



**Work-Integrated Learning New Zealand**

*Tuia te ako, tuia te mahi, tuia te ara whaihua e*



## WORK-INTEGRATED LEARNING INTERNATIONAL CONFERENCE 2022

Opportunities for WIL in an ever-changing world

**27 - 28 APRIL**

Auckland University  
of Technology



## Our keynote speaker for conference - Dr Jarrod Haar

*How well do New Zealand firms offer training and development? Who does it best? And what are the benefits?*



Dr Jarrod Haar is a Professor of Human Resource Management at AUT and has Māori tribal affiliations of Ngāti Maniapoto and Ngāti Mahuta. His research focuses on wellbeing (especially job burnout), work-family-life issues (especially work-life balance), indigenous (Māori) employees, leadership, and innovation.

He is ranked a world-class researcher (PBRF); has won industry and best-paper awards; and won multiple research grants (Marsden, FRST, Ngā Pae o te Māramatanga). His current grants include *Health Research Council* (wellbeing and the precariat), a *National Science Challenge* (Science for Technological Innovation), and *Ngā Pae o te Māramatanga* (Māori and Work).

He has over 400 refereed outputs (including 128 journal articles). He is a Fellow of the Royal Society of New Zealand Te Apārangi.

*Congratulations to Jarrod on being the recipient of the AUT Medal  
(the pre-eminent academic award at AUT).*

## ***Multidisciplinary community-engaged learning pilot project with a New Zealand indigenous community: Opportunities and lessons learnt***

Sandy Muller, University of Waikato, New Zealand

Alvin Yeo, University of Waikato, New Zealand

Danny Paruru, Whakatōhea Māori Trust Board, New Zealand

Natalie Kusabs, Te Kotahi Research Institute, New Zealand

Annika Hinze, University of Waikato, New Zealand

Te Whare Wānanga o Waikato introduced multidisciplinary team projects as an option for undergraduate students to fulfil their work-integrated learning component in 2020. Building on a successful existing relationship between the School of Computing and Mathematical Sciences (SCMS) with Whakatōhea iwi; the WIL Central Unit, SCMS and Whakatōhea alongside Te Kotahi Research Institute are trialing a multidisciplinary Community-Engaged Learning team project.

Te Whakatōhea Māori Trust Board (WMTB) have a strong vision for their people: “Ko te kai hoki i Waiaua”, “To be the food bowl that feeds the world”. One of their many current projects is to develop education resources for local kura (schools), using local history to both contextualise the curriculum as well as providing a vehicle to pass on this knowledge to their tamariki (children).

This project is expected to consist of a longitudinal series of projects, with the initial project being undertaken over the 2021-2022 summer trimester. Four students applied to participate with a range of Majors in International Languages and Cultures, English, Education and Society, Māori Language/Te Reo Māori, Law and Māori & Indigenous Studies.

The project objectives were to:

- Determine the focus of the knowledge areas to be investigated in consultation with WMTB
- Compile a literature review of current curriculum design, or the framework that other indigenous peoples have used, as well as the use of digital technology on sharing similar resources
- Collate information gathered from knowledge holders and kaupupuri mātauranga identified by the WMTB
- Create a resource pool from various primary and secondary sources from which curriculum units can be developed
- House the knowledge gathered in an easily searchable and usable database
- Report on options for sharing the resources and/or the developed curriculum to iwi.

Students worked remotely for the majority of this project, however an overnight haerenga (visit) to immerse students in the area and kōrero (discussions) with WMTB staff and kaupupuri mātauranga was integral in ensuring the objectives of the project were met.

The valuable lessons learnt during this process will be discussed including whakawhanaunga (nurturing good relationships) and effective scaffolding between projects.

