Ashley Stirling, PhD & T. Judene Pretti, PhD (Eds.)

The Practice of Co-op and Work-Integrated Learning in the Canadian Context

CEWIL CANADA
Co-operative education and work-integrated learning

wace
advancing cooperative & work-integrated education

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Edited by

Ashley E. Stirling Ph.D.

&

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Canada has rich, diverse, and quality Work-Integrated Learning programs. CEWIL, Co-operative Education and Work-Integrated Learning, Canada is proud to support this publication that shares examples of Canadian research and practice. CEWIL has a long-standing history of championing quality WIL with dedicated membership involved in research activities and grants, Co-op Accreditation and a WIL Quality Council. As WIL continues to be a popular curricular experience that engages academic institutions, organizations, and students, we are confident that this eBook will contribute towards inspiring learning, quality, creativity, and advancements in WIL.

Matthew Rempel, MBA, EdD
President, Co-operative Education and Work-Integrated Learning (CEWIL) Canada

WACE, the World Association for Co-operative and Work-Integrated Education, is the only international organization whose purpose is to support the practice, research and outcomes of quality WIL. WACE is pleased to support the Canada WIL eBook as its membership, many of whom come from Canada, is comprised of academic institutions, national associations, industry partners and individuals all with a shared interest in WIL. WACE members will find the contents of the Canada eBook relevant and of interest as it adds to the body of knowledge for WIL practitioners and researchers.

Norah McRae, PhD
Vice-Chair, Strategic Operations, World Association for Co-operative and Work-Integrated Education (WACE)

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Editors

Ashley E. Stirling, Ph.D., is an Associate Professor, Teaching Stream in the Faculty of Kinesiology & Physical Education at the University of Toronto. Her research expertise and leadership in the area of experiential education and Work-Integrated Learning has been recognized through research funding from the Higher Education Quality Council of Ontario, numerous peer-reviewed publications, invited keynote presentations at institutions across Canada and internationally, and through several leadership appointments including senior editorial board member for the International Journal of Work-Integrated Learning (IJWIL), Chair of the Research Committee for Co-operative Education and Work-Integrated Learning Canada (CEWIL), and member of the World Association of Co-operative Education, International Research Committee (WACE-IRC). As a member of the University of Toronto's Taskforce on Experiential Learning she was the lead writer of the institution's whitepaper, *"Re-thinking higher education curricula: Increasing impact through experiential, work-integrated and community engaged learning"*. She is the primary author of the University of Toronto Experiential Learning Hub resources for faculty and staff, and has worked with faculty and staff across a range of disciplines and curricular/co-curricular domains and across university and college sectors to advance experiential and work-integrated learning opportunities of high academic quality.

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Mohna Baichoo, B.Sc., M.A., has been teaching tourism courses for nine years, specifically five years in teaching courses that include a WIL component in both public and private institutions in Canada and Mauritius. She acquired an international education and work experience in Switzerland, USA, UAE, Mauritius and Canada. Currently, Mohna is supporting WIL initiatives as the Regional WIL Hub Developer and is also an instructor in the School of Tourism, Faculty of Global and Community Studies at Capilano University.

Sue (Suniti) Bandaranaike, Ph.D., has been teaching and researching Work-Integrated Learning (WIL) at James Cook University, Australia over the past thirteen years. She has researched with other scholars from Australia, Canada, Thailand, South Africa, UK and Mexico, published several Papers, and won international awards in WIL. She is co-author of the Work Skill Development (WSD) Framework a multidisciplinary two-tier WIL model. Sue's leadership and contribution to Work-Integrated Learning was recognized in the Australian award 'Women in Queensland Science'.

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Prelude

As defined by Co-operative Education and Work-Integrated Learning (CEWIL) Canada, **work-integrated learning** is a form of curricular experiential education that formally integrates a student's academic studies with quality experiences within a workplace or practice setting. While the term work-integrated learning (WIL) itself is relatively new, the practice has long existed, and in recent years, there has been heightened attention to advancement of WIL opportunities across Canadian higher education institutions. Over the past few years, there has been substantial interest and investment in WIL by many provincial governments as well as unprecedented federal funding invested in the Canadian WIL ecosystem. With this appreciation of the value of WIL and call for more opportunities for students, there is a need to further progress our understanding and the research in the field to continue to advance empirically informed quality WIL practice in the Canadian context.

These past two years in Canadian higher education have been like no other and it is important to acknowledge the tremendous work and innovation of the entire WIL community in transforming and redesigning high-quality WIL throughout the COVID-19 pandemic. In addition to the tremendous resilience and adaptability demonstrated by educators, students and employers/supervisors alike, there has also been an exceptional amount of focused attention directed to discussions on the design and delivery of WIL practice. This includes conversations on what is the purpose and value of WIL. What outcomes are gleaned through WIL experiences? How is quality WIL practice achieved? And, what are the diverse ways in which WIL may be designed and delivered across disciplines and institutions? With this, there have also been challenges, questions, and new considerations. In this period of transformation, it is critical that we are making empirically informed decisions and develop a knowledge base to inform both current and future pedagogical advancements in our field.

This book brings together a collection of research on the practice of co-operative education and work-integrated learning in the Canadian context. The intent of the book is to highlight the body of research that is building in the field of WIL in Canada, to inspire researchers and practitioners in the field to apply research to their WIL practice, as well as to invite the WIL community at large to ask more questions and further propel WIL research across Canada.

So, what is the value of WIL research? Research can be useful to explore, explain and describe current practice. It can be action-oriented, innovative and can inspire change, progress, and growth of the field. Arguably, one of the greatest values of research is the research process itself and the questions generated. Quality research is critical, reflexive, leads to more questions and different ways of thinking, and ideally encourages us to test new ideas, try new things and collaborate to ask questions about our work that have not been asked before. Notably, this is a direct parallel with some of the recognized elements for effective learning and development though WIL.

In this book you are going to read about some of the terrific research that is occurring across the country. Part 1 begins with an overview of the ascension of WIL in Canada and how WIL can be delineated and understood by applying a focus on purpose and distinct outcomes. Part 2 reports some of the valuable outcomes of WIL including impact on professional development, learning, employability, as well as potential barriers to achievement of these outcomes and engagement in WIL opportunities. Part 3 highlights research on specific WIL types, with a particular focus on community engaged learning and remote WIL. Finally, Part 4 includes research on WIL across diverse disciplines of study, such as the mining

industry, medical education, public health, as well as underrepresented disciplinary areas and the college sector.

A huge thanks to the authors who have shared their research. We hope the research chapters spark new ideas for you, encourage you to try new things and importantly that through reading this book, you develop questions that you hadn't considered beforehand that you may personally address in your own research.

Ashley Stirling and T. Judene Pretti

PART 1
Purpose and Value

1 Ascension of work-integrated learning in Canada: Influence on post-secondary education and governmental priorities

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ABSTRACT

Canada's continuing skills development debate suggests that higher education fails to provide students and graduates with sufficient skills for existing and future work settings. Higher education is a substantial commitment of time and financial resources for Canadian students, resulting in expectations of positive employment outcomes on their investment. Canada's post-secondary institutions, federal and provincial governments have been responding to meet these needs by investing in and implementing strategies to connect academics to the workplace through work-integrated learning (WIL). This paper will examine the ascension of WIL and its influence on educational and governmental policies. It will explore WIL's effectiveness and challenges as a promising preparatory pedagogical practice for students to facilitate their transition to the workplace and realize favorable labor market outcomes after graduation. This paper will also review suggested pedagogic interventions before a student engages in a workplace environment, including recommended approaches to improve students' work experience programs.

Keywords: *work-integrated learning, integrative pedagogics, co-operative education, connective work experience*

INTRODUCTION

The debate surrounding post-secondary education and its role and responsibility in skills development for the workplace continue to persist. Post-secondary education is a substantial commitment of time and financial resources for students. Provided this level of commitment, students expect a return of fruitful employment outcomes on their investment in pursuing higher education. The Canadian University Survey Consortium's 2019 First Year Students Survey Master Report (CUSC, 2019) of 18,092 first-year Canadian university students revealed that the top three reasons students chose to enroll in post-secondary education were career-related. Workplaces are dynamic and evolving more rapidly than changes in curriculum and pedagogy in education. As a result, post-secondary institutions and Canada's federal and provincial governments have been responding to meet these needs by investing in and implementing strategies to connect academics to the workplace through work-integrated learning (WIL) activities such as co-operative education programs. This paper will examine the ascension of WIL and its influence on educational and governmental policies. It will explore the effectiveness and challenges of WIL as a preparatory mechanism for students to facilitate their transition to the workplace and realize positive labor market outcomes after graduation. Lastly, the paper will provide recommendations based on Billett's and Choy's (2012) pedagogic principles before a student engages in a workplace environment and the *connective work experience model* (Guile & Griffiths, 2001) by adopting the *integrative pedagogics* (Tynjälä, 2005, 2007) approach to improve work experience programs for students.

WIL SHAPING EDUCATIONAL AND GOVERNMENTAL POLICIES

The enduring skills development debate suggests that post-secondary education fails to provide students and graduates with sufficient skills for existing and future work settings. According to the Canadian University Survey Consortium's (CUSC) 2019 survey (CUSC, 2019) of 18,092 first-year Canadian university students, the top three reasons students cited as motivation for attending university are career-related: "more likely to get a job with a degree (90%), get a more fulfilling job (89%), and to prepare for a specific job (88%)" (p. 9). Employers are also invested in the work-readiness of post-secondary graduates.

One of Canada's largest financial institutions and a substantial Canadian employer, the Royal Bank of Canada (RBC), produced a report warning that Canada is facing a skills crisis in the emerging skills economy (RBC, 2018). RBC contended that this crisis affects Canadian youth unprepared for the required skills and competencies to satisfy Canada's projected 2.4 million new jobs (RBC, 2018). The report argued that Canada's post-secondary institutions are ineffectually preparing their graduates for these new jobs, as they are "degree factories, where instructors focus on content knowledge, rather than skills development" (RBC, 2018, p. 34). Tynjälä (2008) contributed to this sentiment by asserting, "Recent research on the outcomes of education, particularly at the tertiary level, has shown that there is a gap between the knowledge needed at work and the knowledge and skills produced through formal education" (p. 131).

The attention on post-secondary students' and graduates' skills development has made WIL a priority for most institutions. The Canadian government and post-secondary institutions increasingly examine strategies to assist post-secondary students in exploring and ascertaining their role in the labor market. The Co-operative Education and Work-Integrated Learning Canada (CEWIL Canada) defines WIL as:

> a model and process of curricular experiential education which formally and intentionally integrates a student's academic studies within a workplace or practice setting...WIL can occur at the course or program level and includes the development of learning outcomes related to employability, personal agency and life-long learning. (CEWIL Canada, n.d. para.1)

Grant (2016) argues that post-secondary institutions are unable to simulate appropriate workplace settings; thus, partnerships with employers to create WIL opportunities are essential to preparing students for the workforce. Since 2015, to ameliorate the skills gap, the Canadian federal government has committed over $1.1 billion toward WIL initiatives (Government of Canada, 2019). The provincial government of British Columbia has similarly followed this approach with a $9 million investment in WIL (Government of British Columbia, 2019). According to CEWIL Canada (2021), approximately 75,000 students enrolled in co-operative education, which is a form of WIL at over fifty post-secondary institutions.

The financial investments from both the federal and provincial governments for WIL initiatives have made it popular amongst all Canadian post-secondary institutions (Wyonch, 2019). Post-secondary institutions have also embraced WIL to align with policymakers' objectives and remain competitive as most students, as cited in the CUSC survey (CUSC, 2019), are pursuing a university education for positive career outcomes. With its significant investment in bridging the gap from education to the workplace, the federal government's goal is to provide every willing young Canadian with a WIL opportunity in the next ten years (CEWIL, 2019). The federal government's initiative is noteworthy, as many Canadian post-secondary institutions have adopted the WIL model of co-operative education, which has increasingly become inaccessible to students. Grosjean (2004) defined co-operative education as a model that "combines academic and experiential learning by rotating students between classroom and workplace contexts" (p. 206). Co-operative education was initially created to serve the most disadvantaged students (Grosjean, 2004). It has now evolved into an exclusive program capable of producing inequalities through its restrictive recruitment and selection practices advancing those with high grade point averages and can afford associated program fees (Grosjean, 2004). Therefore, post-secondary institutions will have to be mindful of their WIL programs' availability to all students and eliminate policies of stringent criteria dichotomizing the deserving and the undeserving.

BENEFITS FOR STUDENTS PARTICIPATING IN WIL

Students gain most from access to and participation in various communities of practice inside and outside of the classroom (Fuller & Unwin, 2006). Rooted in learning theory, Lave and Wenger articulated the concept of communities of practice through their ethnographic research in apprenticeships. The social construction of knowledge and learning in authentic contexts is central to the tenet of communities of practice (Wenger, 1998). Communities of practice are comprised of a group of individuals with a common purpose or profession engaged in collective practices contributing to shared artifacts that facilitate learning (Wenger, 1998). Co-operative education is an attractive option for students to engage and learn as a prospective community of practice. Students have opportunities to apply theoretical concepts learned in the classroom during work terms and become acquainted with the particular industry's professionalization process (Grosjean, 2004).

WIL opportunities such as co-operative education provide students with an advantage over other non-participating students (Wyonch, 2019). Specifically, co-operative education participants leave post-secondary education with an established professional network and skills specific to their practice they can leverage their employability (Grosjean, 2004). The author discovered that students felt that their learnings in the workplace bolstered their classroom learning. Combining these benefits emergent from authentic work environments provides students with the advantages of building a professional identity, network, and skills that narrow the gap from their academics to the labor market. However, the resultant utility from participation in co-operative education varies between colleges, universities, and the discipline of study (Wyonch, 2019). Thus, it is vital to assess each program's needs independent of other successful co-operative education programs (Wyonch, 2019).

Determining the needs and suitable approaches to an appropriate WIL structure would require closer collaboration between industry experts and education providers. Despite the inconsistent results contingent on the post-secondary institution attended and discipline studied, Wyonch's (2019) research highlighted the general benefits of co-op education participants by elucidating, "co-op programs have significant benefits for participants in the form of easing transition to the labor market and higher incomes after graduation and that they may play a role in overcoming wage gaps associated with bias toward individual characteristics" (p. 82). Therefore, co-operative education may also mitigate the wage gap experienced by those most vulnerable to discrimination, such as women, Indigenous, Black and People of Color. Grosjean's (2004) and Wyonch's (2019) findings demonstrate advantages for students who participated in co-operative education compared to those who did not participate. However, not all WIL or co-op education opportunities are created equally to maximize learning intentions and positive outcomes.

CHALLENGES OF WORKPLACE SETTINGS AS LEARNING ENVIRONMENTS

Situating students in a workplace setting with practitioners or industry professionals does not guarantee them a learning experience. Evans et al. (2006) argue that "to have novice and expert regularly working together in an authentic context does not automatically produce a learning process" (p. 18). Additional effort and intention are required to transform the work experience into a meaningful learning experience for students. CEWIL's Co-Operative Education Manual (2000) intends to guide educational institutions in creating and implementing co-operative education programs. However, the manual does not provide detailed guidance on best practices governing work placements or settings mutually valuable to the student and employer. Although it does recommend communication between students, employers, and the education provider, it seems to assign additional responsibility to the employer and student. For instance, Evans et al. (2006) argue that learning happens when students are supported in their

participation in the community of practice as new members with the legitimacy to express ideas and opinions. Given the power differential between employees and employers in the workplace (Evans et al., 2006), placing the expectation on students to communicate and negotiate their learning objectives with the employer may be unreasonable.

Opportunities to learn and develop in a workplace are constrained by the interests and control certain members exert to limit affordances to other members (Billett, 2004). Furthermore, the learning objectives for WIL activities may vary between the student, educational institution and employer (Tynjälä, 2008). As a result of these potential realities, students engaged in WIL placements may be seen as disruptive, insignificant, and dispensable, given their perceived lower status as a transitory student worker or exploited as inexpensive labor. The student's agency in the activities they choose to engage and participate in will also determine the extent of their learning (Billett, 2004). Therefore, the interplay between personal motivators to participate, and the affordances within the work setting that constrain or encourage participation in work practices, play a significant role in what the student endeavors to, or can, learn. Constraints that relegate students to an inferior status or exclude them from participation in certain practices can negatively affect their motivation to engage in instrumental learning opportunities. The following section outlines recommendations to mitigate the challenges mentioned above and ensure work-based experiences that optimize students' learning.

RECOMMENDATIONS TO IMPROVE WORKPLACE SETTINGS TO ENHANCE LEARNING

Billett and Choy (2012) and Tynjälä (2008) stress the importance of close and frequent collaboration with the student, employer, and education provider to develop and ensure the student's work term's learning goals are met. Support for the student not only entails securing the work placement but also requires extensive pedagogic intervention before their work term (Billett & Choy, 2012). The authors outline five pedagogic practices to prepare students before commencing their work experience appropriately. The practices involve making learning goals explicit to students and teaching students' foundational skills they can readily apply in the work setting. Furthermore, students should understand the boundaries of their role and have the ability to decline inappropriate practices effectively. As workplace learning is considerably self-directed, students should be able to identify and engage in activities that contribute to their learning. Lastly, Billett and Choy (2012) recommend that educators aptly equip students to navigate negative workplace situations. WIL educators can integrate these five pedagogic practices into a preparatory course to ensure students are in the best position to commence their work term.

Guile and Griffiths (2001) developed models to analyze different work experience types: *traditional,* learning is the responsibility of the student and assumed to be automatic; *experiential*, emphasis on "student's interpersonal and social development" (p. 121); *generic*, focus on achieving learning outcomes; and *work process,* developing a student's ability to adjust to changing work contexts through participation in various communities of practice. Tynjälä (2008) argued that most work-based programs comprise some elements of each of the previously mentioned work experience models. Guile and Griffiths (2001) also acknowledged the weaknesses that are inherent within these four models and presented a fifth work experience model they contended as preferred: the *connective model*. The connective model is predicated on the reflexive theory of learning. Guile and Griffiths (2001) elucidated the purpose is to develop students' ability to assess their experiences, make connections between them, and apply their derived conceptualizations and learnings to various contexts. They described their connective model as follows:

> …a new curriculum framework that can take work in all its forms as the basis for the development of knowledge (historical, scientific), skills (intellectual, technical, practical and communicative) and

identity (in particular, the development of the ability to act as a 'boundary crosser'). (p. 128)

The connective model emphasizes the intention of a student's learning in different communities of practice situated in the classroom and workplace by relying on their formal and informal learning. This process facilitates the acquisition of a cross-section of industry-specific and broader professional skills for students to navigate changing contexts successfully. For educational institutions to achieve the connective model of work experience, Tynjälä (2008) suggested adopting the *integrative pedagogics* approach (Tynjälä, 2005, 2007).

