

Student insights: Developing T-shaped professionals through work-integrated learning

ANDREW J. MARTIN¹

MALCOLM REES

Massey University, Palmerston North, New Zealand

This research is based on the T-shaped professional model (Gardner, 2017), which advocates developing a breadth of knowledge and skills, and exhibiting boundary-spanning competencies such as teamwork, communication, organizational perspective and networks. This paper describes a thematic content analysis of 271 students' reflections about their main tasks during their sport management and coaching work-integrated learning (WIL) placements. The findings highlight a breadth and depth of WIL activity, which reinforces the notion of developing T-shaped professionals (Gardner, 2017), who are characterized by their deep disciplinary knowledge in at least one area (e.g., event management), and their ability to function as 'adaptive innovators' across boundaries between disciplines (e.g., various business activities). In developing students as 'reflective practitioners', a key finding is the importance of the WIL learning process that facilitates reflective work-based experiences. It provides an ideal environment for encouraging the individual student to develop self-efficacy, analytical, systems and critical thinking skills, and a problem-solving mind-set/approach.

Keywords: WIL, T-shaped professional, graduate attributes, reflective practice

As the global economy continues its relentless pace of change with accompanying disruption, what type of professional is best suited to adapt to this chaotic future? Increasing emphasis is being placed on the importance of graduates gaining both transferable skills and specific qualifications to ensure there are better long-term employment outcomes in an ever-changing future global workplace. Gardner (2017) argues that future graduates will need to be "adaptive innovators" who will be able to take opportunities in an ever-changing future workplace. He states that:

In order to hold jobs, individuals need more education, need to possess higher level skills, and need to be able to adapt to the changing context of work. Job disruption will be a constant event in all our lives, which will call upon us to modify existing learning strategies to adequately equip learners to deal with the uncertainty of future employment (p. 3).

Traditionally, training has focused on developing I-Shaped Professionals who are highly versed in a specific area of expertise and learns by drilling more deeply into a particular field. However, the T-shaped professional (Figure 1) has broader skills and knowledge and learns by linking up different perspectives from different specialties. Donofrio, Spohrer, and Zadeh (2009) suggest that this breadth of knowledge and experience enables faster adaptation to role changes and better communication and teamwork skills in multidisciplinary, multifunctional, or multicultural contexts. The T-shaped metaphor was initially advanced in the 1990s with IBM leaders as they developed the theoretical underpinnings of the service science management concept (Gardner, 2017).

The need to achieve a balance between developing discipline-specific skills and education focused on broader core graduate attributes has been increasingly advocated for tertiary education institutions (Edwards, 2015; Orrell, 2011; Universities Australia, 2015). Gardner (2017) argues that WIL experiences, as represented by its most common forms (e.g., practicum, internships and co-ops), offer the most

¹ Corresponding author, Andrew Martin: A.J.Martin@massey.ac.nz

promising learning environment for cultivating emerging T-shaped professionals or adaptive innovators. T-shaped professionals are characterized by their deep disciplinary knowledge in at least one area, an understanding of systems, and their ability to function as “adaptive innovators” and cross the boundaries between disciplines. The two vertical bars of the “T” represent deep understanding and disciplinary specialization involving problem solving and developing analytical and system thinking.

