



New Zealand Association for Cooperative Education

2019 Refereed Conference Proceedings

*Our Place in the Future of Work
Ko Te Papa Ko Au Ko Momoho
16th – 17th of April, 2019, Te Papa Museum, Wellington, New Zealand*

*Editors
Karsten E. Zegwaard & Katharine Hoskyn
ISBN 978-0-473-48188-9*

Front cover: Museum of New Zealand Te Papa Tongarewa, Cable Street, Wellington, New Zealand
Photo credit: Museum of New Zealand Te Papa Tongarewa

New Zealand Association for Cooperative Education 2019 Refereed Conference Proceedings

Refereed Proceedings of the 22nd New Zealand Association for Cooperative Education
Conference, held 16th – 17th April, 2019, at Te Papa Museum Wellington, New Zealand.

Proceedings Editors

Karsten Zegwaard, *University of Waikato*
Katharine Hoskyn, *Auckland University of Technology*

Editorial Board

Anna Rowe, *University of New South Wales*
Brenda Lloyd, *Whitireia New Zealand (retired)*
Jenny Walker, *Independent Consultant*
Karsten Zegwaard, *University of Waikato*
Katharine Hoskyn, *Auckland University of Technology*
Patricia Lucas, *Auckland University of Technology*

Conference Organiser

Andrew Martin, *Massey University*

Organising Committee

Brenda Lloyd, *Whitireia New Zealand (retired)*
Carine Stewart, *University of Victoria*
Chantal Pillay, *Le Cordon Bleu New Zealand*
Denisa Hebblethwaite, *Unitec Institute of Technology*
Jenny Fleming, *Auckland University of Technology*
Karen Vaughan, *New Zealand Council of Educational Research*
Karsten Zegwaard, *University of Waikato*
Katharine Hoskyn, *Auckland University of Technology*
Kimberly Park, *Otago Polytechnic*
Klaus Reiter, *Waikato Institute of Technology*
Regan Cotter, *Eastern Institute of Technology*
Tom Hartley, *Eastern Institute of Technology*
Yvonne Wood, *Auckland University of Technology*

All papers were double-blind peer reviewed and amended before accepted for publication

This document is formatted for double-sided printing.

Published by New Zealand Association for Cooperative Education (NZACE)

© 2019 New Zealand Association for Cooperative Education

Available online: www.nzace.ac.nz

ISBN 978-0-473-48188-9

The New Zealand Association for Cooperative Education would like to gratefully thank our conference sponsors



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA

UNIVERSITY OF NEW ZEALAND



catalyst 

open source technologists

CONTENTS

Back to the future: Business workplace competencies revisited <i>Diana Ayling, Denisa Hebblethwaite, Kerry Kirkland</i>	1
City Student Studio: A student/industry/council studio collaboration <i>Regan Cotter, David Skelton, Tom Hartley</i>	7
Improving clients' lives through an exercise prescription program <i>Lynette D. Hodges, Andrew J. Martin, Malcom Rees</i>	11
The development of a transformative degree apprenticeship in Engineering <i>James Mackay, Mary Fawcett</i>	15
Integration of teaching, academic services and research to reinforce professional learning community: Work-integrated learning for teacher students <i>Natcha Mahapoonyanont</i>	21
Better WIL supervisors, better WIL students <i>Andrew J. Martin, Malcolm Rees, Jenny Fleming, Karsten E. Zegwaard, Karen Vaughan</i>	29
Re-imagining work-integrated learning: Innovation in delivery through the Centres of Asia-Pacific Excellence <i>Gina Robertson</i>	35
The Development Hub: An online approach for work-integrated learning and learning-integrated work <i>Catherine Snell-Siddle, Sarah Snell, Angela Bingham</i>	39

Back to the future: Business workplace competencies revisited

DIANA AYLING

DENISA HEBBLETHWAITE

KERRY KIRKLAND

Unitec Institute of Technology, Auckland, New Zealand

Higher education has a responsibility to consider the development of generic competencies in students to enable them to transfer tertiary learning to meet the changing demands of the workplace when they graduate (Quek, 2005). According to Kay (2017) these cognitive, personal and interpersonal competencies should be co-created with key stakeholders and set the direction and shared vision of a programme of study. To ensure the best possible match between graduate competencies and employer needs, graduate competencies need to be regularly refreshed to ensure students have a relevant and useful curriculum.

Work-integrated learning (WIL) courses in New Zealand are often taken by students in their final year of study, and involve students undertaking work and/or a project in an organization related to their major. WIL courses are typically used as a barometer in gauging the effectiveness of both a programme of study and the graduate profile in terms of developing “employability” and “graduateness” (Jackson, Sibson & Riebe, 2013; Oliver, 2011).

Several substantive New Zealand studies identifying competencies in business education were last undertaken nearly 20 years ago (Burchell, Hodges & Rainsbury, 2000, Hodges, & Burchell, 2003). Graduate competencies, informed by the literature at the time, were ranked by employers as follows: ability and willingness to learn; energy and passion; teamwork and cooperation; interpersonal communication; customer service orientation; order, quality and accuracy; flexibility; problem solving; achievement orientation and initiative. Rainsbury, Hodges and Burchell (2002) explored the same set of competencies with business students and graduates and ranked the following as the most important: computer literacy, customer service orientation, teamwork and cooperation, self-confidence, and willingness to learn.

Hebblethwaite and Ayling (2018) investigated the development of employability skills, as advocated by the New Zealand Employability Skills Framework, during a WIL experience to inform future WIL curriculum development. The study determined that employability skills are developed by students in WIL courses at variable levels. Thus, the challenge for business programmes is two-fold; first, to ensure graduate outcome statements promote graduate “employability” and “graduateness” and second, that the prescribed graduate outcome statements occur in the programme of study.

In this paper we discuss the challenge of developing “employability” and “graduateness” in business programmes and WIL courses.

EMPLOYABILITY AND GRADUATENESS

Literature gives two distinct views of “employability”. In the first view employers are more likely to view employability as a particular set of skills and dispositions that make a graduate attractive. This

view of employability focuses on short-term graduate employment outcomes. Employer organisations sometimes adopt this approach in their policy and bring it with them to programme development processes (Bridgestock, 2009). The second, much wider, view of employability is captured in the Kirby Report (2000) and describes employability as a construct which:

Involve[s] self-belief and an ability to secure and retain employment. It also means being able to improve ... [the worker's] productivity and income-earning prospects. This often requires competing effectively in the job market and being able to move between occupations as necessary. It requires 'learning to learn' for new job opportunities. (p. 37)

Rust and Froud (2016) believe "employability" is the accumulated outcome from all the graduate attributes of a programme of study being achieved. They advocate for an assurance process to select and present appropriate evidence of student achievement. This applies to both the students' awareness of the attributes and their understanding of their own personal development of the attributes. The authors acknowledge that this process of assurance and self-knowledge requires the development of critical self-awareness and personal literacy. They present the example of Shuvo Saha, Director of Google's Digital Academy, who argues that "self-awareness is of fundamental importance, since successful students 'learn consciously about how they lead – and how they don't'. They continuously reflect on their own development and actively seek feedback".

"Graduateness" on the other hand is a newer concept. According to Steur, Jansen and Hofman (2016), "Graduateness" is a transformative set of knowledge, skills and attributes that are beyond training for employment. The graduateness set includes students integrating theories on reflective thinking, scholarship, moral reasoning and lifelong learning.

Steur et al. (2016) consider 'employability' and 'graduateness' to be two separate concepts in higher education, and suggest they should be treated as such when investigating the generic learning outcomes of higher education. While they acknowledge employability as an important aspect of university education, they do not include it in their interpretation of graduateness because there are some indications that focusing on employability in university education can occur at the expense of students' intellectual development.

The concept of graduateness is supported by the New Zealand Productivity Commission (2017) who state:

"For students, education develops knowledge and skills that allow them to live an enriched life. It helps people to understand and navigate the world around them, as well as question and challenge the way things are. It creates access to opportunities, forges identity and culture, and frequently leads to lifelong benefits in terms of health, wealth and life satisfaction. "New Zealand Productivity Commission (2017, p.1)

In New Zealand there seems to be a significant shift in the understanding of the role of tertiary education, from 'employment' to 'life-long competences' to 'manage self in a complex world' (New Zealand Productivity Commission, 2017). The New Zealand Qualifications Association (NZQA) recognises that employers are looking for "lifelong learners who have critical thinking and problem solving skills, and character qualities such as adaptability, resilience and cultural skills" and seek to equip learners with the skills and knowledge to be successful within rapidly changing global and digital contexts (NZQA Statement of Intent 2016, p.8.).

BUSINESS PERSPECTIVES

The world of business has undergone massive change over the last 20 years. While some business practices remain the same, others are radically different. Rapid technological change and globalisation has placed a premium on skills such as flexibility, openness and receptiveness to new technology (Conway, 2017). The business challenge of lifting productivity is requiring new management approaches such as “Agile” and “Lean” (Drury-Grogan, 2014, Moreira, 2017, Crabtree, 2018) and according to Purdy and Daugherty (2017), higher investment in artificial intelligence (AI). In order to succeed, management need to focus on the skill needs of their workforce, particularly in the area of agile skills development (Purdy & Daugherty, 2017).

The agile workforce is difficult to define as it originally referred to the structures, processes and timelines of project management in software development. Work structures, now defined as tribes, squads and pods, have moved beyond standard project management and been adopted by mainstream workplaces (Drury-Grogan, 2014). Moreira (2017) discusses key skills emerging specifically from agile work: speed and efficiency, freedom to experiment, and communication and collaboration. Organisational culture must support creativity and empowerment as sharing relevant knowledge and expertise across teams, is essential for agility. Employees also need to be skilled in cross-team coordination and information-sharing (Crabtree, 2018).

Lean is an organisational practice that considers the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful (Holweg, 2007). A lean business creates a high quality process that connects with higher organisational performance and the ability to provide competitive advantage (Ward & Zhou 2006, Zhou, 2016). Key competencies that emerge for Lean include: attention to quality, responsiveness, productivity, performance, sustainability and being customer centric.

Embracing AI will also require new workforce skills that prioritise human abilities over technical expertise. Skills that complement the new technology such as judgement, communication and creative thinking will be favoured in the workforce (Purdy & Daugherty, 2017). Similarly, the roll-out of 5G technologies in New Zealand over the next five years will require the development of new skills and ways of learning. This significant advance in broadband connectivity will potentially revolutionise “the way we live and work” (Palattella et al., 2016, p.1.).

According to Conway (2017), benefiting from information and communication technology (ICT) depends on organisations having sufficient capability to adapt organisational processes and structures to make the most of this technology. Conway considers an appropriate skills system is critical for winning the race between education and technology while investment in higher education and partnerships between research institutes and private companies is required to determine organisational management capability and how skills are deployed and used.

GOVERNMENT PERSPECTIVES

As business organisations make the most of new opportunities from ITC, a reform agenda emerges. The key directions of workforce reform proposed (Conway, 2018) include:

- prioritising trade in services and digital products in New Zealand’s trade strategy;
- improving the matching of skills to jobs, including the encouragement of the education system to be more adaptive and responsive to labour market demands

In response the New Zealand Qualifications Authority (2018) has changed generic competency requirements for bachelor's degrees. The recent graduate profile calls for graduates that:

- demonstrate intellectual independence, critical thinking and analytic rigour
- engage in self-directed learning
- demonstrate knowledge and skills related to the ideas, principles, concepts, chief research methods and problem-solving techniques of a recognised major subject
- demonstrate the skills needed to acquire, understand and assess information from a range of sources
- demonstrate communication and collaborative skills.

Careers New Zealand, part of the Tertiary Education Commission(TEC), have also sought stakeholder advice and advocate the following seven employability skills: “positive attitude, communication, teamwork, self-management, willingness to learn, thinking skills and resilience” (Careers New Zealand, n.d.).

SUMMARY

Changes in the business world over the past twenty years include the impact of information communication technologies, the changing nature and structure of organisations, ways of working together and adoption by management of new practices to encourage innovation and improve performance.

The literature reveals a new and more targeted set of graduate competencies. These competencies are strongly focused on collaboration and communication in a variety of contexts, and environments. Customer focus, organisational performance and productivity are key cognitive skill sets. In addition, graduates are expected to have problem solving skills, to think creatively and the abilities to manage and share information. Self-awareness or “personal literacy” is another important disposition of business graduates.

These changes have led to a need to return to the exploration of graduate competencies for business graduates. The authors believe that key competencies include appropriate cognitive, personal, and social skills to ensure “employability” and “graduateness”. Processes to assure student competency achievement will result in improved WIL courses, and the development of true “capstone” experiences for students.

