



2019

The effects of work-integrated learning on undergraduate sports coaching students' perceived self-efficacy

Anthony Weldon

Technological and Higher Education Institute of Hong Kong, Vocational Training Council, anthony-weldon@vtc.edu.hk

Jake K. Ngo

Hong Kong Academy for Performing Arts, Hong Kong, jakengo@hkapa.edu

Follow this and additional works at: <https://repository.vtc.edu.hk/thei-fac-man-hos-sp>



Part of the [Education Commons](#)

Recommended Citation

Weldon, A., Ngo, J. K. (2019). The Effects of Work-Integrated Learning on Undergraduate Sports Coaching Students' Perceived Self-Efficacy. *International Journal of Work Integrated Learning*, 20(3), 309-319.

This Journal Article is brought to you for free and open access by the Faculty of Management and Hospitality at VTC Institutional Repository. It has been accepted for inclusion in Technological and Higher Education Institute of Hong Kong (THEi) Staff Publications by an authorized administrator of VTC Institutional Repository. For more information, please contact wchu@vtc.edu.hk.



Member of VTC Group
VTC 機構成員

The effects of work-integrated learning on undergraduate sports coaching students' perceived self-efficacy

ANTHONY WELDON¹

The Technological and Higher Education Institute of Hong Kong, Hong Kong

JAKE K. NGO

Hong Kong Academy for Performing Arts, Hong Kong

This study examined the effects of a work-integrated learning (WIL) placement on student's self-efficacy and perceived workplace skill levels. Twenty-eight participants volunteered for this study, in which 15 completed WIL and 13 did not (non-WIL). The Work Self-Efficacy Inventory (WS-Ei) and Workplace Skills Questionnaire (WSQ) were used to collect student responses. Differences between groups were analyzed using a Mann-Whitney U test, mean differences were shown, and statistical significance was set at $p < 0.05$. Results from the WS-Ei indicated the WIL group shown significantly higher total WS-Ei scores, higher mean scores for all dimensions measured, and significantly higher scores for individual dimensions; problem-solving, politics, pressure and role expectations. The WSQ indicated the WIL group had higher mean scores for all perceived workplace skills, except for information technology, and no significant differences was observed between groups. Areas showing little difference between groups can be highlighted for further support and development.

Keywords: Work integrated learning, industry collaboration, education, self-efficacy, workplace skills

Work Integrated Learning (WIL) was popularized by Australian Universities, where students obtain experience by attending a placement related to the topic of their studies, providing a link between academic learning and its application in the workplace (Cooper, Orrell & Bowden, 2010; Abery, Drummond & Bevan, 2015). The student, university or workplace can initiate a WIL placement, in which the desired outcome should be a mutually beneficial student-centered experience (Fleming, McLachlan & Pretti, 2018). Students benefit from WIL as it provides an opportunity to develop their personality, communication and skills related to their expertise (Govender & Wait, 2017). Research suggests those students who undertake WIL are more likely to; achieve higher academic grades, receive an employment offer, negotiate a longer contract, obtain a higher starting salary, develop a comprehensive career plan and foster strong industry networks and connections (McLennan & Keating, 2008; Brooks, 2012). Whereas, universities benefit from WIL, through attracting more students into programs offering WIL, creating 'work-ready graduates' who are more likely to obtain employment, increasing student employment figures, and enabling better alignment of academic programs with industrial needs (Alderman & Mile, 1998; McLennan & Keating, 2008; Jackson, Ferns, Rowbottom & McLaren, 2015). Lastly, employers benefit from WIL as they are generally seeking graduates with 'workplace-ready skills' in which such skills can only be obtained through strong WIL partnerships providing structured training, support and feedback (Australian Chamber of Commerce and Industry, 2015).

LITERATURE REVIEW

Supervision and Assessment of Work-Integrated Learning

Supervising and assessing students undertaking WIL can be difficult, which is often shared between the university (academic supervisor) and workplace (workplace supervisor). Clarifying roles and responsibilities, while having a mutual understanding of each stakeholder's purpose during WIL, will

¹ Corresponding author: Anthony Weldon, anthony-weldon@vtc.edu.hk

further support a successful collaboration and student placement (Winchester-Seeto, Rowe & Mackaway, 2016). However, there is often a detachment between the perception and responsibilities of academic and workplace supervisors (Rowe, Mackaway & Winchester-Seeto, 2012), which is sometimes deemed independent as opposed to interconnected (Eames & Coates, 2011). Problems such as unstructured supervision and simplification of the assessment process may lead to only assessing knowledge, which can misinform or ignore the learning of complex and interpersonal skills (Bates, 2006). WIL assessments vary between placements, but commonly include; workplace visitation and assessment from an academic supervisor, review of performance from the workplace supervisor and self-assessment or reflection from the student (Dean, Sykes, Agostinho & Clements, 2012; Jackson, 2017). Literature suggests WIL assessments are more closely related to academic as opposed to workplace performance, possibly due to the simplicity of grading an academic or reflective piece of work, however this often fails to assess the complex learning taking place during WIL, and taking into account the influence that workplace duties and workplace supervisors can have on the learning experience of a student (Richardson, Henschke, Kaider & Jackling, 2009; Von Truer, Sturre, Keele & McLeod, 2011; Sturre et al., 2012). Methods shown to be beneficial in improving the quality of supervision and assessment include; use of rubrics (Kilgour, Kilgour, Christian, 2014); critical reflection (Hodges, 2011), regular feedback (Rust, 2007), using a combination of formative and summative assessments (Gonsalvez & Freestone, 2007), and assessing work self-efficacy (Reddan, 2016).