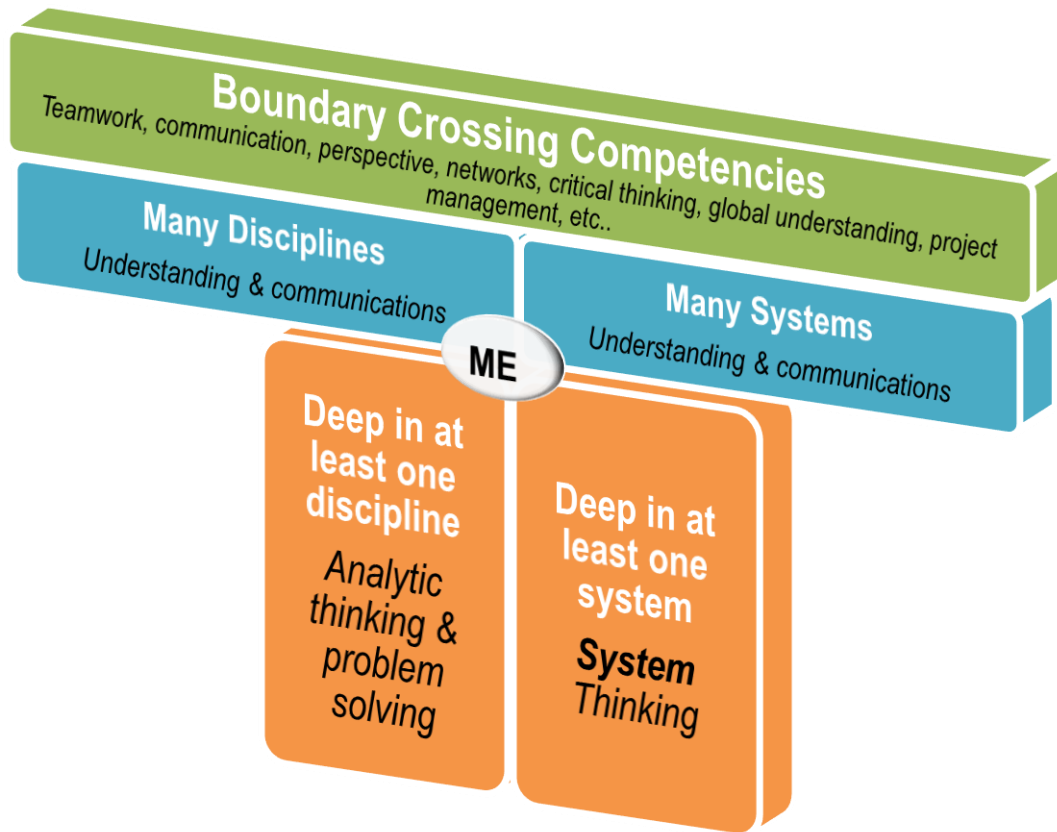


FIGURE 1: The T-shaped professional model (Gardner, 2017; Michigan State University, 2018: reprinted with permission)

The horizontal bar represents an ability to collaborate across a variety of different disciplines and systems. Examples of attributes include teamwork, communication, organization perspective, critical thinking, global understanding and project management. Increasingly graduates need to build their careers in a globally interconnected and constantly changing world with smarter technologies. “Upon graduation, students should be able to handle information from multiple sources, advance professional relationships across different organizations, contribute innovatively to organizational practices, and communicate with understanding across social, cultural, economic and scientific disciplines” (Michigan State University, 2018).

Central to the T-shaped professional model is the focus on ‘me’ (Gardner, 2017), that is, on an individual with the ability to develop confidence, to contribute and take risks: “These abilities require every student to understand what they value and want to accomplish (purpose) . . . adapt to a rapidly changing technological society, and become aware of the perspectives of others and how diversity enriches their ability to generate new knowledge” (p. 75).

Understanding student's perceptions helps to inform and change teaching practice through increased focus on specific graduate attributes and a broader range of added value aspects of WIL programs. The purpose of this current study is to extend further Martin and Rees' (2018, 2019) examination of student insights into the added value of their WIL experiences and their development of personal and professional graduate attributes. Thematic content analysis was undertaken of students' reflections (N=271) of their perceived learning outcomes and overall experiences from a work-based experiential learning program, the sport management and coaching practicum at Massey University, New Zealand. Their findings highlighted themes of enjoyment, achievement and reinforcing career decisions. Gratitude for the support and mentoring of workplace and academic supervisors was also evident. Development of personal attributes involving self-management, enterprise, and effective communication were perceived as important learning outcomes. Professional development of a community of practice and leadership responsibilities were also noted. Critical reflection skills were identified by some respondents. These empirical findings also align closely with Fullan and Scott's (2014) 6 C's of deep learning: self-management (character), enterprise (creativity), effective communication, community of practice (citizenship), leadership responsibilities (collaboration), and critical thinking.