## ***Professional preparation and student learning outcomes: 2020-2021 school-based WIL experiences through the Covid-19 lockdowns and restrictions***

Andrew Martin, Dennis Slade, Lynette Hodges

Massey University, New Zealand

**Introduction:** Over the past 20 years, New Zealand has seen the demise in specific pre-service teacher training, particularly in Physical Education (PE). In 2020, Massey University added a capstone final year sport work-integrated learning (WIL) experience for PE majoring students in the Bachelor of Sport and Exercise. The aim of this exploratory study was to examine twenty-nine PE students' insights into their learning outcomes from being involved in teaching, coaching and sport event activities in schools through this pre-pre-service teacher training opportunity.

**Literature:** Outcomes of WIL experiences in higher education are students' personal growth and the development of professional capability and graduate attributes. An important part of the WIL process encourages students to critically reflect (Schön, 1991) through weekly journals on the development of boundary spanning capabilities as well as gaining a depth of understanding of workplace systems (Gardner, 2017). Fullan and Scott (2014) provided examples of such transferable skills focusing on the six Cs of deep learning characterised by self-management (Character), enterprise (Creativity), leadership responsibilities (Collaboration), community of practice (Citizenship), effective Communication and Critical thinking.

**Methods:** This exploratory research provides insights into the perceptions of twenty-nine PE major students' learning outcomes from being involved in teaching, coaching and sport event activities during a 200-hour final year WIL placement in schools. Themes are presented from content analysis of student perceptions of individual's learning outcomes. Students were asked by questionnaire to reflect specifically on three areas: their main work activity; perceived WIL learning opportunities; and overall experience during their WIL placement. The returned one-page Word documents were not part of any course assessment but are used to illustrate WIL opportunities for future students. The project was approved and deemed to be low risk against the university's research ethics criteria (ethics notification number 4000025373), and information provided for the content analysis was anonymous.

**Results:** The impact of these WIL initiatives resulted in enhanced participation opportunities and engagement in physical education and sport activity for a range of school children. The findings indicated that from the students' perspective, their school-based initiatives enriched career capability and attributes noted by the six C's (Fullan & Scott, 2014), thus building self-efficacy despite the COVID-19 restrictions and lockdowns.

**Conclusions:** This WIL experience enabled the development of transferable skills and graduate attributes in preparation for pre-service teacher training programmes. The experiential learning process involving critical reflection and the mentorship of academic and school-based supervisors were also highlighted as important part of the pedagogical WIL process. The challenges presented by COVID-19 lockdowns and restrictions provided opportunities for independent and innovative creative work by the students who proved to be adaptable, flexible, and confident enough to take risks and seize opportunities to do things differently.

## ***Adapting to online learning: A dual reflection from a teacher and learner's point of view***

Sarla Kumari, Stefan Von Maltitz, Mohammad Al-Rawi

WINTEC, New Zealand

**Introduction:** This presentation discusses a work-integrated learning course that was forced to move online. Reflective activities previously undertaken face-to-face moved online. During the pandemic, the move to online learning has shifted the focus to much greater self-driven learning with meaningful online interactions between students and lecturers being essential. Regular timetabled office hours were thrown out the window, with a push from students for lecturers to be available for questions from early morning till late at night. Being on campus meant that students had access to lab equipment and materials, but after the move to online learning, lab-work would become simulation driven. Learning online has made it easier to learn anywhere/anytime if there is a stable internet connection.

This research aims to provide a reflection, using both the instructor's and the student's lens, contrasting the experience of and learning challenges with face-to-face compared with online teaching and learning, with the aim of supporting the digital education improvement, maintaining education ethics and innovation in methods for teaching and learning in engineering.

**Literature:** Today's teaching practice frequently involves centring the student in the learning process, actively engaging the student during classroom and out-of-class learning activities assisted using a flipped classroom (Lundin, Rensfeldt, Hillman, Lantz-Andersson, & Peterson, 2018) which can be employed in both face-to-face and online sessions. Flipping the classroom involves providing students learning material and resources with which to engage prior to attending class, then implementing their learning during different activities in the classroom (e.g., group discussion, analyse the task, problem solving etc.).

