Responding to an international crisis: The adaptability of the practice of work-integrated learning

KARSTEN E. ZEGWAARD^{1,2} University of Waikato, Hamilton, New Zealand T. JUDENE PRETTI² University of Waterloo, Waterloo, Canada ANNA D. ROWE² University of New South Wales, Sydney, Australia

The impact of the COVID-19 pandemic on the practice of work-integrated learning (WIL) has been significant, with many active WIL activities pivoting to remote offerings where students engage with the workplace through online platforms from their homes. The pandemic has also caused significant and ongoing disruption to the economy, likely causing less work placement opportunities for upcoming years within the context of limited institutional budgets and resourcing. It is, therefore, vitally important that institutions develop diverse practices of WIL and shift away from a heavy reliance on work placements. Developing diverse WIL practices across educational institutions is an important strategy to build *'institutional WIL resilience'* during times of disrupted economies with limited WIL opportunities. During the pandemic, the use of simulations had increased, in particular, in relation to preparing students for WIL, however, caution is needed in considering simulations as a comparable alternative to WIL.

Keywords: COVID-19, diverse practices, remote WIL, simulations, agile curriculum, institutional WIL resilience

In December 2019, the Severe Acute Respiratory Syndrome (SARS-CoV-2) that causes the Coronavirus Disease (COVID-19) was first documented in the city of Wuhan, Hubei province, China (Huang et al., 2020; Wang et al., 2020), with some information suggesting the virus may already have been in circulation in several countries prior to this date (Badcock, 2020; Kelland, 2020; Webeck, 2020). Subsequently, the virus spread quickly with the World Health Organization declaring COVID-19 a pandemic on the 11th March, 2020 (World Health Organisation, 2020, March).

The subsequent impact on people's day-to-day activities was significant, with many countries imposing lockdown restrictions, closing all non-essential workplaces and schools, and introducing wide-ranging limitations on the population's movements including restricting people to their homes (Brynjoslfsson et al., 2020; DeFilippis et al., 2020; Douglas et al., 2020; Kramer & Kramer, 2020). Consequently, most higher education institutions were no longer able to teach face-to-face and shifted their teaching content to online delivery. The almost universal move internationally by higher education institutions to online delivery of teaching content, at relatively short notice, was unprecedented and was one of the most disruptive upheavals to occur in higher education (Crawford et al., 2020).

The immediate impact on the practice of work-integrated learning (WIL) was also unprecedented. With the closure of higher education campuses and workplaces/host-organizations, many active WIL activities either shifted online (e.g., remote working or reforming to a new online WIL activity) or were cancelled. Albeit, it is not a new concept to use online platforms to deliver preparation for WIL (e.g., Grace & O'Neil, 2014) and WIL experiences (e.g., Larkin & Beatson, 2014; McNamara & Brown, 2009),

¹Corresponding author: Karsten Zegwaard,<u>karsten.zegwaard@waikato.ac.nz</u>

²Authors are editors of IJWIL. The review was managed by an independent third party and their review staff to maintain anonymity of reviewers and integrity of the reviewing process.

however, these practices are not (yet) common and are in need of development and research (Zegwaard, 2015), including the need to investigate the students' experience (Pretti, Etmanski, et al., 2020).

Furthermore, the impact of the COVID-19 pandemic on the practice of WIL (and higher education in general) will not be limited to 2020 and will likely cause significant direct disruption for some years. Even if the pandemic can be controlled within a year or two, the global economic repercussions will be severe and long lasting. It has been predicted that the global GDP will decrease by 5.2%, with advanced economies shrinking by 7%, causing deep national recessions with long lasting negative implications on national unemployment rates, economic activity, and investment in national infrastructure and social services (The World Bank, 2020a, 2020b), with the predicated unemployment rate being highest for the already vulnerable youth (International Labor Organization, 2020). The possible long-term implications for the practice of WIL include reduced work placement opportunities and restrictive institutional budgets. Where WIL is optional in the curriculum, students can switch to alternative subject offerings in order to complete their qualification. However, for many disciplines WIL is either an institutional requirement within the curriculum or a compulsory part of professional accreditation requirements (e.g., teaching, engineering, medicine, nursing). Often in such cases, the predominant delivery type of WIL involves full immersion into workplace practice (e.g., work placements, co-op, internships, practicums, and clinical placements), the types of WIL mostly significantly affected by the COVID-19 pandemic. For example, The Universities of Australia report in 2017 identifies that the most common type of WIL is work placements (Universities Australia, 2019), making up 46% of all WIL activities, with the remainder being other types of WIL. An earlier report in Canada from the Higher Education Quality Council of Ontario found that 50.1% of university graduates had participated in WIL programs, with more than 90% of WIL participation occurring in co-op, practicums, field placements and internships (Peters et al., 2014).

At the initial stages of the impact of the COVID-19 pandemic, the international WIL community rallied together by offering webinars through national and international WIL associations to discuss and share alternative practices for WIL. These discussions focused on pragmatics and were particularly helpful by highlighting already established diverse WIL practices, allowing WIL practitioners to broaden their thinking. However, it is now timely to develop WIL literature exploring the impact of the COVID-19 pandemic on the practice of WIL and inform discussions with scholarly research and debate. The two IJWIL Special Issues devoted to the impact of the COVID-19 pandemic are focused on two developmental themes:

- 1. Responding to COVID-19: Understanding and conceptualizing challenges for workintegrated learning
- 2. Responding to COVID-19: Exploration and expansion of good practice of work-integrated learning

Each of these special issues will be discussed, drawing attention to the main themes arising. This paper will then provide additional information pertinent to the further development of WIL in response to COVID-19.

UNDERSTANDING AND CONCEPTUALIZING CHALLENGES FOR WIL

The goal is to transform data into information, and information into insight

- Carly Fiorina, former CEO of Hewlett-Packard (1954 - present)

The COVID-19 pandemic has brought an event not encountered before in recent history. Therefore, the opportunity to research the impact of the pandemic on the higher education sector as it is occurring provides valuable insight to the impact of a global disruptive event to further our understanding, and for historical posterity. With the already changing nature of work, including redefining what and where the workplace is (OECD, 2019), and skill requirements for new graduates (Thompson & Cook, 2019), the impact of the COVID-19 pandemic will likely accelerate changes to what constitutes the future of work and increases the need for agile curricula in higher education.