The aim of this current study was to examine, using Thematic Content Analysis (TCA), (Braun & Clarke, 2006) the main tasks students described from their sport management and coaching WIL experiences at Massey University, New Zealand (Martin, 2013). A specific objective was to review whether there is empirical evidence to support the notion of the T-shaped professional model (Figure 1), as developed through these WIL experiences (Gardner, 2017).

METHOD

In this case study we undertook a Thematic Content Analysis (TCA) (Braun & Clarke, 2006) of all the available students' post-practicum reflections (N= 271 of 299 students who had participated in the practicum over this period) from those who had undertaken Massey's sport management and coaching practicum between the years 2007 and 2016. 299 students had participated in the practicum over this period however only 271 of the post-practicum reflections were available for analysis. The MSWord documents analyzed (final reflective journal entries) spanned this 10 year period and all followed a similar structure, which included sections relating to students perceptions of their main tasks, learning outcomes and overall WIL experience. The documents were not part of any course assessment but were initially collated at the end of each year of study to provide detail of practicum placements and learning outcomes for future students to reference. The fact that all the available documents were available for inclusion in the project strengthened the power of the analysis.

The project was approved and deemed to be low risk against the university research ethics criteria, notification number 4000017081, and information provided for analysis was anonymous. Students who participated in the practicum were enrolled at the time in either: a Bachelor of Sport and Exercise (58%; Major in Management & Coaching), a Bachelor of Business Studies (36%; Major in Sport Business Management) or another qualification (6%).

Data Analysis

Each document was uploaded into NVivo11 and coded inductively (themes emerging from student's reflection of their main tasks - only after the coding was completed did the T-shaped professional model resonate with the findings). The descriptive coding of the main tasks and reported learning outcomes (Martin & Rees, 2019) were coded at the same time. Thematic Content Analysis (TCA) involved

searching for common themes based on the model of analysis described by Braun and Clarke (2006). A theme or node hierarchy was created by aggregating and merging to align with higher level nodes.

To address potential limitations of researcher's bias, various quality assurance activities have been deployed across the project to ensure the credibility and dependability of the thematic analysis. This process included an independent coder who provided an objective view of the data and minimized any potential for coding bias by anyone closely associated with the program. Use of NVivo 11, computerized assisted qualitative data analysis software (CAQDAS) also permitted the orderly creation of nodes that could then be grouped, merged and sub-grouped into themes as the project progressed.

RESULTS

Breadth and Depth

Overall there were 1186 separate tasks coded across all 271 participants from 2007 to 2016 (Figure 2). The most frequent main theme (task) overall related to 'organizing events' (71%; $n = 841/1186$) followed by 'Business Activities' (21%; $n = 252$), 'Coaching' (6%; $n = 74$) and 'team organization' (1.6%; $n = 19$). A number of sub-tasks, both curricular and non-curricular in nature, were generated for two of the themes 'event organizing' and 'business activities'. No such hierarchy emerged for either 'coaching' or 'team organization' (Figure 3). Example quotes are provided below using the following student coding (Student x/N year), describing new skills and a practical understanding of what is required to succeed in the sport management industry.

This experience has given me a valuable opportunity to test my capabilities working in a sport industry setting. I have been involved in many different aspects of sport management where I have gained and also found new skills. Time management has been a critical factor for staying on top of things; balancing work and personal life is so challenging (S3/43 12).

My experience has allowed me to get a practical understanding of what is required to be successful in sport management. The practicum allowed me to experience strategic planning, marketing, human resource management, and event management in a hard working environment (S15/43 12).

Student feedback is characterized by a depth of understanding of systems and disciplinary knowledge in at least one area (e.g., event management). "I have learnt a lot about organizing an event and the need to pay attention to every detail when planning for an event" (S16/26 10). Developing an understanding of the scope and scale of events was also pointed out by student S15/40 14. "I was able to gain a better understanding with what was involved in putting together a sports event, particularly of this size, as there was a lot more to it than I first thought." The range of activity involved in managing events was also noted by another student: "Setting up peripheral elements of an event were crucial to the event operating successfully. Many tasks involved ensuring operational and quality service aspects of events were met" (S25/30 11).