IMPLICATIONS AND ISSUES

Business education has a responsibility to regularly refresh graduate competencies to reflect the needs of business, and the wider community. The next stage of this research is to co-design a graduate profile reflecting the needs of all stakeholders which will inform the business curriculum. The WIL course should reflect the new cognitive, personal and social skills and play a vital role in informing and assuring the graduate profile.

REFERENCES

- Boyatzis, R. E., & Saatscioglu, A. (2008). A 20-year view of trying to develop emotional, social and cognitive intelligence competencies in graduate management education. *Journal of management development*, 27(1), 92-108.
- Bridgestock, R. (2009). The graduate's attributes we've overlooked: Enhancing graduate employability through career management skills. *Higher Education Research and Development*, 28(1), 31-44.
- Burchell, N., Hodges, D., & Rainsbury, L. (2000). What competencies do business graduates require? Perspectives of New Zealand stakeholders. *Journal of Cooperative Education*, 35(2/3), 11.

- Careers NZ (n.d). Skills employers are looking for. Retrieved from <https://www.careers.govt.nz/plan-your-career/not-sure-what-to-do/skills-employers-are-looking-for/>
- Conway, P. (2016). *Achieving New Zealand's productivity potential*. New Zealand Productivity Commission, Te Kōmihana Whai Hua o Aotearoa.
- Conway, P. (2017). *Achieving New Zealand's productivity potential*. New Zealand Productivity Commission, Te Kōmihana Whai Hua o Aotearoa.
- Conway, P. (2018). Can the Kiwi fly? Achieving productivity lift-off in New Zealand. *International Productivity Monitor*, (34), 40-63.
- Crabtree, S. (2018). The real future of work. *Gallup*. Retrieved from <https://www.gallup.com/workplace/232382/real-future-work.aspx>
- Drury-Grogan, M. L. (2014). Performance on agile teams: Relating iteration objectives and critical decisions to project management success factors. *Information and Software Technology*, 56(5), 506-515.
- Hebblethwaite, D.E., & Ayling, D. (2018). The seven wonders of employability. In K.E. Zegwaard and K. Hoskyn (Ed.), *New Zealand Association of Cooperative Education 2018 Conference Proceedings* (pp. 11-15).
- Hodges, D., & Burchell, N. (2003). Business graduate competencies: Employers' views on importance and performance. *Asia-Pacific Journal of Cooperative Education*, 4(2), 16-22.
- Holweg, M. (2007). The genealogy of lean production. *Journal of Operations Management*, 25, 420-437
- Jackson, D., Sibson, R. & Riebe, L. (2013). Delivering work-ready business graduates-keeping our promises and evaluating our performance. *Journal of Teaching and Learning for Graduate Employability*, 4 (1), 2-22.
- Kay, K. (2017). The Graduate Profile: A Focus on Outcomes. *Edutopia*. Retrieved from <https://www.edutopia.org/blog/graduate-profile-focus-outcomes-ken-kay>
- Kirby, P. (2000). Ministerial review of post compulsory education and training pathways in Victoria.
- Moreira, M. E. (2017). *Agile Enterprise*. Apress.
- New Zealand Qualifications Authority, (2018) *Bachelor's Degree*. Retrieved from https://www.nzqa.govt.nz/assets/generated_pdfs/bachelors-degree-841.pdf
- New Zealand Qualifications Authority (2016) Statement of Intent. Retrieved from <https://www.nzqa.govt.nz/assets/About-us/Publications/Strategic-publications/SOI-2016-19.pdf>
- New Zealand Productivity Commission. (2017). New models of tertiary education: Final Report. *New Zealand Government, Wellington, March*. [Google Scholar].
- Nolan, P., Fraser, H., & Conway, P. (2018). Moving on from New Zealand's productivity paradox. *Policy Quarterly*, 14(3).
- Oliver, B. (2011). Assuring graduate capabilities: An approach to determining and evidencing standards. *Proceedings of the Australian Quality Forum 2011*, Melbourne, Australia, 20-126.
- Palattella, M. R., Dohler, M., Grieco, A., Rizzo, G., Torsner, J., Engel, T., & Ladid, L. (2016). Internet of things in the 5G era: Enablers, architecture, and business models. *IEEE Journal on Selected Areas in Communications*, 34(3), 510-527.
- Purdy, M. & Daugherty, P. (2017) Accenture report; How AI boosts industry profits and innovation. Retrieved from <https://www.accenture.com/us-en/insight-ai-industry-growth>
- Quek, A. H. (2005). Learning for the workplace: a case study in graduate employees' generic competencies. *Journal of workplace learning*, 17(4), 231-242.
- Rainsbury, E., Hodges, D. L., Burchell, N., & Lay, M. C. (2002). Ranking workplace competencies: Student and graduate perceptions. Retrieved from <https://researchcommons.waikato.ac.nz/handle/10289/3219>
- Rust, C., & Froud, L. (2016). Shifting the focus from skills to "graduateness". *Phoenix*, 148, 8-10.
- Steur, J., Jansen E., & Hofman, A. (2016). Towards graduateness: Exploring academic intellectual development in university master's students, *Educational Research and Evaluation*, 22(1-2), 6-22.
- Ward, P., & Zhou, H. (2006). Impact of information technology integration and lean/just-in-time practices on lead-time performance. *Decision Sciences*, 37(2), 177-203.
- Zhou, B. (2016). Lean principles, practices, and impacts: a study on small and medium-sized enterprises (SMEs). *Annals of Operations Research*, 241(1-2), 457-474.

City Student Studio: A student/industry/council studio collaboration

REGAN COTTER
DAVID SKELTON
TOM HARTLEY

Eastern Institute of Technology, Napier, New Zealand

This paper outlines the development of a student-focussed studio for tertiary students in the city centre of Napier, New Zealand. A Napier City Council's Manager of City Development was instrumental in the establishment of the City Student Studio "The idea has been percolating for 18 months and I'm delighted to finally see it in place in Napier. I hope it will become an annual event".

This project has been successful from the NCC City Vision point of view. Some of the benefits that this project has achieved are:

1. City activation in the CBD.
2. Better collaboration between the University of Waikato, EIT and NCC.
3. Improved youth engagement with Council activities by having students participate in Council projects and understand Council processes.
4. Positive education outcomes for students who could participate in real Council and CBD retailers/business projects (planning, engagement, and delivery).
5. Open pathways for future employment.
6. Low-cost access to student resources who could help deliver Council projects.
7. Students gain credits in their studies from participating in research/ practical projects.

OTHER STUDENT STUDIOS

British Columbia in Canada is currently home to two City Studios, one is located in Victoria and the other in Vancouver. They are both collaborations with their local councils and respective universities. Victoria City Studio collaborates with The City of Victoria (Council), Royal Roads University and University of Victoria. It is an "Innovation Hub where staff, university students and community members co-create, design and launch projects on the ground. Their vision is to build relationships with tertiary providers, the community and the city ultimately creating a liveable city rooted in ecological, human and social interdependence" (City Studio Victoria, 2019, p.2).

The City Studio Vancouver was established in 2011 to accelerate sustainability in higher education and provide students with opportunities to work in the city on urban challenges. It was seen as an integral part of Vancouver's goal to become the greenest city in the world by 2020. "It is a collaboration between the local council and local universities. The City Studio has evolved beyond sustainability and now includes The Healthy City for All, City of Reconciliation, Engaged City, Renewable City, and New Start strategies" (City Studio Vancouver, 2019, p.1).

In Australia the Queensland University of Technology has developed the QUT Design Lab which comprises of a recognised team of research staff and students who use rigorous and fresh design-led research to confront major societal challenges guided by three value-led research: Communities &

Resilient Futures, Health & Wellbeing and Technologies of Tomorrow (QUT Design Lab, 2018). The Design Factory is a global network of innovation hubs in universities, polytechnics and research organisations in five different continents and 23 different locations throughout the world. Their mission is to create change in the world of learning and research through passion based culture and effective problem-solving. Design factories are effectively a platform for experimentation, action, and co-creation (The Design Factory, 2019)

HOW DID THE STUDIO COME ABOUT?

As part of Napier City Councils' CBD activation strategy, the City Manager and several colleagues travelled to Victoria Canada to witness first-hand the City Studio concept and to gather a better understanding of how it operates and the benefits it can bring to the city. Excited by their findings they entered in discussions with EIT and University of Waikato on how they could collaborate to bring this concept to Napier. As an initial trial NCC, EIT and University of Waikato agreed to jointly fund and provide the resources necessary over the summer 2018-2019 period with the goal of providing a downtown space to bring students into the CBD and to involve businesses in the project.

THE CITY STUDENT STUDIO IN ACTION

A business school intern majoring in management, was appointed as the manager of the studio. He undertook this while enrolled in a credit bearing project course and his role encompassed the day to day running of the studio, meeting and greeting visitors and handling all enquiries including course inquiries for EIT and University of Waikato. He also kept a log of all visitors and recorded the purpose of their visit.

A typical day would consist of an average of seven - nine visitors. This would consist of one - two general course enquiries, two- three lecturers using it as a base for their work or conducting industry and student meetings and three- four students using it as a base to conduct their summer internships or also using it as a place to meet with industry and discuss the progress of their projects. The average time spent at the studio was one hour and 14 minutes.

A total of eight CBD businesses utilised the student's expertise in projects varying from social media strategies, website design, analytics, event management and graphic design work. EIT had nine students conducting summer internships and Waikato had three summer research interns at the local councils who regularly used the City Student Studio.

DISCUSSION

The City Student Studio is downtown and offered an alternative base for the students and staff to conduct their work, and provided a venue that was new and fresh while in close proximity to the CBD and industry, further enhancing EIT and industry relationships. However this type of environment not only benefits the students. For example, Hawaii Pacific University (HPU) has recently moved a significant part of its campus downtown and stated that this relocation increased economic opportunity and supported the current revitalization of the community. "By diversifying use and driving economic activity, HPU will greatly influence the commercial and residential future of downtown Honolulu" (Hawaii Pacific University, 2019, p.1).

Because the studio operated as a hot-desking facility and required people to move around and not be constrained to a set desk it effectively removed hierarchical barriers that are normally in place between staff and students." Settling down at a different desk each day gives people from different teams and

departments the chance to interact, and to build networks that cross the formal company hierarchy. This helps to break down silos and cliques, and facilitates "chance" encounters that can enable organizations to become more creative" (Mindtools, 2018). This creative space not only broke down barriers between staff and students but it facilitated interactions of students from different schools. Often they would collaborate on a project, for example a business student could be working on managing an event whilst a graphic design student could be creating the posters for the event.

The downtown location created opportunities for enrolments with potential students often popping in to discuss potential courses. Industry would often drop in to ask questions or requesting students to carry out certain tasks. The downtown presence spontaneously created opportunities, the high visibility in a high traffic space created a greater brand awareness for the stakeholders.

CONCLUSION

As the CSS provided a space where students could interact with their peers, staff and industry that would not normally take place in a conventional tertiary campus, it was very effective in breaking down the silos that often exist in tertiary education.

The CBD projects offered were carried out successfully by the students and gave excellent industry experience and offered a useful business and technical service to city businesses. However for the CSS to be truly effective in creating a collaborative environment an overarching centralised project is likely to be required that would require different departments or schools to work on different facets. This could potentially be scaled to even include local schools, ultimately this would create a greater connection to the community and help retain the youth of the town.

REFERENCES

- Bosco, A. & Ferns, S. (2014). Embedding of authentic assessment in work-integrated learning curriculum: *Asia-Pacific Journal of Cooperative Education*, 15(4), 284-289.
- City Studio Vancouver. (2019). Retrieved from <https://www.citystudiovancouver.com/>
- City Studio Victoria. (2019). Retrieved from <http://citystudiovictoria.com/>
- Hawaii Pacific University. (2019). Retrieved from <https://www.hpu.edu/about-us/news-and-events/news/2018/10/hawaii-pacific-university-announces-new-facilities-in-downtown-honolulu.html>
- Jacob, M., Hellström, T., Adler, N., & Norrgren, F. (2000). From sponsorship to partnership in academy-industry relations. *R&D Management*, 30(3), 255-260.
- Mindtools (2018). Retrieved from <https://www.mindtools.com/pages/article/hot-desking.htm>
- QUT Design Lab. (2018). Retrieved from <https://research.qut.edu.au/designlab/studywithus/>
- The Design Factory. (2019). Retrieved from <https://dfgn.or>

Improving clients' lives through an exercise prescription program

LYNETTE D. HODGES

ANDREW J. MARTIN

MALCOLM REES

Massey University, Palmerston North, New Zealand

The benefits of Work-integrated Learning (WIL) programs are well documented in terms of the tripartite outcomes for students, workplace organisations and the university. Maximising authentic WIL experiences for exercise science students and developing competencies in this context (Fleming, Martin, Hughes & Zinn, 2009) requires organizational, pedagogical and interpersonal support (Clarke, Litchfield & Drinkwater, 2010), as well as being responsive to student interests to meet the needs of industry and employing groups (Reddan & Harrison, 2010). Enhanced self-efficacy, career development, and employability outcomes have been highlighted for exercise science students through participation in WIL programs (Redden, 2015, 2016, 2017; Reddan & Rauchie, 2016). However, the benefits for the clients of such programs has not been documented. Sealey et al., (2015) reinforced the importance of enhancing and sustaining placement supervision in such clinical settings to ensure safe practice and competency based assessment focused on effective communication, clinical and procedural skills, and technical proficiency (Naumann et al., 2014).