Research from Tynjälä (2008) demonstrated that work experience is an effective mechanism to help students develop professional skills and identity. However, certain conditions are required to ensure the experience produces the anticipated learning results for the student. The integrative pedagogics approach posits that participating in a work setting is insufficient and must include circumstances that facilitate the integration of theory, practice and self-regulative knowledge (Tynjälä, 2008). Ideally, students should be able to apply their theoretical knowledge acquired through an education setting to their work experience. They should also be given opportunities to develop self-regulative knowledge through reflective practices building self-awareness and constructing knowledge about how their learning inside and outside of the classroom is manifested (Tynjälä, 2008). Nurturing their self-regulative knowledge can be achieved through what Tynjälä (2008) referred to as mediating tools such as writing, discussions, self-assessments and coaching. Billett and Choy (2012) also expressed the importance of creating opportunities for students to critically reflect on their work experience to understand the connection between learning in the classroom and the workplace.

Post-secondary institutions should intentionally and holistically develop WIL models to integrate work-based experiences to academic courses within the curriculum before and after the experience (Tynjälä, 2008). The latter is necessary to demonstrate relevance by supporting students in constructing linkages of their participation between various communities of practice. For example, according to Grosjean's (2004) research, some students conveyed their disappointment toward the inability to incorporate the learning from their work term back into the classroom. Therefore, Tynjälä (2008) emphasized the need for educational institutions to plan the workplace curriculum with the employer and maintain regular communication to ensure the student's learning objectives are understood and continually satisfied. It is also imperative that students be assigned a coach from the educational institution and the workplace to provide regular guidance and feedback to maximize the learning opportunity (Tynjälä, 2008).

CONCLUSION

Career and vocational preparation and skills development are no longer isolated to Vocational Education and Training providers. All post-secondary institutions in Canada are responding to the demands of students and the government to provide students with an education that also sufficiently prepares them for the existing and future workplace. Therefore, WIL has become additionally prominent as a strategy to integrate learning within the classroom that is legitimately relevant to the workplace. Despite there being specific differential advantages based on the type of post-secondary institution attended and discipline studied (Wyonch, 2019), research by both Grosjean (2004) and Wyonch (2019) demonstrated the positive general benefits of WIL activities such as co-operative education. These benefits include influencing a student's development of their professional identity, skills, network, and the positive labor market outcomes achieved due to their participation in co-operative education programs. Challenges related to accessibility, power structures, conflicting learning goals, interests, and ensuring students receive quality learning experiences, necessitate interventions from the educational provider.

This paper suggested adopting Billett's and Choy's (2012) five pedagogic interventions before a student embarks on their work experience to be effective in their learning. This paper demonstrated that developing a *connective work experience model* (Guile & Griffiths, 2001) through *integrative pedagogics* (Tynjälä, 2008) is the ideal approach to facilitating linkages between a student's classroom and workplace learning to ensure it is explicit, intentional, and meaningful. This approach's success depends on the planning, effort, dialogue, agreement, continual collaboration, and frequent communication between the educational institution and the employer.

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2 Bringing experience-based education together at our institutions: A focus on distinct outcomes, shared attributes and a coherent narrative

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ABSTRACT

Institutions seek to meet demands for more work-integrated learning (WIL) and experience-based education (EE) options yet face confusion regarding "what" and "how much" they already offer. Offerings are de-centralized and not reported as discrete models. CEWIL provides some guidelines on WIL, however, many institutions need to determine what is 'in *their* collective EE tent.' The challenge of defining and determining how best to promote, support, monitor and report on this is daunting and sometimes divisive (Johnston & Sator, 2017). Building on existing quality frameworks, this chapter proposes a Purpose and Outcomes Driven approach (POD) that enables institutions to develop coherent narratives and shared understandings regarding their offerings in meaningful ways. The POD framework focuses on shared quality attributes and unique outcomes across model types, helping link each model's purpose to student, institutional, and other stakeholders' outcomes and providing the ability to report on outcomes by their shared purpose.

Keywords*: experience-based education; work-integrated learning; purpose and outcomes*

INTRODUCTION

Many institutions around the world offer opportunities for students to learn from direct, hands-on experiences, often off-campus and beyond the classroom. For example, most professional programs include internships, articling, practica, preceptorships and so on as part of the academic requirements for graduation. Study abroad programs such as field schools and study tours have grown exponentially as options within a degree or diploma experience. Service learning and other community-based programming is commonly embedded in many course curricula. Learning-living communities in residence halls take on many community-based projects over the course of a year as part of a co- curricular program, and many forms of work-integrated learning (co-operative education, apprenticeships, work experiences, etc.) are proliferating in the post-secondary milieu.

Experience-based education (EE) programs may vary in terms of their lengths, the degree of immersion in the host learning environment, their primary purpose(s) of the program, the learning outcomes that are sought, and the degree to which the institution is involved in design, integration, and assessment. The nexus of all EE is the belief that direct, immersive, and guided experiences (Itin, 1999) can provide powerful learning opportunities. Done well, many of these experiences are reported to be transformative in that participants' assumptions and beliefs are often disrupted during the acquisition of new knowledge and understandings. Through exploration and critical reflection on those "disruptive moments," significant changes can result in the learner's perspectives and subsequent behaviors (Mezirow, 1991).

CHALLENGES IN DEFINING WIL

As institutions (colleges, universities and technical institutes) struggle to meet the growing demands for experience-based options, there is confusion at many institutions regarding "what" and "how much" experience they are already offering. In most cases, experience-based offerings are decentralized in both

their development and delivery (Johnston & Sator, 2017), and with a few exceptions, are not reported on as discrete models of education. Some models such as co-operative education, apprenticeships, professional program practica and service learning may be more organized and more coordinated than others, but there are few institutions that centrally manage *all* forms of experience-based offerings. There is a significant amount of EE that is delivered much more informally, often under the direction of a very engaged instructor or professor who believes in the value of these experiences, yet often do not have access to support systems or resources that would assist them with experiential learning and teaching.

Challenges arise in understanding EE in higher education institutions because many "have used different terminology, expectations, learning outcomes and assessment requirements" (Hay, 2020, p. 51) to describe their experience-based offerings. It is easy to get caught up in debates on definitions and taxonomies (Sattler, 2011), which adds to the difficulty of the task, especially in politically charged environments where there may be a fear of the institution supporting one experiential model over another in its efforts to enhance productivity. This leaves institutions facing not only the challenge of defining their EE, but also how to report exactly what (and how much) they are doing in this area, much less be able to provide evidence regarding the quality and effectiveness of these offerings (Johnston & Sator, 2017).

The issues that surface with the slippery slope of differing terminology in the field of experience-based education is firstly, how institutions choose to define it (e.g., experiential education versus experiential learning, curricular vs co-curricular, etc.). Each institution may be guided by internal purposes that are shaped by philosophical and political orientations to meet institutional missions and visions, academic plans, and in some cases the definitions are also shaped by government mandates. Most often however there is no singular, institutional framework to assist administrators and course developers in their design, naming, and tracking of such programs. This is typically left at the course or program level, likely based upon their personal or professional experiences. The second challenge for institutions is how to assess the attributes of quality experience-based offerings. Lastly, institutions are also tasked with finding/developing a common language with which to discuss the various models of EE, their unique purposes and outcomes and how they contribute to the overall learning goals of the various programs within which they are offered.

At the global level, there is no one overarching and agreed upon theoretical framework to define EE. As such, common attributes of EE and the diverse models mean many different things to many different people. Historical and contemporary literature shows that definitions are often conflated (Johnston & Sator, 2017), which results in misunderstandings between stakeholders in institutions. Given the plethora of definitions, attributes and taxonomies of different models, the field of EE faces challenges. For example, it is difficult to understand process and outcomes of a program, conduct research, report on participation, and plan strategic growth of EE if everyone is defining things in different ways. Further, institutions may find it difficult to report on quality and participate in quality assurance processes, or report to external bodies regarding outcomes.

These definitional and model challenges extend into work-integrated education, a sub-category of EE. Work-integrated learning (WIL) is a term used to describe experiential education that connects a program of study to the workplace (Sattler et al., 2011). Related to WIL, Zegwaard and Rowe (2019) state that there has been valuable work completed by Smith et al. (2016) in investigating and determining quality aspects of WIL, but they point out more work is required. Various researchers have attempted to create typologies (see, e.g., Groenewald et al., 2011; Rowe et al., 2012) in order to better understand the boundaries between, and advantages/disadvantages of different approaches (e.g., placement, non-traditional/innovative WIL models). While the work of Billett (2015) and others has developed our understanding of how particular approaches can more effectively support diverse learning outcomes, students and situations, there remains considerable variation across the sector as to how WIL is conceptualized, and clearer delineations between

categories of WIL are needed (Sachs et al., 2017; Universities Australia, 2019). Hence, there is a need for significant work to be undertaken around determining, measuring, and achieving quality in WIL, including the methods of describing and grouping types of WIL activities (Zegwaard & Rowe, 2019, p. 325).

RESPONSES TO DEFINING WIL

One response to enhance the common understandings of EE, specifically in the field of WIL, was the British Columbia WIL Council's articulation of a comparative matrix to allow for comparing and contrasting of WIL in the BC context. Johnston et al. (2016) stated that "this work was a response to significant confusion in the field with respect to defining and describing the many and diverse models of WIL" (p. 337). The matrix was needed as attempts to categorize WIL programs (Patrick et al., 2009; Johnston et al., 2013) stopped short of providing meaningful ways of comparing various WIL programs. Often experiential programs were compared by how they differed, which also tended to greatly vary across contexts, and less so with respect to their shared attributes. The WIL Comparative Matrix offered a way to talk about various WIL types that all share specific attributes, allowing for a new way to discuss "developing and promoting (and supporting) appropriate offerings, conducting meaningful research, collecting data, developing quality standards, and assessing impact" (McRae & Johnston, 2016, p. 338). The comparative matrix attributes were informed by the CEWIL national accreditation criteria for Co- operative Education and allow for "conversations around work-integrated learning in ways that extend beyond definitions and shift the discussion towards comparing attributes of quality programs" (McRae & Johnston, 2016, p. 338).

The provincial matrix was extended into a global framework to be more inclusive of attributes and descriptions of diverse models outside of the Canadian context. An extension of the BC Matrix was The Global WIL Learning Framework, which was "derived from current theoretical models of experiential learning" (McRae & Johnston, 2016, p. 340) and offered a way to discuss the different terminology and models used for WIL around the world. To facilitate these conversations, the necessity of definitions is replaced in the Global Framework with attributes of high impact practices and programs (McRae & Johnston, 2016) within which people can situate their particular models. "In this way, programs may be compared, contrasted, further developed and assessed, resources shared, etc., by virtue of their relationship to shared key attributes and outcomes, regardless of what that model may be called" (McRae & Johnston, 2016, p. 343).

Using the field of WIL as a proxy, one way to circumnavigate the similar tension in EE and move forward in a productive way is rather than focus on the labels and definitions of experience-based models, move the needle towards being situated in theoretical underpinnings and good practice attributes, as evident in the WIL Global Learning Framework. However, a constraint of the WIL Global Learning Framework as noted by McRae and Johnston (2016) is that "it is limited in its ability to help resolve the issue of discriminating between and amongst the many WIL terms that are often conflated" (p. 347) and can limit advances in the field or promotion/development of models. Further, this framework does not explicitly state how the attributes are connected to intended outcomes of a particular model, which are driven by the primary purpose of the model. One way forward, and building on the WIL Global Learning Framework, is a purpose and outcomes driven framework, herein referred to as the POD Framework. This framework, described below, allows for the discussion to extend beyond the names of models and into what their primary purpose and outcomes are, and how they link to the academic goals of the programs they support. This should assist in the development of different shared understandings, without the need for agreed upon broad based definitions for the multitude of experience-based models that are available. In this way, the POD framework supports the rationale for making choices about different experience-based models, such as: which models are used for a particular purpose; what quality attributes are shared that link to the purpose and outcomes; and what general supports can be shared

across programs/models. Further, the framework can help educators operationalize the AAA Quality Framework (McRae et al., 2018), particularly with respect to how institutions and practitioners may understand the aims of their EE.

POD FRAMEWORK

This section proposes an attributes-based approach as a basis for a Purpose and Outcomes Driven (POD) framework to guide institutional discussions regarding the growth and development of EE (EE) that is situated in quality. The goal is to provide an approach that helps institutions engage in high impact practices, strive for quality and articulate clear purposeful outcomes with respect to each of their EE models. The POD framework (Figure 2.1) intends to help institutions better support their EE offerings in a coordinated and substantive way by taking advantage of the significant intersections at the core of the various models to understand quality by acknowledging and supporting the unique or custom features of each. Appendix 2A offers a worksheet and tool for thinking through the POD framework.

FIGURE 2.1: Purpose and Outcomes Driven (POD) design model for EE programs/offerings.

Custom Outcome Attributes (Specific to each EE model) **Core EE Attributes (Common to all Quality EE models)** **Purpose (Specific to the EE model)**

The **arrowhead** represents the **unique primary purpose** of the EE model being described. Depending on the program/offering, these could include:

- facilitating school to work transitions (e.g., internships, capstone projects)
- meeting professional/program requirements (e.g., entrance and or completion requirements for professional schools such as medicine, engineering, teaching)
- developing innovators and entrepreneurs (e.g., Incubator or entrepreneurship programs)
- providing service to community (e.g., service learning, community-based learning)
- fostering social innovation (e.g., Ashoka, Radius)
- ensuring work-readiness (e.g., co-operative education, job shadowing, apprenticeships)
- developing intercultural or global fluency (e.g., study abroad programs, field schools, community-based practicums)
- integrating theory and practice to enhance learning (e.g., field schools, field placements, co-operative education, guest lecturers and community projects brought to the classroom)
- enhancing access through financial aid/earnings (e.g., work study programs, co-operative education)
- clarifying and aligning career and academic goals (e.g., job shadow, mentorship).

The above provide examples of student centric purposes but others could be added from diverse stakeholders such as the institution (e.g., greater student satisfaction scores, greater retention, enhanced reputation); governments (e.g., faster transition to workforce, specific workforce gaps addressed) and industry (e.g., early talent ID, more work ready graduates).

The **shaft** of the POD arrow is the **quality** heart of the model, based upon high impact EE design and practices, drawn from the scholarship in the field. These high impact practices, such as those determined in the WIL Global Learning Framework (McRae & Johnston, 2016), represent the core attributes that would be shared by *all* institutional EE models. The POD EE Core, which also aligns to the quality indicators as presented in the WIL AAA framework (McRae et al., 2018), consists of the following key attributes:

- *Experience* should be direct, hands on, meaningful and substantial and as authentic as possible. Disruptive moments are embraced for their transformational potential.
- *Curriculum Integration* between the experience and the academy is a goal. Learning outcomes are articulated and aligned with assessment (self, institutional, and host organization), and connections are made between the experiential and course-based learning for and by the learner.
- *Student Outcomes* (skills, knowledge and understanding) are developed and new meaning results, values, and beliefs are challenged, and the learner is an active participant in the process.
- *Reflection* is embedded in all aspects of the process (in and on the experience), is critical versus descriptive and is supported and assessed.
- *Assessment* should focus on the students' personal learning outcomes, development, competencies, skills and knowledge, and capacity to contribute; includes formative and summative feedback, provides opportunities for critical reflection, and is re-integrated into the curriculum to support learning.

The feathers or fletching represent the custom attributes of each EE model that help ensure it is going in a particular direction, toward the specified outcomes of a given EE model (e.g., service learning versus co-operative education versus field school). In some cases, the feathers will be unique attributes of the model (e.g., full-time salaried work) and others will be content specific (e.g., curriculum on intercultural fluency or entrepreneurship or workplace preparation or community development).

These constitute the POD Custom attributes specific to a given model, which complement the POD Core attributes shared by all EE models.

Model specific attributes include:

- degree of experientiality (e.g., from real world problem integrated into class projects through to fully immersive, in situ experiences) (Gibbons & Hopkins, 1980)
- time committed: from exploratory (<10 hrs per week) to integrated (10–20 hrs per week) to full-time (>20 hrs per week)
- paid at competitive rates
- unpaid
- credit bearing
- mandatory or optional
- supervision/mentorship
- international or domestic setting
- optional
- mandatory
- mandatory for professional licensure or certification
- involves host organization and/or employer/industry partner
- involves the community and/or partner
- involves a host institution
- assessment completed by organization, partners, community, and/or employers.

ADVANTAGES OF THE POD FRAMEWORK

All offerings at an institution could be mapped using the POD model in order to gain an enterprise-wide view of the EE environment and reviewed for instances of unintentional overlap or potential synergies. This mapping could also facilitate the development of more integrated communications and promotional materials so that the institutional narrative around EE offerings is coherent and connected for all stakeholders.

All models could share core curriculum and assessment resources in support of their shared core attributes, ensuring a base level of EE design quality. Each individual model would be differentiated by both purpose and outcomes, so that stakeholders have clear understandings as to why to engage in one model over another, currently an area of confusion as the many models are often conflated. Appropriate models would bridge one to another, taking advantage of the shared core and making clear, intentional connections for students between and amongst the models, based on student outcomes or purpose. Finally, all EE offerings sharing the EE core attributes could be tracked and reported upon in the aggregate while more specific reports could be generated by outcomes or clusters of shared outcomes.

UTILITY OF THE POD

Johnston has conducted multiple consultations with institutions wishing to understand, rationalize, and scale-up their institutional EE activities. During these consultations, Johnston noted similarities, opportunities, and challenges across institutions. As such, Johnston offers the following supportive process (Table 2.1), embedded in the POD conceptual framework.

TABLE 2.1: Supportive process of the POD conceptual framework.

1.	**Define the Experience Based Term**	Determine what the term (e.g., work-integrated learning, experiential learning, community-based learning, etc.) means. Identify what is in the institutional experiential "tent," what is not, and why (maps onto graduate attributes, contributes to academic or institutional goals and outcomes, contributes to Strategic Enrollment Management, etc.).
2.	**Conduct an Institutional Inventory**	Determine what is offered at the institution, the primary purpose(s) and outcomes of the models, and how much of it meets the definition of the term (e.g., from course embedded experiences to field programs through to full-term paid work experiences). Establish baseline measures and understand the current state of the experience-based offerings at the institution and/or other stakeholder groups).
3.	**Identify Attributes of Quality**	Once there is agreement on what is offered, identify the core attributes required to assure quality outcomes for experiential offerings. Those are centrally required and supported across all programs.

4.	**Identify Unique Attributes of Each Model**	The key to this is identifying distinct purpose and learning outcomes for each experiential model (e.g., service learning is highly interested in developing community engaged, civic mindedness, co-operative education is highly interested in enhancing employability, professional program practica focus on outcomes defined and required for professional designation). All would share the core qualities identified in point 3 above, but each would also have distinct purposes and design attributes for particular outcomes. Note: Here the institution can also identify where there may be overlap in the models offered and address this constructively.
5.	**Link the Learning Outcomes to Institutional Goals**	Experience-based programs should contribute to learner, institutional and system purposes, and ongoing assessment should be in place to measure and report on this. For example, student retention, grades, post-graduation employment rates, alumni satisfaction, development of civic minded and inter-culturally fluent graduates etc.
6.	**Assessment**	Establishing regular assessment and reporting activities that track participation and effectiveness related to the identified student learning outcomes and other identified goals noted in point 5.