In the first of the COVID-19 pandemic Special Issues, research and conceptualization around issues and practices are explored in relation to the pandemic. Wood et al. (2020) conducted a meta-analysis of published practices of different types of WIL, with a focus on non-placement WIL, sourced from refereed proceedings papers, books, and the *International Journal of Work-Integrated Learning (IJWIL)*. Wood et al. (2020) cites a diverse range of examples of non-placement WIL in the literature, conducting an analysis based on the Kaider et al. (2017) modified typology (informed by earlier work by Oliver, 2015). This provides useful insight into the practices and overviews of the practice, including clarity and proposed definitions of the terms remote WIL and simulated WIL.

Dean and Campbell (2020) provide an overview of the challenges of future of work and aptly use the term 'panic-gogy' to describe the sudden shift to online teaching offerings and remote WIL by higher education in response to the COVID-19 pandemic. Dean and Campbell (2020) highlight the need to shift away from the prevalent focus of WIL as work placements and to diversify the practice of WIL, drawing on work by others (e.g., Bayerlein & Jeske, 2018; Kay et al., 2018; Kay et al., 2019; Marchioro et al., 2014), while maintaining caution to ensure the quality delivery of diverse forms of WIL.

The need for appropriate preparation of students is vital for enabling quality learning while students are engaged in WIL (Billett, 2015; Rowe & Winchester-Seeto, in press; Smith et al., 2016; Zegwaard & Rowe, 2019). Trede and Flowers (2020) explain that appropriate student preparation for learning should not be limited to low-level activities (e.g., CVs, cover letters, and interview technique) and must include higher-level forms of preparation as well, such as the elements focused around reflective learning, teamwork, self-efficacy, agency, and workplace cultures (Trede & Jackson, 2019). They go on to present a novel approach using a series of short films around key topics, explaining how these would be enacted, and linking the learning back to student agency through the lens of socioculturalism.

Remote WIL presents significant challenges for student learning, for example, the absence of being able to directly observe a colleague completing a task, the blurring of work and personal spaces, and limited exposure to the nuances of workplace communication (Bowen & Pennaforte, 2017). Bowen (2020), using grounded theory, sheds light on these challenges, drawing on related literature to explore and further our understanding, as well as providing practical solutions around managing these challenges while maintaining professional practice. Goldman and Stirling (2020) expand one of these challenges further and discuss how professional identity can be enhanced through remote WIL. Recent debate has argued that WIL should not focus solely on skill development, but rather include a focus on the development and enhancement of professional identity (Bowen, 2018; Campbell & Zegwaard, 2015; Jackson, 2016a, 2016b; Trede, 2012; Trede et al., 2011; Zegwaard et al., 2017). Using a case study research

approach, Goldman and Stirling (2020) provide a structured approach to enabling student professional identity and personal branding focus and development, along with recommendations for further research.

The rapid shift to remote WIL was as significant for higher education institutions as it was for students, however, little research has been conducted on students' perceptions of remote WIL. Pretti, Etmanski, et al. (2020), using a grounded theory-informed qualitative approach, conducted research exploring students' perceptions during a COVID-19 lockdown of remote WIL, providing much needed insight to students' views. They highlight that remote working during a disaster can be an effective way of maintaining productivity for many organizational operations (see discussion of different disaster events by Donnelly & Proctor-Thomson, 2015; Mello et al., 2011) and that remote working was well received by employers (Dubey & Tripathi, 2020), however, it also caused blurring of boundaries between family and work spaces that may contribute to decreased productivity (Cho, 2020; Kramer & Kramer, 2020). Pretti, Etmanski, et al. (2020) found three overlapping themes within the students' responses - socialization, productivity, and meaningful work - with the need for self-directed working skills and organizational trust to allow meaningful tasks being key areas. Hodges and Martin (2020) also explore student perceptions during a COVID-19 lockdown within the context of the sport education and argue that the shift to remote working will generate new learning opportunities, such as showing leadership in a new space (online), self-management skills, using new tools, including development of communication skills via different tools (e.g., Zoom), and expanding knowledge.

Within the context of hospitality and tourism, two sectors severely impacted by the COVID-19 pandemic (Gössling et al., 2020). In their work, Bilsland et al. (2020) present an overview of a conceptual framework of simulated WIL in addition to guidance for future research directions. With the shift of work placements to remote delivery, online work placements may have resulted in some paid work placements becoming unpaid, uncovering an area of debate within the WIL community (Cameron, 2013, 2018; Hora et al., 2020; Milne & Caldicott, 2016; Stewart & Owens, 2013). Hoskyn et al. (2020) explore this issue across a range of disciplines in light of the possible impact of the pandemic on paid and unpaid work placements, highlighting that some sectors already held different practices around paying students for work placements. The economic impact of the COVID-19 pandemic will result in significant job losses across many sectors; however, it also creates space for entrepreneurial opportunities and creative start-ups. In Australia start-ups are the biggest contributor of new jobs to the economy (Universities Australia, 2017) and many governments globally are already significantly investing in entrepreneurial activities (e.g., Government of Canada, 2019; New Zealand Government, 2020; Universities United Kingdom, 2015). Entrepreneurial activities, enterprise, and start-ups are likely to be an important driver for post-COVID-19 economic recovery. Pretti, Parrott, et al. (2020) present research using rich picture methodology, finding that WIL has a significant role in developing entrepreneurial thinking. Specifically, WIL opportunities provide students with relevant mentorship, clarity around opportunities for entrepreneurial activities, and confidence engaging with start-ups. Students who undertook e-Co-op (entrepreneurial Co-op involving launching a start-up) in particular, gained significant development in entrepreneurial skills. Bandaranaike et al. (2020), having conducted similar work, found that focusing on student reflections and building mentorship connections for students with entrepreneurs was an adapted model of WIL in Mexican higher education that was found to be effective in developing students' entrepreneurial mindsets.

EXPLORATION AND EXPANSION OF GOOD PRACTICE OF WIL

Necessity is the mother of all invention

-Attributed to Plato, philosopher (~427 - ~347 BC)

Innovation that results in change of practice is often the response to a pressing need or a pertinent issue. The restrictions of direct access to workplaces for WIL has provided the issue to which WIL practitioners and curricular developers are now responding. In response to the limited direct access to the workplace caused by the impact of the COVID-19 pandemic, many WIL activities pivoted to alternative types of WIL to ensure students could successfully complete their WIL requirements. With likely ongoing economic difficulties over the next several years as a consequence of the impact of the pandemic, WIL opportunities, especially work placement types of WIL, may be fewer as industry recovers. Diverse WIL practices will thus be important for the long-term sustainability of WIL.