Work-Integrated Learning and Graduate Attributes

Upon graduation students are expected by employers to possess workplace-ready skills, which are non-discipline specific skills, obtained from studying, working and life experiences (TEQSA, 2012). Hill, Walkington & France (2016) showed that universities have favored the development of the following graduate skills; problem-solving, effective communication, reflective judgement, leadership, teamwork, research, inquiry, and digital literacy. Furthermore, the authors discussed the desired personal attributes; self-awareness, self-confidence, personal autonomy, flexibility and creativity; and desired personal values; ethical, moral, social responsibility, integrity and cross-cultural awareness.

Consequently, there is an increasing expectation on graduates to possess workplace-ready skills, in which it has been suggested that some current graduate positions require the skills and responsibilities, of what would previously have been expected from experienced workers (Tholen, Relly, Warhurst & Commander, 2016). Many factors contribute to a student's ability to attain and use all desired skills and values upon graduation, such as undertaking a well-structured WIL placement and improving one's self-efficacy.

Self-Efficacy and its Relationship with WIL, Employment and Workplace Satisfaction

Self-efficacy is defined as "how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982). For example, an individual's confidence and ability to academically achieve (Bandura, 1997). Bandura's social cognitive theory (1986) suggests students striving to obtain academic achievement, employment and be successful can be influenced and motivated by the behaviors possessed by those who have successfully done so. Three factors influence social learning: personal (e.g., gender, age), behavioral (e.g., confidence, persistence) and environmental (e.g., university classroom, workplace) (Bandura & National Institute of Mental Health, 1986).

It is widely recommended that including new learning environments such as WIL placements in conjunction with traditional education, can further improve students' self-efficacy, academic performance, search for employment, gaining employment, adapting in the workplace and being

satisfied in a working role (Multon, Brown & Lent, 1991; Stajkovic & Luthans, 1998; Robbins, Lauver, Le, Davis, Langley & Carlstrom, 2004; Subramaniam & Freudenberg, 2007; Raelin, et al., 2011; Guan et al., 2013; Reddan, 2016; Drysdale & McBeath, 2018). This is supported by Jackson's (2013) research which questioned 131 undergraduates on their self-perceived employability skills after a WIL activity, in which results indicated students were more confident in their ability to find employment and undertake duties in the workplace. Furthermore, Cranmer (2006) suggests a student's ability to obtain employment is highly related to the skills and experience obtained through WIL and it is unlikely this can be achieved solely in the classroom. Whereas, interestingly Brooks (2012) shown that non-WIL students lacking workplace experience, did not doubt their ability to search for employment, but felt less confident during the search for employment and prospects of gaining employment. The inclusion of WIL seems essential in the holistic development of students, particularly in the transition from education into the workplace and improving one's self-efficacy.

To measure workplace self-efficacy, tools such as the new Workplace Self-Efficacy Inventory (WS-Ei) can be used to assess one's behaviors and practices, relating to the nontechnical and social skills necessary to achieve success in the workplace (Raelin et al., 2011). The inventory includes seven dimensions: problem-solving, sensitivity, communication, teamwork, learning, pressure, and politics (Raelin et al., 2010). Research suggests the WS-Ei to be a comprehensive method in the assessment of student's workplace self-efficacy during and after WIL (Raelin et al., 2011; Bates, Thompson & Bates, 2013; Reddan, 2016). Raelin et al., (2011) found students undertaking WIL significantly improved their workplace, career and academic self-efficacy scores between their second and third years of a cooperative degree program. Whereas, research conducted by Bates et al., (2013) and Reddan (2016) used the WS-Ei pre and post WIL placement, which found slightly contrasting results. Bates et al., (2013) found students who successfully completed WIL improved in all dimensions of the WS-Ei except for learning, teamwork and sensitivity, whereas Reddan (2016) found students significantly improved in all areas. WIL is a complex and multifaceted learning experience, in which experiences of different students and programs will not be exactly the same, therefore it is suggested that using sub-components such as in the WS-Ei to assess self-efficacy is important, this may further be used to focus on where individual students require further support or where WIL placements require improvement (Bates et al., 2013).

This study aims to provide an insight to the effects of a WIL placement on students' workplace self-efficacy compared to a non-WIL group in undergraduate sports coaching students. The results of this study can provide students, universities and workplaces evidence for integrating WIL placements and monitoring student's workplace self-efficacy scores as a method of supervising and assessing learning and development. To the authors knowledge this is the first study to assess the effects of WIL on the perceived self-efficacy and workplace skill levels of students completing an undergraduate degree in sports coaching, and for students undertaking their education and WIL placement in a second language (first language Cantonese and second language English).

METHOD

Participants

Participants for this study comprised of 28 undergraduate students (100% of the entire cohort) in their 3rd year of studying towards a Bachelor of Social Science Degree in Sports and Recreation Management with a specialization in Sports Coaching. Fifteen students undertook the WIL placement and 13 did not (non-WIL). The cumulative grade point average of WIL group was 2.55 and non-WIL group was

2.5. Participants were predominantly male (82.1%) vs female (17.9%), and mean age of participants was 21.3 ± 1.2 years. This research met the ethical considerations required and approved by the Technological and Higher Education Institute of Hong Kong, Human Research Ethics Committee (HE2019-13).