BACKGROUND AND CONTEXT

This paper examines how a WIL program within a Bachelor of Sport and Exercise major in Exercise Prescription and Training has benefitted students and clients alike. Students exercise, test and train clients impacted by non-communicable diseases including cardiovascular, neurological and/or muscular skeletal problems which substantially limit their physical activity, for example chronic fatigue syndrome, multiple sclerosis (Hodges, Nielsen & Baken, 2018) and spinal cord injury, in a supervised clinic.

METHOD

In this study feedback was analysed from 20 students after their participation in an exercise prescription WIL program at Massey University, Palmerston North, New Zealand. Feedback was also analysed from 20 clients of the program. We undertook a Thematic Content Analysis (TCA) (Braun & Clarke, 2006) of all the available students' post-practicum reflections (n= 20) from those who had undertaken Massey's Exercise Prescription Practicum in 2018. The word documents all followed a similar structure, which included sections relating to learning outcomes and overall experience reflections. The documents were not part of any course assessment but were initially collated to provide detail of practicum placements and learning outcomes for future students to reference. The project was approved and deemed to be low risk against the university research ethics criteria. To address potential limitations of researcher bias an independent coder provided an objective view of the data and minimised any potential for coding bias by the lead author who was closely associated with the program. This process enhanced the credibility and dependability of the thematic analysis.

RESULTS AND DISCUSSION

The following themes were evident related to student outcomes and benefits from their WIL experiences.

Transfer of Learning and Reinforcing Career Direction

Career development and employability outcomes have been highlighted for exercise science students through participation in WIL programs (Redden, 2015; Reddan & Rauchie, 2016). The current WIL opportunity provided future professional development for students from the different case studies, which required them to use principles of specificity and individuality due to the various health needs of clients. These challenges added to the students' exercise prescription case specific knowledge and application of different exercise prescription protocols, testing activities and training methods. "I feel the whole process, which includes meeting with a client, health consultation, fitness testing, training program, reassessment and evaluation of myself, can significantly improve my skills and knowledge."

Affirmed the direction in the Sport and Exercise industry that I want to take. Overall, I have learnt a lot about myself, the sport and exercise industry and the importance that myself as a trainer has on my clients and their rehabilitation.

The WIL experience and case specific knowledge has reinforced a student's passion as a health professional and positive career direction and elevated their employability. "Being able to work with people and help them is a passion of mine and it only enhanced how much I enjoy it." "Working with [the client] has been an enjoyable experience. I have learnt a lot about being able to understand people's situations and goals in order to create a program best suited for them at that point in time".

Findings indicated that from the student's perspective there has been learning from the clients in terms of their health challenges and life experiences, which has been humbling, motivational and rewarding. "This experience has been invaluable, and is one which I will be able to draw back on to utilize the knowledge and skills that I have gained." Seeing the huge improvements from the beginning of the 8 weeks compared to now was by far one of the most rewarding experiences I've had this year.

Enhanced Graduate Attributes

Enhanced self-efficacy has been highlighted as an outcome of WIL programs in exercise science (Reddan 2016, 2017). Through the current WIL opportunities, students have developed increased self-management, awareness and confidence, "made me feel confident and competent about my ability to be a fitness trainer" and "I have also learnt a lot about myself and my ability to help individuals like [the client]."

To be able to manage my placement, my clients, my studies and other activities such as sporting commitments. In the initial stages it was somewhat difficult sorting out times and places to meet clients, which required patience and compromise.

Student also developed more effective client communication and industry connections and relationships, "effectively communicate with people of a range of ages, and ethnic backgrounds" and "building relationships with people of all ages, from different walks of life and being able to help them in a positive, life-changing way". The WIL experience has also provided benefits for the clients too.

Supervised, Safe, Social and Shared Experiences

The exercise clinic provided an affordable, supervised and safe environment to exercise. "My trainer was flexible and reliable, and established a good rapport with me. He actively ensured my technique was correct and encouraged me to push hard." "My student trainer has been wonderful during this duration. She has been able to identify underlying causes of my back issues that the physiotherapists haven't picked up on".

The clinic enabled social connections and a shared experience with others whom also had compromised health conditions. "The student trainer was easy to talk to, he was very pleasant, friendly and respectful, and had a very professional approach." "By going to the exercise program it is easier to do things at home. The students are so great and very understanding. It is great mixing with people of all ages. It provides a good social platform".

Motivated, Monitored and Supported

These authentic work experiences enhanced students' accountability, and challenged their ability to be adaptable and flexible, as well as enriching empathy, motivation and patience, which are important attributes of client care. Clients, who were often initially nervous about exercising received an individualised specific program, and met with the same student trainer over a period of 10 weeks. Clients were monitored and provided with motivation. "I was very pleased to have such a friendly, motivating and professional student trainer who was instrumental in me achieving my goals." "My student trainer made the time of 6am which suited me. He regularly encouraged me through the workouts and explained why he had chosen the exercises." "My student trainer is extremely good at what she does and always finds an answer/solution for any issues that occur."

As this formed course work for the students, the clients were accountable for completing the program and had accountability. Clients enjoyed that they could build a relationship with their trainer and could exercise and achieve their specific exercise goals within a safe and social environment.

I started training with my student trainer when I was 10 weeks pregnant. I am now 35 weeks pregnant. My student trainer has always been fun, adjustable, understanding and encouraging. Maintaining my level of fitness has made me feel great.

CONCLUSIONS AND IMPLICATIONS

The findings reinforce the importance of developing WIL experiences that enhance the learning outcomes for both the student and the client. Designing authentic industry WIL clinical experiences for future health professionals should enable students the opportunity to engage with a range of clients. Such clinics should provide affordable, supervised and safe environments for clients to exercise enabling social connections and a shared experience with others having compromised health conditions.

REFERENCES

- Clarke, D., Litchfield, C., & Drinkwater, E. (2010). Supporting Exercise Science students to respond to the challenges of an authentic work-integrated learning (WIL) assessment. *Asia-Pacific Journal of Cooperative Education*, 11(3), 153-167.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Fleming, J., Martin, A. J., Hughes, H., & Zinn, C. (2009). Maximizing work-integrated learning experiences through identifying graduate competencies for employability: A case study of sport studies in higher education. *Asia Pacific Journal of Cooperative Education*, 10(3), 189-201.

- Hodges, L D., Nielsen, T., & Baken, D. (2018). Physiological measures in participants with chronic fatigue syndrome, multiple sclerosis and healthy controls following repeated exercise: a pilot study. *Clinical Physiology and Functional Imaging*, 38(4), 639-644.
- Linn, P. (2015). A lifespan perspective on cooperative education learning: A grounded theory. *Asia-Pacific Journal of Cooperative Education*, 16(4), 301-326.
- Naumann, F., Moore, K., Milson, S., & Jones, P. (2014). Developing an objective structured clinical examination to assess work-integrated learning in exercise physiology. *Asia-Pacific Journal of Cooperative Education*, 15(2), 81-89.
- Reddan, G. (2017). Enhancing employability of exercise science students. *Asia-Pacific Journal of Cooperative Education*, 18(1), 25-41.
- Reddan, G. (2016). The role of work-integrated learning in developing students' perceived work self-efficacy. *Asia-Pacific Journal of Cooperative Education*, 17(4), 423-436.
- Reddan, G. (2015). Enhancing students' self-efficacy in making positive career decisions. *Asia-Pacific Journal of Cooperative Education*, 16(4), 291-300.
- Reddan, G., & Harrison, G. (2010). Restructuring the Bachelor of Exercise Science degree to meet industry needs. *Asia-Pacific Journal of Cooperative Education*, 11(1), 13-25.
- Reddan, G., & Rauchie, M. (2016). Student perceptions of the value of career development learning to a work-integrated learning course in exercise science, *Australian Journal of Career Development*, 21(1), 34-48.
- Sealey, R. M., Raymond, J., Groeller, H., Rooney, K., Crabb, M. & Watt, K. (2015). Supporting placement supervision in clinical exercise physiology. *Asia-Pacific Journal of Cooperative Education*, 16 (1), 53-69.

The development of a transformative degree apprenticeship in Engineering

JAMES MACKAY

MARY FAWCETT

Wellington Institute of Technology, Wellington, New Zealand

Like its trade's counterpart, a degree apprenticeship is a work-based degree that is intended to integrate academic learning with on-the-job practical training. While degree apprenticeships are common in the UK and in Europe, no such qualification has been piloted in New Zealand. Early work commissioned by the Tertiary Education Commission (TEC) on the introduction of degree apprenticeships in New Zealand, found that in the UK, the design, development and implementation of degree apprenticeships needs to be industry led and that without this lead, the degree is likely to fail (Goodyer, 2015). This paper outlines the curriculum development process as well as the possible benefits for the introduction of degree apprenticeships.

In March 2017, the first phase of the project to develop a degree apprenticeship in Infrastructure asset management commenced with the development of an apprenticeship standard (Goodyer, Poskitt & Mackay, 2017). This collaborative exercise was employer led and involved discussions with the three key stakeholder groups of employers in infrastructure asset management; namely the councils, consultants and contractors. The final apprenticeship standard was written after extensive consultation as well as workshops with these key stakeholders and presented to the Tertiary Education Commission (TEC) at the end of June. This report outlines the process followed as well as a discussion regarding the benefits of degree apprenticeships.

LITERATURE REVIEW

Worldwide, apprenticeship has been a well-accepted form of training, particularly in the trades. The demand for a skilled workforce has grown in recent times, with employers wanting to have a stake in the development of people who they will later employ. This is particularly true in Europe and the UK, where apprenticeships now are not limited to the trades, but include higher degrees, even at the master's level. In Austria, Germany and Switzerland, work-based academic education that combines elements of vocational training and higher education are widespread (Graf, 2016) and have been around since the 1960s. In the UK however, degree apprenticeships are a relatively new phenomenon, with the current model being introduced in the last five years (Rowe, 2016). This model not only spans higher level degrees but is also embedded within business frameworks. The direct involvement of employers in the design and delivery of Degree Apprenticeships in the UK implies that employer attitude has undergone a degree of change and continues to do so (Powell, 2018).

The strength of the employer-led model as used in the UK, is that a consistently high standard of training and development is embedded in the workplace that does not only take place during the training phase of the apprenticeship, but also once the apprentice has graduated. Thus, high levels of collaboration between employers and educationalists deliver more rounded individuals (Goodyer & Frater, 2015).

Apprenticeship learning can be seen in the light of theories of social constructivism, particularly the ideas of Vygotsky (1930-1934/1978), where the role of the mentor in the learning relationship allows the apprentice to learn the tools of the trade while under guidance from an expert in the field, while also being engaged as a paid employee. This process can be understood in terms of Vygotsky's concept of the zone of proximal development and the role of the more knowledgeable other. In support of this, Shah (2016) maintains that a person's first experience of learning comes from the sociocultural environment in which they live, and while Vygotsky focussed widely on child-centred learning his theory can be applied to adult learning as well, particularly in an apprenticeship situation. The benefit to the apprentice of this kind of learning is that they learn a specific task in a controlled and authentic environment with a more knowledgeable mentor to guide them. The benefit to the employer is that they are able to mould the employee in the way that is desirable for the organisation.

Clarke (2018) maintains that Degree Apprenticeships improve social mobility. This is particularly true for mature learners wanting to develop or change their career, however it becomes clear that it is not a straightforward undertaking. For those who need to continue to support themselves or their family, entering (or remaining in) the workforce is the obvious solution. The long term results of this practice can help to provide the apprentice with a job at the end. This is particularly pertinent when looking at the gender balance of occupations. While many people returning to or advancing their education require flexibility in their learning environments, a high number of those are women (Fowles-Sweet, 2018). Although mentoring is widely recognised as a valuable method of learning and NZ government policy documents over the last decade have committed to supporting Māori and Pasifika learners, there is little real support in place for learners in apprenticeships (Holland, 2012) and apprentice mentoring is not recognised as a key strategy for improving job retention. Bradley (2019) states the importance of working collaboratively to raise the status of apprenticeships and how degree apprenticeships can help create skilled individuals to support national economic growth, as well as improve levels of social mobility.