Recently, researchers (Akçayır & Akçayır, 2018) highlighted the value of an integrated instructive methodological approach with the help of a set of proposals for educational revolution oriented towards active learning. They note that the systematic use of quality content, mainly in video format, made available via through online platforms (such as the Learning Management System) supports successful flipped classrooms and peer assessment to enhance the development of thoughtful and self-reflective capabilities (Arruabarrena, Sánchez, Blanco, et al. 2019).

**Methods:** From the student point of view, or student's self-reflection, a regular questionnaire helps to keep track of the student's learning and understanding. This can be helpful in adapting online learning effectively. During sessions a regular questionnaire or verbal feedback every fortnight from the students keeps an eye on student's learning. Pre-class activities are also an effective element of online learning, as it helps learners to be more self-assured about what they learn in upcoming sessions.

**Results:** From the instructor's perspective, delivering the classes via the computer also made it easy for students to have social media applications running and communicating with each other sharing answers during assignments and even during tests.

From the student's point of view attempting online tests and exams were difficult at the beginning as the test format was sometimes not adapted from hardcopy or adapted poorly for online purposes. Of course, each student's learning needs and preferences are different.

To ascertain students' engagement during the online classes, there can be administered questionnaires at the frequency of one every fortnight and pre-class activities.

**Conclusions:** Face-to-face classes had structure and routine. There was social inter-activeness, even almost unnoticeable ones with strangers while traveling, which enhanced mental wellbeing. Online learning has its own attractions. From the student's point of view, pre-class material also ties in with the teaching ability and style of the lecturer. Some lecturers can forge trust with students and achieve deeper learning, while others are goal orientated, uncompromising, incoherent, or inadequate for teaching.

## ***Work-integrated learning as a transition: Implications for research and practice***

Thai Vu and Subramaniam Ananthram

Curtin University, Australia

This presentation discusses a new approach to WIL research and practice that seeks to enhance student engagement in WIL. The approach characterises WIL as a transition and adopts transition theory (Anderson et al., 2012; Schlossberg, 1995) in examining student engagement and influential factors. Transition theory provides a four-element framework for researching individuals' engagement in a transition: Situation, Self, Support, Strategies (4 S's).

This presentation advocates applying the 4 S's in researching student engagement in WIL, showcasing a successful application. In their scoping review of challenges to international students in WIL placements, Vu and colleagues (2021) used the 4 S's to map fragmented findings from the past decade's research.

The findings of the review, in turn, informed the formulation of the 3-C (Cause – Challenge – Consequence) framework. Through enabling the description and explanation of student behaviour and influential factors, the 3-C framework (Vu et al., 2021) offers a context-specific account of challenges to international students in WIL. The framework features three key research phases: (1) identifying specific challenges (i.e., Challenge); (2) tracing the sources of these challenges (i.e., Cause); and explaining student behaviour (i.e., Strategies). The presentation will then discuss how the transition framework and the 3-C framework can be applied to enquiry into the WIL engagement by stakeholders (e.g., students, WIL staff, workplace supervisors).

## ***Financial support for WIL students – A risk management perspective***

Craig Cameron (Griffith University, Australia)

Anne Hewitt (The University of Adelaide, Australia)

**Introduction:** This research project, which was supported by a 2020 ACEN Research Grant, explored WIL studentships in Australia. 'WIL studentship' is an umbrella term used to describe non-remunerative financial support to a tertiary student completing WIL. Examples of other terms include stipend, bursary, honorarium, grant and scholarship. From an equity and access perspective, WIL studentships are an important strategy to support students' financial capacity to complete WIL. However, if improperly designed or managed, WIL studentships may expose stakeholders to risks.