WIL Placement

The WIL placement was run concurrently with students' university studies, and students completed 28 weeks of placement comprising of once weekly attendance of 2 hours (i.e., 56 hours). The placement was to work directly with a professional national sports team in the role of a junior strength and conditioning coach. The WIL placement included both academic ($n=4$) and workplace supervisors ($n=2$), in which one of each were present during placement. Students' were required to, design, deliver, evaluate and re-design strength and conditioning programs for athletes. Furthermore, students regularly undertook physiological and body compositional testing of athletes throughout the placement.

Materials

The Work Self-Efficacy Inventory (WS-Ei) and Workplace Skills Questionnaire (WSQ) were completed by both WIL and non-WIL groups after the WIL group had completed their placement. The WS-Ei included 30 questions, analyzing seven dimensions of work self-efficacy (learning, problem-solving, teamwork, sensitivity, politics, pressure, role expectations), which provided a score for each component, in addition to an overall self-efficacy score. The WSQ included 13 questions related to common workplace skills (Reddan, 2016). Both questionnaires required students to rate their confidence in their ability using a five-point Likert scale (1 = 'not at all', 2 = 'a little'; 3 = 'a moderate amount'; 4 = 'a lot'; and 5 = 'completely'). Students responded to both questionnaires anonymously to prevent any bias in answers.

Statistical Analyses

Descriptive statistics (mean \pm standard deviation) were calculated for all questionnaire responses. Differences between WIL and non-WIL groups were analyzed using a non-parametric test (Mann-Whitney U test) with mean differences shown. The Mann-Whitney U test was used to determine the significance of the difference between rankings of two groups of subjects who have been ranked on the same variable (Vincent & Weir, 2012). Statistical significance was set at $p < 0.05$. All calculations were carried out using SPSS software (IBM SPSS Statistics, 2017).

RESULTS

Overall the WIL group had significantly higher mean scores for WS-Ei total score (3.93 ± 0.68 vs 3.66 ± 0.79 ; $p < 0.05$) and all individual dimensions (0.03-0.46), whereas significantly higher scores were observed for problem-solving, politics, pressure and role expectations ($p < 0.05$) (see Table 1). The WIL group reported significantly higher scores for individual questions of the WS-Ei (see Appendix A); "Find out exactly what a problem is when first becoming aware of it" (3.93 vs. 3.23; $p < 0.05$), "Solve problems no matter how complex" (4.13 vs. 3.15; $p < 0.05$), "Know an organisations way of working and traditions" (4.07 vs. 3.54; $p < 0.05$), "Challenge things that are done by the rules" (3.87 vs. 3.15; $p < 0.05$), "Function well at work even when faced with personal difficulties" (3.93 vs. 3.31; $p < 0.05$). The non-WIL group reported non-significant higher mean scores for five individual questions of the WS-Ei; "Help build a team as a working unit" (3.73 vs 4.00), "Know how things really work in a sports

organisation" (3.60 vs. 3.62), "Be clear when presenting ideas" (3.73 vs. 3.85), "Work under pressure" (3.20 vs. 3.38), and "Learn from your mistakes" (4.20 vs. 4.31). WSQ revealed the WIL group had higher mean scores for all perceived skills (0.16-0.57), except for information technology (-0.51), but no significant difference was observed between groups ($p > 0.05$) (see Table 2).

TABLE 1: Differences in students' self-efficacy scores (mean \pm S.D).

	WIL	Non-WIL	Mean Difference	p-value
Learning	4.13 \pm 0.60	3.96 \pm 0.79	0.17	0.25
Problem-Solving	3.89 \pm 0.69	3.43 \pm 0.73	0.46	0.000 *
Teamwork	3.67 \pm 0.71	3.64 \pm 0.87	0.03	0.693
Sensitivity	4.12 \pm 0.59	3.88 \pm 0.76	0.24	0.052
Politics	3.73 \pm 0.66	3.42 \pm 0.80	0.31	0.017 *
Pressure	3.65 \pm 0.84	3.31 \pm 0.67	0.34	0.014 *
Role Expectations	4.13 \pm 0.47	3.91 \pm 0.68	0.22	0.026 *
Overall	3.93 \pm 0.68	3.66 \pm 0.79	0.25	0.000 *

* $p < 0.05$ TABLE 2: Differences in students' perceived workplace skills score (mean \pm S.D).

	WIL	Non-WIL	Mean Difference	p-value
Oral communication	4.00 \pm 0.85	3.54 \pm 0.78	0.46	0.217
Written communication	3.33 \pm 0.90	3.08 \pm 0.76	0.26	0.467
Problem Solving	3.87 \pm 0.74	3.54 \pm 0.52	0.32	0.294
Numeracy	3.60 \pm 0.74	3.31 \pm 0.48	0.29	0.387
Information Technology	3.33 \pm 0.82	3.85 \pm 0.69	-0.51	0.118
Teamwork	4.27 \pm 0.59	3.77 \pm 0.93	0.50	0.170
Self-management	4.40 \pm 0.63	4.15 \pm 0.69	0.25	0.387
Learning new material	4.27 \pm 0.59	3.69 \pm 0.85	0.57	0.088
Sports coaching / strength & conditioning skills	4.27 \pm 0.59	3.77 \pm 0.73	0.50	0.088
Managing others	3.93 \pm 0.59	3.46 \pm 0.78	0.47	0.118
Motivation	3.93 \pm 0.96	3.77 \pm 0.73	0.16	0.339
Independence	4.00 \pm 0.85	3.69 \pm 0.63	0.31	0.363
Reflective thinking	4.13 \pm 1.06	3.85 \pm 0.69	0.29	0.185

DISCUSSION

The results from this study demonstrate the benefits of a short discipline specific WIL placement on students' self-efficacy and perceived workplace skill levels, when compared to non-WIL students of the same cohort undertaking a sports coaching degree program. Findings are similar to previous research (Raelin et al., 2011; Bates et al., 2013; Reddan, 2016), however similarities are drawn with caution on the basis that Bates et al., (2013) and Reddan (2016) compared the same student group pre and post WIL,

whereas Raelin et al., (2011) assessed changes in self-efficacy over second to third years of students undertaking a co-operative degree program.