Once an institution has completed the above groundwork it will be well positioned to create a coherent narrative regarding EE offerings at their institution. As well, institutions will: understand what is needed to support quality opportunities (and develop them to support all offerings); appreciate the unique models that are offered and why; and link their experiential offerings to multiple other stakeholder purposes (e.g., enhancing post-graduation employability rates, improving institutional recruitment and retention, meeting professional accreditation requirements, etc.). The POD approach allows an institution to bring together these various models of education in a thoughtful way that supports the shared attributes and respects each offering's unique outcomes. It allows for a coherent narrative to be created at the institution with respect to each model's distinct role, while ensuring that economies of scale are realized through the development of core resources that may be shared, so as to ensure quality and efficiencies. Finally, the POD approach allows for an institution to talk about its various offerings from the perspective of "purpose" that links to its own goals as well as those of its community, government, and employer partners.

CONCLUSION

In conclusion, this chapter proposes a way to situate experiential education programs in the tertiary environment so that they may be better coordinated, clearer in their shared and distinct purposes, and more successful and accountable with respect to ensuring quality learner and institutional outcomes.

In many post-secondary institutions, EE offerings take many forms and are administered in a variety of ways, and usually not centrally tracked or coordinated. Most have arisen as a result of external accreditation or professional requirements (e.g., internship requirements in Engineering and Medicine, apprenticeships in the trades, teaching practicums in Education), discipline-specific field opportunities and practices (e.g., case competitions in Business, free clinics in Law) and the support of specific learning models to meet particular purposes and outcomes such as service learning, co-operative education, and field schools to name a few. Often these EE programs operate independently of one another within the academy, report differentially, and are held to varying levels of quality monitoring and outcomes assessment.

With calls by learners and outside stakeholders to do "more and better" in the area of experiential education, many post-secondary institutions are faced with the daunting task of trying to determine what is *currently* being offered on their campuses. Questions such as:

- Who is offering EE, for whom and with whom and to what ends?
- What are the current levels of participation in EE?

How quality and outcomes are being assessed are rightfully being asked at both the institutional and system levels. In most cases, gathering this 'baseline' data is challenging given the breadth of offerings, the siloed nature of the academy (where programs are run quite independently of each other), few shared metrics, and the lack of clear operational definitions for what constitutes EE. There have been many recent attempts to better define some of the most popular types of EE offerings in post-secondary education, so as to begin to get a better sense of the breath and scope of the EE work already in place. While several EE models, typologies and definitions have been proposed, the significant definitional variations locally, nationally, and globally, even with well-used terms such as co-operative education, field school, internship, and work-integrated learning remind us that this work will long have its challenges.

In 2015, a Comparative Matrix for WIL (a specific subset of Experiential Education) was proposed in an effort to move away from purely definitional ways of differentiating various models and move towards a way of discussing these models with respect to their shared and unique attributes. This work inspired conversations that focused on high impact attributes gleaned from the literature and good practice, as well as the CEWIL accreditation criteria for co-operative education.

This work was then expanded upon at the national and international level, adding a global dimension and additional attributes of interest with respect to learning, program, institution and system-level outcomes. However, to truly create shared understandings without broad based definitions of experience-based models, the POD framework offers sustenance to the rationale in decision-making about diverse experience-based models, such as which models are used for a particular purpose, and what quality attributes are shared that link to the purpose and outcomes.

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APPENDIX 2A
POD Worksheet/ Tool for Thinking

Program Name: _____

Number of Participants per year:_____

Graded: yes_____no_____P/F_____

Purpose Outcome Design (POD) Model

Type Specific Design Attributes (Specific to each EE model)	**Core Quality Attributes (Common to all EE models)**	**Type Specific Outcomes (Specific to each EE model)**

The **arrowhead** represents the **unique primary purpose** of the EE model being described. For example, career/employability development, social justice, service to community, intercultural fluency/global citizenry, talent identification and recruitment, etc. You may want to consider both students' and employers' purposes separately (please note in brackets which is which).

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The **shaft** of the POD arrow refers to the **quality** assurance heart of the model, based upon the high impact EE design and practices. These High Impact practices represent the core attributes that are shared by ***all*** institutional EE models. The POD EE Core consists of the following key attributes.

Place a check beside each core attribute that is present in your program.

- **Experience** is direct, hands on, meaningful and substantial and as authentic as possible.

  Present: Yes____No_____Partially_____Don't Know_____

- **Curriculum Integration** between the experience and the academy is a goal, learning outcomes are articulated and aligned with assessment (self, institutional and host organization), and connections are made between the experiential and traditional learning for and by the learner.

  Present: Yes____No_____Partially_____Don't Know_____

- **Student Outcomes** (skills, knowledge and understanding) are developed and new meaning results, values and beliefs are challenged, and the learner is an active **participant in the process.**

Present: Yes____No_____Partially_____Don't Know_____

- **Reflection** is embedded in all aspects of the process (in and on the experience), is critical vs descriptive and is supported and assessed.

  Present: Yes____No_____Partially_____Don't Know_____

- **Assessment** is focused on the students' personal learning outcomes, development, competencies, skills and knowledge and capacity to contribute, includes formative and summative feedback, provides opportunities for critical reflection, and is re-integrated into the curriculum to support learning.

  Present: Yes____No_____Partially_____Don't Know_____

The **feathers or fletching** represent the **custom attributes of each EE model that help ensure it is going in a particular direction, toward the specified outcomes of a given EE model.** In some cases, the feathers will be unique attributes of the model (e.g., full time salaried work) and others will be content specific (e.g., curriculum on intercultural fluency or entrepreneurship or workplace preparation or community development). Please note the degree to which they are included in the model you are reviewing:

- **Degree of Experientiality** (e.g., from real world problem integrated into class projects through to fully immersive, in situ experiences).

  Present: Fully____Partially_____Introductory_____

- **Time Committed** to work setting/issues:
  - Exploratory (<2 hrs per week) _____
  - Integrated (2-5 hrs per week) _____
  - Fully immersive (>20 hrs per week) _____

- **Remuneration:**
  - Paid at competitive rates _____
  - Stipend _____
  - Academic credit _____
  - In- kind support (e.g., travel costs, living costs, etc.)

- **Credit bearing**

  Yes____No_____

Choice of participating:

- Mandatory _____
- Optional _____

PART 2
Work-Integrated Learning Outcomes

3 CityStudio Abbotsford: A model for innovative work-integrated learning, civic engagement and professional development

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ABSTRACT

CityStudio Abbotsford is an innovative partnership model between the City of Abbotsford, British Columbia, and the University of the Fraser Valley (UFV). Licensed by the original CityStudio Vancouver organization in 2018, it has since become an integral part of the Work-Integrated and Experiential Learning offerings at UFV. The model engages student innovation and faculty expertise to propose solutions to civic challenges. This challenge-based learning model generates fruitful opportunities for experiencing real-world expectations and pressures of a workplace environment and community-building. It is a collaborative, non-placement Work-Integrated Learning (WIL) network that fosters civic engagement and stakeholder professional development, while impacting positive change. Through the collective effort and knowledge transfer between faculty, students, City staff, and community partners, the true value of CityStudio emerges. This chapter provides an overview of the rapid growth, iterative structure, and the civic and professional impact of CityStudio Abbotsford.

Keywords: *non-placement WIL, CityStudio, service-learning, applied research, professional development, civic engagement*

ORIGINS AND STRUCTURE OF THE CITYSTUDIO MODEL

Educational and Organizational Foundations of the CityStudio Model

The CityStudio model was established in 2011 by Duane Elverum and Janet Moore, two faculty members from Simon Fraser University (SFU), British Columbia, as a collaborative educational model between a post-secondary institution and a local government. The driving idea behind the model was to mobilize the creative energy of students and faculty to assist the City of Vancouver in meeting a challenge to become the greenest city in the world by the year 2020. In order to complete this challenge, the CityStudio organization was created to match civic challenges with relevant academic courses. Since its inception, the model has been guided by the CityStudio Manifesto that reinforces the core principle of purposeful change-making that leads to more livable, sustainable, inclusive, and joyous cities.

Over the course of the last ten years, CityStudio has acquired the solid reputation as a disruptive community player that designs and delivers educational experiences that directly contribute to skills and career development of post-secondary education (PSE) students and re-energizes civic governments. More recently, CityStudio Vancouver acquired a not-for-profit society status and underwent a rapid local and global expansion through license granting in British Columbia, Ontario, Quebec, Australia, and Norway. The City of Abbotsford, one of the fastest growing cities in British Columbia, became the seventh municipality globally to launch the CityStudio model in 2018.

The uniqueness of CityStudio lies in the integration of Work-Integrated Learning (WIL) and Experiential Learning (EL) activities in a single semester-long experience. The model is based on addressing authentic civic challenges identified by municipal partners through problem-based learning. It reinforces the pedagogical principle that "finding solutions to authentic problems through in-depth investigation is the essence of problem-based learning" (Wurdinger & Carlson, 2010, p. 31). Recently, more evidence

emerged of the value to "learn in the context of real-world problems for which partners are keen to find solutions, or to develop a range of solutions and different ways of approaching the problem" (Piggott & Winchester-Seeto, 2020, p. 4). As the access to placement-based WIL opportunities becomes increasingly competitive due to growing demand, CityStudio provides a sustainable channel to access a non-placement WIL opportunity. The three parties involved (the municipal government, the university, and the students) become mutually invested. The model enables faculty to test their curriculum for relevance and grow a professional network. The students enjoy a robust and academically rigorous alternative to other forms of WIL that does not alter their graduation timeline. The municipalities receive access to innovative ideas from members of the civically engaged future workforce, who then become better-equipped with the desired employability skills focused on innovation.

This study analyzes CityStudio Abbotsford as an innovative type of WIL and demonstrates its rapid growth, iterative structure, and value as a civic engagement and professional development ecosystem. The study utilizes qualitative and quantitative data collected between 2018–2020. These include faculty feedback, project showcases analyses and pre- and post-experience student surveys deployed as a program improvement tool.

CITYSTUDIO ABBOTSFORD: A CURRICULAR WIL NETWORK

CityStudio's vision meets Abbotsford's strategic goals

In Winter 2018, the City of Abbotsford and the University of the Fraser Valley (UFV) secured the license to establish the CityStudio program in the heart of the Fraser Valley. Due to pre-existing ties between the organizations and the drive for innovation, the model was launched within record time of under eight months. The office of Innovation, Strategy and Inter-Governmental Relations mobilized the Business Improvement team to lead the way at the City. The team reached across departmental and managerial structures and promoted the model through the lens of organizational improvement and innovation. The initiative was supported from its inception by the mayor and council who saw its value in generating greater public engagement, especially among youth. Katherine Treloar, the Innovation, Strategy, and Inter-Governmental Relations Manager says the involvement of senior leadership was a key to success. "A key factor in the success of the Abbotsford CityStudio program was the fact that senior leadership from both the City of Abbotsford and the University of the Fraser Valley attended the 2017 *Art of Cities* conference where the CityStudio program was introduced. The opportunity for both the City of Abbotsford and UFV leadership to participate in understanding how the partnership program was operating in Vancouver, as well as learning first-hand about some of the strategic outcomes that could be realized for both a city and a university, provided a perfect foundation for discussions to take place in real time between the parties regarding how the City of Abbotsford and UFV could partner on this initiative."

Treloar asserts that:

> … without senior leadership from both parties being present at that conference, and/or if it had been staff at a program level that had been participating, I personally do not believe it would have been possible to activate the CityStudio program so quickly or successfully in Abbotsford. (K. Treloar, personal communication, May 4, 2021)

The structural alignment proved instrumental for the model's future growth; at the time of the model's introduction, it fit organically within the framework of the newly adopted *Official Community Plan (OCP) 2016–2018* at the City. As the model expanded, it contributed to the goal of recruiting a knowledge-focused workforce as expressed in the *Labour Force Analysis and Attraction & Retention Strategy,* (City of Abbotsford,

2018). This consultation for strategy development involved Abbotsford's employers, jobseekers, community organizations, municipal leaders, and sector associations. The CityStudio model aligned further with the objectives of the City's 2019–2022 *Strategic Plan*, including the goals to "invest in building relationships that facilitate alignment," and create a workforce that is "involved, safe and engaged." (City of Abbotsford, 2021a, p. 4).

UFV's Education Plan 2016-2020 and the CityStudio Initiative

On the University side, the office of the Provost and Vice President, Academic, played a key role in introducing the model. Four strategic goals in UFV's 2016–2020 Education Plan resonated most with CityStudio stakeholders: 1) Prioritize Learning Everywhere, 2) Collaborate Across Boundaries, 3) Develop Local and Global Citizenship, and 4) Integrate Experiential Learning (UFV, 2016, p. 3). To achieve these goals, UFV pledged to work closely with the community to strengthen existing partnerships. Eric Davis, the Provost and Vice-President, Academic, who brought the model to UFV says the partnership with the City energized all involved.

> While learning how cities work, UFV students gain the opportunity to wrestle with real-world, civic challenges, create possible solutions, and learn the skills required for collaboration, strategic thinking, innovation, and social change. They gain credits, connections, community recognition, enhanced employability, and a sense of agency; the City gains active citizens, energized staff, and tested prototypes for their strategic plans. Both build a culture of working across boundaries. (CityStudio Abbotsford, 2019, p. 8)

The task of laying the groundwork and launching the model had been assigned to the Experiential Education Coordinator, the author of this study, and the direct report to the VP Academic at the time. In April 2019, the Office of the Experiential Education Coordinator joined the newly established Centre for Experiential and Career Education (CECE) to advance UFV's commitment to cultivating students' employability skills and career preparedness. Co-funded by Canada-wide RBC's Future Launch initiative, the Centre designs and delivers experiences that, according to Martin Thibodeau, RBC's Regional President for British Columbia, "are so important to getting a job, but so hard to come by'' therefore "breaking the 'no experience, no job' cycle" (Russell, 2019, para. 4). The CECE's positioning within the teaching and learning division under the VP, Academic reporting structure affirms its mandate as being central to program development across the institution. The CityStudio model contributes to the CECE's mandate to prepare students for a postgraduate professional path by blending the curricular work-integrated and experiential learning elements into a well-rounded educational experience.

Theoretical framework

The CityStudio Abbotsford curricular programming focuses on delivering the learning outcomes of problem-based curricular experiential learning, while abiding by the foundational principles of the WIL matrix as defined by the Co-Operative Education and Work-Integrated Learning Canada (CEWIL). According to the CEWIL Definitions, the:

> WIL experiences include an engaged partnership of at least: an academic institution, a host organization and a student. WIL can occur at the course or program level and includes the development of learning outcomes related to employability, personal agency and life-long learning. (CEWIL Canada, 2021, p. 1)

Traditionally, the WIL anchored itself in placement-type experiences within a real-life work environment. Recent scholarship asserts that:

> …while there is much evidence in the higher education teaching and learning scholarship that attests to the benefits of placement-based WIL for all stakeholders, innovation in WIL that integrates work practices with learning is also occurring without time in placement or within a workplace. In recent years, WIL activity has extended beyond the limited conceptions as describing only placements, to include a range of simulated, virtual, authentic, and industry-based activities. The uptake of non-placement learning activities presents as opportunity to investigate the benefits, utility and innovation of this growing pedagogy to contribute meaningful insights to higher education scholarship and practice. (Dean et al., 2020, p. 2)

According to the latest research, a non-placement WIL environment builds communications skills, the ability to negotiate, resolve conflict and take constructive criticism. These are honed through remote or/and in-class project development meetings, mentorship, and feedback sessions (Winchester-Seeto & Piggott, 2020). These are the skillsets that the CityStudio students actively demonstrate, and the activities they regularly engage in.

Rapid Growth and Outcomes Up to Date

Since its introduction in Winter 2018, CityStudio Abbotsford has grown in scale and scope. The measurable outcomes include a diverse variety of class-based challenges, courses, students, faculty, CityPrimes (the experts who are overseeing projects on City's side), and additional City staff. The number of academic student-hours, as well as volunteer hours also testify to the expansion of the program.

In 2018, the inaugural year of CityStudio Abbotsford, the model delivered 11 challenges in 15 main and three supplementary research courses involving 238 students, 15 faculty, 11 CityPrimes and 14 additional City staff. In total, 11 UFV departments from four faculties took part in the initiative. The following year, ten challenges were assigned to nine courses led by ten faculty, including one co-taught class. On the City of Abbotsford's side, nine CityPrimes and nine additional staff members actively participated in the program. The number of academic student-hours for the 2018–2019 reached 13,465. In 2020, as post-secondary institutions located in Canada and internationally transitioned to a remote learning environment during the COVID-19 pandemic, CityStudio Abbotsford completed nine challenges in ten courses, taught by seven faculty.

The qualitative performance indicators include regular pre-project scoping meetings, in-class challenge presentations by CityPrimes, the CityStudio team's attendance during class presentations, and the organization of a semi-annual HUBBUB showcase event. For instance, the 2018 Spring and Fall HUBBUB event attracted 41 faculty and the total number of visitors averaged 143 attendees. In 2020, CityStudio converted the in-person HUBBUB event, traditionally hosted in the City Hall, to a digital experience. A dedicated website was created by the City of Abbotsford to showcase student success in the Spring and Fall of 2020, with the number of online visits exceeding 500 viewers per HUBBUB. Other impactful activities include joint UFV-City of Abbotsford lunch-and-learn events, workshops, and networking events.

Service-Learning

Within the WIL matrix, CityStudio Abbotsford curricular experiences are situated primarily within the service-learning and applied research categories. An in-class integration of these pedagogies is scalable and depends on the discipline, project scale and deliverables. The positioning of the City staff as co-designers, mentors, and informal co-assessors of student work serves as a common denominator in service-learning and applied research projects.

One of the flagship courses of the service-learning offerings is the "Environment: Science and Communications" course. The students develop a public outreach campaign after the theoretical portion of the course, and prior to the reflective portion, they conduct extensive fieldwork and laboratory analyses, and produce a poster and video-based reflections. The first iteration of the course responded to the challenge: "How to reduce litter in local parks, and what is the best way to change resident's behavior concerning dumping refuse on city lands?"

The resulting "Littering in the Parks" project received UFV's Community Service Undergraduate Research Excellence Award (UREA) for 2018. One of the subsequent iterations of the course addressed the problem of "Compostable Waste Collection in Multi-Family Buildings," once again taking the top Community Service UREA Award for 2019. Another illustrative example of service-learning is the children and youth care (CYC) class "Community and Interdisciplinary Relations." The 2018 CityStudio CYC students investigated ways to boost citizen engagement and foster neighborhood pride. As a deliverable, a three-student team designed, marketed and implemented a successful neighborhood event earning an honorable mention by the Mayor of Abbotsford at a CityStudio HUBBUB showcase event.