**Literature:** A systematic review of the literature revealed two significant research gaps. First, there was limited description about the design of WIL studentships in Australia spanning multiple disciplines and universities. Second, there was limited discussion of risk, as well as risk management in the specific context of WIL studentships. Overall, this project is the first known systematic study of WIL studentships in Australia.

**Methods:** This presentation covers part of the research project, being a qualitative study of WIL studentships (Ethics approval number H-2020-217), as well as risk management actions pertaining to WIL studentship design, derived from the qualitative study. A sample of WIL studentships was collected using the web search method adopted by McDonald (2020). A total of 59 WIL studentships were identified and the data coded to 16 features, which were then distilled into a WIL studentship typology.

**Results:** Key recommendations around WIL studentship design and risk management include:

1. Make WIL, as opposed to work experience, a condition of the WIL studentship
2. Expand accessibility of WIL studentships to all students, irrespective of student type, enrolment or nationality. Alternatively, target the WIL studentship at a particular demographic group(s) to enhance their access to WIL opportunities
3. Establish clear student eligibility criteria, an application process and selection procedure for the WIL studentship, which are accessible to students prior to submitting an application.
4. Create a clear strategy for the WIL studentship beyond the provision of financial benefits to students, and ensure the strategy is aligned with the student eligibility and selection criteria
5. Incorporate flexibility in WIL studentship payments, for example payment scales and to award different payment amounts, depending on the student's financial need and economic disadvantage
6. Formulate the WIL studentship payment in a manner which reduces the risk of an employment arrangement, in collaboration with legal and risk personnel

**Conclusions:** Stakeholders need to develop a risk management framework in order to maximise the opportunities and minimize the hazards associated with WIL studentships.

## ***Singing our SSONG in Work-Integrated Learning***

Patricia Lucas and Helene Wilkinson

Auckland University of Technology, New Zealand

**Background:** Collaboration is a key principle of work-integrated learning (WIL) as a pedagogy, with the success of a WIL program relying strongly on tripartite relationships between student, university, and organisations. Relationships within a world of disruption and uncertainty has pushed many to change how they connect with each other and consequently towards becoming more resilient (Lucas et al., 2021). Unless one is already well connected, these unsettled times can be quite lonely and challenging to establish new acquaintances. Collaboration in higher education (HE) is essential for sustainability.

**Issue:** When people are unable to assemble for learning or events it is a challenge to meet others with whom support, connection and collaboration may occur. Naturally occurring networking is severely constrained by technology and our familiarity in new ways of connecting. This connectivity issue has become widespread across WIL from students seeking placement opportunities to those who would like to work with others on research projects, and everything in between. The COVID-19 pandemic with multiple lockdowns, and ongoing forms of isolation, has provoked us to look for alternative ways to engage with others. This presentation will focus on using virtual networks to bring people together for a range of purposes. Specifically we will draw on our own experiences in a Small Significant Online Network Group (SSONG).

**Literature:** Green et al., (2020) first coined the idea of SSONG following a conference workshop on establishing small significant networks. Their SSONG was established for conference delegates to stay connected, support each other, and share work related conversations. Although SSONG evolution may seem relatively organic, the collective desire for regular conversation times can lead to deep and meaningful conversations not constrained by geographical boundaries. Time zones are more likely to be a barrier if SSONG members are international.

**Discussion:** Our SSONG arose from an international coffee chat initiative for supporting WIL practitioners at the onset of the pandemic. On finding a journal special issue topic several coffee chatters branched off to form our SSONG. We conducted research together, published the journal article and developed our HUMANE framework for WIL and HE (Lucas et al., 2021).

**Implications:** Establishing a SSONG may result in more diverse group formation if extended beyond like minded academics to include students, administrators, and various others. Diverse collaborations offer opportunities to those who may not see themselves involved in academic pursuits and support alternative ways for examining being and doing. A SSONG may have the capacity to be useful beyond the context of supporting each other and conducting research.