In this study, overall self-efficacy mean scores were significantly higher for WIL group compared to non-WIL group, and the WIL group showed significantly higher scores for the WS-Ei dimensions; problem-solving, politics, pressure and role expectations, whereas non-significant differences were observed in learning, teamwork and sensitivity. Contrastingly, Reddan (2016) found all dimensions of the WS-Ei significantly improved pre and post WIL intervention, which included a comprehensive intervention with final year exercise science students, which not only included WIL (140 hours), but also career development workshops and presentations from lecturers and professionals (26 hours). Workshops focused on career planning, job search, resume development, work-related learning activities, with mock job applications, selection criteria, interviews, and followed by reflective practice. Interestingly, the WIL placement received an importance of 4.8 ± 0.46 (out of 5), compared to career development workshops 4.23 ± 0.34 and presentations from lecturers and professionals 3.16 ± 0.39 , indicating the impact and unique learning opportunities that WIL provides (Australian Chamber of Commerce and Industry, 2015). However, to promote a more holistic development of students' self-efficacy, it may be beneficial to include both professional lectures and workshops in conjunction with WIL placement.

Similar to Reddan (2016) results from Bates et al., (2013) showed students significantly improved in all dimensions of the WS-Ei in a pilot study assessing self-efficacy scores pre and post work placement, which included one day a week attendance over a thirteen week period (i.e., 100 hours). However, the main study showed significant improvements in all dimensions of the WS-Ei except for learning, teamwork and sensitivity, which is similar to the present study. In the main study Bates et al., (2013) stipulated that 75% of participants had previous work experience, in which positive experiences may have inflated their pre-placement self-efficacy scores, therefore in some dimensions the magnitude of difference may be smaller and non-significant. However, it is important to highlight that although some dimensions demonstrated non-significant differences, pre and post WIL mean scores for all dimensions were improved, which again is similar to the present study. Interestingly, this study only required students to complete a 56 hour WIL placement, which was less than Reddans' (2016) 166 hours and Bates et al., (2013) 140 hours, which may indicate the potential benefits of micro-dosing WIL, and providing shorter and more frequent WIL learning experiences.

The Work Self-Efficacy Inventory (WS-Ei)

The largest difference observed between groups, was for problem solving, where the WIL group presented significantly higher scores (3.89 vs 3.43). It has been suggested that problem solving is a highly desirable skill for graduates to possess in the modern workforce (Hill et al., 2016). Within the WIL placement students were given responsibilities to design, administer, evaluate and re-design strength and conditioning programs for professional national athletes, and also regularly conduct physiological and body compositional testing. Such duties required students to deal with various problems such as; space availability, equipment usage, time availability, player fatigue and injuries. This provided a range of problem-solving experiences to students, in which students received guidance and feedback from supervisors, allowing them to explore options and make decisions. Referring to question 9 in Appendix A "solve problems no matter how complex" WIL students reported a higher mean score of 4.13 vs. non-WIL 3.15, which demonstrated their ability to deal with complex problems in the workplace, which Coll et al., (2009) promotes the important role WIL plays in developing students ability to receive, evaluate and solve problems in the workplace.

Students undertaking WIL also presented significantly higher self-efficacy scores for dealing with pressure in the workplace. Students normally undergo spells of academic pressure, which requires them to manage their time and workload, in which Crebert, Bates, Bell, Patrick & Cragolini (2004) believe WIL may also add additional pressures. However, with a strong support network of peers, academic supervisors and workplace supervisors, students within this study received ongoing help with managing workload and WIL concurrently, this may have helped students develop strategies and resilience to cope with such pressures. Furthermore, given the 2-hour commitment expected of students per week was relatively small, which may have also limited the added pressure, compared to more substantial concurrent work placements.

Significantly higher scores were observed from the WIL group for politics and role expectations, which in line with previous research suggests certain skills can only be developed outside of the classroom and in the workplace (Cranmer, 2006). Where possible students were exposed to the daily running of the professional national sports team, by voluntarily being included in relevant emails, strategic team talks and competitions, in which Govender and Wait (2017) believe such involvement in the workplace is imperative to students becoming work ready through understanding a workplace culture and expectations.

The WIL group showed higher, yet non-significant mean scores for sensitivity when compared to the non-WIL group. As part of the WIL placement students had regular meetings and interaction with their academic and workplace supervisors, where any issues causing anxiety or concern were duly addressed, and students were further supported to overcome them. It has been acknowledged by Coll & Eames (2000) that WIL supervisors have a critical role to play in the success of WIL placements and development of students. Furthermore, due to the WIL placement in this study being highly specific and relevant to the degree program being undertaken, students verbally expressed they were comfortable and confident in conducting the duties expected of them.

Learning and teamwork also presented slightly higher but non-significant scores for the WIL group. Students involved in this study have a breadth of knowledge in the field of sports coaching and strength and conditioning through their academic studies, therefore learning may not have shown higher scores compared to other dimensions, due to students practically applying existing knowledge. It was surprising teamwork did not improve considering students were working directly with a professional national sports team and with their peers, however majority of duties undertaken, and responsibilities given were independent in nature. Furthermore, teamwork is central to elements of the student's studies and personal sporting endeavors, which may have provided a higher basis to improve on.