In spite of disciplinary variations, the longer-term goal of CityStudio service-learning courses is to cultivate a civically minded and competent workforce interested in joining the local job market which is invested professionally and civically in the economic fabric of the surrounding Fraser Valley.

Applied Research

CityStudio courses strive to prepare students to apply their academic knowledge and professional citizenship skills not only locally but also in the international labor market by engaging in research in the best international practices in civic innovation and sustainable community building. The research-based classes are situated predominantly in the areas of urban planning, environmental studies, agriculture, public transportation, and public art policies. The research projects are supported by the City and the third-party community partners, such as Tourism Abbotsford, HelpSeeker, the Ministry of Advanced Education, the Fraser Valley Regional District, and the Fraser Valley Real Estate Board. A poignant example of an applied research project was the Winter 2018 CityStudio Interdisciplinary Studies course *Public Engagement in Municipal Decision Making*. This learning experience provided strong training grounds for future graduate studies or municipal government careers and generated greater civic awareness among the participants. Having identified public engagement as one of the key topics in CityStudio offerings, the model intentionally diversifies its disciplinary and thematic programming.

In 2018, business students engaged in a two-semester project to repurpose public spaces and apply qualitative and quantitative research methods to examine the community impact. Sociology students enrolled in a "Communities, Difference and Belonging" course that explored the relationship between diversity and communities by asking a fundamentally important question on the uniqueness of each neighborhood, and its integration into community planning. The 2020 collaboration with the Political Science Department produced a new iteration of the *Photo Voice*, a class-based social justice project that celebrates diversity and raises important societal questions of equity and equality. The 2019 iteration of the "Local History for the Web" course took on a CityStudio challenge to explore and unveil the composition and 'forgotten' history of original pioneer communities in Abbotsford, colonial-settler relations, and the architectural and cultural landmarks currently present. The class was grounded in local archival research and resulted in a student showcase for the "Retro Abbotsford Community Fair".

The most recent addition to the growing range of research fields within UFV's CityStudio framework is the area of Equity, Diversity, and Inclusion (EDI) in urban planning. The Summer 2021 geography student

cohort proposed a public art project to re-imagine public spaces through a creative means to build resilience, and strengthen intercultural, and interethnic understanding in the community. A subsequent geography class "Introduction to Regional and Community Planning" researched the best international practices and designed toolkits to inform future municipal public art policy. The outcome of this grassroots student-driven vision is the implementation of a *Black Lives Matter Social Justice Art* project that presents an example of a non-curricular WIL project for UFV students. While formally designated a CityStudio-Inspired project and not an official course, this project meets the expectations of WIL's collaborative framework. Other non-curricular WIL opportunities generated by CityStudio apply to UFV's work study positions. These paid positions provide research and service experiences to students to analyze CityStudio survey data, shadow class projects and non-curricular initiatives and produce reports.

The connection between conducting research in best global practices, while working on proposing local solutions, gives CityStudio Abbotsford its unmistaken identity of an innovative multi-disciplinary hub, and a civic leadership incubator. Due to its innovative attributes, the model became an integral part in the City of Abbotsford's recognition as one of the top seven communities competing globally for a Smart City designation by the *Intelligent Communities Forum* in 2019.

CITYSTUDIO ABBOTSFORD AND EXPERIENTIAL LEARNING

In addition to service learning and applied research, CityStudio Abbotsford integrates in its programming the WIL-endorsed curricular experiential learning, such as fieldwork, interactive simulations, teaching labs, and project-based course work.

Among the hands-on experiential learning (EL) opportunities offered through CityStudio, the biology projects stand out as an example of fieldwork. The CityStudio biology classes engage in both academic and civic efforts to address preservation and restoration of local biodiversity and participate in public dialogue on invasive species impact. A CityStudio electronics class experimented with the concept of a human-powered charging station by producing a prototype of a stationary bike that allowed the public to charge electronic devices in a park setting. The class worked in collaboration with the drafting, welding, autobody and finishing departments. In another example, visual arts students produced a large art installation by repurposing a metal fence of an existing pumping station and creating a beautifully engraved adjacent fencing with the names of locally played sports written in a variety of locally spoken languages, including Indigenous languages. graphic and digital design students conceptualized a unique souvenir product line symbolizing the City of Abbotsford and developed an app prototype to make local culture more accessible to various demographic groups in the community. An overall integration of experiential learning components in all CityStudio classes has produced a number of benefits in civic engagement and professional development for all participating partners.

CIVIC ENGAGEMENT AND PROFESSIONAL DEVELOPMENT

Students

The CityStudio model is not based on practicum placements or paid work, and it is not a consultancy. The term "work" signifies the direct participation in a given civic challenge by working closely with and being mentored by a city staff member or a cross-functioning professional team. Through this exposure, the students experience a working environment with internal and external pressures, sometimes including conflicting ideas and world views. The knowledge construction and curriculum design in the CityStudio model derive from the learner's experience, which allows for a greater coherence and relevance leading to the greater "whole-to-part reasoning" and viewing the learning "as constructing rather than as

receiving" (Wurdinger & Carlson, 2010, p. 31). The model focuses on experimentation and students' creativity, while meeting specific course and program outcomes. It recognizes learners' academic and civic accomplishments, including the HUBBUB award, without a commitment to implementing the project's deliverables. Through teamwork, the students hone their people management and negotiation skills, strengthen emotional intelligence, judgement, and cognitive flexibility, and gain a chance to discuss the ergonomics of the public services sphere. The immersive projects lead to opportunities to enrich portfolios and fulfill professional competency requirements.

In 2018–2019, the pre- and post- experience surveys in CityStudio courses revealed significant changes in students' perceptions regarding the community-engaged learning (CEL), the way that CityStudio experiences are classified in the surveys. In total, 17 statements were included in surveys. One of them was on community partners playing an important role in a student's learning. In a Winter 2018 geography class, 72.2% of students 'strongly agreed or agreed' with this statement pre-experience, whereas 82.3% of students 'strongly agreed or agreed' post-experience. This showed a significant increase of 10.1%. The statement: "The CEL component in this course will help me clarify my career plans" also drew a noticeable increase in positive response. In the pre-CEL 41.1% 'agree and strongly agree' group thought that CEL would allow them to clarify their career plans. In post-CEL, a formidable 53.9% of the 'agree and strongly agree' group thought that they had a better idea of how the CityStudio experience would clarify their career paths. There was an increase of 12.8% after the CEL was completed (Mann, 2019).

Participation in CityStudio courses enhances resumes and provides competitive advantage for entry-level job applications with the local government, as well as co-op positions. Currently, Abbotsford is implementing an in-house professional development program to bridge the gap between skills and experience intended to make entry-level jobs more accessible to recent graduates. CityStudio-generated skillsets align with the city's current strategy under development to adopt the *Innovation Skills Profile 2.0* (The Conference Board of Canada, 2013).

Faculty

A number of UFV faculty members have become an integral part of the CityStudio initiative since its introduction at UFV, including in Geography, Biology, Business, Graphic and Digital Design, Political Science, History, Sociology, Visual Arts, and others. The participation in the model provides opportunities to expand the scope of authentic and relevant experiential learning (EL) offerings and move beyond theory into a practical application of concepts. CityStudio opens new opportunities for faculty professional development by meeting student expectations in the use of new technologies. The model continuously tests the courses' content for relevance. It also contributes to the development of the new professional network between Abbotsford civil servants and UFV faculty. Overall, about 25 city staff have been actively engaged in the model and an even greater number of UFV faculty, staff and administrators have become invested in CityStudio development and advancement.

While facilitating the organizational structure of CityStudio, the aforementioned stakeholders continuously uphold a student-centered approach, and strive to create an immersive barrier-free educational experience.

The City

According to its official vision, the City of Abbotsford is positioned as the *Hub of the Fraser Valley*. "We strive to continually improve the quality of life within our community by delivering key services for current and future generations," states the City's mission (City of Abbotsford, 2021a, p. 2). These strategies are

supported by the *Plan for 200K* (City of Abbotsford, 2021b) based on the City's projected growth to a population of 200,000, which provides a unique platform for CityStudio students and faculty to make their mark on the future of the city, and the local government. The dynamic and iterative nature of the model contributes to the greater openness and flexibility within the internal organizational culture in City Hall. As CityStudio Abbotsford enters its fourth year, innovation continues to distinguish this city-university partnership.

In particular, the CityStudio model provided an impetus to develop a new program through UFV's Continuing Education Department: Certificate in Civic Governance and Innovation (CGI). Designed to complement comparable training programs in British Columbia, the certificate will serve to support municipal professionals in innovative municipal practices, risk and change management, and adaptation to a rapidly evolving workforce and technological advances. Among the CGI's targeted demographics are CityStudio alumni.

CONCLUSION

The CityStudio model has established itself globally as an innovative and competitive WIL opportunity that is reciprocal, sustainable, and able to bring a culture change. It delivers real-world, course integrated, non-placement WIL experiences that provide direct civic engagement and professional development for all stakeholders. In the context of CityStudio Abbotsford, the model contributes to fulfilling the UFV's mission of "Engaging learners, transforming lives, building community" (UFV, 2019, p. 1).

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4 A qualitative research review of student learning after work-integrated learning placements from a faculty perspective

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ABSTRACT

Over two-thirds of post-secondary students engage in some form of Work-Integrated Learning (WIL) in Ontario with the number expected to rise as the value of WIL continues to be promoted (Peters et al., 2014). Research shows that students are guided through WIL with pre-employment training programs, check-ins during WIL, and reflection after WIL; however, the literature does not describe methods for faculty to facilitate learning transfer from a WIL experience back into the classroom. This study interviewed six faculty at an Ontario community college to discover their methods of bringing WIL experiences into their classrooms in higher-level courses. This research shows that WIL is meeting the goals and objectives expected by faculty and that the existing curriculum is designed to assist them with the transfer of learning into the classroom. The study found faculty are acting as mentors to students who are returning from WIL experiences.

Keywords: *learning transfer, mentorship, work-integrated learning, Kolb's Learning Cycle*

INTRODUCTION

In Ontario, more than two-thirds of college students, and over half of university students, engage in Work-Integrated Learning (WIL) of some type. WIL refers to the intentional integration of learning from an academic institution, and the practical experience from a workplace setting (Peters et al., 2014). Numerous authors have documented the importance of preparing students for WIL (Smith, 2012; Stirling et al., 2016; Wessels & Sumner, 2014), and make note of what students learn from WIL (Larkin & Beatson, 2014; Liu & Li, 2014; Stirling et al., 2016). However, very little research currently exists which examines the integration of workplace-acquired knowledge back into academic studies.

Kolb's Modes of Experiential Learning can provide a framework for examining WIL and is used as a means of analysis in this research. Kolb's theory is comprised of four segments of learning: Experience, which focuses on the learners' feelings, engagement and interactions with an experience; Reflection, which relies on the learner describing, questioning, and recognizing the experience; Conceptualization, which involves the analysis and recognition of relevant theory, while drawing connections between experiences and education; and, Experimentation, involving problem-solving, sense-making, and trying new things (Kolb, 1984; Stirling et al., 2016). Kolb's Modes of Experiential Learning is critiqued for not 'fitting' into the structure of higher education (Stirling et al., 2016); however, this research finds that Kolb's Experiential Learning theory provides the necessary context under which this investigation unfolds.

The purpose of this study is to examine how faculty and curriculum incorporate student experiences from WIL into higher-level courses within post-secondary college environments. Furthermore, this study examines the goals and outcomes of WIL through the lens of faculty. As such, this study aims to answer the question, how are WIL experiences brought into an academic program, after placement, from a faculty perspective?

METHODS

Faculty at Fanshawe College (Ontario, Canada) who teach in a program which has a WIL component were

invited to take part in this study. Participants were required to have taught in the program for at least one year, have seen at least one full cycle of the program, and were to have involvement in every academic term within the year. Participants also needed to have taught at least one class after the WIL experience was finished (i.e., higher-level course). Familiarity of the WIL component of their program was also required of participants.

Interviews were conducted with six faculty in five different academic areas. Faculty taught across the fields of Community Studies, Health Sciences, Business, Public Safety, and Design. All faculty have experience working with the WIL components of their programs. Examples of WIL discussed were co- operative education, which involved full terms away from school and working full-time; live labs, where students replicate a workplace situation in a controlled environment; placements, which explores work with an emphasis on skill development and employment outcomes; practicums, which focus on the earning of hours required for a professional designation; and clinical placement, which involved working under a certified professional or preceptor (Stirling et al., 2016). WIL experiences ranged in hours from 150–420 per term. Three programs had WIL concurrently with higher-level courses and three had full-time WIL built into their academic progressions. All WIL components took place after the students' first two academic terms in the program to ensure students had a solid foundation of knowledge, and five of six programs had WIL beginning in the second half of the program. The programs ranged from a one-year certificate program to a four-year bachelors' degree program.

Interviews were conducted in person during the winter 2019 term and lasted between 20–35 minutes. Interviews were recorded and transcribed, then sent to the faculty interviewed for review before coding and comparison was undertaken. Research Ethics Board approval was secured for this research through St. Francis Xavier University (Romeo # 23852) and Fanshawe College (19-01-02-1).

RESULTS

The results of this research identify that faculty have four goals for WIL within their programs: the exposure of students to their field, the practice of vocational learning outcomes, future employment, and self-discovery. Interviews demonstrated that faculty believe these goals are met in a variety of ways. Faculty reported seeing students return to the classroom with greater confidence, stronger resumes, broader networks, and a greater understanding of how lessons from the classroom fit into their future careers.

The first goal participants mentioned was to give students exposure to their industry of study. This came out in many different ways, including faculty discussing the goal for students to be exposed to communities both of practice and geography; and to allow students to see what their field looked like outside of the classroom setting. The faculty reported that they saw this goal being achieved. They saw students returning to the classroom with stronger communication skills, a greater understanding of the workplace, its associated dynamics, and more soft skills.

The second goal faculty shared was the application of theory to practice. The faculty identified that a goal for students is to demonstrate the vocational learning outcomes of the program through hands-on work. Again, faculty observed this goal being met; faculty reported students returning to their studies having developed an understanding of the relevant theories and their practical application in day-to-day workplace settings. The faculty also suggested that students can apply their skills in class and can transfer their learning back to the classroom.

Employment was the third goal of WIL which faculty identified during interviews. This goal is related to

gaining exposure to their field and developing skills. Faculty agreed that having more experience and skills, rather than less, was advantageous when students seek employment. Many participants noted that students' WIL hosts would often hire students after a WIL experience. Students who were not hired by their WIL hosts had more skills and experience to highlight on their resume, in turn making them a more attractive candidate to future employers.

Self-discovery for students was the final goal which emerged in this research. Faculty shared that students use WIL to learn about their likes and dislikes related to different industries. Additionally, WIL provides students with the opportunity to experiment with work in a low-risk way, providing a safe space to try new techniques. Five of six participants reported seeing higher confidence in their students after a WIL experience, including greater self-awareness and more certainty in their career choices.

When it came to incorporating WIL experiences back into the curriculum, a common element of post- WIL courses was the incorporation of case studies or assignments which focused on the student's WIL experience. These assignments were designed to have flexibility in allowing for the incorporation of the student's experience; examples included developing a plan for infection control at a host organization or preparing for a mock trial. One faculty whose program had a concurrent WIL/academic model in the higher-year reported that there was a tutorial specifically designed for the clinical placement where students could talk about their clinical experience for an hour per week. Faculty reported that the development of a portfolio is used in higher-level courses, providing an opportunity for students to reflect on their WIL experience and to aid them in integrating practice back into theory. Additionally, students could make use of these portfolios when seeking employment.

While many courses noted by participants do have curriculum in place to draw on WIL experiences, a large part of the students' integration of practice back into the classroom comes from the facilitation skills of the faculty rather than the curriculum. All interviewed faculty reported some use of discussion questions in their higher-year courses to draw upon WIL experiences. These types of discussions primarily focused on the student experience, but some shared how they would use a discussion to connect the theories they were teaching to the student's previous WIL experience.

Authentic assignments, those which build upon student work experience, are another way faculty encourage the integration of WIL knowledge into the classroom. Faculty reported having students draw on their previous experiences to inform their assignments. Similar to curriculum that has students working on case studies relevant to their placements, faculty create assignments which draw upon work experience. Faculty also discussed giving students more chances to use their soft skills in their post-WIL courses. One faculty stated that they gave more opportunities to students to take control of how they allocate their time post-WIL. Another discussed how they provide more chances for students to use their critical- thinking skills. Faculty reported using WIL experiences in their teaching to help students draw direct connections to the theories being discussed in class. One faculty reported that when they discussed readings or theories in class, they would ask their students questions such as, "where have you seen this on placement?".

Participants spoke about the importance of both mentoring students upon their return to academic studies, as well as while they are on placement. Once students returned to class, the faculty observed students being curious in asking questions of their faculty about things they observed while engaging in WIL. Some shared examples of giving students hypothetical scenarios or allowing for more student problem-solving where faculty became primarily a resource for the student rather than a teacher; in this way, faculty took on an informal mentoring role.

When faculty were asked about the goals and outcomes of WIL in their programs, all six interviewees stated that the goals and outcomes were closely aligned. When faculty were asked about how the curriculum helps facilitate the transfer of WIL back into the classroom, and how faculty help student to transfer the knowledge, the responses were quite different—with curriculum focusing on building of portfolios, case studies, and tutorials; and faculty reporting a shift in their primary role towards acting more as a mentor in higher-year courses than facilitators.

In summary, the research found that faculty have four goals for WIL in their programs: the development of work experience, the practice of vocational learning outcomes, future employment, and self-discovery. Interviews with faculty demonstrated that these goals are being met by their students in a variety of ways. Faculty reported seeing students return to the classroom with greater confidence, stronger resumes, wider networks, and a greater understanding of how their lessons in class fit into their future careers. Faculty were incorporating WIL experience into the post-WIL courses through case studies and authentic assignments, discussions, and the creation of portfolios. Faculty shared that students were given more opportunities to use their soft skills in post-WIL courses and the faculty role began to take on a mentorship capacity.

DISCUSSION

In the examination of how WIL experiences are brought into a program after placement from a faculty perspective, a number of themes emerged which connect to the literature and previous works. The main areas observed to be significant were: the back and forward flow of theory and practice; the development of student portfolios and employability; the use of student experience through discussions, case studies, tutorials, and authentic assignments; and, the evolving role of the faculty-student relationship to include a greater focus on mentoring. This research suggests that students who have had a WIL experience return to the classroom having seen theory in practice. Research participants stated that students can understand more advanced concepts after a WIL experience because they have seen the theories in action at their workplaces.