Students have also reflected on developing a breadth of competencies and boundary spanning capabilities (e.g., across various business activities) through their WIL experience. A typical student comment was "I have improved my understanding in areas such as promotion, marketing, publicity and sponsorship" (S3/12 07), and another student said:

My role was one that challenged me throughout. I have taken a great deal from my experiences; learning in, through and about a diverse range of managerial, promotional and leadership activities. The aforementioned includes human resource management, event management, risk management, contract management, and design projects (S6/43 12).

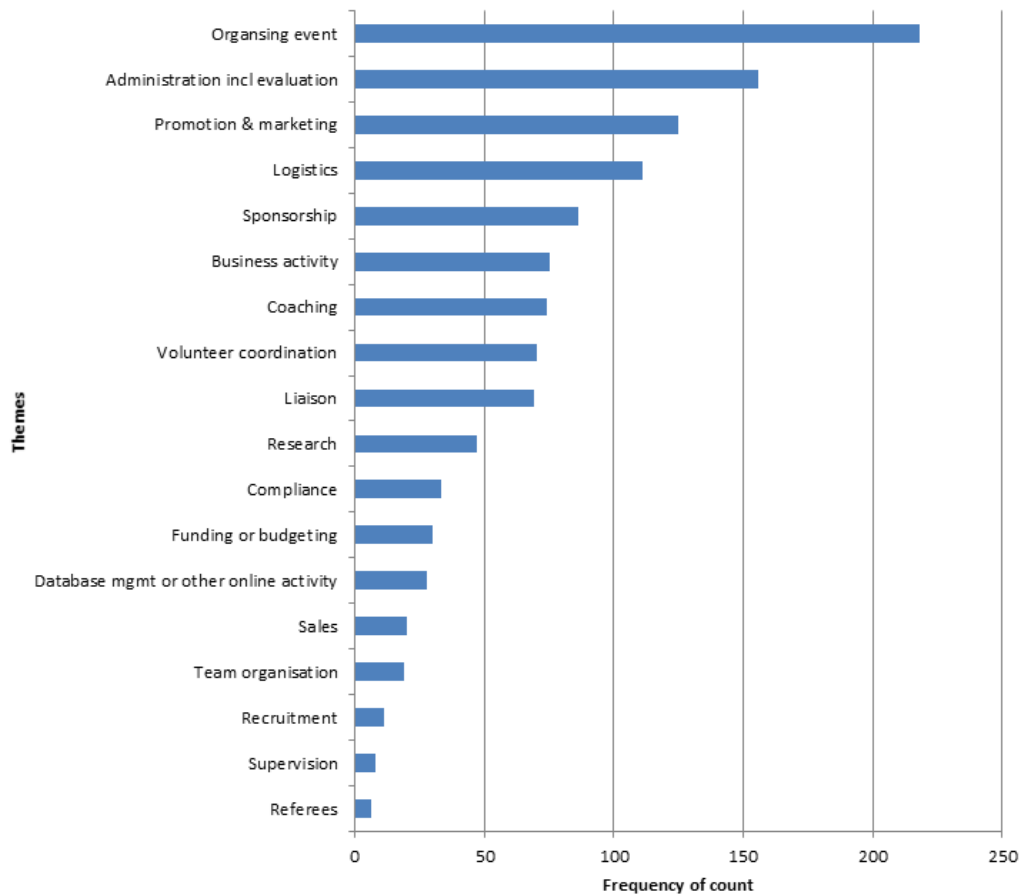


FIGURE 2: Frequency count of main themes (tasks) reported by WIL students.

Students highlighted learning from multiple sub-tasks undertaken with different stakeholders, the range of responsibilities, and variety of skills, that have the potential to transfer to other disciplines and roles.

What I observed and experienced taught me a lot about how to be proactive and active everyday: By doing simple exercises that dramatically cater and foster enjoyment, tasks completed, staff satisfaction, good and strong relationship and friendship between staff members and their managers (S7/27 09).

I have also learnt a lot about what it takes to start a project from scratch, such as how best to engage local organizations, including sporting groups; create a public presentation to share ideas, and how design concepts and funding options can affect the feasibility of a project (S23/29 13).