Workplace Skills Questionnaire (WSQ)

The WIL group showed considerably higher scores for learning new material (4.27 vs. 3.69) and teamwork (4.27 vs. 3.77) compared to the non-WIL group. This was interesting considering the aforementioned results from the WS-Ei, indicating a much smaller difference between groups for learning (4.13 vs. 3.96) and teamwork (3.67 vs. 3.64). A potential reason for this is the WSQ questionnaire was more generic in assessing student's perceived ability of common workplace skills, whereas the WS-Ei was more specific in relation to the students WIL placement.

Problem solving also presented higher scores for the WIL group, which according to Johnson (2000) may demonstrate the importance of students receiving real workplace problems, while being given the opportunity to explore possible solutions with guidance, feedback and reflection. Pleasingly, students also showed higher scores for their confidence in applying sports coaching and strength and

conditioning skills, which is likely due to being given the opportunity to apply what they have learnt theoretically and practically within their degree program, into real world working scenarios (Freudenberg, Brimble & Vyvyan, 2010).

Communication skills presented higher scores for WIL students, which Govender and Wait (2017) suggest undertaking structured and study related experiences outside of the classroom, encourages the use of and development of communication skills. This is of great importance for the students in this study given they are native Cantonese speakers, undertaking a degree and WIL placement in English, which is a second language. For managing others higher mean scores were observed for the WIL group, which may be related to students having to manage a whole sports team and individual players throughout the WIL placement. Receiving hands on experience of managing individuals and groups, plays an important role in bridging the gap between education and work (Abery et al., 2015). As aforementioned, the only skill showing lower scores for the WIL group was information technology, which may be due to the placement being extremely practical in nature, not requiring any substantial IT work beyond program design using Microsoft Excel, which at this stage of their education students are quite experienced in using, however it is not understood why there is a discrepancy between groups.

The potential benefits of improving student's workplace self-efficacy and perceived workplace skill levels is of importance, particularly when students graduate and commence their search for employment. Although it cannot be speculated from the results of this study, it is interesting to observe the longer-term benefits for students who undertake WIL. Brooks (2012) study revealed that students completing a WIL placement for a duration between 2-12 months, outperformed non-WIL students based on receiving a 2.1 or higher degree classification (91% vs. 60%). Furthermore, those students who undertook WIL were in employment within at least 6 months post-graduation, obtained employment with larger organizations and received longer contracts.

This study however presents the potential short-term benefits of a discipline specific WIL placement on students' self-efficacy and perceived workplace skill levels, providing a basis for coordinators, academic supervisors and workplace supervisors to further improve students' WIL experience.

CONCLUSION

To the authors knowledge this is the first study to assess the effects of WIL on the perceived self-efficacy and workplace skill levels of students completing an undergraduate degree in sports coaching, and for students undertaking their education and WIL placement in a second language (first language Cantonese and second language English). The results from this study demonstrate the potential benefits of a discipline specific WIL placement on students' self-efficacy and perceived workplace skill levels, when compared to non-WIL students. The WIL group within this study showed higher scores for all perceived self-efficacy dimensions and most workplace skills compared to a non-WIL group. Scores which were non-significant or shown little difference between groups, may be highlighted as areas students may require additional support or where WIL placements need further development.

The benefits of WIL have been well founded, yet further research is required in order to fully understand how WIL improves perceived self-efficacy and workplace skill levels, amongst many other positive outcomes. But to understand how learning and development of students takes place during WIL, may require more comprehensive assessments, such as; emotional work-readiness, the role of experiential learning and importance of reflective practice during WIL. Gathering such information would therefore provide a more structured perspective on how to administer, develop and assess WIL

(Wilton, 2012; McRae, 2015). Lastly, it is important to encourage WIL research, to be inclusive of all genders, populations and academic courses, in order to provide a non-biased viewpoint to make informed decisions for future practice.