Prior work exploring and discussing diverse WIL practices has already been undertaken, including frameworks for different types of work experience (Groenewald et al., 2011; McRae & Johnston, 2016), typologies (Kaider et al., 2017; Rowe et al., 2012), and exploration around innovation in WIL (Kay et al., 2018; Kay et al., 2019). In a scoping project, Kay et al. (2018) found natural groupings of different types of WIL, classifying them as micro-placements, online projects/placements, hackathons/competitions and events, incubators/start-ups, and student consultants, along with describing defining elements of each approach. Universities Australia reported that of the half million students that completed WIL, 43% of those did work placements (Universities Australia, 2019). Of the remaining 57%, 23.3% undertook WIL projects, 12.9% completed simulations, 9.7% completed fieldwork, and the remaining 11.2% completed a different form of WIL (e.g., entrepreneurships, start-ups), a clear indication that non-placement types of WIL are common practice in Australian higher education.

In the second COVID-19 Special Issue, examples of experimental practice and models of good practice are explored. Kay et al. (2020) provide overview of the impact, and subsequent response to the immediate impact of the COVID-19 pandemic by two institutions, with a centralized and a decentralized internal WIL management, from two different countries, Australia and Canada. They report that the University of Waterloo, Canada, was able to transition 80% of student work placements to remote work placements and RMIT, Australia, was able to transition 64% of WIL experiences to remote WIL experiences, with disciplines related to health being most severely affected. Kay et al. (2020) describe the importance of WIL program flexibility, rapid changing and streamlining of processes, internal and external partnerships, research-informed decisions, and supporting staff, in addition to providing insightful guidance for other institutions. Alanson et al. (2020) present how an institution, which has mandatory work placements, responded to the impact of the COVID-19 pandemic, including the rapid shift to diverse WIL practices including remote WIL, simulations, WIL projects, service learning, collaborative WIL laboratories, and micro placements. Alanson et al. (2020) report on how the institutional WIL enrolments and activity changed during the pandemic and provide insight to challenges along with guidance for other institutions.

Preparation for, and scaffolding of, WIL experiences is important for enabling good learning experiences (Dean, Yanamandram, et al., 2020; Rowe & Winchester-Seeto, in press; Rowe & Zegwaard, 2017; Zegwaard & Rowe, 2019). Tezcan et al. (2020) discuss the importance of scaffolding WIL experiences, both as simulated and actual, across the curriculum, based around the example of a simulated design studio (creative arts) using external stakeholders within the design and delivery of learning through simulated WIL. These researchers argue that such an approach is a suitable substitute

in cases where 'live projects' are not possible. However, online simulations and offline simulation may have different impacts on student learning. Iipinge et al. (2020) compare the use of simulation as a tool to develop WIL work-readiness skills for students who had conducted simulations in person (before the COVID-19 pandemic) and for students who conducted simulations online. They found that even though the in person simulation was more impactive, the online simulation did provide a valuable learning experience, concluding that online simulations, in the absence of being able to offer in person simulations, can be a suitable substitute for preparation for WIL.

The health sector has been significantly impacted by the COVID-19 pandemic. Health practitioners were called upon for patient care and work placements were not feasible during this time of heightened responsibility, resulting in a shift to simulated experiences as, in part, a substitute to clinic placements (Lyons et al., 2020). Within the context of nursing, Carmody et al. (2020) discuss the development of an online simulated learning tool for student preparation for WIL as a COVID-19-forced substitute for actual (not online) simulation. It uses a high level of authenticity with the recreation of a hospital setting, including the vinyl flooring, equipment, noises, and even smells of disinfectants. Students who engaged with the virtual simulation expressed a high degree of satisfaction of the experience and perceived it as a good learning experience when an actual, in person simulation cannot be offered. Students expressed the importance of multiple pathways for communication during the time of change and the value of highly engaged staff. Hudson et al. (2020), in the context of radiotherapy, also explored students' experiences of online simulations in preparing them for clinical practice, using the Virtual Environment Radiotherapy Training (VERT) platform. This research found that students appreciated experimenting putting knowledge into practice within a low-pressure learning context, and that it assisted in reducing feelings of apprehension about undertaking actual clinical practice. However, while teaching staff appreciated the opportunity to teach practice through doing, they noted that learning new technology was challenging. Rasalam and Bandaranaike (2020) expand further in the context of medicine where students use Virtual Simulated General Practice Clinics (vSimGPclinics) to practice patient consultations using volunteer patients. The research indicates that students value the learning experience, however, also indicate that even with using actual volunteer patients, online simulations lack dimensions of experiences that actual work placements would provide and present some logistical challenges.

Salter et al. (2020) also undertook research on WIL practice where the delivery mode was remote WIL, in the context health. Remote WIL is a "WIL experience focused on the student completing authentic, relevant actual tasks for an organization through a remote connection to the workplace/community" (Wood et al., 2020. p. 333). Salter et al. (2020) discuss how WIL practitioners drew from existing examples and literature for solutions to issues caused by shifting to remote WIL and go on to discuss four examples of remote WIL practice along with enablers, strengths and challenges. Rook and McManus (2020) describe the shift from actual, in person WIL to remote WIL from an educator's perception. They discuss the underpinning rationale to the approaches adopted, relying on established literature to inform their thinking, and evidencing the success in relation to student learning using the Competency Assessment of Responsible Leadership (CARL) online surveys. Through the lens of a community of learning framework, Briant and Crowther (2020) also describe the shift to remote WIL, including presenting a framework to guide the development of remote WIL and possible benefits arising. Briant and Crowther (2020) place particular emphasis on four elements of presence: social, cognitive, teaching, and collegial presence.

With the shift to online teaching and remote WIL, higher education institutions have used a range of approaches to support the continuation of learning activities. The use of online communication platforms, for example, Skype, for purposes of work and maintaining family connections, was already established (Longhurst, 2017). In recent years, there has been rapid expansion of the adoption of online platforms for communication, digital work, and learning spaces platforms (e.g., Zoom, Google Meet, Google Classrooms, Skype, Blackboard Collaborate, Slack), creating opportunities for students to engage with WIL remotely and online. In the context of practicums for teacher education, using an action research approach, Nel and Maraias (2020) explore the shift to remote WIL, however, focus on the students' and mentors' perceptions of using the online messaging platform WhatsApp and functions within, such as, surveys, file sharing, and video recordings. They explore the students' and mentors' experiences, challenges, and perceived benefits of using the platform and provide guidance for upscaling, including technical, partnership, and practice-based requirements. Lastly, Andrews and Ramji (2020) present a reflective program (Leading Edge) as a tool to enable student learning during and after WIL, describing step-by-step how this program was reformed to a fully online learning activity. The researchers emphasize the importance of good quality reflective learning activities during times of economic uncertainty.