Integral to traditional Māori society, is the tuakana-teina relationship, where an older or more expert tuakana (brother, sister or cousin) helps and guides a younger or less expert teina (originally a younger sibling or cousin). In a learning environment that recognises the value of ako, the tuakana-teina roles may be reversed at any time (TKI, n.d.). It could be that apprenticeship learning if properly organised according to Māori or Pasifika society has a greater impact on learning for these underrepresented groups in engineering.

APPROACH TOWARDS CURRICULUM DEVELOPMENT

The curriculum development was separated into three phases, outlined in Table 1 below. Alongside the curriculum development are the many project management issues that need to be dealt with. Unless they directly relate to the curriculum, we have excluded these from our discussions.

TABLE 1: Structure of the curriculum development process

Phase	Purpose
1	<ul style="list-style-type: none"> • Select an occupation to build a degree around • Create an industry reference group for the occupation • Develop a degree standard to encapsulate the key outcomes of the degree (behaviours, skills and knowledge)
2	<ul style="list-style-type: none"> • Use the degree standard to develop an end point assessment plan (EPA) • Align the degree standard and the EPA with the current curriculum • Develop industry led projects that integrate courses • Create any new courses necessary • Develop course blueprints • Submit the degree for national accreditation • Plan the implementation of the degree
3	<ul style="list-style-type: none"> • Pilot the new degree • Using an action research approach, evaluate and refine the curriculum

Choosing an Occupation and Creating an Industry Reference Group

Experience from the UK (Goodyer & Frater 2015) suggests that while generic degrees provide a broad education that is useful, new recruits lack specific skills that industry wants and that these skills can differ quite widely depending on the employer. This has in turn led to the development of degree apprenticeships that focus on specific occupations. In keeping with this approach, it was decided to find an engineering occupation that was widespread, in short supply and for which there was no specific degree. Discussions with members of the Institute of Public Works Engineering Australasia (IPWEA) revealed that there was a worldwide shortage of infrastructure asset managers and that there did not exist any specific qualification at the bachelor's degree level to address this shortage.

Developing the Degree Standard

Once the occupation of Infrastructure Asset Manager had been chosen, the next step was to develop the degree standard, a definitive document that outlines the occupation, the level of the qualification as well as the key behaviours, skills and knowledge requirements for the occupation. To do this we approached IPWEA and set up a reference group of volunteers whom we interviewed in order to define the nature of the occupation and ascertain the required outcomes. A draft degree standard was developed and this was workshopped with the reference group until there was consensus regarding its content. This is an essential part of the curriculum development process and cannot be short circuited. To do this properly, face to face meetings / interviews are as important as workshops and in addition, for full participation by employers, there must be enough time built into the proposed project activities as lead in time for meetings and for feedback on drafts.

Developing the End Point Assessment Plan

The end point assessment plan was developed from the degree standard and represents a rigorous, authentic synoptic assessment that evaluates the student against the graduate profile. Built into the degree are two other gateway assessments that occur after the first and second blocks of learning, while the EPA occurs after the third and final block of learning in the degree.

The EPA is planned to be a collaborative assessment that includes a project report, a portfolio of work, a project presentation and a technical interview by a panel of experts. The assessors will comprise a mix of academics and industry professionals.

Programme and Content Development

The first part of the programme development was the constructive alignment between the existing Bachelor of Engineering Technology degree and the new Bachelor of Engineering Technology degree (asset management). This was accomplished by creating a new major for the degree mainly Asset Management to be given equal status with the other three majors (Civil, Electrical and Mechanical).

The second part was to create an enough new courses to accommodate and group the outcomes specified by the reference group in the degree standard. This has led to the creation of five new courses.

Content development was accomplished in two ways, the first was the creation of work-based projects that integrated the outcomes of multiple courses and which could easily be implemented in the workplace. The second is the transformation of those courses not integrated into projects into blended and online learning units.

DELIVERY OF THE CURRICULUM THROUGH INDUSTRY HUBS

One of the key issues in this model is the way in which the apprenticeship will be delivered. It has been acknowledged by industry that not all aspects of asset management are offered by all companies involved in asset management. Arising from this discussion is the hub concept where apprentices in a certain geographical area are “shared” by several companies and rotate between a council, a contractor and a consultant, thus obtaining experience in management planning (councils), design work, (consultants) and also asset assessment and creation (contractor).

CONCLUSION

In the United Kingdom it has been shown that degree apprenticeships can be used to address historically underrepresented groups in technical fields including women in IT and engineering, and poorer students who cannot afford a university education without simultaneous work. In New Zealand, this curriculum has the potential to increase the number of Māori and Pacific Island students in engineering, as well as the number of women.

REFERENCES

- Bradley, J., Newhouse, C., & Mirza, N. (2019). Driving social mobility? Competitive collaboration in degree apprenticeship development. *Higher Education, Skills and Work-Based Learning*.
- Clarke, J. (2018). Invited presentation for the Tertiary Education Commission on degree apprenticeships at Manchester Metropolitan University, Wellington, New Zealand.
- Fowles-Sweet, W., & Barker, J. (2018). Widening participation and social mobility: Encompassing and integrating learning opportunities. *Widening Participation and Lifelong Learning*, 20(2), 69-95.
- Goodyer, J. E., & Frater, T. G. (2015). Stepping into one another's world: Apprenticeships-Transforming engineering technologist education in New Zealand.
- Goodyer, J., Poskitt, J. & Mackay, J. (2017). A pilot study of the application of degree apprenticeships in New Zealand: A focus on infrastructure asset management
https://mro.massey.ac.nz/bitstream/handle/10179/11773/Degree%20Apprenticeship_Infrastructure%20Asset%20Management%20FINAL.pdf?sequence=
- Graf, L. 2016. The rise of work-based academic education in Austria, Germany and Switzerland. *Journal of Vocational Education and Training* 68(1), 1-16.

- Holland, C. (2012). Cultural/community mentoring with Maori and Pacific electrical apprentices. *Literacy and Numeracy Studies*, 20(2), 37-48.
- Powell, P., & Walsh, A. (2018). Whose curriculum is it anyway? Stakeholder salience in the context of Degree Apprenticeships. *Higher Education Quarterly*, 72(2), 90-106.
- Rowe, L., Perrin, D., & Wall, T. (2016). The chartered manager degree apprenticeship: trials and tribulations. *Higher Education, Skills and Work-Based Learning*, 6(4), 357-369.
- Shah, T. A., & Rashid, S. (2017). Applying Vygotsky to Adult Learning. *Journal of Social Sciences*, 8(1), 1-13.
- Te Kete Ipurangi (TKI). (n.d.). Te Reo Māori in English-medium schools. Retrieved from <http://tereoMaori.tki.org.nz>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner & E. Souberman., Eds.) (A. R. Luria, M. Lopez-Morillas & M. Cole [with J. V. Wertsch], Trans.) Cambridge, Mass.: Harvard University Press. (Original manuscripts [ca. 1930-1934])

Integration of teaching, academic services and research to reinforce professional learning community: Work-integrated learning for teacher students

NATCHA MAHAPOONYANONT

Thaksin University, Khao Rup Chang, Thailand

It is hard to deny that the education in Thailand has struggled in its quality which reflects in the number of new graduates unready for work. It seems that this problem has been caused by several years of a changing trend in education that increasingly taught theory more than focusing on the practice. This trend led students to face an unfortunate lack of skills and experience. It is time to find a way to solve this national problem (Shinintorn et al., 2010), and to provide graduates with the quality skills and experience that meets the labour market needs. To achieve this, students' education must integrate learning and working together in accordance with the Work-integrated Learning (WIL) concept, which is a globally recognized educational approach that can be organized in many ways.

WIL offers an approach to learning in universities and higher education that sees the boundaries of the university extending to the wider community. Practices such as visiting industry experts, activities that engage students in running simulated businesses, working with virtual patients in health, and practicums in teaching, become ever more present within the pedagogies of the university. WIL is highly dependent upon the context, discipline, and intent of the pedagogical approach (Ferns et al., 2014).

BENEFITS OF WORK-INTEGRATED LEARNING

WIL has benefits for many sectors such as future careers for students, academic, success and personal growth. Placement programmes provide graduates with a direct entry into the labour market, help the students to get relevant work experience before graduating, improve the level of the students during work placements. A significant advantage for students of is having the opportunity to apply their knowledge and technical skills in an authentic setting whilst successfully working within a workplace team. Students who are involved WIL tend to make better informed decisions about their career direction and feel more certain of their career choices. Graduates from WIL programs have also reported higher starting salaries (Braunstein, 2004; Dressler & Keeling, 2011; 2011; Ferns et al., 2014; Zegwaard & Coll).

Academic benefits of WIL include equipping students with useful skills for academic (on-campus) learning, increasing students' research abilities, critical thinking and time management skills. WIL also can help increase academic performance. Students who have undertaken WIL have obtained higher grade point averages and performed better in their final year of undergraduate studies and tended to gain higher levels of end-of-degree honours (Blair, Millea & Hammer, 2004; Dressler & Keeling, 2011; Ferns et al., 2014; Fleming & Eames, 2005; Fleming & Eames, 2005; Tanaka & Carlson, 2012).

Personal benefits for students include development and improvement of communication skills, adaptability to change, decision-making ability, teamwork, organizational skills and self-efficacy

(Crebert, Bates, Vell, & Patrick, 2004; Eames & Cates, 2011; Ferns et al., 2014; Reddan, 2008; Trede, 2012; Zegwaard & McCurdy, 2014).

Employers benefit too when they take on work placement students as a form of altruistic contribution. Their organisation gains significant additional benefits from being part of the WIL process such as low cost employees, the opportunity to recruit new graduates prior to graduation, the introduction of fresh and different ideas, the opportunity to increase corporate image, being able to access university expertise and specialized resources and the opportunity to create a link between completed work placements and future employee graduate studies (Braunstein, 2004; Ferns et al., 2014; Zegwaard & McCurdy, 2014).

From the educational institution's perspective, work placement opportunities grant students a unique learning opportunity. They are engaged in authentic work, and professional learning experiences that are difficult to simulate on-campus. This can enable the education provider to build collaborative research relationships with industry partners (Ferns et al., 2014).

TYPES OF WIL

Rowe, Mackaway, and Winchester-Seeto (2012) conceptualise the types of WIL within the framing of locality (i.e., on-campus/off-campus) and levels of engagement in the workplace or community (Figure 1). The model highlights the complexity of providing a single definition for WIL, but also shifts thinking away from a linear continuum of superiority towards appreciating the purposefulness of particular activities.

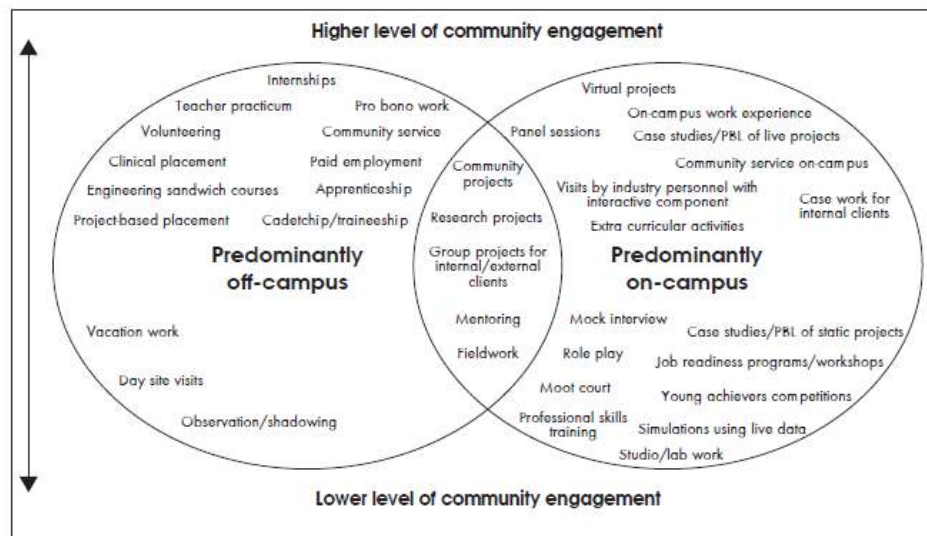


FIGURE 1: A typology of activity: Exploration of contemporary WIL research and themes (Rowe & Winchester-Seeto (2012)

Shininthorn et al.(2010) reported nine types of WIL in education: pre-course experience, sandwich course, cooperative education, cognitive apprenticeship or job shadowing, joint industry university course, new traineeship or apprenticeship, placement or practicum, fieldwork, and post-cost internship. Shininthorn et al.(2010) found four types of WIL in Thailand such as Dual Vocational Training (DVT), cooperative education, apprentice, and internship. The fundamental basis of WIL is that of experiential learning, which provides students with the opportunity to apply knowledge and develop working skills and skills specific to a profession and get to know the real life work before graduation.

The function of higher education instructors in Thailand consists of teaching research and other academic skills, and also maintaining of student national arts and cultural development. Instructors in Thailand have to integrate the three functions together to meet the required standard of workload of a university or institution.