REFERENCES

- Abery, E., Drummond, C., & Bevan, N. (2015). Work integrated learning: What do the students want? A qualitative study of health sciences students' experiences of a non-competency based placement. *Student Success*, 6, 87-91. doi: 10.5204/ssj.v6i2.288
- Alderman, B., & Milne, P. (1998). Partners in learning – educators, practitioners and students collaborate on work-based learning – a case study. *Higher Education Research and Development*, 17(2), 229-249. doi: [10.1080/0729436980170207](https://doi.org/10.1080/0729436980170207)
- Australian Chamber of Commerce and Industry. (2015). *Work integrated learning*. Australia: Innovative Research Universities. Retrieved from https://research.acer.edu.au/cgi/viewcontent.cgi?article=1046&context=higher_education
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122-147. doi: 10.1037/0003-066X.37.2.122
- Bandura, A. (1997) *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Bandura, A., & National Institute of Mental Health. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall Inc.
- Bates, M. (2006). The assessment of work integrated learning: Symptoms of personal change. *Journal of Criminal Justice Education*, 14, 303-326. doi: 10.1080/10511250300085811
- Bates, M., Thompson, C., & Bates, L. (2013). Not all dimensions of work self-efficacy are equal: Understanding the role of tertiary work placements in the development of the elements of work self-efficacy. *Journal of Cooperative Education and Internships*, 47, 19-30.
- Brooks, R. (2012, March). *Evaluating the impact of placements on employability*. Paper presented at the Employability, Enterprise and Citizenship in Higher Education Conference. Manchester, UK.
- Coll, R. K., & Eames, C. (2000). The role of the placement coordinator: An alternative model. *Asia-Pacific Journal of Cooperative Education*, 1, 9-14.
- Coll, R., Eames, C., Paku, L., Lay, M., Hodges, D., Bhat, R., . . . Martin, A. (2009). An exploration of the pedagogies employed to integrate knowledge in work-integrated learning. *Journal of Cooperative Education and Internships*, 43, 14-35.
- Cooper, L., Orrell, J., & Bowden, M. (2010). *Work integrated learning: A guide to effective practice*. Abingdon, UK: Routledge.
- Cranmer, S. (2006). Enhancing graduate employability: Best intentions and mixed outcomes. *Studies in Higher Education*, 31, 169-184. doi: [10.1080/03075070600572041](https://doi.org/10.1080/03075070600572041)
- 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 and Development*, 23, 147-165. doi: 10.1080/0729436042000206636
- Dean, B. A., Sykes, C., Agostinho, S., & Clements, M. (2012). Reflective assessment in work-integrated learning: To structure or not to structure, that was our question. *Asia-Pacific Journal of Cooperative Education*, 13, 103-113.
- Drysdale, M. T. B., & McBeath, M. (2018). Motivation, self-efficacy, and learning strategies of university students participating in work-integrated learning. *Journal of Education and Work*, 31, 478-488. doi: 10.1080/13639080.2018.1533240
- Eames, C., & Coates, 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.
- Fleming, J., McLachlan, K., & Pretti, T. J. (2018). Successful work-integrated learning relationships: A framework for sustainability. *International Journal of Work-Integrated Learning*, 19, 321-335.
- Freudenberg, B., Brimble, B., & Vyvyan, V. (2010). The penny drops: Can work integrated learning improve student's learning? *E-Journal of Business Education & Scholarship of Teaching*, 4, 42-61.
- Gonsalvez, C., & Freestone, I. (2007). Field supervisors' assessments of trainee performance: Are they reliable and valid? *Australian Psychologist*, 42, 23-32. doi: 10.1080/00050060600827615
- Govender, C. M., & Wait, M. (2017). Work integrated learning benefits for students career prospects – mixed mode analysis. *South African Journal of Higher Education*, 31, 49-64. doi: 10.28535/31-5-609
- Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., Fu, R., Wang, Y., Zhang, Y., Zhang, S., & Li, Y. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior*, 83, 561-570. doi: 10.1016/j.jvb.2013.09.003
- Hill, J., Walkington, H., & France, D. (2016). Graduate attributes: Implications for higher education practice and policy. *Journal of Geography in Higher Education*, 40, 155-163. doi: 10.1080/03098265.2016.1154932
- Hodges, D. (2011). The assessment of student 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. 53-62). Lowell, MA: World Association for Cooperative Education.

- IBM Corp. Released (2017). IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.
- Jackson, D. (2013). The contribution of work-integrated learning to undergraduate employability skills outcomes. *Asia-Pacific Journal of Cooperative Education*, 14, 99-115.
- Jackson, D. (2017). Challenges and strategies for assessing student workplace performance during work-integrated learning. *Assessment & Evaluation in Higher Education*, 43, 555-570. doi: 10.1080/02602938.2017.1378618
- Jackson, D., Ferns, S., Rowbottom, D., & McLaren, D. (2015). Working together to achieve better work integrated learning outcomes: Improving productivity through better employer involvement. Retrieved from <http://acen.edu.au/wp-content/uploads/2016/06/Workingtogether-to-achieve-better-WIL-outcomes.pdf>
- Johnson, D. (2000). The use of learning theories in the design of a work-based learning course at masters level. *Innovations in Education and Training International*, 37, 129-133.
- Kilgour, A. J., Kilgour, P. W., & Christian, B. (2014). Assessment of work-integrated learning: comparison of the usage of a grading rubric by supervising radiographers and teachers. *Journal of Medical Radiation Sciences*, 61, 22-29. doi: 10.1002/jmrs.39
- McLennan, B., & Keating, S. (2008). Work-integrated learning (WIL) in Australian universities: The challenges of mainstreaming WIL. In ALTC NAGCAS National Symposium. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.530.4443>
- McRae, N. (2015). Exploring conditions for transformative learning in work-integrated education. *Asia-Pacific Journal of Cooperative Education*, 16(2), 137-144.
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38, 30-38. doi: 10.1037/0022-0167.38.1.30
- Raelin, J., Bailey, M., Hamman, J., Pendelton, L., Raelin, J., Reisberg, R., & Whitman, D. (2011). The effect of cooperative education on change in self-efficacy among undergraduate students: Introducing work self-efficacy. *Journal of Cooperative Education and Internships*, 45, 17-35.
- Reddan, G. (2016). The role of work-integrated learning in developing students' perceived work self-efficacy. *Asia-Pacific Journal of Cooperative Education, Special Issue*, 17, 423-436.
- Richardson, J., Henschke, K., Kaider, F., & Jackling, B. (2009). A framework for assessing work integrated learning. In H. Wozniak & Bartoluzzi (Eds.), *Research and development in higher education: The Student Experience*. Hammondville, Australia: Higher Education Research and Development Society of Australia (HERDSA).
- Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130, 261-88. doi: 10.1037/0033-2909.130.2.261
- 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.
- Rust, C. (2007). Towards a Scholarship of Assessment. *Assessment & Evaluation in Higher Education*, 32, 229-237. doi: 10.1080/02602930600805192
- Stajkovic, A. D. & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 2, 240-261. doi: 10.1037/0033-2909.124.2.240
- Sturre, V., Keele, S., Von Treuer, K., Moss, S., McLeod, J., & Macfarlane, S. (2012). Construction of an instrument to measure effectiveness of placement settings and experiences. *Asia-Pacific Journal of Cooperative Education*, 13, 225-238.
- Subramaniam, N., & Freudenberg, B. (2007). Preparing accounting students for success in the professional environment: Enhancing self-efficacy through a work integrated learning program. *Asia-Pacific Journal of Cooperative Education*, 8(1), 87-102.
- TEQSA. (2012). TEQSA glossary of terms. Retrieved from <http://www.teqsa.gov.au/mediapublications/glossary>
- Tholen, G., Rely, S. J., Warhurst, C., & Commander, J. (2016). Higher education, graduate skills and the skills of graduates: the case of graduates as residential sales estate agents. *British Education Research Journal*, 42, 508-523. doi: 10.1002/berj.3222
- Vincent, W.J., Weir, J.P. (2012). *Statistics in Kinesiology*. Champaign, IL: Human Kinetics.
- Von Treuer, K., Sturre, V., Keele, S., & McLeod, J. (2011). An integrated model for the evaluation of work placements. *Asia Pacific Journal of Cooperative Education*, 12, 195-204.
- Wilton, N. (2012). The impact of work placements on skills development and career outcomes for business and management graduates. *Studies in Higher Education*, 37, 603-620.
- Winchester-Seeto, T., Rowe, A., & Mackaway, J. (2016). Sharing the load: Understanding the roles of academics and host supervisors in work-integrated learning. *Asia-Pacific Journal of Cooperative Education*, 17(2), 101-118.