CONSIDERATIONS FOR FUTURE DIRECTIONS

Continuation of Diversifying Quality Work-Integrated Learning Offerings

The negative impact of the COVID-19 pandemic on the global economy and, therefore, national economies and higher education institutions' budgets could be long lasting (The World Bank, 2020a, 2020b), presenting significant challenges for WIL practitioners. The reduced economic activity and, in particular, reduced business activity will likely result in reduced work placement opportunities. A further consideration for WIL practitioners, educators, and curricular developers is that work placement models of WIL tend to be resource-demanding, and during times of reduced institutional budgets, may be unsustainable for some higher education institutions. However, less-resource demanding types of WIL may be more sustainable during difficult economic times. Therefore, it is important that WIL leaders continue to develop non-placement types of WIL. Furthermore, as evidenced during national lockdowns, the ability to quickly switch to other types of WIL has been crucial in successfully enabling students to finish their WIL requirements (Dean, Yanamandram, et al., 2020; Hodges & Martin, 2020; Kay et al., 2020; Pretti, Etmanski, et al., 2020). Therefore, higher educational institutional WIL resilience' for times of disrupted economies and limited WIL opportunities.

The challenge for developing non-placement types of WIL, where the level of exposure to the workplace and the external stakeholder may be limited, will be to ensure that comparable learning quality occurs as that for full workplace-immersion types of WIL (e.g., work placements). The quality of the student learning experience and the delivery of the WIL program will also need to be continuously reviewed to ensure the appropriate learning outcomes are achieved, resulting in a continuous cycle of program improvement.

Up to now, there was a tendency within the WIL literature to primarily focus on work placement types of WIL (exceptions include Kay et al., 2019; Wood et al., 2020 and references within), likely because of the high profile of work placements within the WIL community. Work placement types of WIL also appear to be the most common type of WIL in Australia (Universities Australia, 2019) and likely

elsewhere, however, the need to develop and enhance diverse offerings of non-placement types of WIL was already recognized (Dean, Eady, et al., 2020; Jackson & Greenwood, 2015; Kay et al., 2018; Zegwaard & Rowe, 2019). It is now time to focus on further developing and expanding non-placement forms of WIL and subject the practice to critical scholarly research and discussion. The two Special Issues devoted to the impact of the COVID-19 pandemic showcase research and practice of non-placement and remote WIL, including discussion around well-established non-placement types of WIL, however, further research and development work must continue in this space.

Clarifying Simulation and Simulated Work-Integrated Learning

It is important, particularly at this time, to emphasize one of the cornerstones of the definition of WIL, that is, WIL must involve the tripartite relationship of the student, educational institution, and host-organization/partner/employer (Cooper et al., 2010; Groenewald et al., 2011). There is no universally agreed upon definition of WIL, however, the various definitions used in the literature consistently include an external partner as a stakeholder that is directly involved with student learning. For this journal, the *International Journal of Work-Integrated Learning*, WIL is defined as

an educational approach that uses relevant work-based experiences to allow students to integrate theory with the meaningful practice of work as an intentional component of the curriculum. Defining elements of this educational approach require that students engage in authentic and meaningful work-related tasks, and must involve three stakeholders; the student, the university, *and the workplace/community* [emphasis added]. (Zegwaard et al., 2020, para. 2)

Different models of WIL involve varying levels of engagement by the external stakeholder, as shown in Kaider's model (Kaider et al., 2017), which builds on an earlier model proposed by Oliver (2015). This highlights the dimensions of proximity and authenticity when considering differences between WIL models. In their work, authenticity refers to the degree of similarity between the learning environment and the WIL-relevant work environment and proximity as the physical distance from the workplace environment (Kaider et al., 2017; Oliver, 2015).

In placement WIL, there is opportunity for high levels of authenticity and proximity. In traditional placements, such as internships, cooperative education, and practicums, students are physically part of an organization and are working and learning alongside others in the organization. The student proximity to the organization is high, as one of its members, and the authenticity of the experience is high, as it is expected that students be given meaningful work to complete that is part of the ongoing work of that organization.

The discussion of proximity is relevant to the current context of the COVID-19 pandemic. While remote work was occurring within global organizations prior to the pandemic, the pandemic has forced a rapid shift of large portions of workers from work to home in order to slow the spread of the COVID-19 disease (Brynjoslfsson et al., 2020; Kramer & Kramer, 2020). This resulted in the normal operation of many organizations, including higher education institutions, to occur through a distributed, remote workforce engaging in their work online. The intention of placement WIL is that students experience workplaces as they exist, and during the COVID-19 pandemic, that meant many students were experiencing workplaces through remote work experiences, interacting with supervisors and colleagues through online environments (Goldman & Stirling, 2020; Hodges & Martin, 2020; Pretti, Etmanski, et al., 2020). This practice of placement WIL within these two Special Issues is referred to as 'remote WIL' to avoid confusion caused by the terms 'virtual WIL' and 'online WIL'. Virtual WIL and online WIL are terms that have been used to describe two rather different types of WIL, remote WIL

(work placement, working remotely through online platforms) and simulated WIL (through virtual reality and simulations) (Wood et al., 2020).

Simulations are important to discuss as they relate closely to work-integrated learning. Simulations as WIL learning activities consist of a constructed work environment (physically or virtual/online). Learners are actors within these environments that are designed to be realistic, and, therefore, simulations can have a moderate degree of authenticity (Bayerlein, 2020; Wood et al., 2020). Simulation activities have the potential to be meaningful in terms of authenticity, and the discussions by Carmody et al. (2020), Hudson et al. (2020), Iipinge et al. (2020), and Rasalam and Bandaranaike (2020) demonstrate the high level of impact simulations can have on learners. If simulations involve an external stakeholder as part of the student learning, these experiences would be classified as a low proximity practice of WIL. However, without an external partner involved in the students' learning, the simulation is missing a defining element of WIL and, therefore, is not a WIL experience (see Figure 1). Such non-WIL simulated learning experiences (either physical or virtual) will no doubt impart a valuable learning experience for students and for that reason many institutions use simulations within their WIL programs, in particular, as scaffolded preparation for actual WIL experiences (lipinge et al., 2020). A particular strength of simulations as preparation for WIL experiences is that simulations provide a low risk, low pressure learning opportunity compared to an actual WIL experience, and allow students to experiment and make mistakes without significant consequences.

FIGURE 1: Conceptualization of differences between simulated learning and simulated learning as WIL, based on proximity to the workplace/external partner.