An interesting gap was found when examining interviews conducted with faculty. Faculty were asked about the goals of WIL in their programs and then asked about the outcomes. In all six interviews, the goals and outcomes were very closely aligned, which demonstrates that WIL is succeeding in enhancing students' learning. When faculty were asked about how the curriculum facilitated the transfer of WIL back into the classroom, and how faculty helps students transfer the knowledge, the responses were quite different. Faculty shared that the curriculum is focusing on building of portfolios, case studies and tutorials, with faculty reporting a shift in their facilitations to act as mentors in higher-year courses.

Faculty also reported having more ad hoc discussions in higher-level classes and referring to various students' experiences when discussing new theories. This could be for a variety of reasons, including: greater trust in the students after having known them longer; teachers feeling more confident in the skills of the students after a WIL experience or assuming students had developed greater depth of understanding of their field and are now able to engage in more specific discussions. Lastly, every student will have a different experience when participating in WIL, so an ad hoc approach may allow faculty to more effectively engage with their students.

Faculty reported mentoring higher-level students after a WIL experience. This theme of faculty seeing themselves as mentors was not something identified in the existing literature and is not a formalized role in the academic programs studied. Rather, WIL hosts are often cited as having mentorship relationships with the students participating in WIL (Smith-Ruig, 2014; Stirling et al., 2016). This dual mentorship for the

student is an avenue which should be further examined in future research. In addition to mentorship, the faculty interviewed spoke about career advising as part of their role after WIL experiences. Faculty mentioned using WIL experiences to have conversations with students about what they liked in the workplace, what they disliked, and using these reflections to inform their career choices after graduation or as they sought a future WIL experience. Faculty also often asked students if the workplace was as they had expected and discussed any disparities. One faculty commented on having values exercises as part of their post-WIL curriculum, which was facilitated by a guest speaker. This exercise is meant to help students align their values with their careers after graduation.

The focus on career planning and advising after WIL is also seen in the literature. Smith (2012) and Stirling et al. (2016) all discuss WIL as a form of career planning and the role of reflecting on WIL experiences to inform future career choices. Wessels and Sumner (2014) discuss the role of WIL in career planning as well, however, they focus on building a program which is a suite of employment preparation workshops. Although some faculty interviewed did mention that the purpose of WIL and post-secondary education was for obtaining employment, pre-employment training was not discussed in the interviews.

This support from faculty to provide mentorship and career advice can have a significant impact on students, however, faculty may need to proceed with caution in some circumstances. Primarily, some faculty may be disconnected from their field after time spent in academia; hiring practices and technology may have changed. Therefore, faculty should work with on-campus employment services to ensure students are getting the most up-to-date information about the employment landscape. Secondly, it is noteworthy that Peters et al. (2014) found that WIL experiences did not improve the employment rates of college graduates, while university graduates did see a higher employment rate if they participated in WIL. However, the authors found that all graduates who had experienced WIL were able to make more informed choices regarding their careers. Finally, faculty should remain mindful of the additional workload WIL programming can add to their already full timetables. Clark et al. (2016) found that faculty spend a great deal of time facilitating WIL programming and this is often not accounted for in their contracts by management. In order to ensure all college staff are working efficiently to provide excellent services to students, faculty and employment support services should work together to ensure all students are being served and no staff members are feeling overwhelmed.

Overall, faculty demonstrated in their interviews that they use post-WIL courses to facilitate reflection for students of their WIL experiences. Faculty will regularly relate lessons on new content back to the students' experiences and have students engage in discussions or activities which involve reflecting on their experience in the workplace. For courses which run concurrently to the WIL portion of the program, this is done regularly and sometimes as part of a dedicated tutorial.

This research has demonstrated that faculty actions and WIL completed by their students are consistent with Kolb's Experiential Learning Cycle, although none of the interviewees mentioned it by name. According to faculty, students are engaging in the first module of the cycle during their WIL experiences; students will experience a workplace and adapt to their new environments in this Experience stage. Faculty shared that students are engaging in the second module, Reflection, through evaluations and prescribed journaling, tutorials, and group discussions. These actions are taking place during the WIL experience or after, depending on the particular student and program structure. The third module, Conceptualization, is being encouraged through faculty actions in the classroom; activities such as relating new theories back to a student's WIL experience or posing questions to have students relate the theory to practice are allowing students to make connections between their theory and practice. These activities were primarily described as the facilitation techniques used by faculty and not work prescribed by the curriculum. Finally, the fourth module, Experimentation, is experienced by students through engaging in the curriculum of their

post-WIL courses. Students are being asked to complete authentic assignments, case studies, in-depth discussions, and are encouraged to explore their future careers. This provides an opportunity for students to apply the knowledge they learned in WIL to other scenarios and further their academic learning (Stirling et al., 2016). When considering Kolb's Experiential Learning Cycle; no distinct differences were observed between programs where students participated in stand-along WIL and programs where WIL and classes took place concurrently.

In summary, between the work of students during their WIL experiences, the design of the academic curriculum, and the facilitation of higher-level courses by faculty, WIL students are effectively working their way through Kolb's Experiential Learning Cycle. Students are using tools to experience, reflect, conceptualize, and experiment with new knowledge. Faculty are often acting as mentors and guides to higher-level students as the students can now bring more knowledge informed by experience to discussions. The focus of their conversations switched from information dissemination and more towards career planning, experimenting with new knowledge, and mentorship.

CONCLUSION AND RECOMMENDATIONS

This research identifies that WIL programming at Fanshawe College is effective and is meeting the goals that have been set out for it, as seen by faculty interviewed. It also shows that the curriculum has been designed in such a way that facilitates the learning transfer for students and allows for faculty to encourage learning transfer and reflection. Faculty are skilled at facilitating informal discussions and tying theory back to a particular student experience gained in WIL—this should be further encouraged to provide more teachers of higher-level courses an opportunity to talk with students about their WIL experiences. After students return from a WIL experience, faculty are moving into a dual capacity—teacher and mentor. Faculty offered more career mentorship to students as they approached the end of their programs. As faculty continue to support students returning from WIL programming they should continue to make use of available student services. When Career Services, Mentorship Programming, and Student Success Services work in conjunction with academic programming, students gain access to the best wrap-around service available. Future research in this area could examine students' perspectives of learning transfer and the role of faculty as mentors to determine best practices in this area. Additional future research could conduct a before and after analysis of WIL programming, or compare program with WIL to programs without to offer a control group for the observations in this report. Post-secondary institutions such as Fanshawe College, which practice WIL as part of their academic offerings should continue to encourage this type of teaching with their faculty. Faculty should be provided with enhanced training regarding supporting students, both formally and informally, to draw on their WIL experiences during classroom learning.

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5 Number of work experiences and student employability

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ABSTRACT

This study addresses a fundamental question underpinning the influence of work-integrated learning (WIL) on students' employability: will participation in multiple WIL experiences lead to greater competency development and, in turn, greater employability? To address this question, we asked co-operative education (co-op) work supervisors (n = 778) to evaluate students' competency development in terms of a lifelong learning mindset and employability in terms of their willingness to offer a position to their student in the future. The number of students' WIL work experiences was also collected. Linear regression and mediation analyses showed that supervisors' evaluations of students' lifelong learning mindsets mediated a positive indirect association between the number of WIL work experiences and employability. The results suggest that coordinating multiple WIL work experiences may promote greater employability because of greater competency development.

Keywords: *co-operative education, competency development, lifelong learning*

INTRODUCTION

Student employability remains a top concern among higher education stakeholders. Educators, students, and governments alike are interested in understanding how higher education can support students as they transition into the labor market. Work-integrated learning (WIL) is often presented as a useful way to facilitate such transitions. Indeed, a growing literature suggests that participation in WIL is associated with desirable employment outcomes, including reduced time from graduation to employment (Inceoglu et al., 2019) and higher wages upon graduation (Finnie & Miyairi, 2017).

Participation in WIL may impact employability because it is associated with competency development. WIL programs expose students to authentic work experiences that contribute to the development of knowledge, skills, and abilities (Eames & Cates, 2011; Jackson & Wilton, 2016; Reddan, 2016). Such competency development is linked with employability because employers aim to recruit competent people (Van der Heijde & Van der Heijden, 2006). It is no surprise then that many higher education institutions now use WIL to enhance students' competency development and employability.

What remains unclear is whether *multiple* WIL work experiences lead to greater competency development and employability. A single WIL work experience can have a positive influence on students' competency development (e.g., Hall et al., 2017; Jackson & Wilton, 2016; Reddan, 2016) and employability (e.g., Jackson, 2013; Smith et al., 2016). However, many WIL programs offer multiple work experiences. For instance, co-operative education (co-op) typically involves as few as three and as many as six work experiences. Are such additional experiences beneficial? As Rowe (2017) notes, "the relative effects of these differing lengths of time are lacking in the research" (p. 10).

This study addresses a fundamental question regarding the influence of WIL on student employability: will participation in multiple WIL work experiences lead to greater competency development and, in turn, greater employability? To address this question, we tracked the number of WIL work experiences completed by co-op students and collected their work supervisors' evaluations of competency development and employability. We asked work supervisors to evaluate students' lifelong learning mindsets, a marker of competency development that may have implications for employability (Drewery et

al., 2020a, 2020b). Employability was measured as supervisors' willingness to offer their student a job in the future, which is a quintessential indicator of employability (Harvey, 2001).

BACKGROUND

WIL and Competency Development

Competency development is the process of acquiring new knowledge, skills, and abilities (Forrier & Sels, 2003). For centuries, higher education has played a pivotal role in competency development. Higher education institutions are meant to offer educational experiences which, by definition, enhance the knowledge, abilities, skills, and other desirable attributes of students (Harvey & Knight, 1996). In recent years, much attention has been paid to the role of WIL programs in competency development. While participation in higher education in general can enhance competencies, the work-based experiential learning offered through WIL can have an especially powerful influence on competency development (Crebert et al., 2004).

WIL programs are based on experiential learning theory (Kolb, 1984). That theory suggests that active participation in events leads to greater learning than passive experiences in which students are "taught." According to the theory, students learn best when they "experience" the subject about which they are meant to learn. To illustrate, consider that exercise science students report learning best in clinical settings in which they can interact with real clients and receive feedback from work supervisors (Hall et al., 2017). Their involvement in the experience, as opposed to taking on a passive role, enriches their competency development.

It is not just the act of work that leads to greater competency development. Experiential learning theory adds that reflection is a key mechanism for the influence of work experience on learning (Boud et al., 2013; Kolb, 1984). Consequently, quality WIL programs invite students to use tools such as journals and e-portfolios to reflect on work experiences (Coll et al., 2009). Such tools have important implications for students' competency development because they help students realize what they do not yet know, which is critical to experiential learning (Boud, 2000).

As expected by experiential learning theory, studies demonstrate that WIL is associated with competency development. Certain competencies are greater after a WIL experience than before it (Reddan, 2016), and are greater for WIL students than for non-WIL students (Jackson & Wilton, 2016). Such developments may be a result of the integration of work experiences and reflection practices that WIL programs organize and that WIL students engage in more than their non-WIL peers (Drewery et al., 2016).

To be sure, there are a multitude of competencies that are of interest in the coming future of work (Balliester & Elsheikhi, 2018). Our increasingly digital and connected world requires greater technological literacy (Aoun, 2017) and interpersonal competencies such as leadership, teamwork, and communication (Royal Bank of Canada, 2018). WIL educators are already thinking of ways to enhance such competencies. This study focuses on how multiple WIL work experiences influence one competency called the lifelong learning mindset and the implications of that mindset for WIL student employability.

Lifelong Learning Mindset

The lifelong learning mindset is a collection of attitudes, beliefs, and perspectives that thrust individuals toward new learning opportunities for their own sake (Sproule et al., 2019). It is the defining feature of lifelong learners, those individuals who live their whole lives with a curious mind and engage deeply with new topics. Critically, lifelong learners are intrinsically motivated and self-directed (Candy, 1991; Candy

et al., 1994). They become fascinated with learning because they want to learn, not because others direct them to do so.

Interest in the lifelong learning mindset has intensified in recent years given the increased complexity of the labor market and the need for individuals to update their competencies over time (McRae et al., 2019). Complexity and change necessitate individuals' capacity and willingness to adapt. The lifelong learning mindset may help with such adaptation because it reliably points individuals toward learning new things and keeps them on track as they negotiate change. For these reasons, we think of the lifelong learning mindset as a useful indicator of competency development.

Participation in WIL may be associated with the development of students' lifelong learning mindsets. In one study (Pusaboon et al., 2017), self-reported lifelong learning attributes were greater among WIL students than non-WIL students. Similarly, in another study (Khampirat, 2021), participation in WIL (versus non-WIL) was associated with greater self-reported lifelong learning skills and attitudes. The present study adds to this body of research by examining the relationship between number of WIL work experiences completed, development of the lifelong learning mindset, and its influence on student employability. Again, while we know that participation in WIL can influence students, we still do not know much about the outcomes of multiple WIL work experiences.

WIL and Employability

Employability is the degree to which students are likely to acquire work through the application of their knowledge, skills, and abilities (Forrier & Sels, 2003; Van der Heijde & Van der Heijden, 2006). This study focuses on employability as a subjective concept, measured in terms of supervisors' evaluations (De Vos et al., 2011). As mentioned, participation in WIL may have a tremendous influence on student employability. Compared to their non-WIL peers, WIL students gain valuable work experience that aids in their transition from their roles as students to their roles as members of the labor force (Jackson & Wilton, 2016).

The employability literature suggests that the influence of WIL on students' employability is attributable to competency development. WIL facilitates competency development, and employability depends on such development (De Vos et al., 2011). Ultimately, employability is an assessment of what candidates know and can do and how that might benefit the organization. The more competent individuals are, the greater their potential influence on the organization, and consequently the greater their employability.

More than that, employability depends on competency development in the sense of continuous growth (De Vos et al., 2011; Scholarios et al., 2008). Organizations are most interested in individuals who are ready, willing, and able to acquire new knowledge and skills. This may suggest that students' lifelong learning mindsets are especially relevant to the link between WIL and employability. Participation in WIL may add to the development of students' lifelong learning mindsets, and such mindsets may be especially desired by employers because they seek individuals who become more competent over time (Drewery et al., 2020a).

If participation in one WIL work experience enhances competency development, and competency development leads to greater employability, then it follows that multiple WIL work experiences may lead to greater employability because of even greater competency development. The number of WIL work experiences students complete is associated with supervisors' overall evaluations of student performance (Jiang et al., 2015). This may indicate that greater WIL work experience is linked with greater competency development and employability. The present study examined such links further.

METHOD

Data Collection

Data were collected through an electronic survey of work supervisors (n = 778) who had supervised a co-op student from the University of Waterloo in 2019. The survey prompted participants to focus on only one student by entering that student's initials at the beginning of the survey. While participants supervised students from all faculties at the university, most (53.5%) supervised engineering or math students. As part of a larger study of supervisors' evaluations of students, participants were asked to complete an evaluation of students' lifelong learning mindsets and employability. Importantly, such evaluations were for research purposes and not for student assessment. They were completed anonymously and none of the data collected were shared with students. Consequently, the data collected here are authentic evaluations of students, unlike student performance evaluation data that are eventually shared with students used in previous research (e.g., Jiang et al., 2015). The survey took between 15 and 20 minutes to complete and all participants received a nominal gift card in appreciation for their time.

Measures

Participants were asked to report the number of WIL work experiences (or "terms" as they are called at this university) the student had completed. Four categories were presented, coded as 1 = *one term*, 2 = *two terms,* 3 = *three terms,* and 4 = *four or more terms.* At this particular institution, WIL students complete at least four and as many as six work experiences by graduation.

Competency development was operationalized as supervisors' evaluations of students' lifelong learning mindsets. Participants were asked to report their evaluations of students' lifelong learning mindsets using items developed for a WIL competency framework (McRae et al., 2019). Specifically, six items (see Table 5.1) were used as indicators of supervisors' evaluations of students' lifelong learning mindsets. In a previous study (Pretti et al., 2021), work supervisors associated these items with lifelong learning. Responses were provided on five-point scales where -2 = "not yet ready," -1 = "almost ready," 0 = "ready," 1 = "ready for more," and 2 = "ready for much more." These scales were worded in terms of "work readiness" to assess students' competency development relative to work supervisors' expectations of a typical employee.

Employability was operationalized as work supervisors' willingness to offer a position to their student in the future. Participants were asked to report such willingness by responding to the following question: "If a position suitable to your student's qualifications became available, how likely would you be to offer that position to them?" Responses were provided on a five-point scale where -2 = "very unlikely," -1 = "unlikely," 0 = "neutral," 1 = "likely," and 2 = "very likely."

RESULTS

We first examined the lifelong learning mindset scale using a principal axis factor analysis. Table 5.1 shows the descriptive statistics and factor loading for each item. A one-factor solution was permissible (KMO = .91, Bartlett's test: $\chi^2(15) = 3001.49$, $p < .001$) and accounted for 65.3% of the cumulative variance. Further, the reliability of the scale was sufficient (α = .92, all inter-item correlations exceeded .59). These results justified the merger of the six items into a single lifelong learning mindset variable.

TABLE 5.1: Means, standard deviations and factor loadings for items in the lifelong learning mindset scale.

Items	*M*	*SD*	Loading
1. Make plans to achieve learning goals.	0.51	1.07	.84
2. Take initiative to connect with others about career opportunities.	0.39	1.15	.83
3. Seek learning opportunities, both formal and informal.	0.68	1.08	.81
4. Approach day-to-day challenges as an opportunity to learn and grow.	0.76	0.99	.80
5. Track their growth and accomplishments.	0.45	1.04	.79
6. Demonstrate curiosity in the workplace.	0.75	1.04	.78

We then examined the relationship between the number of WIL work experiences students completed, WIL work supervisors' evaluations of students' lifelong learning mindsets (i.e., competency development), and employability. Table 5.2 shows the descriptive statistics and correlations among measures used in the analyses. Results suggest that the number of WIL work experiences completed was correlated with supervisors' evaluations of students' lifelong learning mindsets (n = 716, r = .08, p = .04). The greater the number of WIL work experiences completed, the greater supervisors' evaluations of students' lifelong learning mindsets. The number of WIL work experiences completed was not correlated with employability (n = 713, r = .07, p = .06). Supervisors' evaluations of students' lifelong learning mindsets were correlated with employability (n = 775, r = .58, p < .001).

TABLE 5.2: Descriptive statistics and correlations among measures.

						Correlations		
Measures	*M*	*SD*	min	max	α	1.	2.	3.
1. Number of WIL work experiences	2.19	1.08	1	4	--	1.00		
2. Lifelong learning mindset	0.59	0.89	-2	2	.92	.08*	1.00	
3. Employability	1.27	0.94	-2	2	--	.07[a]	.58***	1.00

Notes: [a] p < .10, * p < .05, p < .001; n between 713 and 775 due to missing data.