## ***Education (Pastoral Care of Tertiary and International Learners) Code of Practice 2021: What does it mean for work-integrated learning?***

Jenny Fleming, Auckland University of Technology, New Zealand

Kathryn Hay, Massey University, New Zealand

**Background:** The Education (Pastoral Care of Tertiary and International Learners) Code of Practice 2021 came into effect on 1st January 2022 (subsequently referred in this abstract as The Code).

The Code sets out the outcomes and requirements that tertiary education providers must meet for the wellbeing and safety of learners. Having positive wellbeing and care is essential for learners to gain the most from their tertiary learning experiences, leading to wider benefits for society. Positive wellbeing of learners also benefits tertiary providers in terms of better achievement and retention, learner satisfaction and the associated positive outcomes and reputational impacts.

**Issue:** The Code applies to any activities provided by, or organised by or on behalf of a provider for enrolled domestic or international tertiary learners, whether in New Zealand or offshore.

Thereby, the Code applies not only to on campus learning, but includes workplace learning experiences where the learners are enrolled with registered PTEs, Te Pūkenga, universities or wānanga.

**Discussion:** The Code has eight parts and 22 Outcomes but not all apply to every provider or context. This presentation will discuss key outcome statements that relate to work-integrated learning (WIL) experiences, in particular: Part 4, Outcome 3: Safe, inclusive, supportive, and accessible physical and digital learning environments, and Outcome 4: Learners are safe and well. Key responsibilities and strategies to meet these outcomes will be identified and discussed in relation to good practice for WIL.

## ***Beyond the pandemic: Integrating remote work skills into internships.***

Carine Stewart and Rebecca Downes

Victoria University of Wellington, New Zealand

**Background/Introduction:** The COVID-19 pandemic caused a pivot to remote work-integrated learning (WIL) and, simultaneously, thousands of organisations that would not have used remote work (at least not in the near future) can now see how remote work functions for their organisation. Reports suggest a strong desire from employees to maintain flexibility in where and when they work, hinting that some degree of remote work will be a feature of workplaces into the future. Research also shows that remote WIL can provide high quality experiences for WIL students (e.g. Wood, Zegwaard, & Fox-Turnbull (2020)). This presents an opportunity to expand WIL practices to capitalise on the advantages that remote work can offer WIL, particularly the increase in flexibility for hosts and students, greater accessibility for interns, and creating a wider selection of potential employers/hosts.

**Description of the new, innovative or good practice:** We build on our experiences with pivoting an in-person WIL internship course to support remote WIL and discuss how this could become a basis for integrating remote work skills into all internships, thus helping to prepare students for new ways of working. We describe how we tailored and incorporated expertise from organisational research on remote work with integrated support for both employers/hosts and students. This involved presenting remote work skills as separate but complementary workplace skills, and explaining not just what new or emphasised skills are required for remote work, but also why this differs from co-located work. This presents an opportunity to demystify remote work, reassure students their experiences are normal, and also to revisit key workplace skills from a new angle. Hosts/employers (and students) are encouraged to embrace the intentionality required to make remote internships successful.

**Implications for the WIL community:** We suggest that while the pandemic has created numerous challenges for WIL, with an intentional approach it also presents an opportunity to help students leapfrog to the forefront with solid remote work skills.

## ***Are WIL supervisors equipped to support the mental health of students? A case study in Dietetics***

Reena Soniassy-Unkovich, Andy Martin and Rozanne Kruger  
Massey University, New Zealand

**Introduction:** Universities worldwide are becoming increasingly aware of student mental health. Anecdotal information gathered from dietetics educators at Massey University has indicated that work-integrated learning (WIL) is highly stressful for some students, with achievement of competency on placement significantly hindered by their mental health. This study aimed to investigate the perceptions of workplace supervisors about student mental health during WIL and whether supervisors are equipped to recognise and support students with declining mental health.