Simulations			
Simulated learning	Simulated learning as WIL		Work placement types of WIL
No workplace/ external partner involvement	Some workplace/ external partner involvement	Proximity to workplace/external partner	Full immersion into a relevant workplace
		Work-integrated learning	

The Need for Higher Education to Evolve and Adapt to a Changing World

Major disruption and subsequent significant reform, often in response to new technologies, has been common for many sectors (Belk, 2014; Deloitte, 2012). For example, through the creative adoption of technology, Uber was internationally successful on a large scale, however, brought massive disruption to the taxi industry. Availability of online music transformed the music industry, but the increased accessibility of digital music resulted in the music industry losing control of the physical distribution of music and largely led to the end of the Compact Disc (CD). Likewise, Wikipedia provides free, online access to a comprehensive, peer-generated encyclopedia and caused the end of the voluminous physical production of encyclopedias such as Encyclopedia Britannica (which has since moved completely online).

Despite massive disruption and restructure in many sectors and the readily accessible online knowledge and learning opportunities, the higher education sector has largely resisted large-scale sector-wide restructuring and has been traditionally slow to change (Elton, 1981; Lozano, 2006;

Tapanila et al., 2018). Although the higher education sector has diversified teaching styles and modified some delivery of learning, including increased online offerings, adopting new technologies in teaching spaces, and modifying curriculum to reflect societal needs (e.g., the expansion of WIL in response to linking to employability outcomes), the sector continues to have a heavy reliance on knowledge transfer through the context of lectures. The concern over the lack of significant change in how learning occurs in higher education is the risk of an occurrence of a sector-wide disruption event caused by an external influence to which the sector either must drastically and quickly adapt or risk becoming irrelevant.

With the rapid shift to online learning (for WIL and classroom-based learning) it is evident that, if needed, higher educational institutions can change quickly and dynamically. Considering these changes were emergency responses, resulting in 'panic-gogy', it is now timely to reflect on the success (and/or lack of) of these rapid changes in higher education. This new understanding needs to inform the development of a more agile and holistic curriculum, including a greater focus on 'learning through doing' and greater inclusion of external partners in the development and delivery of the curriculum. Furthermore, as we consider reforming the curriculum, we need to consider habits of mind, heart, and hands as an element of being a professional (Shulman, 2005). It is, therefore, timely to further embed employability outcomes as part of the core within in the curriculum (Campbell et al., in press), and broaden the concept of employability to include habits of minds, heart, and hands.

CONCLUSION

The COVID-19 pandemic has brought challenging times for higher education, including the practice of WIL. Many active WIL projects/placements switched to remote modes of delivery in order to ensure students could complete their WIL requirements. The two IJWIL Special Issues devoted to the impact of the COVID-19 pandemic showcase remote WIL practices, exploring the successes and challenges, and also research undertakings of student experiences of remote WIL and the use of online simulations as preparation for WIL. It is evident that the delivery of WIL can occur despite widespread disruptions, be diverse, and has the ability to be dynamic. Higher education institutions that offered diverse types of WIL were able to pivot from one type of WIL to another, indicating that diverse offerings of WIL across the institution provides 'institutional WIL resilience' which is crucial during times of change.

WIL practitioners, educators, and researchers must remain mindful about the interchangeable use of terminologies to describe the practices becoming prevalent during this time of change. The term 'virtual WIL' confuses the two practices of remote WIL (with online access) and virtual simulations. Furthermore, WIL practitioners, educators, and researchers must also remain mindful that the defining element of WIL as an educational approach, is that it must directly involve three stakeholders in the student learning experience - the student, the educational institution, and the external stakeholder (employer, host, community). This defining element must be considered when determining the difference between WIL simulations and simulated learning.

Research in these two IJWIL Special Issues has explored students' perceptions and experiences, and highlights that we must remain mindful that times of institutional disruption also impact students. The shift to online preparation for WIL has been effective, however, not as effective as face-to-face preparation. Students are appreciative of online/remote WIL experiences; however, they struggle with the blurring of work and family spaces and are conscious of the loss of team direct presence, reporting that integration into a workplace team was limited. As WIL curricular developers adapt WIL offerings

to fit within disrupted economies, it is important to consider the challenges these present to WIL students.

Lastly, as higher education undergoes significant and perhaps ongoing change, it is vitally important that research continues to explore students learning experiences and outcomes, and that scholarship informs the continued development of high quality, diverse WIL offerings.

REFERENCES

- Alanson, E. R., Alanson, E. M., Arthur, B., Burdette, A., Cooper, C., & Sharp, M. (2020). Re-envisioning work-integrated learning during a pandemic: A case study examination of the University of Cincinnati's experiential explorations program. *International Journal of Work-Integrated Learning*, 21(5), 505-519.
- Andrews, J., & Ramji, K. (2020). Connecting work-integrated learning and career development in virtual environments: An analysis of the UVic Leading Edge. *International Journal of Work-Integrated Learning*, 21(5), 643-656.
- Badcock, J. (2020, June 26). Coronavirus found in Barcelona waste water sample from March 2019. *The Telegraph*. https://www.telegraph.co.uk/news/2020/06/26/scientists-barcelona-find-covid-19-waste-water-march-2019-nine/
- Bandaranaike, S., Orozco Quijano, E. P., & Navarrete-Baez, F. E. (2020). A COVID-19 work-integrated learning strategy for entrepreneurial mindset reflections: Case study in Mexico. International Journal of Work-Integrated Learning, 21(4), 467-489.
- Bayerlein, L. (2020). The impact of prior work-experience on student learning outcomes in simulated internships Journal of University Teaching & Learning Practice, 17(4), Article 4. https://ro.uow.edu.au/cgi/viewcontent.cgi?article=2257&context=jut1p
- Bayerlein, L., & Jeske, D. (2018). Student learning opportunities in traditional and computer-mediated internships. *Education* + *Training*, 60(1), 27-38. <u>https://doi.org/10.1108/ET-10-2016-0157</u>
- Belk, R. (2014). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research*, 67(8), 1595-1600.
- Billett, S. (2015). Pedagogic practices supporting the integration of experiences: Vol. 13. In S. Billett (Ed.), Integrating practicebased experiences into higher education. Professional and practice-based learning (pp. 195-223). Springer. https://doi.org/10.1007/978-94-017-7230-3_8
- Bilsland, C., Nagy, H., & Smith, P. (2020). Virtual internships in hospitality and tourism in a post-COVID-19 world. *International Journal of Work-Integrated Learning*, 21(4), 425-437.
- Bowen, T. (2018). Becoming professional: Examining how WIL students learn to construct and perform their professional identities. *Studies in Higher Education*, 43(7), 1148. <u>https://doi.org/10.1080/03075079.2016.1231803</u>
- Bowen, T. (2020). Work-integrated learning placements and remote working: Experiential learning online. *International Journal* of Work-Integrated Learning, 21(4), 377-386.
- Bowen, T., & Pennaforte, A. (2017). The impact of digital communication technologies & new remote-working cultures on the socialization and work-readiness of individuals in WIL programs. In T. Bowen & M. T. B. Drysdale (Eds.), Workintegrated learning in the 21st Century: Global perspectives on the future (pp. 99-112). Emerald. https://doi.org/10.1108/S1479-367920170000032006
- Briant, S., & Crowther, P. (2020). Reimagining internships through virtual experiences: Multi-disciplinary engagement for creative industries students. *International Journal of Work-Integrated Learning*, 21(5), 617-628.
- Brynjoslfsson, E., Horton, J. J., Ozimek, A., Rock, D., Sharma, G., & TuYe, H.-Y. (2020). COVID-19 and remote work: An early look at the US data. National Bureau of Economic Research US.
- Cameron, C. (2013). The vulnerable worker? A labor law challenge for WIL and work experience. *Asia Pacific Journal of Cooperative Education*, 14(3), 135-146.
- Cameron, C. (2018). The student as inadvertent employee in work-integrated learning: A risk assessment by university lawyers. International Journal of Work-Integrated Learning, 19(4), 337-348.
- Campbell, M., Cooper, B., Smith, J., & Ruckert, C. (in press). The framing of employability policy and the design of workintegrated learning curriculum. In S. Ferns, A. D. Rowe, & K. E. Zegwaard (Eds.), *Advances in research, theory and practice in work-integrated learning: Enhancing employability for a sustainable future*. Routledge.
- Campbell, M., & Zegwaard, K. E. (2015). Developing critical moral agency through workplace engagement. In M. Kennedy, S. Billett, S. Gherardi, & L. Grealish (Eds.), *Practice-based learning in higher education: Jostling cultures* (pp. 47-64). Springer.
- Carmody, C., Duffy, S., Brown, L., & Del Fabbro, L. (2020). Preparing for work-integrated learning during COVID-19: How a new virtual orientation tool facilitated access for all. *International Journal of Work-Integrated Learning*, 21(5), 545-557.
- Cho, E. (2020). Examining boundaries to understand the impact of COVID-19 on vocational behaviors. *Journal of Vocational Behavior, 119, Article 103437.* https://doi.org/10.1016/j.jvb.2020.103437
- Cooper, L., Orrell, J., & Bowden, M. (2010). Work integrated learning: A guide to effective practice. Routledge.

