence – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	1.513	1	.219
Country	.053	1	.818
Organiser	.291	3	.962
Subject area	.220	2	.896
Year	1.861	2	.394
Equity cluster	1.450	5	.919
Support type	29.661	1	.000

**Table A.12. Proportion who reported Professional confidence as a gain by Support type**

	PROFESSIONAL CONFIDENCE
General support	0.44
Interpersonal support	0.81

Those reporting an increase in confidence in their professional abilities were more likely to have experienced higher interpersonal support – 81% of students in this cluster reported professional confidence as a gain, versus 44% in the other cluster.

## Gain 7: Better idea of career path

**Table A.13. Career path clarity – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.000	1	.983
Country	.680	1	.409
Organiser	.400	3	.940
Subject area	9.139	2	.010
Year	1.439	2	.487
Equity cluster	9.093	5	.105
Support type	37.690	1	.000

**Table A.14. Career path clarity – Tests of model interaction effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.048	1	.827
Country	.697	1	.404
Organiser	.457	3	.928
Subject area	5.814	2	.055
Year	1.895	2	.388
Equity cluster	10.371	5	.065
Support type	32.718	1	.000
Subject area* Support type	5.188	2	.075

**Table A.15. Proportion who reported Career path clarity as a gain by Subject area**

	CAREER PATH CLARITY
Society and Culture	0.64
Health	0.34
Other	0.51

**Table A.16. Proportion who reported Career path clarity as a gain by Support type**

	CAREER PATH CLARITY
General support	0.44
Interpersonal support	0.83

Those reporting gaining a better idea of their career path were more likely to have experienced higher interpersonal support – 84% versus 44%. Also, students studying subjects in the area of Society and Culture were more likely to report career path clarity as a gain from their placement than Health students – 64% versus 34%. This is presumably because Health students are enrolled in professionally-oriented degrees and already have a relatively clear path mapped out.

## Gain 8: Employment opportunities

**Table A.17. Employment opportunities – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	2.469	1	.116
Country	3.430	1	.064
Organiser	3.550	3	.314
Subject area	.761	2	.684
Year	1.863	2	.394
Equity cluster	3.823	5	.575
Support type	18.678	1	.000

**Table A.18. Proportion who reported Employment opportunities as a gain by Support type**

	EMPLOYMENT OPPORTUNITIES
General support	0.16
Interpersonal support	0.38

Those who report gaining employment opportunities from their placements were more likely to have experienced higher interpersonal support – 38% versus 16%.

## Gain 9: Concepts/skills for studies

**Table A.19. Study concepts/skills – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.000	1	.986
Country	.194	1	.659
Organiser	2.769	3	.429
Subject area	6.090	2	.048
Year	.432	2	.806
Equity cluster	3.331	5	.649
Support type	21.527	1	.000

**Table A.20. Study skills/concepts – Tests of model interaction effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	.012	1	.912
Country	.107	1	.743
Organiser	2.271	3	.518
Subject area	2.986	2	.225
Year	.803	2	.669
Equity cluster	4.120	5	.532
Support type	25.404	1	.000
Subject area* Support type	6.723	2	.035

**Table A.21. Proportion who reported Study skills/concepts gains by Subject area and Support type**

	Society and Culture	Health	Other
General support	0.47	0.16	0.37
Interpersonal support	0.64	0.75	0.79

Health students and those studying in Other subject areas were more likely than Society and Culture students to report gaining concepts/skills they can use in their studies, when in a high interpersonal support setting – 75% for Health versus 64% for Society and Culture. The significant interaction here indicates that the reverse is true for those in the lower interpersonal support cluster, where Society and Culture students were more likely to report gaining concepts/skills useful for their studies – 47% versus 16%.

**Gain 10: Concepts/skills for career**

The model estimation process did not converge, and so results are not available for the career concepts/skills gain.

**Gain 11: Better understanding of workplaces**

**Table A.22. Workplace understanding – Tests of model main effects**

SOURCE	WALD CHI-SQUARE	DF	SIG.
(Intercept)	1.478	1	.224
Country	.149	1	.700
Organiser	2.288	3	.515
Subject area	3.688	2	.158
Year	3.898	2	.142
Equity cluster	4.723	5	.451
Support type	37.589	1	.000

**Table A.23. Proportion who reported Workplace understanding as a gain by Support type**

	WORKPLACE UNDERSTANDING
General support	0.21
Interpersonal support	0.60

Those who report gaining workplace understanding from their placements were more likely to have experienced high interpersonal support – 60% versus 21%.