Two linear regression models were run to examine associations between number of WIL work experiences completed, supervisors' evaluations of students' lifelong learning mindsets, and employability. Model 1 includes only number of WIL work experiences completed. Supervisors' evaluations of students' lifelong learning mindsets were entered into Model 2. Results are shown in Table 5.3. When only the number of WIL work experiences was entered, the model was not significant, $F(1, 711) = 3.65$, $p = .06$, $R^2 = .004$. The addition of supervisors' evaluations of students' lifelong learning mindsets increased the significance of Model 2, $F(2, 710) = 178.00$, $p < .001$, $R^2 = .33$. In Model 2, number of WIL work experiences completed was not associated with employability, $\beta = .03$, $SE = .03$, $p = .41$. Alternatively, supervisors' evaluations of students' lifelong learning mindsets were significantly associated with employability, $\beta = .58$, $SE = .03$, $p < .001$.

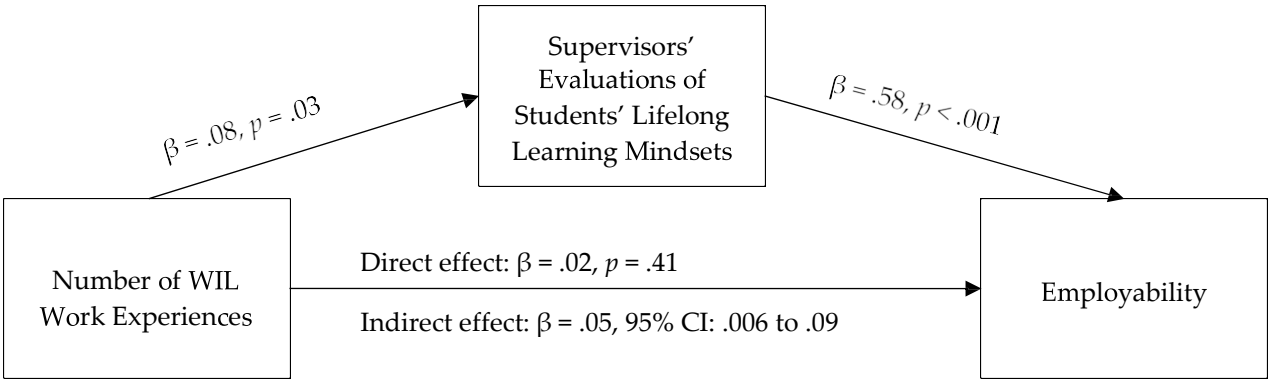
TABLE 5.3: Results of multiple linear regression analyses with employability as outcome (n = 713).

	Model 1				Model 2			
Variables	β	*SE*	*t*	*p*	β	*SE*	*t*	*p*
Number of WIL work experiences	.07	.03	1.91	.06	.03	.03	0.83	.41
Lifelong learning mindset	--	--	--	--	.58	.03	18.72	<.001
R^2	.004				.33			

The correlations and multiple linear regression analyses indicate that the number of WIL work experiences may be indirectly related to employability through supervisors' evaluations of competency development. An indirect association implies that one variable (i.e., number of WIL work experiences) influences a second variable (i.e., employability) because of its influence on a third variable (i.e., supervisors' evaluations of students' lifelong learning mindsets) that in turn influences the second variable (Zhao et al., 2010).

We examined this association further using Hayes' (2017) PROCESS macro (Model 4) for SPSS. The macro produces an estimated β and confidence interval for the indirect association of number of WIL work experiences on employability through supervisors' evaluations of students' lifelong learning mindsets. Note that when the confidence interval around the indirect effect does not include "0", the effect is considered significant (Hayes, 2017). The mediation results suggest that the indirect effect is significant, estimated β = .05, bootstrapped *SE* = .02, 95% confidence interval: lower limit = .006, upper limit = .09. This relationship is shown in Figure 5.1.

FIGURE 5.1: Illustration of the standardized direct and indirect effects of number of WIL work experiences on employability through supervisors' evaluations of students' lifelong learning mindsets (i.e., competency) (n = 713).



DISCUSSION

Previous research demonstrated that participation in WIL is associated with enhanced competency development and employability but was unclear on whether multiple WIL work experiences might lead to even greater outcomes. The present research clarifies that completing more WIL work experiences is associated with greater competency development and, in turn, greater employability. Critically, the number of WIL work experiences completed by students was not directly associated with employability.

This suggests that competency development is the crucial mechanism by which multiple work experiences promotes greater employability.

The number of WIL work experiences students completed was associated with greater competency development as measured by supervisors' evaluations of students' lifelong learning mindsets. The more work experience students accumulated, the more they demonstrated to their supervisors a curiosity in learning new things. This finding is consistent with other research (Khampirat, *in press*; Pusaboon et al., 2017) that suggests participation in WIL is linked with the development of lifelong learners. More broadly, this finding is consistent with WIL literature that demonstrates WIL experiences are associated with competency development (e.g., Reddan, 2016). The present research adds that such development may benefit from multiple WIL work experiences.

Supervisors' evaluations of students' lifelong learning mindsets were also associated with employability. This is consistent with the lifelong learning literature which demonstrates the importance of lifelong learning mindsets to employability and success at work (Drewery et al., 2020a; 2020b). More importantly, supervisors' evaluations of students' lifelong learning mindsets mediated the relationship between the number of WIL work experiences completed and employability. The more work experience students accumulated, the more they were evaluated favorably as "lifelong learners," and in turn the greater their supervisors' willingness to offer them a job.

The results of this study are novel because they are based on work supervisors' authentic evaluations of students' competency development and employability. Previous research relied on students' self-reported development (Reddan, 2016) or supervisors' evaluations that are eventually shared with students (Jiang et al., 2015). Supervisors in this study evaluated students privately and their evaluations were not shared with students. Within WIL work experiences, supervisor evaluations are highly authentic because supervisors are near students' performance (Kaider et al., 2017).

Limitations and Directions for Future Research

The data suggest that the lifelong learning mindset matures over time with exposure to multiple WIL work experiences. It would be useful to examine the influence of multiple WIL work experiences on the development of other competencies. For instance, would students' lifelong learning mindsets and tacit knowledge of organizational practices develop in parallel through exposure to multiple WIL work experiences? Addressing such a question would help us understand which competencies are most malleable over the course of a WIL program.

Importantly, the data collected here are cross-sectional. As such, we cannot rule out alternative explanations for the results. For instance, it is conceivable that students become more competent and employable over time because of their age and growing general knowledge. If so, then the relationship between the number of WIL work experiences and student outcomes is spurious. Future research designs should involve control groups (i.e., non-WIL students) and track developments in competency and employability over time. Such research would cultivate an even greater understanding of how the number of WIL work experiences influence selected outcomes.

Similarly, future research could parse the contribution of multiple WIL work experiences on competency development and employability from the influence of other educational experiences. Surely, students learn and become more employable because of their academic education. If so, then some growth in competency and employability is attributable to participation in any higher education experiences. Longitudinal research that integrates measures of development after academic experiences and work experiences would

reveal more about the relative contributions of work and non-work experiences to student development.

The data are also limited to the supervisors who volunteered to participate in this study. Asking for supervisors' evaluations provided an authentic approach to evaluation (Kaider et al., 2017) and addressed a need in the WIL literature to measure employability from employers' perspectives (Rowe & Zegwaard, 2017). However, each supervisor has their own expectations about what excellent performance looks like. Such expectations influence evaluations of students' competency (Jackson, 2015; McNamara, 2013). This limitation could be overcome in subsequent studies by combining evaluations from multiple work colleagues.

Implications for WIL Educators

Rowe (2017) recently offered a conceptual model of work experiences within WIL comprised of three dimensions: level of specificity (e.g., the tasks students complete), measurement mode (e.g., the number of work experiences), and version of WIL (e.g., co-op). These dimensions were proposed to influence student outcomes. Consequently, they offer direction to WIL educators responsible for organizing educational experiences. The present research supports Rowe's (2017) model in that it suggests the number of WIL work experiences is relevant to students' competency development and employability. Relatedly, the current study has implications for WIL curriculum design. Several factors have been identified as relevant to effective WIL curriculum design. These include the authenticity of the work experience (authenticity), the degree to which students are prepared to venture into the workplace (preparation), support from WIL educators (supervision), opportunity to reflect in a structured way (debrief), opportunity to apply theory to practice (integration), and adequate assessment of performance (assessment) (Smith, 2012; Smith et al., 2016). Compared to these dimensions, the number, duration, and timing of work experiences integrated into WIL curricula have not received much attention.

We recognize that increasing the number of WIL work experiences is not always feasible. If increasing the number of WIL work experiences is not feasible, institutions might consider alternative solutions. One such solution is to offer course-based WIL. Course-based WIL could provide opportunities for competency development without the need for a typical "workplace" experience (Reddan, 2017). Scaffolding such opportunities throughout a robust academic curriculum may have a desirable influence on employability. This approach is consistent with the present research. It is also consistent with a larger movement toward innovative models of WIL across the curriculum (Kay et al., 2019).

To reiterate, the crucial insight from this study is that competency development is the key mechanism by which multiple WIL work experiences enhance student employability. However, exposing students to multiple work experiences is no guarantee of greater employability. Instead, multiple exposures to *high quality* work experiences may be the best path to greater employability (Smith et al., 2019). In addition to offering the optimal number of WIL work experiences, institutions should consider factors related to competency development, especially how WIL experiences are integrated into the broader curriculum. The literature provides substantial guidance on both matters (e.g., Cooper et al., 2010).

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6 Good WIL hunting: Addressing common barriers to engaging faculty in work-integrated learning at a research-intensive university

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ABSTRACT

In Canada, there has been encouragement at all levels of government to increase work-integrated learning (WIL) within post-secondary institutions. Understanding faculty-perceived barriers to expanding WIL has been a critical step to success. In 2017, The Department of Management at the University of Toronto Scarborough committed that all students would have a WIL experience prior to graduation, prompting an internal analysis on barriers to WIL. The insights derived from this exercise inspired the development of methodology that would help overcome barriers — a path that ultimately resulted in reaching the 100% WIL goal two years sooner. This chapter explores obstacles to faculty offering WIL including administrative load, relationship management, pedagogical differences, and lack of reward. The Acceleration Web and Project Accelerator management models were developed as novel solutions for supporting faculty in overcoming these challenges. The theories and models presented are considerations for increasing quality curricular WIL experiences at a research-intensive university.

Keywords: *agile, lean methodology, relationship management, WIL barriers, faculty engagement*

INTRODUCTION

Like many parts of the world, in Ontario, Canada there has been a tremendous push at all levels of government to increase work-integrated learning (WIL) within post-secondary institutions. As faculty-led institutions, understanding faculty-perceived barriers to implementing or expanding WIL has been a critical step to success. While 83.5% of faculty members in Canada agree that WIL has academic value (Peters & Academica Group Inc., 2012, p. 50), many obstacles prevent them from fully engaging in WIL. Faculty often report that they do not have enough information about the WIL programs within their own institution and the relative support available (McCurdy & Zegwaard, 2009). The faculty study on WIL in Ontario from Peters & Academica Group Inc. (2012) highlights only 36% of faculty have been involved in a co-op program, suggesting there is much work to be done on expanding WIL at the institutional level, particularly beyond the co-op medium (p. 21). Not surprisingly, administrative load, community/industry connections, pedagogical differences and lack of reward have all been identified as barriers to faculty fully engaging in WIL (Smigiel et al., 2015; Peters & Academica Group Inc., 2012).

The Department of Management at the University of Toronto Scarborough (UTSC Management) is one of three business departments at the University of Toronto (U of T). The curriculum is grounded in a strong core of business fundamentals, providing students with the opportunity to apply their knowledge in multidisciplinary and multidimensional courses with a variety of WIL opportunities, and a well-established co-op program. The undergraduate Bachelor of Business Administration (BBA) degree is designed to provide students with the knowledge and experience to be the next generation of business leaders. Ambitiously, we committed in 2017 that all students would have a WIL experience prior to graduation. This caused us to fully investigate potential barriers to WIL then set a plan that would help us to overcome them — a path that ultimately resulted in our reaching the 100% WIL goal two years earlier than anticipated. This chapter is focused on exploring potential barriers to faculty engagement and methods to address them.

ADMINISTRATION

A common concern about adopting WIL in the curriculum is that it significantly increases faculty workload (Smigiel et al., 2015). These additional responsibilities come from developing the required quantity and quality of WIL experiences, managing the process and consultations to integrate these engagements into large classes, and lastly balancing all of these considerations with concurrent academic duties (Peters & Academica Group Inc., 2012, p. 50). The WIL workload associated with assessment alone is estimated to be an extra 4.5 hours per week on average (Bulot & Johnson, 2006). For many faculty members, adopting WIL projects into their classes is considered more of an administrative burden than a requirement of the curriculum (Frail et al., 2017, p. 963). Despite the pedagogical value of experiential learning and the versatility and flexibility it provides faculty in re-inventing their course delivery, it does require a unique approach to teaching and grading considerations (Kosnik et al., 2013). WIL adoption compels business faculty to evolve their traditional, sometimes insular professorial role as business lecturers by embracing a more transformational approach, thereby becoming "academic instructors, coaches, and role models" (p. 627) who further accelerate students' professional development and impart moral guidance (pp. 617–627).

Having heard these challenges firsthand from faculty, our administrative staff launched our WIL engagement process by holding open forum lunch hours to listen to faculty interests in the area of WIL. The discussions were aimed at capturing what was currently happening within our Department in the form of experiential learning and to see which faculty members were most interested in supporting the growth of government-defined WIL in their curriculum. It helped that at the time, the federal government was promoting funds to increase WIL across Canada (Chios, 2016). Specifically, federal funding emerged by way of institutional funding streams such as the Learning and Education Advancement Fund (LEAF) (University of Toronto, 2021) and The University Fund (University of Toronto, 2017), but also through government-funded initiatives like The Career Ready Fund 1, 2 and 3 (The Province of Ontario, 2017). From these conversations, we gathered the following information to help qualify how best to leverage the funding opportunities:

1. Several of our faculty were already interested in WIL and with modest support could expand WIL activities significantly.
2. Our faculty were not fully aware of the extensive external relationships that the Department had already cultivated to develop WIL opportunities.

From these learnings and a literature review of faculty engagement in WIL, we were able to focus on not only the barriers identified through the Peters and Academica Group Inc. (2012) research but also more specifically on how they applied to our Department. We created a list of faculty interests in WIL and cross-referenced those interests to the required courses in the BBA. At that point it was clear that if we focused on a few required courses within the BBA degree, we could ensure that each student engages in WIL in a smoothly integrated, systematic way.

Zegwaard et al. (2019) suggest human resourcing is required to meet the rapid expansion of WIL in Canadian higher education. As our next step, we requested funding for one new staff member who was tasked with meeting external partners (industry and community) to gauge their interests in WIL. At the same time, this WIL Lead was meeting with each faculty member to clearly understand their WIL and research interests. It was at this stage that we made a critical error: we learned that when we started with external interests, it was an extraordinarily larger volume of work to find internal matches.

Faculty were not as willing to adjust their expectations for their curriculum and so there was a lot of back and forth where we were at risk of disappointing the external partner. Along the way, we learned a

great deal about where challenges could be heightened depending on the group that initiated the task. This was clear across all WIL administrative tasks including project definition, legal agreements and resources. For example, legal agreements initiated by industry partners were far more complex and challenging than those initiated by community partners/not-for-profit agencies. On the other hand, it was much easier to receive resourcing support from our industry partners compared to our community/not-for-profit partners. The chart below (Table 6.1) illustrates the level of challenge that arose from each item according to which WIL partner initiated it.

TABLE 6.1: WIL Drivers vs. Consideration: Ease of execution.

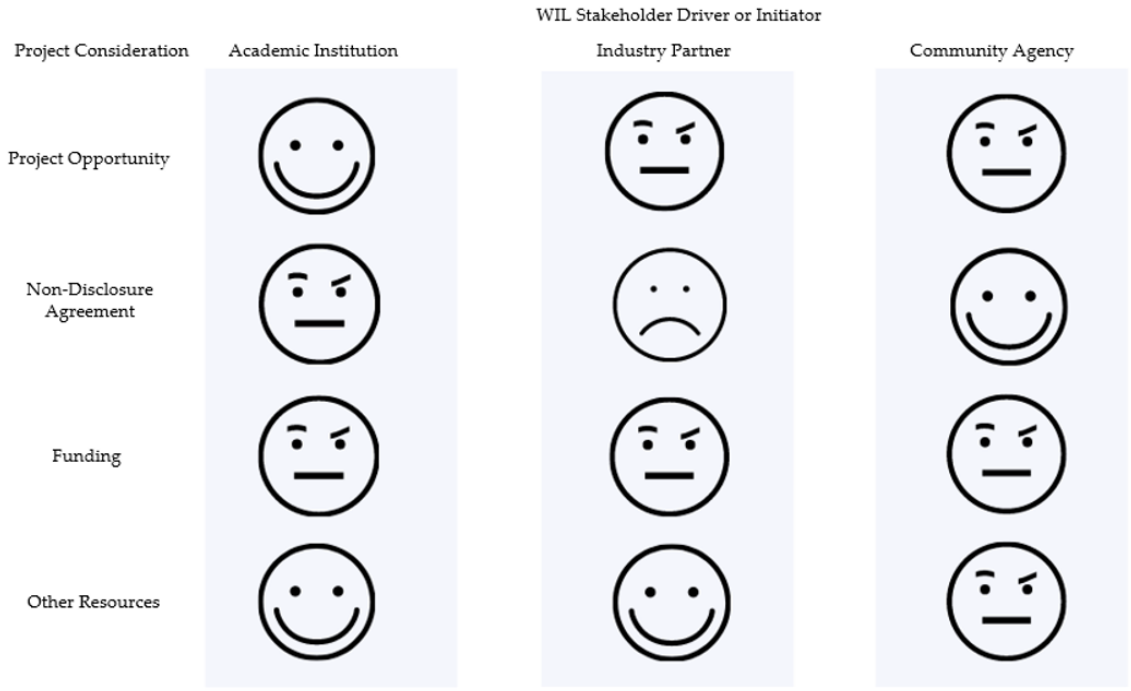


Table 6.1 represents stakeholder support for WIL-specific considerations where a smiling face reflects positive motivation, a neutral face represents apprehension, and a frowning face indicates difficulty. Understanding these issues allowed us to manage the administration of WIL in a much more efficient way. We would seek out WIL opportunities initiated by faculty as there was almost always a community/industry partner who would want to partner with us on a faculty-led WIL project. Considerations around non-disclosure agreements, intellectual property rights, research and service agreements, and buy-in from academic leadership led to the invention of specific documents and protocols. Building templated and reusable assets increased the ease of adoption for faculty, thereby overcoming administrative barriers for WIL. These learnings and actions helped streamline internal processes, thus enabling one staff member to support WIL education for 50 faculty who simply needed to "place their order" for the ideal WIL project.