International Journal of Work-Integrated Learning, Special Issue, 2020, 21(4), 317-330

- Crawford, J., Butler-Henderson, K., Rudolp, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P. A., & Lam, S. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning & Teaching*, 3(1), 9-28. <u>https://doi.org/10.37074/jalt.2020.3.1.7</u>
- Dean, B. A., & Campbell, M. (2020). Reshaping work-integrated learning in a post-COVID-19 world of work. *International Journal of Work-Integrated Learning*, 21(4), 355-364.
- Dean, B. A., Eady, M. J., & Yanamandram, V. (2020). Advancing non-placement work-integrated learning across the degree [Editorial]. *Journal of University Teaching & Learning Practice*, 17(4). https://ro.uow.edu.au/jutlp/vol17/iss4/1
- Dean, B. A., Yanamandram, V., Eady, M. J., Moroney, T., & O'Donnell, N. (2020). An institutional framework for scaffolding work-integrated learning across a degree *Journal of University Teaching & Learning Practice*, 17(4), Article 6. <u>https://ro.uow.edu.au/cgi/viewcontent.cgi?article=2259&context=jutlp</u>
- DeFilippis, E., Impink, S. M., Singell, M., Polzer, J. T., & R., S. (2020). Collaborating during coronavirus: The impact of COVID-19 on the nature of work. U. N. B. o. E. Research.

Deloitte. (2012). Digital disruption: Short fuse, big bang. Deloite Australia. <u>https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Building%20Lucky%20Country/deloitte-au-consulting-digital-disruption-whitepaper-230217.pdf</u>

- Donnelly, N., & Proctor-Thomson, S. B. (2015). Disrupted work: Home-based teleworking (HbTW) in the aftermath of a natural disaster. *New Technology, Work and Employment, 30*(1), 47-61. <u>https://doi.org/10.1111/ntwe.12040</u>
- Douglas, M., Katikeddi, S. V., Taulbut, M., McKee, M., & McCartney, G. (2020). Mitigating the wider health effects of covid-19 pandemic response. *The BMJ*, 369(8243), m1557. <u>https://doi.org/10.1136/bmj.m1557</u>
- Dubey, A. D., & Tripathi, S. (2020). Analysing the sentiments towards work-from-home experience during COVID-19 pandemic. *Journal of Innovation Management*, 8(1), 13-19. <u>https://doi.org/10.24840/2183-0606_008.001_0003</u>
- Elton, L. (1981). Can universities change? Studies in Higher Education, 6(1), 23-33. https://doi.org/10.1080/03075078112331379499
- Goldman, A. S., & Stirling, A. E. (2020). Becoming a part while apart: Building professional identity and membership when working and learning remotely. *International Journal of Work-Integrated Learning*, 21(4), 387-399.
- Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. Journal of Sustainable Tourism, 1-20. Advance online publication. <u>https://doi.org/10.1080/09669582.2020.1758708</u>
- Government of Canada. (2019). Budget 2019: Investing in young Canadians. <u>https://www.budget.gc.ca/2019/docs/youth-jeunes/vouth-jeunes-en.html</u>
- Grace, S., & O'Neil, R. (2014). Better prepared, better placement: An online resource for health students. *Asia-Pacific Journal of Cooperative Education*, 15(4), 291-304.
- Groenewald, T., Drysdale, M. T. B., Chiupka, C., & Johnston, N. (2011). Towards a definition and models of practice for cooperative and work-integrated education. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work-integrated education: International perspectives of theory, research and practice* (2nd ed., pp. 17-24). World Association for Cooperative Education.
- Hodges, L. D., & Martin, A. J. (2020). Enriching work-integrated learning students' opportunities online during a global pandemic (COVID-19). International Journal of Work-Integrated Learning, 21(4), 415-423.
- Hora, M., Chen, Z., Parrott, E., & Her, P. (2020). Problematizing college internships: Exploring issues with access, program design and developmental outcomes. *International Journal of Work-Integrated Learning*, 21(3), 235-252.
- Hoskyn, K., Eady, M. J., Capocchiano, H., Lucas, P., Rae, S., Trede, F., & Yuen, L. (2020). GoodWIL placements: How COVID-19 shifts the conversation about unpaid placements. *International Journal of Work-Integrated Learning*, 21(4), 439-450.
- Huang, C., Wang, Y., Li, X., Ren, L., ; , Zhao, J., Hu, Y., Zhang, L., Fan, G., Xu, J., Gu, X., Cheng, Z., Yu, T., Xia, J., Wei, Y., Wu, W., Xie, X., Yin, W., Li, H., Liu, M., Xiao, Y., Gao, H., Guo, L., Xie, J., Wang, G., Jiang, R., Gao, Z., Jin, Q., Wang, J., & Cao, B. (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet*, 3945(10223), 497-506. <u>https://doi.org/10.1016/S0140-6736(20)30183-5</u>
- Hudson, L., Engel-Hills, P., & Winberg, C. (2020). The potential of a simulated workplace environment for emergency remote teaching. *International Journal of Work-Integrated Learning*, 21(5), 559-572.
- Iipinge, S. E., Batholmeus, P. N., & Pop, C. (2020). Using simulations to improve skills needed for work-integrated learning before and during COVID-19 in Namibia. *International Journal of Work-Integrated Learning*, 21(5), 531-543.
- International Labor Organization. (2020). World Employment and Social Outlook Trends (2020). https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_734455.pdf
- Jackson, D. (2016a). Developing pre-professional identity in undergraduates through work-integrated learning. *International Journal of Higher Education Research*, 72(344). <u>https://doi.org/10.1007/s10734-016-0080-2</u>
- Jackson, D. (2016b). Re-conceptualising graduate employability: The importance of pre-professional identity. *Higher Education Research & Development*, 35(2), 925-939. <u>https://doi.org/10.1080/07294360.2016.1139551</u>
- Jackson, D., & Greenwood, K. (2015). Enhancing work integrated learning outcomes for international students in Australia. Edithh Cowan University. <u>http://acen.edu.au/docs/enhancing-wil-international-students-acen-research.pdf</u>
- Kaider, F., Hains-Wesson, R., & Young, K. (2017). Practical typology of authentic work-integrated learning activities and assessments [Special Issue]. Asia-Pacific Journal of Cooperative Education, 18(2), 152-164.