**Literature:** To date, the mental health of dietetics students has not been widely researched. Patten & Vaterlaus (2021) measured stress, anxiety and depression in 611 dietetic students, identifying anxiety in 40% of students and symptoms of depression in 30%. These findings align with research across other disciplines, with Quek et al. (2019) reporting a 33.8% prevalence of anxiety among medical students globally after analysing data from 69 studies.

**Methods:** This exploratory mixed-method study was conducted in two phases. The first phase was a quantitative survey. A recruitment email was sent to supervisors of the Massey University Dietetics WIL programs, including a link to consent and the online questionnaire. The questionnaire was administered using the Qualtrics software. Supervisors were surveyed about their experience of student mental health during WIL, their confidence in recognising and supporting students with declining mental health as well as previous training in mental health. In phase two, semi-structured interviews were undertaken with a sample of respondents that indicated willingness to participate. Telephone interviews and the videoconferencing tool Zoom were used by an independent interviewer. Audio recordings were transcribed by professional transcribers. Quantitative data was analysed using the IBM® SPSS® software. The qualitative analysis is underway, with thematic analysis using NVivo software. Ethical approval was obtained from the Massey University Research Ethics Secretariat. Ethics Notification Number: 4000024388.

**Results:** A 60% (n=80) response rate was achieved from the online questionnaire sent to 133 workplace supervisors. Few supervisors (n=21, 26%) rated their awareness around mental health and wellbeing as 'very aware'. Most supervisors (n=50, 69%) only felt 'somewhat confident' or 'not confident at all' in recognising signs of anxiety and depression among students. Few supervisors (n=19, 26%) reported that students discussed personal problems affecting their performance, with only 13% (n=9) of supervisors reporting that students disclosed a mental health problem or voiced that their mental health was suffering. Just one supervisor felt 'very confident' to support students that expressed feelings of anxiety or disclosed they had depression. Only two supervisors felt 'very confident' to support a student having a panic attack. Most supervisors (n= 67, 92%) had no formal mental health training.

**Conclusions:** WIL supervisors believe that student mental health during WIL affect their learning and performance. Low levels of supervisor confidence in recognising signs of declining mental health and supporting struggling students reveal a need for strategies to assist the professional development training of supervisors.

## ***Beyond Competence - Implications for WIL in inter-professional practice.***

Jo Borren (University of Otago, New Zealand)

Raewyn Tudor (University of Canterbury, New Zealand)

**Background:** The transition to employment for most graduates is a dynamic developmental period, impacting personal and professional identity, confidence and even long-term career trajectory (Roksa & Arum, 2012). There is recognition of continuing opportunities available for newly qualified professionals to engage with WIL particularly in expanding on interdisciplinary education and collaboration in healthcare practice.

**Issue:** A number of key factors have been identified that contribute to the stress of the newly graduated health practitioner; professional socialisation, realities of the clinical environment and realisation of accountability and responsibility (Christensen et al., 2016). The interprofessional nature of healthcare settings necessitates that colleagues share high levels of knowledge and skills to make collaborative responses often within short timeframes (Billett, 2014). However, facilitating opportunities for inter-professional teamwork and collaboration can be challenging and disciplinary silos still exist (Hajek, 2013).

**Literature:** Lave and Wenger's (1991) framework understands workplace learning is optimal when set-up as a Community of Practice (CoP) embedded in the unique social and physical conditions of the organisational context. Investigations into employment conditions and work environments for new nursing and social work graduates identify a range of support systems and opportunities to ease the transition from student to professional (Moorhead, 2019; Glassburn, 2020). A number of these strategies strongly resonate with CoP principles and processes.

**Discussion:** We discuss how graduate WIL in healthcare practice can be conceptualised with the CoP framework using examples from WIL scholarly literature. Healthcare CoP attends to the interactive and evolving nature of practice in which health professionals learn together to develop their own professional identities, collaborative teamwork, and effectively respond to patient needs.