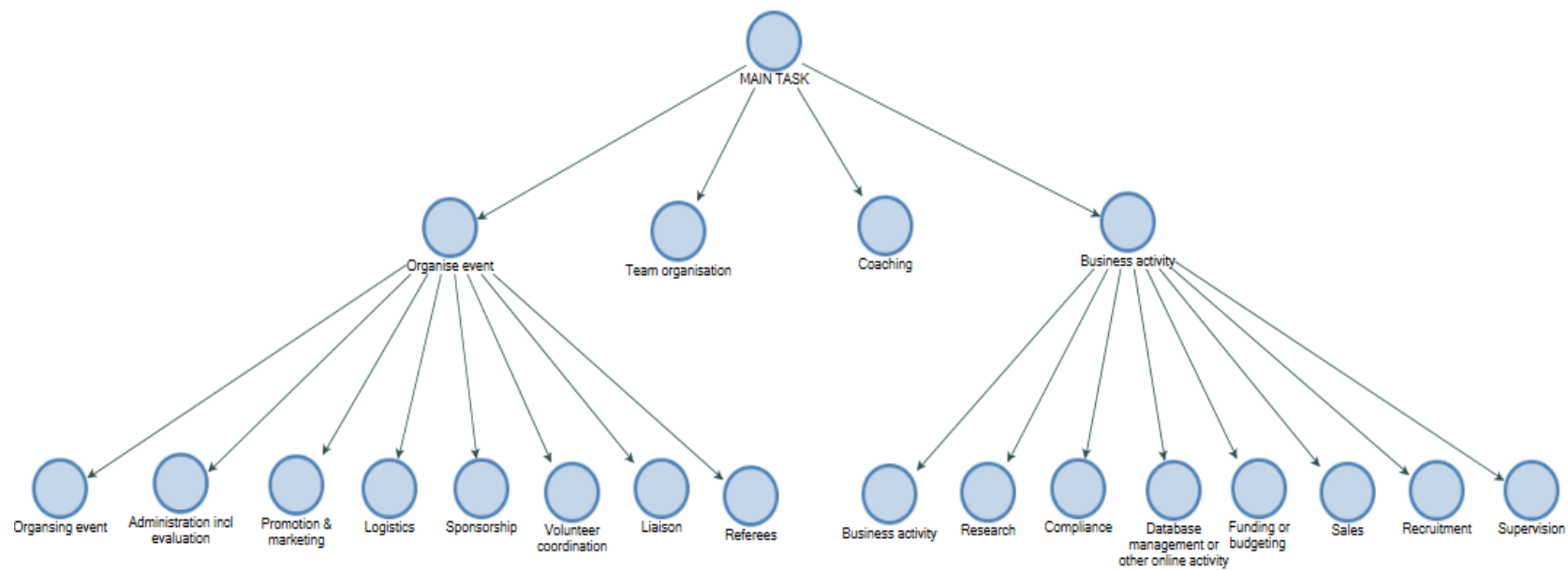


FIGURE 3: Thematic coding structure of students' main tasks in WIL

The breadth of tasks reflects the complex and diverse nature of activities; from the management of grass-roots activities such as coaching a team through to complex business activities such as database management (which isn't taught in the degree), to organizing the various compliance activities e.g., risk management, health and safety and traffic management, through to volunteers, sponsorship and financial organization. Some students even described highly specialized tasks of supervising others or recruiting staff. This combination of tasks allowed students to follow projects through a number of different phases.

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An interesting feature of the event organization theme was the number of instances where students were required to undertake compliance activities as part of their placements, which included risk management, health and safety planning, traffic management, event rule management, convening judicial activities and security operations. A few also described being involved with important community-based activities such as securing sponsorship and managing volunteers. It may be argued that placement students get some tasks that fulltime staff find tiresome, awkward or lack knowledge or expertise. For example, database management or other online activities, such as social media or web design. However, these challenging tasks do allow students to develop additional skills, push their comfort zones, and provide learning from both curricular and non-curricular activities. This range of challenges is noted by the following student:

The skills that one acquires from taking part in the practicum paper are priceless. It equips you with the skills necessary to step outside of your comfort zone and to step up and rise to any challenges that come your way (14/43 12).