International Journal of Work-Integrated Learning, Special Issue, 2020, 21(4), 317-330

- Kay, J., Ferns, S., Russell, L., & Smith, J. (2018). Expanding work-integrated learning (WIL) possibilities: Enhancing student employability through innovative WIL models. <u>https://acen.edu.au/innovative-models/wp-</u> <u>content/uploads/2019/02/ATN-Final-Report-Expanding-Work-Integrated-Learning-WIL-Possibilities-October-2018.pdf</u>
- Kay, J., Ferns, S., Russell, L., Smith, J., & Winchester-Seeto, T. (2019). The emerging future: Innovative models of workintegrated learning. *International Journal of Work-Integrated Learning*, 20(3), 401-413.
- Kay, J., McRae, N., & Russell, L. (2020). Two institutional responses to work-integrated learning in a time of COVID-19: Canada and Australia. International Journal of Work-Integrated Learning, 21(5), 491-503.
- Kelland, K. (2020, June 19). Italy sewage study suggests COVID-19 was there in December 2019. *Health News*. <u>https://www.reuters.com/article/us-health-coronavirus-italy-sewage/italy-sewage-study-suggests-covid-19-was-</u> <u>there-in-december-2019-idUSKBN23Q119</u>
- Kramer, A., & Kramer, K. Z. (2020). The potential impact of the COVID-19 pandemic on occupational status, work from home, and occupational mobility. *Journal of Vocational Behavior*, 119, Article 103442. <u>https://doi.org/10.1016/j.jvb.2020.103442</u>
- Larkin, I., & Beatson, A. (2014). Blended delivery and online assessment: Scaffolding student reflections in work-integrated learning. *Marketing Education Review*, 24(1), 9-14. <u>https://doi.org/10.2753/MER1052-8008240101</u>
- Longhurst, R. (2017). Skype: Bodies, screens, space. Routledge.
- Lozano, R. (2006). Incorporation and institutionalization of SD into universities: Breaking through barriers to change. *Journal of Cleaner Production*, 14(9), 787-796. <u>https://doi.org/10.1016/j.jclepro.2005.12.010Journal</u>
- Lyons, K. M., Christopoulos, A., & Brock, T. P. (2020). The COVID-19 pandemic across the academy: Sustainable pharmacy education in the time of COVID-19. *American Journal of Pharmaceutical Education*, 84(6), Article 8088.
- Marchioro, G., Ryan, M. M., & Perkins, P. (2014). Implementing an interdisciplinary student centric approach to workintegrated learning. Asia-Pacific Journal of Cooperative Education, 15(4), 359-368.
- McNamara, J., & Brown, C. (2009). Assessment of online discussion in work-integrated learning. *Campus-Wide Information Systems*, 26(5), 413-426. <u>http://eprints.gut.edu.au/29506/1/29506.pdf</u>
- McRae, N., & Johnston, N. (2016). The development of a proposed global work-integrated learning framework [special issue]. *Asia-Pacific Journal of Cooperative Education*, 17(4), 337-348.
- Mello, A. A., de Assis Goncalves, F., & Lima, F. (2011). Lessons learned from September 11th: Telework as an organizational resource to the Business Continuity Planning (BCP). *Journal of Japan Telework Society*, 9(1), 46-51.
- Milne, L., & Caldicott, J. (2016). Exploring differences in industry supervisors' ratings of student performance on WIL placements and the relative importance of skills: Does remuneration matter? *Asia Pacific Journal of Cooperative Education*, *17*(2), 175-186.
- Nel, C., & Maraias, E. (2020). Preservice teachers us of WhatsApp to explain subject content to school children during the COVID-19 pandemic. *International Journal of Work-Integrated Learning*, 22(5), 629-641.
- New Zealand Government. (2020). Budget 2020: Focus on jobs Kiwi businesses supported to respond, recover and rebuild. https://www.beehive.govt.nz/release/budget-2020-focus-jobs-businesses.
- OECD. (2019). OECD employment outlook 2019: The future of work. https://doi.org/10.1787/9ee00155-en
- Oliver, B. (2015). Redefining graduate employability and work-integrated learning: Proposals for effective higher education in disrupted economies. *Journal of Teaching and Learning for Graduate Employability, 6*(1), 56-65. https://doi.org/10.21153/jtlge2015vol6no1art573
- Peters, J., Sattler, P., & Kelland, J. (2014). Work-integrated learning in Ontario's postsecondary sector: The pathways of recent college and university graduates. Higher Education Quality Council of Ontario.
- Pretti, T. J., Etmanski, B., & Durston, A. (2020). Remote work-integrated learning experiences: Student perceptions. *International Journal of Work-Integrated Learning*, 21(4), 401-414.
- Pretti, T. J., Parrott, P., Hoskyn, K., Fannon, A.-M., Church, D., & Arsenault, C. (2020). The role of work-integrated learning in the development of entrepreneurs. *International Journal of Work-Integrated Learning*, 21(4), 451-466.
- Rasalam, R., & Bandaranaike, S. (2020). Virtual work-integrated learning clinics in medicine: Overcoming the COVID-19 challenge. International Journal of Work-Integrated Learning, 21(5), 573-585.
- Rook, L., & McManus, L. (2020). Responding to COVID-19: Enriching students' responsible leadership through an online workintegrated learning project. *International Journal of Work-Integrated Learning*, 21(5), 601-616.
- Rowe, A. D., & Winchester-Seeto, T. (in press). Support for student learning in work-integrated learning: A holistic framework. In S. Ferns, A. D. Rowe, & K. E. Zegwaard (Eds.), Advances in research, theory and practice in work-integrated learning: Enhancing employability for a sustainable future. Routledge.
- Rowe, A. D., Winchester-Seeto, T., & Mackaway, J. (2012). That's not really WIL! Building a typology of WIL and related activities. In M. Campbell (Ed.), Collaborative education: Investing in the future - Proceedings of the 2012 Australian Collaborative Education Network (ACEN) National Conference (pp. 246-252). Australian Collaborative Education Network.
- Rowe, A. D., & Zegwaard, K. E. (2017). Developing graduate employability skills and attributes: Curriculum enhancement through work-integrated learning [Special issue]. *Asia-Pacific Journal of Cooperative Education*, 18(2), 87-99.