**Implications:** The drivers, benefits and barriers to effective interdisciplinary WIL are canvassed with a focus on how new graduates might develop cross-disciplinary understanding, practice and research. WIL has established itself as a central pedagogy for preparing students for a range of professions in the healthcare environment. However, there are opportunities to further apply the principles of WIL beyond the beginning competence standards for professional practice.

## ***Addressing student equity of access to WIL? Exploring a low risk approach.***

Clare Murray

University of Canterbury, New Zealand

**Background:** Due to the need to develop a course to fit in with the Professional and Community Engagement minor and in the context of the TEC's focus on enhancing graduate employability outcomes, I created a campus-based inter-disciplinary WIL course open to any student from across the University of Canterbury called Workplace Skills and Corporate Social Responsibility. The course focused on the development of professional and personal skills such as communication, problem-solving, project planning and tikanga Māori in partnership with Hawkins (construction company).

### **Issues or Unique features:**

1. making the course available to any student in a classroom setting - we provided an effective WIL medium for students who wouldn't have otherwise had access to developing key workplace skills, or indeed exposure to multiple industry speakers from an array of backgrounds (e.g. stock market investing, career management, public relations). This is timely in 2022, because one of the focuses of UC's new Centre for WIL (in the making) is trying to advance equity of access to WIL.
2. for students with no white collar context, exposure to a national corporation helped non-vocational degree students in particular realise that they could pursue a number of career paths
3. a low risk learning experience for students was created, especially for those who would not otherwise have been confident enough to go into a work placement
4. a low risk, scalable WIL model for UC was created (with minimal Health and Safety and Pastoral Care Code of Conduct issues, in comparison to a course that includes a work placement)
5. social and environmental sustainability issues created a great universal topic to enhance student engagement

### **Discussion/Argument:**

1. Silos in academic institutions could affect the success of scalability of such a course. Only in its second year, we still have to crack the issue of how to encourage academics to support courses which could be seen to be in competition to their own faculty?
2. Pasifika academic community tell us that WIL is a good model for Pasifika students because they have a tradition of passing on knowledge through doing.
3. Trying to solve the issue of equity of access can create an additional burden on these communities (and students)
4. The teaching of bi-cultural competence and confidence brought out many shared experiences from students from multi-cultural backgrounds which all could relate to and really added to the engagement of the students in class and their consequent increased confidence in speaking publicly.

### **Implications/relevance for others in WIL:**

- Benefits of multi-disciplinary classroom settings
- Low risk way to create scalable WIL opportunities (especially for non-vocational students)
- Such a course can be taught by an academic from any discipline – but they do have to be engaging and good with external partners
- Basic foundation skills like working in a team – can be taught in a “safe” environment for the student and the university – which is great preparation for an internship or work placement

## ***A case study in continuous improvement and growth in Engineering education research capability.***

Sarla Kumari, Bruce Raine, Mohammad Al-Rawi and Jai Khanna  
WINTEC, New Zealand

**Introduction/Aim:** During the 2020 segment of the COVID-19 pandemic, the use of digital education required - and achieved - significant improvement. Universities, colleges, schools, and researchers are now all very much involved in the online learning process. In the area of engineering education research, all conferences worldwide have been affected, with face-to-face conferences being replaced by online versions. Online tools proved indispensable for the continuation of all teaching and research processes across 2020 and continue to be so in future. The requirement that all teaching and research outcomes be delivered virtually provided educators and researchers with an opportunity to leap on to the learning curve of these formerly unfamiliar or niche technologies.

This research aims to support the process of continuous improvement and growth in industry based-project engagements and online digital education by providing data and analysis of the deployment and effectiveness of online learning tools, such as video content, online discussion forums and live online classes in the delivery of a CAD course.

**Literature:** Digital learning enables students to explore relevant material using online videos, images, and participate in some interactive lessons, thereby enhancing student engagement during their sessions (Ajay, 2020). This may be particularly valuable for students who are “Digital Native Speakers” of the language of computers, video games and the Internet (White et.al, 2011).