APPENDIX A: Questionnaire raw data (mean \pm S.D.)

	WIL	non-WIL	Mean Difference	p-value
1. Understand and use terminology specific to coaching	4.00 \pm 0.65	3.77 \pm 0.93	0.23	0.555
2. Continue to learn when on the job	3.93 \pm 0.59	3.77 \pm 0.73	0.16	0.525
3. Learn from your mistakes	4.20 \pm 0.56	4.31 \pm 0.63	-0.11	0.65
4. Learn to improve on your past performance	4.40 \pm 0.51	4.00 \pm 0.82	0.40	0.217
5. Solve new difficult problems	3.80 \pm 0.94	3.62 \pm 0.51	0.18	0.586
6. Invent new ways of doing things	3.80 \pm 0.77	3.54 \pm 0.78	0.26	0.387
7. Solve most problems even though initially no solution is immediately apparent	3.80 \pm 0.56	3.62 \pm 0.77	0.18	0.294
8. Find out exactly what a problem is when first becoming aware of it	3.93 \pm 0.46	3.23 \pm 0.60	0.70	0.007*
9. Solve problems no matter how complex	4.13 \pm 0.64	3.15 \pm 0.90	0.98	0.005*
10. Help build a team as a working unit	3.73 \pm 0.46	4.00 \pm 0.82	-0.27	0.413
11. Manage conflict among team members	3.27 \pm 0.88	3.08 \pm 0.76	0.19	0.683
12. Develop cooperative working relationship with others	4.00 \pm 0.53	3.85 \pm 0.80	0.15	0.555
13. Be clear when presenting ideas	3.73 \pm 0.46	3.85 \pm 0.55	-0.11	0.683
14. Listen effectively to gain information	4.20 \pm 0.68	4.00 \pm 0.82	0.20	0.618
15. Be sensitive to others feelings and attitudes	4.40 \pm 0.74	4.08 \pm 0.86	0.32	0.363
16. Concentrate on what someone is saying even though other things could distract you	4.00 \pm 0.38	3.46 \pm 0.78	0.54	0.052
17. Listen closely to understand opposing points of view	4.27 \pm 0.46	4.00 \pm 0.71	0.27	0.363
18. Know how things "really work" in a sports organisation	3.60 \pm 0.74	3.62 \pm 1.04	-0.02	0.821
19. Understand politics in a sports organisation	3.40 \pm 0.74	3.38 \pm 0.51	0.02	0.786
20. Know an organisations way of working and traditions	4.07 \pm 0.46	3.54 \pm 0.52	0.53	0.037*
21. Challenge things that are done by the rules	3.87 \pm 0.52	3.15 \pm 0.99	0.71	0.029*
22. Work under pressure	3.20 \pm 1.15	3.38 \pm 0.65	-0.18	0.467
23. Work under extreme circumstances	3.60 \pm 0.83	3.08 \pm 0.76	0.52	0.108
24. Work well in situations that others may consider stressful	3.87 \pm 0.64	3.46 \pm 0.52	0.41	0.142
25. Function well at work even when faced with personal difficulties	3.93 \pm 0.46	3.31 \pm 0.75	0.63	0.041*
26. Know what is expected of you to work as a coach	4.13 \pm 0.35	4.08 \pm 0.76	0.06	0.928
27. Determine what is expected of you when given a job to complete	4.07 \pm 0.46	3.85 \pm 0.69	0.22	0.413
28. Understand the duties and roles of a coach	4.13 \pm 0.52	4.00 \pm 0.58	0.13	0.618
29. Understand behaviours appropriate to your role	4.27 \pm 0.46	3.85 \pm 0.80	0.42	0.156
30. Coordinate tasks within your role	4.07 \pm 0.59	3.77 \pm 0.60	0.30	0.274

* p < 0.05



About the Journal

The International Journal of Work-Integrated Learning (IJWIL) publishes double-blind peer-reviewed original research and topical issues dealing with Work-Integrated Learning (WIL). IJWIL first published in 2000 under the name of Asia-Pacific Journal of Cooperative Education (APJCE). Since then the readership and authorship has become more international and terminology usage in the literature has favored the broader term of WIL, in 2018 the journal name was changed to the International Journal of Work-Integrated Learning.