The Reflective Practitioner and Development of Self

Student feedback also highlighted that the reflective WIL process encouraged critical, analytical and systems thinking. Student S10/17 16 commented that "Throughout my practicum experience many difficulties arose. I was able to find a way to get around these difficulties by problem solving and communicating". Another student reflected on the challenges of the practicum, but that perseverance has helped them long term.

If I am being truly honest, the practicum on a personal level has been a struggle and very rarely enjoyable. Despite working in a sport I love, motivation has been hard to find throughout. However, I have strived to take all I can from the experience and sticking with it has provided me with the tools I will need in whatever career I choose to follow after this. (S16/29 13)

Being able to reflect on the value of applying theory to practice through the WIL process and the transfer of personal and professional learning is reinforced by the following students' insights. "I learnt how to apply the knowledge in theory about sport management into practice first hand. It has been a very enriching journey where I have learned to work on my strengths and improve on my weaknesses" (S6/17 08).

I learnt that throughout my time at university I have gained the theoretical knowledge required for a career in event management within the sports industry. I also believe I have the capabilities

to manage other types of events. I have also learnt that I am able to transfer this theoretical knowledge into practical work and event management planning (S13/27 09).

Aspects of self-development were highlighted as the most common outcome of this current study, as noted by student S20/43 12). "This experience has taught me about resilience, perseverance, and hard work, which could be the cornerstone of a successful manager." The following typical comments illustrate the focus on self-development throughout the WIL experience, which is a catalyst for both personal and professional change. "I found this [WIL] experience extremely beneficial to my development as an overall person. I have been able to progress in key areas such as communication, leadership, planning and organization (S19/31 15)."

I have learnt a great deal about myself this year, not all of it has been positive, but the confidence I have gained in my public speaking, planning and time management have been invaluable and will put me in good stead for my move into the workforce and has definitely aided me in my development (S16/29 13).

DISCUSSION

The findings, derived from a Thematic Content Analysis (TCA) (Braun & Clarke, 2006) of student perceptions of their main tasks and overall learning experiences, support the notion that the key aspects of the T-shaped professional model can be cultivated through WIL experiences. The breadth and depth of task or sub-task generated from the analysis resonated with the horizontal rows and vertical columns of the T-shaped professional model (Figure 1; Gardner, 2017).

Development as an effective 'reflective practitioner' (Schön, 1987; 1991) is through a cyclical experiential learning process (Kolb, 1984) involving 'reflection on doing' (Felicia, 2011). The current findings note that the reflective WIL process encourages applying theory to practice (Martin, Rees, Edwards & Paku, 2012) and critical, analytical and systems thinking (Gardner, 2017).

The development of self-efficacy has been highlighted as an important outcome in the process of work-integrated learning (Freudenberg, Cameron & Brimble, 2011; Reddan, 2015; Subramaniam & Freudenberg, 2007). In a broader sense, Bandura (1988) defined self-efficacy as belief in one's ability to succeed in specific situations or accomplish a task, which can play a major role on how one approaches goals, tasks, and challenges. Self-concept is enhanced through multi-dimensional beliefs about one-self (Hattie, 1992), and in the WIL context is linked to developing self-esteem and self-confidence (Coll et al., 2009; Fletcher, 1990).

While the central focus of the T-shaped professional model is 'me' (Gardner, 2017), the current finding suggests that in the WIL context it is the development of aspects of self (self-efficacy and self-concept) that are most evident, as noted by Martin and Rees (2018, 2019). To this effect, we argue that the central focus on ME in the T-shaped professional model should be replaced by SELF, reflecting the development of self-constructs related to aspects of self-confidence, self-concept, self-esteem, and self-efficacy throughout the WIL process. The horizontal bar of the model can also be revised based on Martin and Rees' (2018, 2019) empirical findings related to graduate attributes from WIL: Self-management, effective communication, community of practice – including global understanding/networks/organizational perspective), leadership responsibilities including teamwork/project management), and critical thinking (Figure 4).