RELATIONSHIP BUILDING

Integrating WIL into a course is qualitatively different than teaching a conventional course, and it necessitates the development of unique knowledge and skills (Ferns & Zegwaard, 2014). In particular, building and managing relationships with community partners is beyond the scope of traditional post-secondary teaching and can require a significant investment of faculty time (Peters & Academica Group

Inc., 2012, p. 12). Although this comes naturally within a business school culture, the time that it would take to find the right relationships and to prioritize them was also noted as a barrier, again referring to administrative load.

Many post-secondary institutions, including ours, have departments fully dedicated to external relationships such as fundraising and alumni relations, community partnership offices, and career centers. We found our co-op office (an internal unit to our Department) and the campus community partnerships office to be of greatest value. Both units quickly saw that partnering with us was mutually beneficial. The community partnerships office engages in many external conversations yet has limited internal ability to mobilize action. Connecting with us meant that they had a chance to entice faculty to prioritize their projects. The co-op office often is limited in scope, offering a narrowly defined form of WIL: co-operative education work terms. By partnering with our WIL Lead, the co-op office could leverage new ways to engage employers and deepen their external relationships. Of course, for our WIL Lead, access to the co-op department's extensive database of warm employer relationships allowed for the primary focus to be on faculty-specific interests.

Langer (1997) suggests that it is a necessity for professors to become comfortable with adopting the role of guide-on-the-side rather than the traditional sage-on-the-stage. Under the new paradigm, faculty's professional experience and external connectedness become significant assets for business programs (Kosnik et al., 2013, p. 627). This is where our WIL Lead played a critical role. Faculty had different interests in engaging with externals and varied with the extent to which they wanted to be involved. Some faculty wanted to fully engage the external relationship and could be counted on to proactively communicate relevant details and requirements. Others had the intention but lacked the time. Clearly, faculty workload is an issue, and research indicates that faculty who engage in delivering WIL are responsible for up to 11 additional administrative tasks per term (Sattler, 2011; Peters & Academica Group Inc., 2012; Fleming et al., 2018). Our WIL Lead learned to fill in the gap no matter how small or large that was. They would spend time listening to faculty priorities and interests in embedding WIL within the curriculum. They would then present external options that could be shaped into a mutually beneficial program. The WIL Lead brokered all agreements and monitored the interactions to ensure that both (or all) partners were satisfied with the experience.

Supporting the achievement of these outcomes is The BRIDGE: a multi-purpose academic space that spans teaching, study, research, and experiential learning for business, finance, and entrepreneurship facilitated through a partnership with the UTSC Library. Within The BRIDGE is our dedicated WIL Lead and embedded library staff. Central to The BRIDGE is a strategic management model named the "Acceleration Web," a term coined by the Academic Director of The BRIDGE, Professor William McConkey. This novel approach, according to McConkey, "assists in breaking down institutional silos, and stimulates the creation of student-led initiatives for enterprise launch or development and facilitates collaboration between students, faculty experts, entrepreneurs, and innovators" (Professor William McConkey, personal communication, June 2019). Project management and support is critical to the effectiveness and sustainability of this model, as well as resource identification and deployment, pooling of institutional resources, and knowledge and insight to support the timely completion of project tasks.

Driving this model are principles of Lean Methodology and Agile Project Management. Lean emerged from the automotive industry, particularly in reference to a system developed by Toyota and was later adopted by startup culture (Krafcik, 1988; Womack et al., 1990). The specific tenets of Lean adapted for the Acceleration Web converge in the concept of generating the highest value to the stakeholders by removing non-value-adding activities and processes (Manning et al., 2020; De Zan et al., 2015). In post-secondary institutions, this approach has been shown to improve public accountability in efficiency and efficacy, as

well as increase the ability to leverage all available resources to achieve strategic mandates (Balzer et al., 2016). Quality control, quality measurement, and continuous improvement are other hallmarks of this strategic approach that have been incorporated into the Acceleration Web model. As it relates to Agile Project Management, the focus is on process, self-organization, and multidisciplinary collaboration. These skills have become increasingly important and have drawn much attention in recent years from industry and in academic programs alike, becoming focal points for training future professionals across multiple industries (Pope-Ruark, 2015). Cervone (2011) examines the Agile Project Management model and its origins in the *Manifesto for Agile Software Development* (p. 19), focusing on four main values:

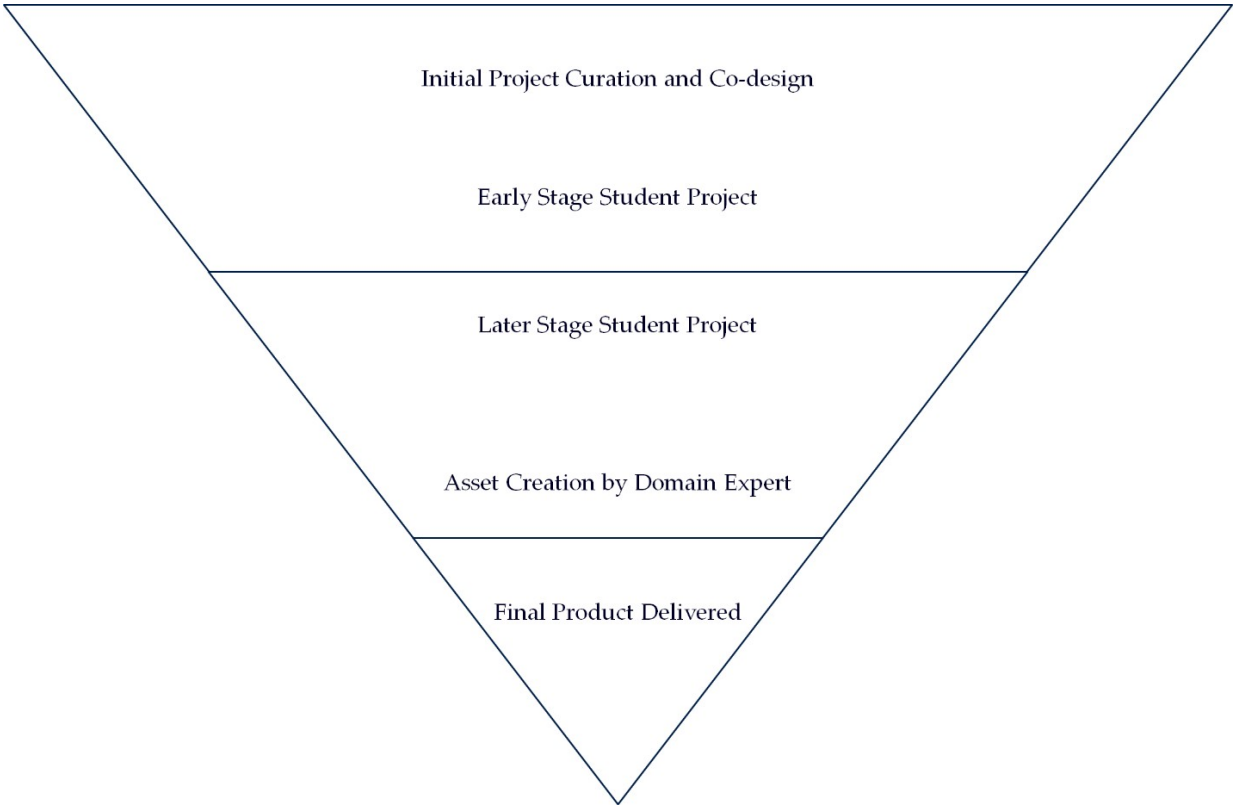
1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan.

The project management application of Agile follows these principles although modifies them for the project management medium. As opposed to software development, Agile Project Management focuses on two fundamental concepts: 1) minimizing risk through short iterative tasks with clearly articulated deliverables; and, 2) direct and open communications with the stakeholders throughout the process to navigate and adapt quickly to rapid changes in project requirements. The benefits of iteration help "control the chaos" (Cervone, 2011, p. 20) from within a complex project team while improving communication, augmenting cooperation, and removing disruptions and barriers all towards delivering outcomes more efficiently and to the best possible standard.

In order to adapt and adopt these approaches to the Acceleration Web framework, and more specifically within the higher education context, The BRIDGE leadership designed a delivery model to apply these principles. The Project Accelerator (Figure 6.1), based on the concept of a funnel, is designed to create reciprocal value for all stakeholders, while maximizing the potential of all institutional resources, and efficiently delivering and developing meaningful project outcomes through multi-faceted WIL collaborations. It allows for the solution development to be multi-phased, thorough, and have several layers of analysis across multiple disciplines and courses, often simultaneously. It begins with the initial project curation where all stakeholders are brought together to define project goals and requirements through collaborative and inclusive consultation and co-designing of a project scope. From this point, the requirements are identified and the appropriate faculty members are engaged to leverage the opportunity as a WIL project in their course. Once cases are written and designed for the classroom, junior students begin the initial analysis. From there, we engage more senior students for more refined research to further define the overall solution. As these initial engagements yield their outcomes, the findings are then shared with our domain experts who can vary depending on the project.

Oftentimes, it is a small team of multidisciplinary co-op students collaborating with faculty experts and our external partners to take the research completed by the previous courses as inspiration to develop and deploy the final product or asset for the stakeholder. This model has allowed us to work on several high-impact collaborations with up to four courses collaborating with one another in a single term. In short, the Project Accelerator is a means to activate the resources and expertise from within the Acceleration Web model, combining these elements to design and deliver meaningful and innovative solutions and assets to deploy them outside of the institution. This approach has proven itself to be very effective at efficiently leveraging a single external partnership and project opportunity and converting it into multiple WIL experiences across several courses and in a manner that enhances the overall outcome for the project partner.

FIGURE 6.1: The Project Accelerator.



The Acceleration Web model and the Project Accelerator have been developed to bring partnerships from both industry and community into the curriculum of a BBA program in an inclusive, accessible, and meaningful way. The successful development and adoption of these systems in our program has defined the relationship-management strategy for our curricular WIL efforts and continues to generate several WIL projects that solve real-world problems in multiple WIL modalities. The notion of strategically analyzing and planning collaborations has proven to be a useful tool for the ideation, generation, and execution of WIL, and in this situation allowed the University to enhance its service to the local community. It has been instrumental for management faculty in overcoming relationship building as a barrier for adopting WIL in the classroom.

PEDAGOGICAL BARRIERS TO DEFINING WIL

Much discussion and debate has transpired around what constitutes WIL and its associated nomenclature. Dean et al. (2020) highlight the importance of having a WIL typology to define how WIL might be reported based on looking at the WIL activities within a unit or subject (p. 5). This proved to be an important consideration for communicating and reporting on WIL within the University. In the absence of an official definition initially, the departmental standard was drawn from a combination of sources including *A Global Work-Integrated Learning Framework* (McRae & Johnston, 2016), *The Work-Integrated Learning Quality Framework, AAA* (*McRae et al., 2018*),* the Ministry of Advanced Education and Skills Development (MAESD) *Experiential Learning Checklist* (Province of Ontario, 2017) BHER (2016), Billett (2009), Patrick et al. (2008), Sattler (2011) and DeClou et al. (2013). We then identified the common criteria among them and reconciled them with typology issued from the World Association for Cooperative Education

(WACE) and Co-operative Education and Work-Integrated Learning (CEWIL) Canada (CEWIL, 2021). Having a clear and consistent message that aligned with many external and respected sources (both government and academic) not only proved important in maintaining a quality standard, but also for targeting funding opportunities which supported the growth and expansion of the WIL program in Management.

Once we had agreed upon definitions, we did not spend time promoting this lexicon to faculty because it was not critical to their mandates within the classroom or the University. What was important is that they could easily identify what constituted WIL, so we communicated the following:

> *WIL is defined as actively involving an external partner (industry or agency) in the co-design and evaluation of a project for credit that had not yet been solved or explored.*

By defining WIL this simply, our faculty members were able to easily identify and label WIL projects, and perhaps more importantly understand what WIL was not (e.g., case studies, guest panels or lecturers). The responsibility to label the type of WIL, if needed for external audiences or reporting, resides with the WIL Lead.

LACK OF REWARD

A common perception among faculty is that the expansion of WIL in higher education has been much faster than the adaptation of their academic duties to reflect this shift (Smigiel et al., 2015). The previously mentioned increase of tasks associated with incorporating WIL into the curriculum comes at the perceived expense of faculty's research and publication output (Peters & Academica Group Inc., 2012), which is viewed as a barrier to promotion (Smigiel et al., 2015; McCurdy & Zegwaard, 2009; Orrell et al., 1999; Smigiel & Harris, 2007). These particular barriers are amplified at a research-intensive institution such as the University of Toronto. In addition, faculty academic responsibilities do not provide allowances for the increased workload associated with adopting WIL engagements in their classes, not to mention that promotion and tenure processes tend to undervalue these pursuits compared to other academic areas mentioned above (Peters & Academica Group Inc., 2012, p. 13). There can be little motivation to take on the demands of WIL when faculty have concerns that their contributions will not be formally recognized or remunerated (McCurdy & Zegwaard, 2009).

With this perceived lack of reward in mind, it was important that we could clearly articulate the value to faculty to engage or expand their WIL offerings. We aimed to accomplish this in three ways: 1) establishing WIL as a departmental priority; 2) advocating for WIL projects that also supported faculty research; and 3) measuring student WIL experiences.

One of our first activities was to receive buy-in and widely promote our goal of a guaranteed WIL experience for every student. This became a differentiating identity for us in a competitive business school landscape but aligned perfectly with our tagline of providing our students with the "Experience to Lead". By declaring it as a priority, the work faculty did within the WIL sphere became noteworthy on their annual reviews. Although it likely has not been weighed as heavily as the effort that faculty have exuded, it has allowed them to clearly identify their contributions and begin to build a culture of recognition through the annual review process. Following this, the goal of 100% WIL was presented to and approved by the departmental curriculum committee where the discussion of what constitutes WIL within our curriculum was finalized. This also added to an increased understanding of the work involved with running WIL, which has led to an increased recognition.

At the same time, the provincial government has struck new funding agreements with each of Ontario's

post-secondary institutions that include funding specifically for WIL. Similar WIL-targeted funding is introduced in British Columbia and other Canadian provinces (Ministry of Advanced Education and Training, The Government of British Columbia, 2018; Chios, 2016). Eastman et al. (2018) highlight the increase in governments' use of funding mechanisms, legislation and mandate letters in recent years across all provincial jurisdictions, aligning their policy priorities to ensure that university activities address labor market needs and support economic growth and innovation. This is not new funding but a method by which to be evaluated to maintain existing funding. This has led to clear direction from senior leadership to acknowledge and track courses that embed WIL.

Early on, it was clear that WIL and its innovation element led to great research opportunities. For example, when the Department was approached by a local newcomer oversight agency to develop a software solution for their 40 newcomer settlement service sub-agencies to report and analyze their work, it was clear that the aggregated data could have great research benefits. We approached a faculty member whose area of research was in data analytics within the not-for-profit sector to lead the WIL element and benefit from the growing dataset. WIL has led to numerous other research wins. Given that a clear university measurement for faculty success is their research contributions (Gopaul et al., 2016), directly tying WIL to research has created additional incentives for faculty.

The other key metric for faculty evaluation is teaching (pp. 58–59). Faculty have identified that there are positive benefits to including WIL such as strengthening the institution's connection to the broader community and industry (Peters & Academica Group Inc., 2012, p. 5), an increase in their commitment to teaching (Pribbenow, 2005), deeper relationships with students through heightened interaction (Peters & Academica Group, Inc., 2012, p. 12), gaining relevant knowledge from increased exposure to the "real world" (Wimmer, 2007), and linking students' learning to the needs of the community (Peters & Academica Group Inc., 2012, p. 12). Data collected from an internal learning impact survey on Management courses that have a WIL component indicate higher student satisfaction and learning from courses that contain a WIL element. When asked to what extent the WIL project enhanced their understanding of the course's curriculum, 72% of our students felt that their learning was enhanced. When asked to what degree their WIL experience increased their level of interest in the course and subject matter, 42% felt it was enhanced quite a bit, and 22% felt it was enhanced a great deal. Comparatively, only 5% of students felt the impact was very little or not at all, respectively. In this same survey, students offered the following observations:

> "Outstanding interesting opportunity to learn in a different manner and very engaging." (Anonymous student, survey response, April 2020)
>
> "Please incorporate more of these, they help students learn more hands-on and interactively." (Anonymous student, survey response, December 2020)
>
> "I had an amazing experience with the courses where WIL was present and wish that more courses had projects like that." (Anonymous student, survey response, January 2021)

NEXT STEPS

As with all initiatives, we still have work to do. Much of our initial feedback is centered on the quantity of WIL in our programming, anecdotal appraisals and student surveys. Ideally, a next step would be to replicate the 2012 Faculty Engagement in WIL study conducted by the Higher Education Quality Council of Ontario to test if there is a significant difference in the answers that faculty give now around barriers to WIL.

We also must do more to help our students understand *what WIL is*. While many students could speak to it, others were unclear about what component of their course was defined as WIL. As a result, it is not entirely clear that WIL has had a significant impact on teaching evaluations.

CONCLUSION

Many studies have provided insights into the challenges facing post-secondary institutions in their attempt to create and expand WIL in the classroom. By leveraging this research and experience, within our Department, we have been able to demonstrate that it is possible to dramatically expand WIL by minimizing or removing these barriers.

In 2018, UTSC Management received Career Ready, Stream 2 Funds and made a commitment to create 1,010 net-new, high-quality WIL opportunities within a one-year period. At the end of the 12-month funding cycle, UTSC Management had achieved 183% of the WIL goal, with 1,860 WIL experiences in the classroom while spending only 83% of the funds allocated. This funding initiative was executed under very tight timelines, yet our Department still over-delivered. This success can be directly attributed to our robust business and community relationships, our excellent faculty and curriculum, and strong strategic vision in assembling manageable and effective project teams.

From successful WIL projects and creating a culture of WIL within the Department, we have earned strong faculty support. These ambassadors are the first to say that WIL and our priorities as a research-intensive university can coexist. A few have gone even further to share that they complement each other. Our staff no longer need to promote WIL among faculty, resulting in a great reduction in workload for the WIL Lead. In fact, when our WIL Lead recently held a workshop to promote our WIL supports to faculty, attending faculty members stepped in to answer questions and speak of their positive experiences. Observing this interaction on a regular basis tells us that faculty do see the reward for investing in WIL and that barriers are no longer as strong as they once were.

One of our greater challenges now is managing the volume of interest. We have the luxury of prioritizing projects based on our strategic plan. We look for projects that maximize student WIL opportunities, contribute to faculty research, and improve our local or global community. Uplifting our local and global community is also a key support of ensuring that our participating WIL students are involved in projects that prioritize equity, diversity and inclusion. They are firsthand contributors to addressing issues of systemic racism, access and inequality. Our 100% WIL mandate also ensures that access to WIL is not a barrier for any student. Although at times we might have made this sound easy, it was an extensive amount of strategic work and it was fundamental that we had the right systems in place.