- Salter, C., Oates, R. K., Swanson, C., & Bourke, L. (2020). Working remotely: Innovative allied health placements in response to COVID-19. International Journal of Work-Integrated Learning, 2020(5), 587-600.
- Shulman, L. S. (2005). Signature pedagogies in the professions. Daedalus, 134(3), 52-59.
- Smith, C., Ferns, S., & Russell, L. (2016). Designing work-integrated learning placements that improve student employability: Six facets of the curriculum that matter. *Asia-Pacific Journal of Cooperative Education*, 17(2), 197-211.
- Stewart, A., & Owens, R. (2013). The nature, prevalence and regulation of unpaid work experience, internships and trial periods in Australia. Report to the Fair Work Ombudsman. University of Adelaide.
- Tapanila, K., Siivonen, P., & Filander, K. (2018). Academics' social positioning towards the restructured management system in Finnish universities. *Studies in Higher Education*, 45(1), 117-128. <u>https://doi.org/10.1080/03075079.2018.1539957</u>
- Tezcan, N., Durakovic, I., Smith, C., Lloyd, E., & D'Arcy, S. (2020). Scaffolded, simulated work-integrated learning in design education: Beyond the live project. *International Journal of Work-Integrated Learning*, 2020(5), 521-529.
- The World Bank. (2020a). *The global economic outlook during the COVID-19 pandemic: A changed world*. https://tinyurl.com/y33b6oeb
- The World Bank. (2020b). Global economic prospects, June 2020.
- Thompson, G., & Cook, I. (2019). The lack of work and the contemporary university. In M. A. Peters, P. Jandric, & A. J. Means (Eds.), *Education and technological unemployment*. Springer. <u>https://doi.org/10.1007/978-981-13-6225-5_3</u>
- Trede, F. (2012). Role of work-integrated learning in developing professionalism and professional identity. *Asia-Pacific Journal of Cooperative Education*, 13(3), 159-167.
- Trede, F., & Flowers, R. (2020). Preparing students for workplace learning: Short films, narrative pedagogy, and community arts to teaching agency. *International Journal of Work-Integrated Learning*, 2020(4), 365-376.
- Trede, F., & Jackson, D. (2019). Educating the deliberate professional and enhancing professional agency through peer reflection of work-integrated learning. *Active Learning in Higher Education*. <u>https://doi.org/10.1177/1469787419869125</u>
- Trede, F., Macklin, R., & Bridges, D. (2011). Professional identity development: A review of the higher education literature. *Studies in Higher Education*, 37(3), 365-384. <u>https://doi.org/10.1080/03075079.2010.521237</u>
- Universities Australia. (2017). Startup Smarts: Universities and the startup economy. <u>https://www.universitiesaustralia.edu.au/ArticleDocuments/212/Startup_press%20v2%20web.pdf.aspx</u>
- Universities Australia. (2019). Work-integrated learning in universities: Final report. https://bit.ly/3jsyw3z
- Universities United Kingdom. (2015). The funding environment for universities 2015. The economic role of UK universities. https://tinyurl.com/y3zyzzwa
- Wang, C., Horby, P. W., Hayden, F. G., & Gao, G. F. (2020). A novel coronavirus outbreak of global health concern. *The Lancet*, 395(10223), 470-473. <u>https://doi.org/10.1016/S0140-6736(20)30185-9</u>.
- Webeck, E. (2020, September 11). COVID-19 could have been in US as early as December, according to new study. *The Mercury News*. <u>https://www.mercurynews.com/2020/09/11/covid-19-could-have-been-in-us-as-early-as-december-according-to-new-study/</u>
- Wood, Y. I., Zegwaard, K. E., & Fox-Turnbull, W. (2020). Conventional, remote, virtual and simulated work-integrated learning: A meta-analysis of existing practice. *International Journal of Work-Integrated Learning*, 21(4), 331-354.
- World Health Organisation. (2020, March). WHO Director-General's opening remarks at the media briefing on COVID-19 https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020
- Zegwaard, K. E. (2015). Building an excellent foundation for research: Challenges and current research needs [special issue]. *Asia-Pacific Journal of Cooperative Education*, 16(2), 89-99.
- Zegwaard, K. E., Campbell, M., & Pretti, T. J. (2017). Professional identities and ethics: The role of work-integrated learning in developing agentic professionals. In T. Bowen & M. T. B. Drysdale (Eds.), Work-integrated learning in the 21st century: Global perspectives on the future (pp. 145-160). Emerald. <u>https://doi.org/10.1108/S1479-367920170000032009</u>
- Zegwaard, K. E., Pretti, T. J., & Rowe, A. D. (Eds.). (2020). International Journal of Work-Integrated Learning. Work-Integrated Learning New Zealand.
- Zegwaard, K. E., & Rowe, A. D. (2019). Research-informed curriculum and advancing innovative practices in work-integrated learning. *International Journal of Work-Integrated Learning*, 20(4), 323-334.