The researcher was assigned to teach the Educational Research course. The course description covered: Understanding of concepts, fundamental principles, theory, and research related to the current process of education, defining research problems, reviewing related research documents, determining the form of conceptual framework, designing measurement, variable, random sampling, using statistical analysis, conclusion and discussion, using a research process to solve problems in education, the research the development of the learning process and operating research, presenting the research proposal and results of the research.

At the same time the researcher was also conducting a research project entitled "Educational Innovation Based on Assessment for Learning Concepts: A Guide to Drive Education 4.0" which was funded by the Thaksin University research fund. Because the role of the instructor was to set the best situation for students to learn through the course and have the opportunity to gain knowledge and skills together, the researcher decided to use the concept of WIL to provide authentic experiences of the workplace located within an intentional discipline-centred curriculum and focus on graduate learning outcomes and career pathways.

AIMS

The main aim of this research was to integrate teaching, academic services and research by using the concept of Work-integrated Learning to develop research skills and to reinforce Professional Learning Community (PLC).

METHODS

The sample for this research were 24 students from an English major who registered in a course of Educational Research in a semester of 2018, and 17 teachers and other educational staff from Baan Klang School. The duration of the project ran from August to December 2018 (20 weeks). The integration of the three parts of university lecturer role (teaching, academic service, and research) are shown in Figure 2.

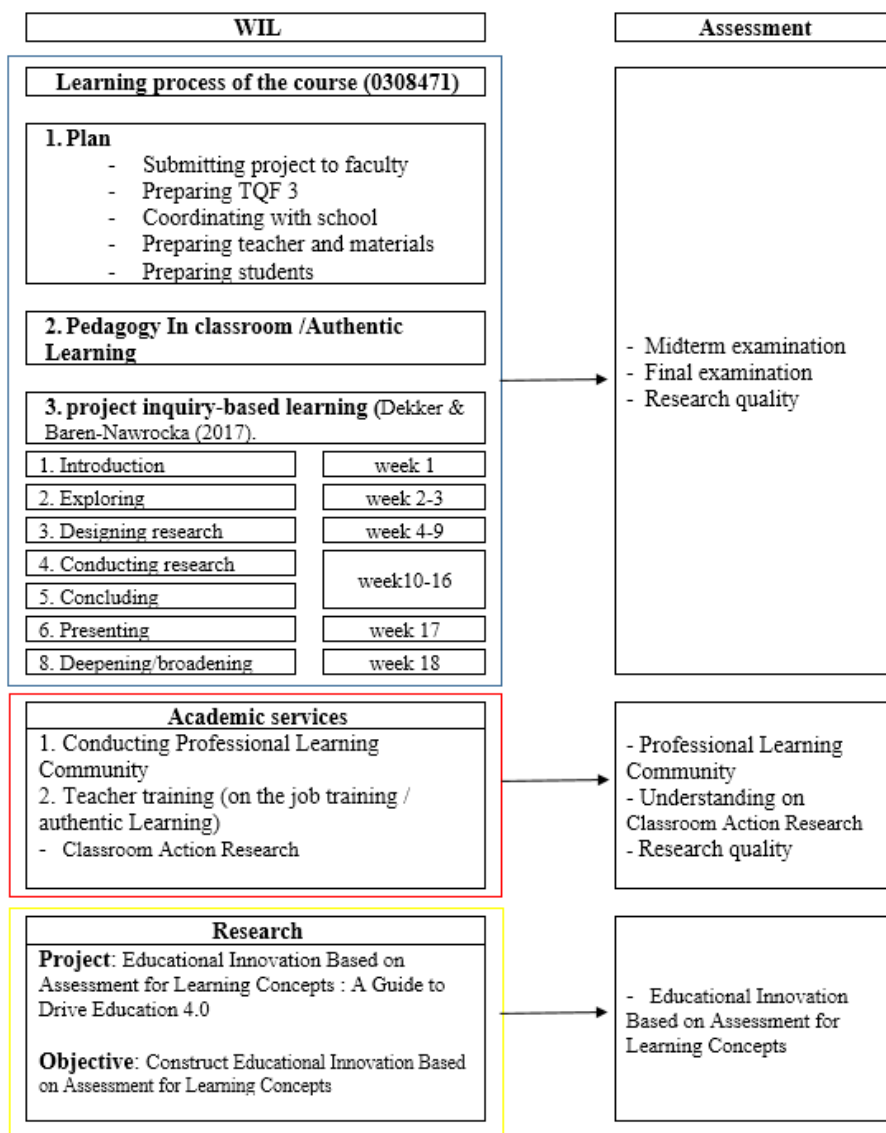


FIGURE 2: The detail of integration of the three parts of university lecturer role.

DISCUSSION AND CONCLUSIONS

Students score on average for the course was 82.50%. That means 24 students received an A grade. There is evidence that work placements enhances students' ability to work within teams, achieve common goals, and develop organisational skills such as Zegwaard and McCurdy (2014) indicated, that is, that successfully undertaking a comprehensive project-based work placement increases students' confidence in their ability to undertake further research work. DeLorenzo (2000) also mentioned that WIL increases self-efficacy. Other researchers have identified that during work placements interpersonal communication skills are developed, students adaptability to change are improved, and their ability to make decisions are enhanced (Crebert, Bates, Vell, & Patrick, 2004; Eames & Cates; 2011)

Fourteen research papers were the output of the project, and the research quality score average assessed by five experts was 83.54%. That must be effected from the quality of the management of the course and the project, that researcher has taken time for reflection in every week from the first week, we spent time on every Monday afternoon to meet up and check up all the plans of every groups for the next step each week, and after the students worked with teachers in school on Tuesday afternoon, we took 90

minutes for doing reflection and made the suggestion for the next step in every week. So from the actions, we use systematic circle (PDCA) as the instrument to drive the project.

After the project ended and the researcher finished interviewing the school principal about the evidence of Professional Learning Community in the school there was evident of a Professional Learning Community at Baan Klang School. There were elements of PLC in the school during the project such as: shared vision, caring communities, collaborative teamwork, PLC's leadership, and supportive structure /career advancement. PLC participants must work together effectively with teamwork and shared responsibility, joint missions and visions in a common direction .Birman et al (2004) .described the PLC teamwork as a co-operative on the way in the formof "Collaborative culture." This culture is a key factor for PLC based on successful professional collaboration rather than working alone .Teachers would be benefit from PLC learning, collaboration, sharing of student learning responsibilities. Instead of micromanaging, teachers and principals should lead efforts to collectively monitor student achievement through professional learning communities. The PLC process depends on leaders that understand the importance of building a collaborative culture in their schools. As Sergiovanni (1994) explained, "The sources of authority for leadership are is embedded in shared ideas." Professional/ Career advancement, Self-confidence and freedom to any actions that affect professional progress. It PLC can also motivate people to pay attention and to try to work more successfully. Panich recommended that the promotive structure of PLC might be the nature of the professional learning community is the teacher's work, it is the teacher's actions to learn and develop. The teacher acts or acts as the "principal" (Actor to Create a change in learning management), not "object" or the victim and the deceiver is the instrumental "Liberate teachers from power relationships to be the horizontal relationship".

At least 14 techniques of Educational Innovation Based on Assessment for Learning Concepts have used during the classroom action research. 14 research proposals, from the project have included the AFL technique as one of the treatment factors for each project. All student researchers were agreed that the AFL technique, which they used in their research worked well and could be used as the educational innovation in another educational research. The research of Black and William (1998), which studied on raising students' learning achievements, by using measurement and assessment concepts in classes among academic experts throughout the world is the "Inside the Black Box: Raising Standards through Classroom Assessment" and found formative assessments to have an effect size of 0.40 – 0.70 on capabilities and learning achievement while also finding formative assessment to have the greatest effect size among variables related to educational development which helped Great Britain raised its level in the Trends in International Mathematics and Science Study) from the middle of forty-one countries to one of the top five. Furthermore, Stiggins has mentioned that "If we want to raise learning achievements, we have to emphasize the development of assessment systems in classes and give equal weight to the importance of assessment of learning and assessment for learning because current education systems usually give more importance to assessment of learning than assessment for learning" (Naiyapat, 2010).

ACKNOWLEDGEMENTS

This work was supported by Thaksin University Research Fund and Educational Faculty, Thaksin University.

REFERENCES

- Billett, S., & Choy, S. (2010). Cooperative and work-integrated learning as a pedagogy for lifelong learning. In *International handbook for cooperative and work-integrated education: International perspectives of theory, research and practice*. 2nd Edition. Editors: Richard K. Coll and Karsten E. Zegwaard, University of Waikato, Hamilton, New Zealand.
- Birman, B. F., Desimone, L., Porter, A. C., & Garet, M. S. (2000) Designing professional development that works. *Educational Leadership*, 57, 28–33.
- Blair, B. F., Millea, M. and Hammer, J. (2004). The impact of cooperative education on academic performance and compensation of engineering majors. *Journal of Engineering Education*, 93(4), 333-338.
- Black, P., & William, D. (2001). Inside the black box :Raising standards through classroom assessment .BERA Short Final Draft . Retrieved from <http://weaeducation.typepad.co.uk/files/blackbox-1.pdf> August 16, 2017]
- Braunstein, L. A. (1999). Employer benefits of, and attitudes toward postsecondary cooperative education. *Journal of Cooperative Education*, 36(1), 7-22.
- Braunstein, L. A., & Loken, M. K. (2004). Benefits of cooperative education for employers. In R. K. Coll & C. Eames (Eds.), *International handbook for cooperative education: An international perspective of the theory, research and practice of work-integrated learning* (pp. 237-245). Boston, MA: World Association of Cooperative Education.
- Braunstein, L. A., Takei, H., Wang, F., & Loken, M. K. (2011). Benefits of cooperative and workintegrated education for employers. 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. 277-286). Lowell, MA: World Association for Cooperative Education
- Calway, B. A., & Murphy, G. A. (2000). Career progression of cooperative education graduates. *Journal of Cooperative Education*, 35(2-3), 68-75.
- Cooper, L., Orrell, J., & Bowden, M. (2010). *Work-integrated learning: A guide to effective practice*. New York, NY: Routledge.
- Crebert, G., Bates, M., Bell, B., Patrick, C. J., & Cragolini, V. (2004). Developing generic skills at university, during work placement and in employment: Graduates' perceptions. *Higher Education Research & Development*, 23(2), 147–165.
- Dekker, S., & Van Baren-Nawrocka, J. (2017). Wetenschappelijke doorbraken de klas in! Molecuulbotsingen, Stress en Taal der Zintuigen. Nijmegen: Wetenschapsknooppunt Radboud Universiteit.
- Dressler, S., & Keeling, A. E. (2011). Benefits of cooperative and work-integrated education for students. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work-integrated education: International perspectives of theory, research and practice* (pp. 261-275). Lowell, MA: World Association for Cooperative Education.
- DuFour, R., & Mattos, M. (2013). How do principals really improve schools? .*Educational Leadership* 70, 34-39.
- Eames, C., & Cates, C. (2011). Theories of learning in 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* (pp. 41-52). Lowell, MA: World Association for Cooperative Education.
- Ferns, S., Campbell, M., & Zegwaard, K. (2014). Work integrated learning. In S. Ferns (Ed.), *HERDSA Guide: Work integrated learning in the curriculum* (pp. 1-6): Australia: Higher Education Research and Development Society of Australasia.
- Ferns, S., Russell, L., & Kay, J. (2016). Enhancing industry engagement with work-integrated learning: Capacity building for industry partners. *Asia Pacific Journal of Cooperative Education*, 17(4), 349- 375.
- Fleming, J. & Eames, C. (2005). Student Learning in Relation to the Structure of the Cooperative Experience. *Asia-Pacific Journal of Cooperative Education* 6(2), 26-31
- Fullan, M. (1999). *Change Forces :The Sequel* .London .Falmer Press .
- Knight, P. & Yorke, M. (2004) *Learning, Curriculum and Employability in Higher Education*. London: Routledge Falmer.
- Mahapoonyanont, N., Hansen, S. & Poskitt, J. (2017). A comparative study of model to support teachers 'capacity in assessment for learning in Thailand and New Zealand .*International Journal of Sciences :Basic and Applied Research*, 1(36), 245-265.
- Mahapoonyanont, N., Hansen, S. & Poskitt, J. (2017). Model to support teachers 'capacity in assessment for learning . *International Journal of Sciences :Basic and Applied Research*).IJSBAR(, 36)2(, p .36-52 .
- Naiyapat, O. (2010) .Classroom Assessment :Evolution and New Concepts to Improve Learning. *Journal of Srinakharinwirot University Research and Development*. *Humanities and Social Sciences* 3(2), 1-2)
- Panich, W. (2012) .A way to create learning for a 21st century disciple .Bangkok :Tatata Publishing Co., Ltd.
- Patrick, C.-J., Peach, D., Pocknee, C., Webb, F., Fletcher, M., & Pretto, G. (2008). The WIL (work integrated learning) report: A national scoping study [Final Report]. Queensland University of Technology, Brisbane, QLD.
- Rowe, A., Mackaway, J., & Winchester-Seeto, T. (2012). But I thought you were doing that' - Clarifying the role of the host supervisor in experience-based learning. *Asia-Pacific Journal of Cooperative Education*, 13(2), 115-134.
- Rowe, A., Winchester-Seeto, T., & Mackaway, J. (2012, October-November). That's not really WIL!– Building a typology of WIL and related activities. Paper presented at the 2012 Australian Collaborative Education Network National Conference, Geelong, Australia. Retrieved from <http://hdl.handle.net/1959.14/202356>