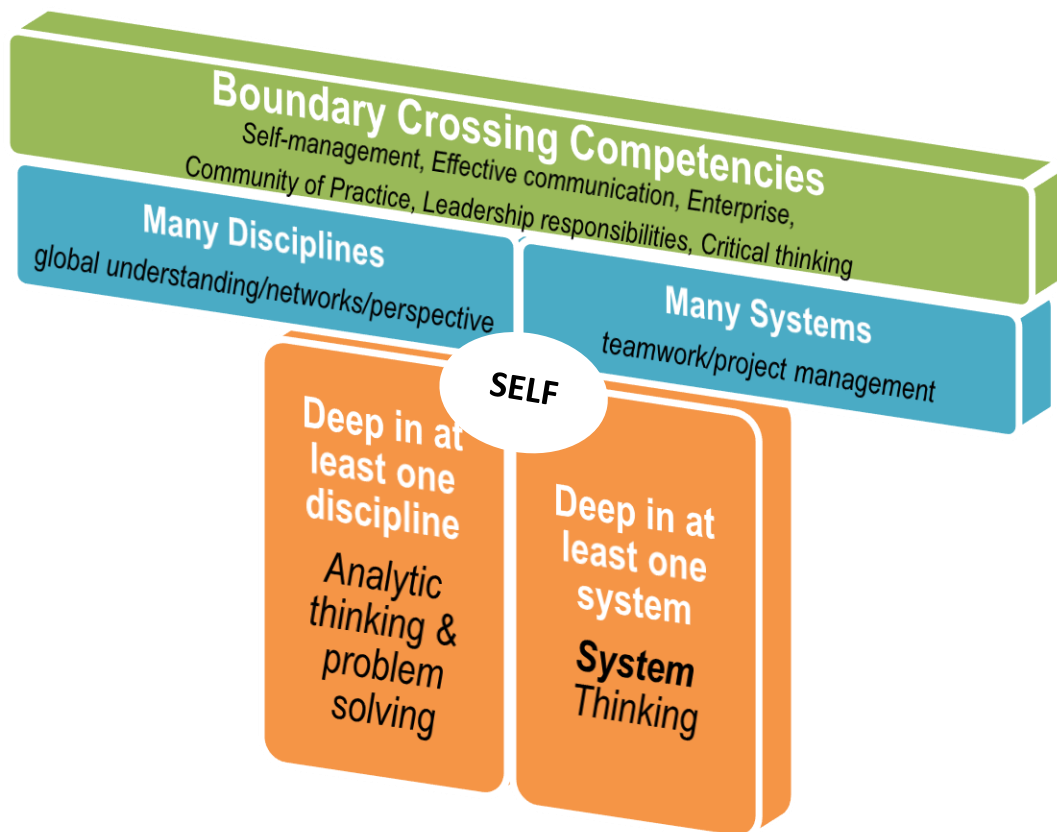


FIGURE 4: The T-shaped professional model focused on self

CONCLUSIONS AND IMPLICATIONS

The findings indicate a breadth and depth of WIL activity, which provides empirical support for the development of T-shaped professionals who are cultivated through WIL experiences. These students are characterized by their deep disciplinary knowledge in at least one area (e.g., event management), and understanding of systems, and their ability to function as adaptive innovators and cross the boundaries between disciplines (e.g., various business activities). The findings also note that students' development as reflective practitioners requires analytical, systems and critical thinking skills to solve problems. However, while these skills are important, the broader notions of career preparedness involving enhancing self-efficacy and self-concept should also be acknowledged.

The findings suggest that the T-shaped metaphor provides a useful teaching tool to highlight the importance of a WIL process that helps facilitates reflective work-based experiences to enhance self-efficacy, self-concept and future employability. Students should be encouraged to reflect on their development of boundary spanning competencies and depth of understanding of workplace systems. This development as a reflective practitioner is an important aspect of the professional practice placement, along with the development of aspects of self (self-efficacy and self-concept). The findings of this study could also be transferred and applied to other fields and disciplines. Further applications of the T-shaped professional model is noted as an area for potential future research, along with examining changes in learning outcomes over time, as a result of workplace developments. It is hoped that tertiary providers may be encouraged to consider WIL as an option for enhancing student learning.

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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.

The Journal is financially supported by the New Zealand Association of Cooperative Education (NZACE), www.nzace.ac.nz.

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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.

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