In this Journal, WIL is defined as "*an educational approach that uses relevant work-based experiences to allow students to integrate theory with the meaningful practice of work as an intentional component of the curriculum*". Defining elements of this educational approach requires that students engage in authentic and meaningful work-related task, and must involve three stakeholders; the student, the university, and the workplace. Examples of practice include off-campus, workplace immersion activities such as work placements, internships, practicum, service learning, and cooperative education (Co-op), and on-campus activities such as work-related projects/competitions, entrepreneurship, student-led enterprise, etc. WIL is related to, but not the same as, the fields of experiential learning, work-based learning, and vocational education and training.

The Journal's main aim is to enable specialists working in WIL to disseminate research findings and share knowledge to the benefit of institutions, students, co-op/WIL practitioners, and researchers. The Journal desires to encourage quality research and explorative critical discussion that leads to the advancement of effective practices, development of further understanding of WIL, and promote further research.

Types of Manuscripts Sought by the Journal

Types of manuscripts sought by IJWIL is primarily of two forms; 1) *research publications* describing research into aspects of work-integrated learning and, 2) *topical discussion* articles that review relevant literature and provide critical explorative discussion around a topical issue. The journal will, on occasions, consider best practice submissions.

Research publications should contain; an introduction that describes relevant literature and sets the context of the inquiry. A detailed description and justification for the methodology employed. A description of the research findings - tabulated as appropriate, a discussion of the importance of the findings including their significance to current established literature, implications for practitioners and researchers, whilst remaining mindful of the limitations of the data. And a conclusion preferably including suggestions for further research.

Topical discussion articles should contain a clear statement of the topic or issue under discussion, reference to relevant literature, critical and scholarly discussion on the importance of the issues, critical insights to how to advance the issue further, and implications for other researchers and practitioners.

Best practice and program description papers. On occasions, the Journal also seeks manuscripts describing a practice of WIL as an example of best practice, however, only if it presents a particularly unique or innovative practice or was situated in an unusual context. There must be a clear contribution of new knowledge to the established literature. Manuscripts describing what is essentially 'typical', 'common' or 'known' practices will be encouraged to rewrite the focus of the manuscript to a significant educational issue or will be encouraged to publish their work via another avenue that seeks such content.

By negotiation with the Editor-in-Chief, the Journal also accepts a small number of *Book Reviews* of relevant and recently published books.



EDITORIAL BOARD

Editor-in-Chief

Dr. Karsten Zegaard

University of Waikato, New Zealand

Associate Editors

Dr. Judene Pretti

University of Waterloo, Canada

Dr. Anna Rowe

University of New South Wales, Australia

Senior Editorial Board Members

Prof. Richard K. Coll

University of the South Pacific, Fiji

Prof. Janice Orrell

Flinders University, Australia

Emeritus Prof. Neil I. Ward

University of Surrey, United Kingdom

Dr. Phil Gardner

Michigan State University, United States

Assoc. Prof. Denise Jackson

Edith Cowan University, Australia

Copy Editor

Yvonne Milbank

International Journal of Work-Integrated Learning

Editorial Board Members

Assoc. Prof. Erik Alanson

University of Cincinnati, United States

Mr. Matthew Campbell

Queensland University of Technology, Australia

Dr. Craig Cameron

Griffith University, Australia

Prof. Cheryl Cates

University of Cincinnati, USA

Dr. Sarojni Choy

Griffith University, Australia

Dr. Bonnie Dean

University of Wollongong, Australia

Prof. Leigh Deves

Charles Darwin University, Australia

Prof. Maureen Drysdale

University of Waterloo, Canada

Assoc. Prof. Chris Eames

University of Waikato, New Zealand

Dr. Sonia Ferns

Curtin University, Australia

Dr. Jenny Fleming

Auckland University of Technology, New Zealand

Dr. Thomas Groenewald

University of South Africa, South Africa

Dr. Kathryn Hays

Massey University, New Zealand

Prof. Joy Higgs

Charles Sturt University, Australia

Ms. Katharine Hoskyn

Auckland University of Technology, New Zealand

Dr. Sharleen Howison

Otago Polytechnic, New Zealand

Dr. Nancy Johnston

Simon Fraser University, Canada

Dr. Mark Lay

University of Waikato, New Zealand

Prof. Andy Martin

Massey University, New Zealand

Dr. Norah McRae

University of Victoria, Canada

Prof. Beverly Oliver

Deakin University, Australia

Dr. Laura Rook

University of Wollongong, Australia

Assoc. Prof. Philip Rose

Hannam University, South Korea

Dr. David Skelton

Eastern Institute of Technology, New Zealand

Prof. Heather Smigiel

Flinders University, Australia

Assoc. Prof. Calvin Smith

University of Queensland, Australia

Dr. Raymond Smith

Griffith University, Australia

Assoc. Prof. Judith Smith

Queensland University of Technology, Australia

Prof. Yasushi Tanaka

Kyoto Sangyo University, Japan

Prof. Neil Taylor

University of New England, Australia

Assoc. Prof. Franziska Trede

Charles Sturt University, Australia

Ms. Genevieve Watson

Elysium Associates Pty, Australia

Dr. Nick Wempe

Primary Industry Training Organization, New Zealand

Dr. Marius L. Wessels

Tshwane University of Technology, South Africa

Dr. Theresa Winchester-Seeto

University of New South Wales, Australia