- Reddan, G. (2008). The benefits of job-search seminars and mock interviews in a work experience course. *Asia-Pacific Journal of Cooperative Education*, 9(2), 113-127.
- Sergiovanni, T. J. (1994). Organizations or communities? Changing the metaphor changes the theory. *Educational Administration Quarterly*, 30(2), 214-226
- Shinintorn et al. (2010). Guidelines for teaching and learning that integrate learning and work (Work Integrated Learning: WIL) in higher educational institutions in Thailand. In Proceeding of Guidelines for teaching and learning that integrate learning and work. WWG Thailand. 23 may 2010. Rajamangala University of Technology Thanyaburi.
- Tanaka, Y., & Carlson, K. (2012). An international comparison of the effect of work-integrated learning on academic performance: A statistical evaluation of WIL in Japan and Hong Kong. *Asia-Pacific Journal of Cooperative Education*, 13(2), 77-88.
- Trede, F. (2012). Role of work-integrated learning in developing professionalism and professional identity. *Asia-Pacific Journal of Cooperative Education*, 13(3), 159-167.
- Zegwaard, K. E. & Coll, R. K. (2011) Using Cooperative Education and Work-Integrated Education to Provide Career Clarification. *Science Education International*, 22(4), 282-291.
- Zegwaard, K. E. & McCurdy, S. (2014). The influence of work-integrated learning on motivation to undertake graduate studies. *Asia-Pacific Journal of Cooperative Education*, 2014, 15(1), 13-28

Better WIL supervisors, better WIL students

ANDREW J. MARTIN

MALCOLM REES

Massey University, Palmerston North, New Zealand

JENNY FLEMING

Auckland University of Technology, Auckland, New Zealand

KARSTEN E. ZEGWAARD

University of Waikato, Hamilton, New Zealand

KAREN VAUGHAN

New Zealand Council for Educational Research, Wellington, New Zealand

Work-integrated Learning (WIL) is a bridge between a student's academic present and their potential professional future. As a structured educational approach, it merges theoretical knowledge with workplace practices (Martin, Fleming, Ferkins, Wiersma, & Coll, 2010). The use of critical reflection helps students develop lifelong learning skills and "a desire to contribute meaningfully to society" (Lucas, 2015, p. xi). Workplace supervisors are a crucial stakeholder (Fleming, 2015; Keating, 2014; Martin & Hughes, 2009; Pungurm, 2007; Rowe, Mackaway, & Winchester-Seeto, 2012). However, their role is complex, often blending mentoring, advising, counselling, performance management, and problem-solving (ACEN, 2017; Beehr & Raabe, 2003; King, 2001; Mellon & Murdoch-Eaton, 2015). The complexity is significant especially considering that it is common for students to struggle with problem solving, independence, and stress tolerance (Gribble, Ladyshevsky, & Parsons, 2017a), and require greater support and mentoring in the workplace. Research shows modelling and mentoring activities positively feed back into the mentors' own career success and job satisfaction (Ghosh & Reio Jr, 2013). Effective mentoring is linked to transformational leadership, promoting positive work attitudes and career expectations (Scandura & Williams, 2004).

However, there has been little research on the long-term career value of engaging with WIL. In particular, there is little research exploring how workplace supervisors who have previously been WIL students, including how WIL experiences impacted on their careers and their current workplace supervision practice. This research here explores links between undertaking work placements as a student and later as a supervisor of a WIL student. The main research focus was on how workplace supervisors drew upon their prior student experiences and how these experiences informed their supervision practice and skills.

METHOD

We explored these experiences by using semi-structured interviews of 21 WIL graduates who had recently supervised a WIL student in the workplace. The interview approach was informed by the Supervision Framework by Rowe et al. (2012), including the four key roles identified: support, education, administration/managerial, and guardian.

The participants were from three different universities, seven each from Massey University's sport management and coaching, University of Waikato's science and engineering, and Auckland University of Technology's sport and recreation. The gender distribution of the participants were 57% male and

43% female, with age ranges between 21 and 50, and position titles from team member through to team managers and business owners.

The interview data was subjected to Thematic Content Analysis (TCA) (informed by Braun & Clarke, 2006) using NVivo12. This process involved generating initial codes, followed by creating and reviewing themes. The study was granted ethics approval from each of the participating university's ethics committees and supported by a grant from Ako Aotearoa.

RESULTS

The participants (WIL graduates who now supervise a work placement student) reported that they were motivated to take on a work placement student to 'give something back' to their university and industry. They did this in recognition of the opportunities they were provided in their own student WIL experiences:

It was an opportunity to be able to give back from having been a student myself ... [which] really gave me a lot of tools and fundamentals to be able to launch my career afterwards. I just wanted an opportunity to be able to help an individual who was going through the degree as well.

Others reported the motivation being to 'make a difference' for new students:

When I have [work placement] students, my biggest motivation factor is to have an impact on their life so that they can gain access to things that I have come across or maybe beyond that as well. They learn from the classroom all the way to the practical setting

The workplace supervisors were also motivated by the recognition that students need to have good support and mentoring, and an understanding of the expectations of WIL. One workplace supervisor said they were "wanting to mentor someone and, given that I was still quite young, being able to relate with them and to be able to tell them that I was in that same position three years ago". This response suggests that there was a high degree of empathy for students.

Workplace supervisors generally considered engagement with WIL as being positive for their current role. Typical comments from workplace supervisors were: "[WIL] opportunities are always a good way to enhance your own personal and professional skills, working with a younger person who maybe hasn't got as much experience"; and "It has been very useful from understanding what can be considered useful from a supervising and management or leadership kind of role".

Some workplace supervisors recognised that the benefit was mutual: "[Supervisors are] going to learn things from the student as well as them learning from you". Building up experience of managing staff was also seen as a benefit, as one workplace supervisor commented: "Having that management experience definitely helped with my career. ... It [was] around learning to work with people and [knowing] people aren't perfect. It's around figuring out what drives them, figuring out what motivates them", and "What I took from being a supervisor is now when I move forward in my CV I can say I have staff management and staff leadership [experience]".

Having had prior experience in WIL, supervisors were able to understand the expectations of a WIL placement from the student's perspective. They were also aware of matching the expectations of the students to their own, and to support them "in terms of what they are trying to achieve". Workplace supervisors recognised that they needed to be available and accessible to the student to provide support and mentoring, whilst at the same time encouraging the students reflectively determine how to complete the task. Another workplace supervisor's suggested that to "treat [students] as if they are a

future employee and have a structured program for them in the workplace...bring them into the culture, bring them into staff meetings, and just immerse them into the culture”.

Workplace supervisors recognised their responsibility in ensuring the student placement experience was well planned, organised, and structured:

Structure [is important]... a lot of the students just thought they could do what they wanted to do, but for me a big part was making sure they had structure in their role. They had a job description, they had certain outcomes that they needed to meet, and they knew what they were here to do.

Workplace supervisors identified the importance of the university’s preparation of the student before they commence the work placement and placement set-up requirements by the workplace, and the importance of the university placement coordinator/academic supervisor maintaining contact with workplace during the student placement. The workplace supervisors were aware of their ‘duty of care’ and the importance of being ‘engaged’. Interestingly, some described the role of a workplace supervisor as mentoring. For example, one supervisor described their role as “mentoring them and helping them get experience. Giving them things to do and show them a bit of the industry so they get excited, because it is a cool industry to be in”, and “Supporting [the students] in terms of what they’re trying to achieve... Normally they would have objectives of what they’re trying to achieve, and [it’s important to] support them into creating their project plan”.

The workplace supervisors also acknowledged that WIL students need support in developing reflective skills. This skill enables students to link theory with practice, and to analyse how they had successfully completed the tasks. In interviews, workplace supervisors advised that WIL students should choose their placement organisation or project carefully and that students prepared prior to commencing their placement. One workplace supervisor advised that to “make the most of the opportunity... work with the people around you both in terms of networks and their knowledge... go in with your eyes open, be prepared to learn, ask lots of questions, and don’t be afraid of looking dumb”.

Workplace supervisors thought it was important for students to challenge and extend themselves, push comfort zones and to “take ownership with that role and do the best that you can do”. To make the most of the experience, workplace supervisors advised students to: ... “put 100% into the [WIL experience], and it will help you with your future job... If you put in the work you’ll get the benefits”. They also identified important aspects of self-management for WIL students, such as being punctual, professional, and proactive about seeking workplace opportunities.

DISCUSSION

The findings of this study supported the notion of a ‘virtuous circle’ between WIL students and WIL supervisors. Themes in the data indicate that the participants valued their work placements as students, and then later gained further value as WIL supervisors. Even though a primary motivator of employers supporting WIL students is graduate recruitment, it has long been recognised that altruism is also an important motivator (Braunstein, 1999; Ferns, Campbell, & Zegwaard, 2014; Patrick et al., 2009). Our participants seemed to be altruistically motivated to support students in work placements as a way of ‘giving back’ to their discipline, as well as a way to influence the education of future employees of their industry. This idea of ‘giving back’ was underpinned by the value the supervisor recalled from their own WIL experience. Previous research identified reciprocity (mutual benefits) as an important motivation for workplaces to be part of WIL experiences (Fleming & Hickey, 2013), ranging from access

to expert knowledge (Crump & Johnsson, 2011), to graduate research students (Zegwaard & McCurdy, 2014), through to graduate recruitment (Braunstein, Takei, Wang, & Loken, 2011). In this study the workplace supervisors identified mutual benefits of new and fresh ideas that student bring. Even though past research has indicated that employers take work placement students for economic gain (Durack, 2013; Svacina, 2012), several participants indicated that there was short-term economic gain and that their motivations were primarily altruistic and recruitment.

The literature has shown that leadership skills are perceived as important as careers progress (Coll, Zegwaard, & Hodges, 2002; Hodges & Burchell, 2003; Martin & Rees, 2018; Zegwaard, Khoo, Adam, & Peter, 2018). Leadership development, however, is challenging and requires a series of underpinning skills. A number of participants identified that the opportunity to supervise students in the workplace strengthened their leadership and management skill set and helped with career promotion.

The workplace supervisor has an important role in creating meaningful student learning experiences (Fleming, 2015; Hardie, Almeida, & Ross, 2018; Rowe et al., 2012). Workplace supervisors stated that the experiences needed to be genuine and encompass variety. Experiencing a positive learning experience in the work placement has long lasting positive impacts on the student emotional intelligence in the same way that a negative experience will have lasting negative impact (Gribble, Ladyshevsky, & Parsons, 2017b). The literature has highlighted the importance of establishing the expectations for all the stakeholders (Assudani & Kloppenborg, 2010; Beard, Coll, & Harris, 2001; Fleming & Haigh, 2017; Horstmanshof & Moore, 2016). Workplace supervisors' perceptions highlighted the same need for clear expectations for students and the workplace, with a clear focus on workplace tasks and relevancy. Workplace supervisors indicated that to achieve good effective management of the student and their tasks, it requires a clear understanding of all the stakeholders' expectations. However, there is a general expectation that it will be the university lead (Bates, Bates, & Bates, 2007). The participants mirrored this view, stating that the university should be involved at the initial stages of setting up the work placement, including outlining the expectations of the task, learning, and preparing the student prior to work placement commencing. The literature identified a clear expectation that WIL should enhance 'employability', not just 'employment' (Jackson, 2015; Rowe & Zegwaard, 2017), a view that workplace supervisors mirrored, indicating that the choice of placement needs to be carefully considered by the student in relation to their career direction and capabilities

CONCLUSIONS AND IMPLICATIONS

The findings from this research show that there is ongoing legacy benefits of remaining engaged with WIL by way of supporting work placement students. The idea of a virtuous circle was identified where the benefits of a student engaging in WIL can become an ongoing benefit once they become a workplace supervisor. The benefit included developing supervision skills as a career benefit when seeking advancement. Many workplace supervisors saw the importance of 'giving back' to their sector by investing in a new generation of students currently in the education system, however, their primary motivators for supporting a work placement student was altruistic in nature and the potential for graduate recruitment. The research showed that workplace supervisors identified that supervising students developed their own leadership and mentorship skills, and provided benefits for career progression.