**Method:** We collect and report on data on new technology uptake and deployment including: the use of the online video content in teaching, online industrial projects engagements, group discussion and new approaches to teach CAD software-based classes online using the cloud and live online classes. We monitor students' online interactions during tasks assigned in online sessions and examine the level of student-student interactions and student-content engagement with the online material.

**Results:** In some cases, such as project-based tasks, we found that learners performed better in the online sessions compared with the face-to-face sessions if required tools and technology were available. Also, we can record the sessions from the industries on any given project and learners can catch up later to finish the project. From the instructors' point of view, it was at times challenging to obtain effective participation by students on certain tasks and to implement flipped classroom strategies. Insights from this experience can also be extended to research work and industrial engagement.

**Conclusions:** Online teaching does have its own attractions. We don't have to worry about rooms, equipment issues (excluding Internet and computer resources) and it is safe option to avoid COVID transmission. We have noticed that the drawbacks of online teaching such as requirements of whiteboards and Zoom issues could be overcome with better software.

## ***The times they are a-changing: Professional development needs of New Zealand work-integrated learning practitioners.***

Karsten Zegwaard (University of Waikato, New Zealand)

Katharine Hoskyn (Auckland University of Technology, New Zealand)

Sonia Ferns (Curtin University, Australia)

Kristina Johansson (University West, Sweden)

Norah McRae (University of Waterloo, Canada)

Judie Kay (WACE, Australia).

**Introduction:** The year 2021 saw a repeat of a 2018 global survey to establish the professional development needs of New Zealand WIL practitioners, educators, and researchers. This research established a ranking of WIL professional development needs and captured shifts in perceptions due to the COVID-19 pandemic.

**Literature:** Perceived needs assessment has a role in design thinking for professional development, and surveying possible users is a common way of identifying perceptions (Chorley et al, 2020). In 2018 a perceived needs survey found that topics with a focus on student learning generally ranked highly, with administrative-related topics, leadership, Health & Safety, and engaging with stakeholders ranking within the middle. Research topics, agreements, and providing student feedback were ranked low (Zegwaard et al, 2019).

**Methods:** This work was part of an international study, with only the New Zealand data presented at this conference. An online survey was sent out through the national WIL associations, using Survey Monkey. Participants were anonymous to the researchers. This ongoing research is covered by ethical approval from the University of Waikato (FSEN20178). The response rate from New Zealand was lower than 2018 (n=15 versus n=36), reducing analysis to frequency distributions and qualitative analysis of open-ended questions.

**Results:** Compared with 2018, there were noticeable shifts in job experience and perceived importance of professional development topics. The data indicated that about half of the WIL participants did not experience significant difficulty in receiving support or accessing professional development opportunities (aside from lack of international travel). However, the remaining half indicated access to reduced funding, support, and time for professional development. About a third of this WIL community experienced significant upheaval due to the COVID pandemic.

WIL Participants also indicated shifts in importance of professional development needs, where Health and Safety is now perceived as the most important (previously ranked 24th), with 'evaluating quality of WIL programs' also ranking 1st equal (same as 2018). Newly introduced topics to the survey tended to rank higher, for example, 'delivering WIL online', and 'equity, diversity and inclusion' (both 3rd equal), with research related topics ranking relatively low as in the 2018 study.

**Conclusions:** Due to the COVID-caused travel and group gathering restrictions, access and support to professional development was always going to be challenging. However, the rapid shift to topical webinars offered by WILNZ, ACEN, CEWIL, and WACE allowed for accessible professional development opportunities despite the restrictions, likely why half of the participants indicated no change to accessing professional development opportunities despite the restrictions.

The importance of H&S and the high ranking of 'online WIL' reflects the COVID pandemic context where personal and societal health became priority and online WIL became the preferred mode of delivery. It is likely, given the current context, this importance will remain for some time.