We suggest that guidelines for workplace supervisors are developed. These can help with the development of effective and clear expectations and support supervisors to move beyond 'supervision' into mentoring leadership for WIL students. Good workplace supervision also requires supervisors to

have, or develop, their own skills in mentoring, management, and leadership. Actually supervising a WIL student can help with this. We therefore suggest that WIL coordinators are likely to find it useful to actively recruit and utilise supervisors who are familiar with WIL from personal experience.

REFERENCES

- ACEN. (2017). Good practice guide: Supervision. Retrieved from <http://acen.edu.au/resources/good-practice-guide-supervision/>
- Assudani, R., & Kloppenborg, T. J. (2010). Managing stakeholders for project management success: An emergent model of stakeholders. *Journal of General Management, 35*(3), 67-80.
- Bates, A., Bates, M., & Bates, L. (2007). Preparing students for the professional workplace: Who has responsibility for what? *Asia-Pacific Journal of Cooperative Education, 8*(2), 121-129.
- Beard, S., Coll, R. K., & Harris, J. (2001). Student and employer reflections of an international science and technology work placement. *Asia-Pacific Journal of Cooperative Education, 2*(1), 6-10.
- Beehr, T. A., & Raabe, B. (2003). Formal mentoring versus supervisor and co-worker relationships: Differences in perceptions and impact. *Journal of Organizational Behavior, 24*(3), 271-193.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.
- Braunstein, L. A. (1999). Employer benefits of, and attitudes toward, postsecondary cooperative education. *Journal of Cooperative Education, 36*(1), 7-22.
- Braunstein, L. A., Takei, H., Wang, F., & Loken, M. K. (2011). Benefits of cooperative and work-integrated education for employers. 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. 277-286). Lowell, MA: World Association for Cooperative Education.
- Coll, R. K., Zegwaard, K. E., & Hodges, D. (2002). Science and technology stakeholders' ranking of graduate competencies part 1: Employer perspective. *Asia-Pacific Journal of Cooperative Education, 3*(2), 19-28.
- Crump, S., & Johnsson, M. C. (2011). Benefits of cooperative and work-integrated education for educational institutions. 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. 287-294). Lowell, MA: World Association for Cooperative Education.
- Durack, K. T. (2013). Sweating employment: Ethical and legal issues in unpaid student internships. *College Composition and Communication, 65*(2), 245-272.
- Ferns, S., Campbell, M., & Zegwaard, K. E. (2014). Work integrated learning. In S. Ferns (Ed.), *Work integrated learning in the curriculum* (pp. 1-6). Milperra, New South Wales, Australia: Higher Education Research and Development Society of Australasia Inc.
- Fleming, J. (2015). Exploring stakeholders' perspectives of the influences on student learning in cooperative education [special issue]. *Asia-Pacific Journal of Cooperative Education, 16*(2), 109-119.
- Fleming, J., & Haigh, N. (2017). Examining and challenging the intentions of work-integrated learning. *Higher Education, Skill and Work-Based Learning, 7*(2), 198-210. doi:10.1108/HESWBL-01-2017-0003
- Fleming, J., & Hickey, C. (2013). Exploring cooperative education partnerships: A case study in sport tertiary education. *14, 3*(209-221).
- Ghosh, R., & Reio Jr, T. G. (2013). Career benefits associated with mentoring for mentors: A meta-analysis. *Journal of Vocational Behavior, 83*(1), 106-116.
- Gribble, N., Ladyshevsky, R. K., & Parsons, R. (2017a). Differences in the emotional intelligence between undergraduate therapy and business students and the population norms. *Asia-Pacific Journal of Cooperative Education, 18*(3), 225-242.
- Gribble, N., Ladyshevsky, R. K., & Parsons, R. (2017b). Fluctuations in the emotional intelligence of therapy students during clinical placements: Implications for educators, supervisors, and students. *Journal of Interprofessional Care, 21*(1), 8-17.
- Hardie, G., Almeida, S., & Ross, P. J. (2018). Industry mentoring and resource commitment in an undergraduate internship program. *International Journal of Work-Integrated Learning, 19*(2), 155-168.
- Hodges, D., & Burchell, N. (2003). Business graduate competencies: Employers' views on importance and performance. *Asia-Pacific Journal of Cooperative Education, 4*(2), 16-22.
- Horstmanshof, L., & Moore, K. (2016). Understanding the needs of all the stakeholders: Issues of training and preparation for health work students and their clinical educators. *Asia-Pacific Journal of Cooperative Education, 17*(2), 93-100.
- Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education, 40*(2), 350-367. doi:10.1080/03075079.2013.842221
- Keating, K. (2014). Mentorship of hospitality management students during work-integrated learning. *Asia-Pacific Journal of Cooperative Education, 13*(2), 89-102.
- King, B. (2001). The co-op supervisor's role as teacher in the workplace. *Journal of Cooperative Education, 36*(3), 7-17.

- Lucas, P. (2015). *Exploring critical reflection in cooperative education: A case study*. (Unpublished PhD thesis), Deakin University, Australia.
- Martin, A. J., Fleming, J., Ferkins, L., Wiersma, C., & Coll, R. K. (2010). Facilitating and integrating learning in sport studies cooperative education. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 9(1), 24-38.
- Martin, A. J., & Hughes, H. (2009). *How to Make the Most of Work Integrated Learning: For students, academic supervisors, and workplace supervisors*. Palmerston North, New Zealand: Massey University.
- Martin, A. J., & Rees, M. (2018). *Work-integrated learning outcomes: More than graduate attributes and employability?* Retrieved from Wellington, New Zealand:
- Mellon, A., & Murdoch-Eaton, D. (2015). Supervisor or mentor: Is there a difference? Implications for pediatric practice. *Archives of Disease in Childhood*, 100(9), 873-878. doi:10.1136/archdischild-2014-306834
- Patrick, C.-J., Peach, D., Pocknee, C., Webb, F., Fletcher, M., & Pretto, G. (2009). *The WIL [Work Integrated Learning] report: A national scoping study. The final report to the Australian Learning and Teaching Council (ALTC)*. Retrieved from Brisbane, Australia: <https://eprints.qut.edu.au/44065/1/WIL-Report-grants-project-jan09.pdf>
- Pungurm, L. (2007). Mentoring as the key to a successful student teaching practicum: A comparative analysis. In T. Townsend & R. Vates (Eds.), *Handbook of teacher education: Globalization, standards and professionalism in times of change* (pp. 267-282). Dordrecht, The Netherlands: Springer.
- Rowe, A. D., Mackaway, J., & Winchester-Seeto, T. (2012). 'But I thought you were doing that' – Clarifying the role of the host supervisor in experience-based learning. *Asia-Pacific Journal of Cooperative Education*, 13(2), 115-134.
- 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.
- Scandura, T. A., & Williams, E. A. (2004). Mentoring and transformational leadership: The role of supervisory career mentoring. *Journal of Vocational Behavior*, 65, 448-468.
- Svacina, L. S. (2012). A review of research on unpaid internship legal issues: Implications for career services professionals. *Journal of Cooperative Education and Internships*, 46(1), 77-87.
- Zegwaard, K. E., Khoo, E., Adam, A., & Peter, M. (2018). The shifting perceptions by science and engineering employers of desirable graduate competencies: Comparing now to 16 years ago. In K. E. Zegwaard & K. Hoskyn (Eds.), *New Zealand Association for Cooperative Education 2018 Conference Proceedings* (pp. 53-57). Waiheke Island, Auckland, New Zealand: New Zealand Association for Cooperative Education.
- Zegwaard, K. E., & McCurdy, S. (2014). The influence of work-integrated learning on motivation to undertake graduate studies *Asia-Pacific Journal of Cooperative Education*, 15(1), 13-28.

Re-imagining work-integrated learning: Innovation in delivery through the Centres of Asia-Pacific Excellence

GINA ROBERTSON

University of Waikato, Hamilton, New Zealand

The North Asia, Southeast Asia, and Latin America Centres of Asia-Pacific Excellence (CAPEs) are committed to enhancing New Zealand's economic engagement and cultural understanding with the Asia-Pacific region, and building New Zealanders' understanding and ability for engagement. The CAPEs offer events, programmes, scholarships, internships, and other initiatives to support New Zealand's businesses, schools, communities and students to understand better the key countries of the Asia-Pacific region (Centres of Asia-Pacific Excellence, n.d).

UNIQUE FEATURES:

The Southeast Asia and Latin America Centre of Asia-Pacific Excellence lead the Market Insights Programme, in collaboration with Victoria University of Wellington and University of Waikato.

The Market Insights Programme aims to harness the specialised culture and market-specific insights, knowledge and experience offered by participating university students, both domestic and international, to New Zealand businesses. At the same time, the Market Insights Programme offers students an internship opportunity with guidance from experts on relevant projects that benefit the business. As an example one project with business host Farmax, focused on the growth of grass within specific environments in Latin America. Projects are presented at the conclusion of the internship in November. All students receive participation certificates. Prizes are awarded for the best presentation. The 2018 Market Insights Programme took place from July to November 2018 in the Wellington and Waikato regions.

The University of Waikato have been planning the 2019 Market Insights Programme, which will roll out in the Waikato, and also include North Asia, providing further opportunities for students.

PROGRAMME STRUCTURE

The 12-week Market Insights Programme is organised into six two-week modules. Each module starts with a workshop that introduces the topic. These workshops are delivered by expert partners, with relevant expertise in a particular theme or aspect of international business. The partners are typically business hosts in the Waikato or guest speakers who have been recommended. As an example Kenneth Leong – Chairman –ASEAN New Zealand Business Council was recommended to present at a workshop. Another example was Simon Graahius –CEO Gallagher Group was a business host speaker. These workshops are offered to both participating business representatives and students, as well as host partners and their guests. The presentation is kept to 60 minutes in order to allow for questions and networking. Each event is held at different partners' premises to give students insights into a variety of business settings and cultures.

The Latin America and Southeast Asia CAPE'S innovative programmes inspire a passion for these countries among young Kiwis, foster future business links with partners, deepen connections between

New Zealanders interested in the region, enable intercultural learning, and support trans-Pacific exchanges that connect New Zealand to all the CAPE regions.

The University of Waikato experienced the opportunity to explore mutually beneficial collaborations with central government agencies; including New Zealand Trade and Enterprise, the Ministry of Business, Innovation and Employment and its regional economic development agencies, and chambers of commerce that are active in the region and at the forefront of innovation.

DISCUSSION

The intent of the Market Insights Programme for Latin America and Southeast Asia CAPES is to further enhance the cultural and market-specific insights that participating domestic and international University students, can offer New Zealand businesses. The CAPE's purpose is to contribute to the development of Asia-Pacific knowledge and language skill in New Zealand by enhancing economic, trade, political and cultural relationships within the region, and to excel nationally and internationally in their area of expertise, ensuring broad dissemination of knowledge and skills through collaborative processes in order to help New Zealand be better prepared to "do business" and engage with the Asia-Pacific region.

The CAPE's policy objectives refer to having more New Zealanders with appropriate language and cultural skills of the Asia-Pacific region and enhanced public awareness of the importance of the Asia-Pacific region. This will develop a better understanding of how the study of Asia-Pacific languages and cultures leads to success in the region, and enhance links between New Zealand and the Asia-Pacific region.

In terms of further support the understanding of these international regions and economic engagement, Latin America is important, it is not only part of the Asia-Pacific region but also a key partner in its own right (New Zealand Foreign Affairs and Trade, n.d. (a). Furthermore New Zealand has

a lot in common with Latin America and work closely with Latin countries in a range of international issues. New Zealand and Latin America are both major agriculture producers, and they are working together to support global agriculture and fisheries reform. Both countries also cooperate closely on areas such as climate change and environment, Antarctic issues, disarmament, human right and indigenous issues. (New Zealand Foreign Affairs and Trade, n.d. (a))

In terms of aid partnerships in Asia:

this is reflected in New Zealand's strengths in agriculture, education and disaster resilience. We have initiatives within individual countries, and others that address regional issues through our support to the lesser developed members of the Association of South –East Asian National (ASEAN). (New Zealand Foreign Affairs and Trade, n.d. (b))

In order to address this, a survey on the quality of the programme (for students as well as on businesses) at mid –way through the programme, assisted the University of Waikato with meeting expectations. The students and employers provided constructive feedback regarding their experience. The students reported that the Market Insights Programme was an excellent opportunity to engage with the employer hosts and partners. They also reported that the Market Insights Programme provided them with an insight regarding the culture and nature of the employer host business. Students reported that the workshops delivered by the business partners had a great impact on further developing their

understandings of the market specific insights of Latin America and Southeast Asia regions. The employer hosts were pleased to be able to provide market insights specific to the Asia-Pacific countries. The employer hosts also reported that the students produced quality research that supported their business in the Latin America and South East Asia markets.

IMPLICATION AND ISSUES

There were elements and interactions critical to the initial development of this internship partnership model at the university. It has informed the important questions about how to make internship partnerships sustainable and strategic and how to improve practice within WIL. This CAPE opportunity highlights the importance of the inclusion of the Career Development Services within the tertiary environment.

This Market Insights Programme provided mutual benefits for students and employers, and whilst there is a range of challenges for Universities needing to demonstrate the guidelines of innovative WIL Placement. Within this programme, a range of processes were used to ensure innovation of this experience with the Centres of Asia-Pacific Excellence.

REFERENCES

- Centres of Asia-Pacific Excellence (n.d). Retrieved from: <https://cape.org.nz/>
- New Zealand Foreign Affairs and Trade (n.d. a). *Our relationship with Latin America*. <https://www.mfat.govt.nz/en/countries-and-regions/latin-america/>
- New Zealand Foreign Affairs and Trade (n.d. b). *Our aid partnerships in South-East Asia*. Retrieved from: <https://www.mfat.govt.nz/en/aid-and-development/our-work-in-asia/>

FURTHER READING

- New Zealand Trade and Enterprise (n.d). Retrieved from: <https://www.nzte.govt.nz>

The Development Hub: An online approach for work-integrated learning and learning-integrated work

CATHERINE SNELL-SIDDLE

SARAH SNELL

ANGELA BINGHAM

The Open Polytechnic of New Zealand, Lower Hutt, New Zealand

Work-integrated learning (WIL) plays a vital role in providing students with authentic learning experiences that allow for the application of theory to practice, the enhancement of job opportunities, and the development of personal and interpersonal skills. Billet (2009) describes WIL as a pedagogical practice whereby students learn from the integration of experiences in educational and workplace settings. Ferns, Campbell, and Zegwaard (2014) refer to WIL experiences not only as being authentically engaged with practices and experiences of the workplace, but also located within an intentional discipline-centred curriculum, with a focus towards graduate learning outcomes and career pathways. Research conducted by Zegwaard and Coll (2011) suggested that students who have had work placements tend to make better informed decisions about their career direction and feel more certain of their career choices. WIL also provides employers with access to students who can bring new and innovative ideas and provides opportunities for the recruitment of work ready graduates. Academic institutions benefit by increased industry and community engagement and curriculum enhancement with applied content.

Learning does not stop once a student has graduated and takes up employment - learning continues throughout an individual's career and this concept has been posited as Learning-Integrated Work (LIW). The provision of LIW opportunities can be seen as beneficial to employers wishing to build capability of their staff, with 80% of CEOs now believing that the need for new skills is their biggest business challenge (Bersin & Zao-Sanders, 2019). For employees, research suggests that opportunities for professional development have become the second most important factor in workplace happiness, after the nature of the work itself (Bersin, 2018). A survey conducted by LinkedIn Learning (2019) shows that employees want self-directed learning opportunities that are accessible in the flow of work. Online LIW opportunities provide the ideal solution to enable employees to access relevant learning content in the moment of need. LIW initiatives also allow tertiary education providers to stay connected to alumni and form partnerships with industry, therefore strengthening the link between academia and industry.

UNIQUE FEATURES

With 72% of Open Polytechnic's students in work while studying, and 93% studying part-time, (Open Polytechnic, 2017) work-integrated learning is core to the way they learn. Most programs are delivered entirely online to students located throughout New Zealand. The digital learning platform used by Open Polytechnic is iQualify, developed specifically for an online-only learning experience. It has been designed and developed to align to the user experience of the adult student. Along with formal qualifications ranging from level 1 to level 7 on the NZQA framework, the Open Polytechnic has approximately 80 online courses available for students to study as Certificates of Proficiency in a wide range of disciplines. A Certificate of Proficiency enables a student to study in an area of interest without

the need to necessarily embark on a formal qualification. This provides an ideal mechanism for employers and employees seeking continuing professional development opportunities.

A current example of a formalised continuing education programme is in the real estate industry whereby the Open Polytechnic is accredited by the Real Estate Authority (REA) to provide both verifiable and non-verifiable continuing education – it is a requirement of licence holders to complete 20 hours of study as part of their licence renewal each year. Students studying towards real estate qualifications provide a unique example of LIW flowing seamlessly on from WIL. These students, are often working in the real estate industry while studying. After graduating and attaining a licence they participate in continuing education. Due to the Open Polytechnic's expertise in national, distance, open and flexible learning, the institution is uniquely placed to offer online WIL and LIW learning to these students, the majority of whom require flexibility and convenience in their study because of their work commitments and often because they do not have local study options available.

DISCUSSION

This paper provides a discussion on the concept of establishing a Development Hub within the Open Polytechnic. The Development Hub would act as a centre for WIL and LIW opportunities across the institution, providing a comprehensive and co-ordinated point of contact for the range of learning activities that are available. The discussion explores the range of WIL and LIW opportunities that the Development Hub could offer to students, employees, employers, professional associations, and regulatory bodies. WIL opportunities could include internships, cadetships, industry projects and practicums. LIW opportunities could include Certificates of Proficiency, micro-credentials, and continuing professional development (CPD). To help in bridging the gap between graduating and securing employment, the Development Hub could also provide support in the areas of CV writing, job application letters, and interviewing skills.

The concept of the Development Hub is a hypothetical one. It would have an online presence via the Open Polytechnic website and have dedicated staff to manage and co-ordinate its activities. A co-ordinator would field enquiries: a) from employers who may have work placement opportunities for students, and might also be seeking professional development for their staff; b) from employees looking for continuing education to advance their careers or to meet licencing requirements; and from prospective students wishing to study in areas of interest not necessarily related to a formal qualification. As described above, WIL opportunities, co-ordinated by the Development Hub, could include internships, cadetships, practicums, and industry projects. Many of the Open Polytechnic programs have a requirement for some type of WIL, and it can often be challenging for the both the student and academic staff to find a suitable placement. Multiple program at the Open Polytechnic have a WIL requirement, such as business, IT, social work, psychology, education, and library and information studies. Additional support, in the form of a Development Hub, to locate suitable opportunities would be of enormous benefit to all parties, with the Development Hub being a repository of possible projects/placements from employers. Figure 1 portrays the benefits of WIL to students, employers, academic institutions and the workplace.



FIGURE 1. Benefits of Work-Integrated Learning (Higher Education Quality Control of Ontario, 2016, p.15).

The main driver for students once they have completed their studies is to secure employment, or if already in work, to enhance their career opportunities. The Development Hub could also assist with this by providing students with a range of online preparatory support services such as writing CVs and cover letters, interview skills, coaching and mentoring, network building skills, professional dress and presentation and professional behaviour in the workplace, and other professional practice skills such as assertiveness and time management. Graduates from institutions which offer ongoing professional services as well as opportunities for networking with peers alumni and industry contacts view these institutions as being instrumental in helping to prepare for life after study and in securing employment.

Initiatives to help graduates become more employable are becoming a major focus for universities and polytechnics worldwide, and many institutions are now seeing it as their responsibility to not only teach students how to get a job but also help them to understand how to operate and interact once they have joined an organisation (Top Universities, 2011).

As discussed learning does not stop once a student has graduated and takes up employment. The Development Hub could also be the 'one-stop shop' and place of choice for continuing education opportunities which could be personalised to specific industry needs. This could be in the form of Certificates of Proficiencies which would also allow graduates to select courses that either complement their previous studies, or to study in an area that may of additional benefit to their job responsibilities. The Development Hub would also be the ideal place for the coordination and offering of micro-credentials. The New Zealand Qualifications Authority (NZQA) has introduced a micro-credential system as part of New Zealand's regulated education and training system. Micro-credentials are stand-alone education products, smaller than qualifications and focus on skill development opportunities that are not currently available. The vision for micro-credentials is that they enable students to access specific knowledge and skills in a cost-effective and time-efficient way and meet the needs of industry, employers, iwi and the community (NZQA, 2018). The launch of micro-credentials, as developed by NZQA, would add to the mix of WIL and LIW provisions available in the Development Hub, and would provide further opportunities for the Open Polytechnic to form partnerships and closer connections with industry and the community. The benefits of such partnerships are well researched, with Ferns, Campbell, and Zegwaard (2014) believing that partnerships are central to facilitating academic integrity, industry credibility and the assurance of graduates' skills that can become transferable across different contexts. The online Development Hub would be the place where employers could source a specific micro-credential, or alternatively enquire as to what micro-credentials are available. Once a micro-credential had been designed and developed by the Open Polytechnic's specialised Learning Design and Development team, it would then be part of the Development Hub's suite of WIL and LIW offerings.

IMPLICATIONS AND REFERENCE TO OTHERS IN WIL

While many Open Polytechnic programs have WIL components in the form of practicums, industry projects or internships, and LIW opportunities such as certificates of proficiencies and continuing professional development, these are managed within the different disciplines and do not have an organisational overview or approach in their sourcing, co-ordination, and delivery. Bringing WIL and LIW activities under one umbrella will help to ensure that curriculum design and pedagogical strategies are consistent, a factor considered as important as the WIL/LIW activity itself for achieving learning outcomes (Billet, 2015). This is a concept that can be achieved - by way of example, Macquarie University run an institution wide program called PACE (Professional and Community Engagement) which embeds at least one PACE course in all bachelor degrees (Macquarie University, n.d.). Rowe, Lloyd, and Powell (2017) reported that a recent review of all Macquarie University's PACE courses found that a "key achievement was the engagement and collaboration among a range of stakeholders who would otherwise have little contact, thereby facilitating cooperation, exchange and learning across sections of the university" (p. 38). When effective, work-integrated learning and learning-integrated work experiences offer many benefits to students, employers, academic institutions, industry, government and community partners. Further research into how the design, development and delivery of these activities can be co-ordinated in an online environment will provide valuable insights for practitioners and researchers alike.

REFERENCES

- Bersin, J. (2018). New research shows "heavy learners" more confident, successful, and happy at work. Retrieved from <https://www.linkedin.com/pulse/want-happy-work-spend-time-learning-josh-bersin/>
- Bersin, J., & Zao-Sanders, M. (2019). Developing Employees: Making learning part of everyday work. Retrieved from <https://hbr.org/2019/02/making-learning-a-part-of-everyday-work>
- Billett, S. (2009). Realising the educational worth of integrating work experiences in higher education. *Studies in Higher Education*, 34(7), 827-843.
- Billett, S. (2015). Integrating practice-based experiences into higher education. Dordrecht, The Netherlands: Springer.
- Ferns, S., Campbell, M., & Zegwaard, K. (2014). Work integrated learning. In S. Ferns (Ed.), *Work Integrated Learning in the Curriculum* (pp. 1-6). Milperra, N.S.W. Australia: HERDSA.
- Higher Education Quality Control of Ontario. (2016). A practical guide for work-integrated learning: Effective Practices to Enhance the Educational Quality of Structured Work Experiences Offered through Colleges and Universities. Retrieved from http://www.heqco.ca/SiteCollectionDocuments/HEQCO_WIL_Guide_ENG_ACC.pdf
- LinkedIn Learning (2019). 3rd annual workplace report. Retrieved from <https://learning.linkedin.com/content/dam/me/business/en-us/amp/learning-solutions/images/workplace-learning-report-2019/pdf/workplace-learning-report-2019.pdf>
- Macquarie University. (n.d.). PACE experience. Retrieved from <https://students.mq.edu.au/experience/practical-experience/pace-experience>
- New Zealand Qualifications Authority. (2018). Micro-credentials system launched. Retrieved from <https://www.nzqa.govt.nz/about-us/news/micro-credentials-system-launched/> Micro-credential system launched
- Open Polytechnic. (2017). Make your move: Annual Report 2017. Retrieved from <https://www.openpolytechnic.ac.nz/about-us/news-publications-and-research/publications/>
- Top Universities. (2011). How Can Universities Prepare Students for Work? Retrieved from <https://www.topuniversities.com/student-info/careers-advice/how-can-universities-prepare-students-work>
- Rowe, A., Lloyd, K., & Powell, A. (2017). An innovative university wide approach for evaluating work-integrated learning curriculum and pedagogy. Proceedings of the 20th New Zealand Association for Cooperative Education Conference, Queenstown, New Zealand, 35-38. Retrieved from <http://nzace.ac.nz/2017-conference/>
- Watson, A. (2018). Higher education: Preparing students to be work-ready. Retrieved from <https://www.openaccessgovernment.org/higher-education/51903/> Watson, A (2018).
- Zegwaard, K., & Coll, R. (2011). Using cooperative education and work-integrated education to provide career clarification. *Science Education International*, 22(4), December 2011 (Special Issue), 282-29.



New Zealand Association for Cooperative Education
2019 Conference Proceedings

ISBN: 978-0-473-48188-9