By way of personal communication, management faculty were asked to provide their opinions on the merits of adopting WIL into their courses, as well as to offer commentary on how challenging this was to accomplish. Several faculty members responded about the pedagogical benefits and impact of WIL in their classrooms as follows:

> Most importantly, the student response to these projects has been overwhelmingly positive. They find it rewarding and enriching to connect what they learn in the classroom with its applications in the workplace. I look forward to continuing to incorporate WIL projects into my future courses. (Assistant Professor, Marketing, personal communication, January 2021)

> WIL projects have proven to enhance student learning significantly, as well as assist organizations in meeting their strategic goals. (Associate Professor, Organizational Behavior and Human Resources, personal communication, January 2021)

> We have had a year of implementing a WIL component. It has been very successful. I feel so fortunate to be able to bring these WIL experiences to the course. (Assistant Professor, Teaching Stream, Organizational Behavior and Human Resources, personal communication, January 2021)

> I have applied WIL in 3 of my courses. WIL has greatly enhanced the learning experience for my students. Students can now apply their knowledge they learn in a real business environment. It is motivating to our students as their ideas get accepted by the company seeking their advice. (Associate Professor, Teaching Stream, Accounting, personal communication, January 2021)

When asked about their thoughts on the difficulty of introducing WIL into their courses, the faculty members shared the following:

> Incorporating WIL projects has been much easier than I had expected, in large part because of the support provided by the department. The department facilitated industry connections and coordinated logistics, which allowed me to focus on my course content and the student learning experience. I was pleasantly surprised by how seamless the process was. (Assistant Professor, Marketing, personal communication, January 2021)

> The Department of Management had made this approach much more feasible, as it continues to develop relevant industry and community partnerships and creates projects in partnership with instructors that are relevant to the course objectives. Additional efforts by instructors have been minimized as the department offers research, case writing and project management support for each WIL initiative. (Assistant Professor, Teaching Stream, Strategy, personal communication, January 2021)

Based on this feedback from the management faculty, the positive pedagogical impact of WIL in their classrooms is high. Their comments also suggest that this undertaking is greatly facilitated by having the workload requirements for introducing WIL in the classroom managed by dedicated support staff. The combination of these efforts with the innovative strategic model of the Acceleration Web and its Lean and Agile delivery method by way of the Project Accelerator have eliminated many of the faculty-perceived barriers for adopting WIL in their curriculum.

STRATEGIC RECOMMENDATIONS

Faculty-Identified Barrier	**Recommendations**
Administration	**Understand supply and demand within your own institution** to determine what projects to prioritize. We found there to be a high amount of external interest so we prioritized projects that faculty identified as of interest to them, then it was easy to match a corresponding external partner. In early days and at every stage, **build each WIL tool with a sustainability lens.** Non-disclosure, partnership and budget agreements should be general enough to meet institutional requirements but also adaptable enough for a multitude of partnership types. These can be repeatedly leveraged, ensuring a toolkit of resources to save time with each new WIL initiative. **Remove administrative barriers.** Requiring faculty to be fully aware of all WIL nomenclature and definitions is an unnecessary barrier to WIL activity. Other examples include partnership agreements, non-disclosure frameworks, initial discovery meetings etc. Be intentional about including faculty where they will receive the most value and can contribute to defining the outcomes. **Minimal staff are required if they are adaptable and equipped with an entrepreneurial mindset and diverse skills.** As previously noted, faculty are willing to engage in WIL at a variety of levels. Staff who can fill in only where needed allow faculty to do their best WIL work.
Relationship Building	**Fully understand and collaborate within your institution's own externally facing departments.** Whether advancement, the research office, career center or the partnerships office, your WIL department can be the solution to many other partnership challenges. Make regular meetings and collaborations a priority so that a symbiotic, cross-departmental partnership is established. **Build on what you have.** Whether through research grants or existing WIL initiatives, not everything needs to be created new.
Pedagogical Barriers	**Established WIL delivery models** (such as the Acceleration Web and Project Accelerator) personalized to an institution's values and strategic goals can provide a quick and efficient framework ensuring thoroughness and inclusivity.
Lack of Reward	**Prioritize WIL projects that support faculty research,** or at the very least look for research opportunities for faculty in each WIL project. This will maximize value to faculty and increase interest in WIL involvement.

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PART 3
A Focus on Work-Integrated Learning Types

7 Immersive community engaged education: More community engaged learning than work-integrated learning

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ABSTRACT

Since the early 20th century, clinical education of health professions students has taken place in teaching hospitals. This may be seen as a long-standing example of WIL. In the 21st century, Canada is a leader in socially accountable education focused on responding to the health needs of the population. Immersive Community Engaged Education (ICEE) involves prolonged placements of students living and learning in a range of community and clinical settings. The Northern Ontario School of Medicine (NOSM) which opened in 2005 developed its Distributed Community Engaged Learning (DCEL) model that features ICEE in various rural and Indigenous communities across Northern Ontario. This chapter presents the NOSM experience highlighting how ICEE benefits students, health professionals, health services and the wider community, including through successful recruitment and retention of health professionals. Beyond the usual work placement, active community participation with prolonged immersion justifies the description of ICEE as more CEL than WIL.

Keywords: *community engagement, active community participate, local workforce as teachers and role models, prolonged placements, student immersion*

INTRODUCTION

The 1910 Flexner Report's recommendations that medical schools should be university based and that their education programs should be grounded in scientific knowledge set the trend for medical education in the 20th century (Flexner, 1910). Since then, the first half of undergraduate medical education programs has been largely classroom based with a focus on the basic sciences, whereas the second half involves students learning clinical medicine in teaching hospitals where they are taught by physicians who use the scientific method in patient care and research (Frenk et al., 2010; Prislin et al., 2010). Flexnerian clinical education may be seen as a long-standing example of Work-Integrated Learning (WIL) (Coll & Zegwaard, 2011). In the 21st century, Canada has been at the forefront of the movement towards socially accountable medical and health professions education with the emphasis on students learning in context responding to the health needs of the population they serve (AFMC, 2010).

The World Health Organization (WHO) defines social accountability for academic institutions, as "the obligation to direct their education, research, and service activities toward addressing the priority health concerns of the community, region and the nation that they have a mandate to serve" (Boelen & Heck, 1995, p. 3). This chapter presents the experience of the Northern Ontario School of Medicine (NOSM) that was established in 2005 with a social accountability mandate to improve the health of the people and the communities of Northern Ontario, a geographically vast, historically underserved rural region of Canada where there are diverse communities and cultural groups, most notably Indigenous and Francophone peoples. The health status of people in the region is markedly worse than the province as a whole, and there is a chronic shortage of physicians and other health professionals (Health Quality Ontario, 2017; Rural and Northern Health Care Panel, 2010; Glazier et al., 2011). This situation provided the impetus for the establishment of the NOSM, which serves as the Faculty of Medicine of Lakehead University in Thunder Bay (population 120,000) and of Laurentian University in Sudbury (population 160,000) (Tesson et al., 2009).

These two universities are over 1,000 km apart and provide teaching, research, and administrative bases for NOSM, which views the entire geography of Northern Ontario as its campus (Strasser, 2016).

Consistent with its social accountability mandate, NOSM developed Distributed Community Engaged Learning (DCEL) as its distinctive model of education (Strasser et al., 2009; Strasser et al., 2013). DCEL involves Immersive Community Engaged Education (ICEE) (Strasser & Strasser, 2020) whereby students are living and learning in a range of community and clinical settings during their four years of undergraduate medical education, most notably during the third year, Comprehensive Community Clerkship (CCC). During this year, students live in one community away from the University centers and are based in family practice where they learn their core clinical medicine. The CCC is an example of a Longitudinal Integrated Clerkship (LIC) whereby students: participate in the comprehensive care of patients over time; learn by means of ongoing educational relationships with community-based physicians; and simultaneously learn core clinical competencies across multiple medical specialties (Strasser & Hirsch, 2011; Worley et al., 2016). NOSM is the first medical school in the world where all of the students undertake an LIC.

ICEE programs feature clinical education in which students are immersed in community clinical settings with local healthcare providers as their principal clinical teachers and role models. This contrasts with conventional health professions education programs in which most clinical education occurs in large urban teaching hospitals with teaching hospital specialists and subspecialists as the principal clinical teachers and role models. In addition, community engagement with active community participation in curriculum development and delivery is a key feature of ICEE (Strasser et al., 2015). ICEE is socially accountable education that is grounded in active community participation and local healthcare, and fosters authentic relationships focused on improving the health of the local population.

NOSM engaged Northern Ontario communities in the development of its academic programs from the outset, starting with a three-day *Getting Started in the North* workshop in January 2003 in preparation for development of the curriculum, attended by 300 participants drawn from communities across the region. Community engagement has continued through regular gatherings involving a wide range of community partners, including members of the local Indigenous and Francophone communities (Strasser et al., 2015). Community members play a vital role in educating students and providing local support for students during their community placements (Strasser et al., 2018). In their first two years, students experience three Integrated Community Experiences (ICE) placements in rural and Indigenous communities each lasting four weeks (Hudson & Maar, 2014; Jacklin et al., 2014). During the eight-month CCC, third-year students in groups of 2–8, live in one of 15 communities to learn core clinical medicine from a family practice and community perspective (Couper et al., 2011). Much of the CCC curriculum is devised in partnership with the host communities.

In addition to undergraduate medical education, NOSM offers postgraduate medical education (residency training) in family medicine and eight other major general specialties, as well as clinical education for future dietitians, physician assistants, physiotherapists, occupational therapists, speech-language pathologists, audiologists and pharmacists (Strasser et al., 2018). Like the MD program, these programs provide DCEL in a range of community and clinical settings in the region. NOSM's residency training is targeted on practicing in Northern Ontario or similar rural/remote areas. Once in practice, NOSM provides continuing education/professional development to support and maintain Northern Ontario physicians. In addition, graduate studies programs encourage the expectation that these health professionals will pursue academic careers with NOSM. The purpose of this chapter is to describe DCEL model as a successful example of ICEE with benefits for learners and communities towards fulfilling NOSM's social accountability mandate.

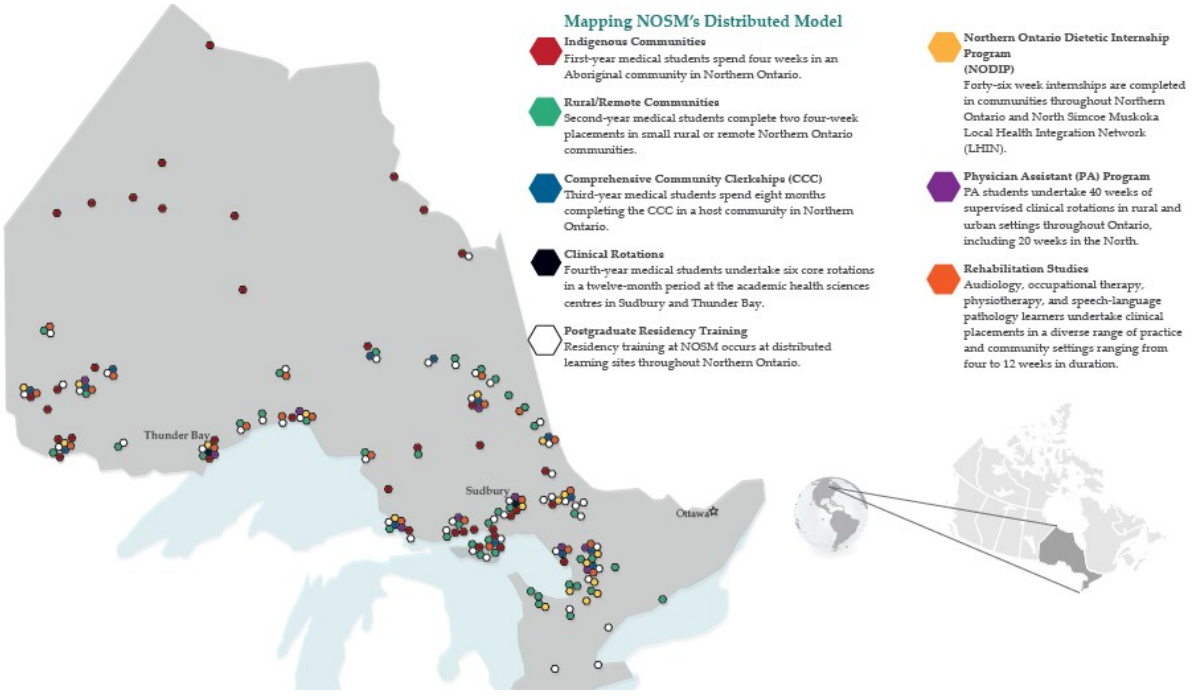
METHODS

A variety of studies using a range of quantitative and qualitative methods provide the evidence on which this chapter is based. These studies include research collaborations between NOSM and the Centre for Rural and Northern Health Research (CRaNHR), which track NOSM undergraduate and postgraduate medical learners (Hogenbirk, French et al., 2015), as well as assessing the socio-economic benefits of NOSM (Hogenbirk, Robinson et al., 2015). Administrative data from NOSM and external sources, as well as faculty-led surveys and interviews of students, graduates, and other key informants provided the data for these studies. In addition to the tracking and impact studies, there has been specific research focused on the NOSM MD admissions process, the first year Indigenous Community Experience, the Comprehensive Community Clerkship and the impact of NOSM on physician recruitment in Northern Ontario communities. Ethics approval for these studies was granted by the Research Ethics Boards of Laurentian and Lakehead Universities.

RESULTS

Immersive community engaged distributed learning occurs in over 90 sites (see Figure 7.1) and relies heavily on information communications technology to connect the sites in real time or asynchronously. The NOSM Health Sciences Library provides an extensive digital library service which, via the internet, provides access to educational resources and information similar to that in urban teaching hospitals. Community engagement, the central feature of DCEL, occurs through inter-dependent partnerships between the School and the communities for mutual benefit. In the health system, community engagement is a key strategy to fulfil the health system's commitment to social accountability and transformative change. Community engagement in medical education involves active community participation in curriculum development and delivery, as well as hosting learners and helping them to appreciate the social determinants of health at a local level (Strasser & Strasser, 2020).

FIGURE 7.1: NOSM's distributed learning sites.



Indigenous Cultural Immersion

Students are placed in pairs in one of 36 Indigenous communities during the final module of their first year. The placement is an immersive cultural experience in which the students are there to learn from the community about the history, tradition, culture, social and health issues. It helps students in the development of culturally safe care for Indigenous patients and provides an opportunity for students to begin developing community relationships as they explore the context of Indigenous healthcare in Northern Ontario. A faculty-led mixed methods study of the impact of the immersion experience on NOSM students and graduates included semi-structured interviews involving eight NOSM MD graduates from 2009 and 2010 who undertook their Indigenous placements in First Nations, including one remote fly-in community. Five graduates are now family physicians and all have Indigenous patients. Key themes arising from the interviews all centered around the common thread of the value of immersive community-engaged learning. "…we were with a nurse practitioner for some of the placement… Seeing how she kind of dealt with more culturally sensitive issues… and incorporated traditional medicine was probably the take home message that I got from that." (Participant 1). These sentiments are echoed by a community member who wrote in a recent commentary (Vlasschaert, 2016, p. 44) "We get to teach our values, our customs, and our ways in a practical and hands-on manner."

Many of the graduates' comments included references to greater understanding and empathy with patients from the cultural groups of Northern Ontario. "I think that you gain… insight from this experience, how culture does play a huge part in daily life and decisions then that is true of all culture. That is true of all races." (Participant 4); "All of those things that we would consider basically standard but are not there in some of these smaller fly-in reserves." (Participant 7); and "Everybody needs to be treated the same way if you're from any country in the world, any culture in the world you need to be treated the same way… just treat each other as humans." (Participant 8)

One Indigenous participant had lived experience and knowledge of Indigenous culture. For this former student, the impact of the immersive community engaged curriculum was on fellow students and the relationship building between NOSM and Indigenous communities.

> It's hard for me to separate because I'm an Aboriginal person… So I mean, this one experience for me may not have prepared me for practice but what it did do was help me see how the medical school is impacting others. How it's that link between the Aboriginal community and the school is so important and how my colleagues are changed. So it makes me feel very positive about the experience because of that. (Participant 4)

As a final requirement of the placement, students prepare a reflective presentation that is shared first with their host community, and then upon return to the university, with classmates and faculty. Students viewed this activity as worthwhile in both community and university contexts.

> I find for the members of the community… I felt it was more important to them. We had a presentation at the end in terms of what we've done, what we've learnt. And I think, don't know, half the community was there. Like, for me I felt like they got a lot from it." (Participant 3)

Analysis of these interviews highlighted the need to ensure that communities are full partners in the process. Most former students reported feeling welcomed and integrated into community life. "We were completely invited into the community… We had more than one celebration with the drummers that came out and the dancing and the feast and we were absolutely adopted by that community." (Participant 5). However, when in one community where the placement coordination responsibilities fell to non-local

nurses, then the experience was different: "I wouldn't characterize it as welcoming necessarily. The two nurses who worked at the nursing station there were reasonably welcoming. … But we didn't really get too much of a reception from members of the community at large" (Participant 7). Although there were some exceptions, the overall evaluation from the respondents was that the cultural immersion experience was worthwhile, had lasting effects on their knowledge and practice, and provided an effective learning environment.

Comprehensive Community Clerkship (CCC)

After the first CCC, interviews were conducted in 2008 with 46 people, including students, faculty members, site liaison clinicians, other clinical faculty members, site administrative coordinators, and health service managers (Couper, 2008). Respondents were overwhelmingly positive about the CCC. Students experienced a great variety of exposure to a wide range of clinical problems, and, through taking responsibility for patient care, they reported having developed clinical competence as well as in overall maturity. Students were actively engaged in their learning process, and sites were able to offer variety and flexibility. Students were exposed to rural family practice and primary care, to the healthcare team and to the roles of a doctor in rural and remote communities. The experience of continuity of care of patients, and ongoing, longitudinal relationships both with patients and with colleagues, enhanced this exposure and learning. The impact of continuity of care alone on students is a major benefit; students see and learn about the whole life cycle of their patients, their health and disease, rather than learning around the acute events and, often, highly complex diseases that predominate in tertiary care hospitals. Students reported that their learning was further enhanced by the mentoring relationships that developed between clinical teachers and students. Clinical teachers in turn reported being stimulated by the experience, as were members of the broader healthcare team. In addition, clinical teachers and other healthcare providers appreciated the longitudinal relationships with students, the extra assistance students provided in patient care and the value of faculty development. The potential for the CCC as a recruitment and retention tool was seen to be important as well.

In 2011-12, the lived experiences of 12 CCC students were explored using "guided walk" interviews before, during and after their clerkship year (Dube et al., 2014; Dube et al., 2015). This specific methodological approach was suggested by recent NOSM graduates who were key informants to the study and involved the researcher travelling to and spending time with each student. The guided walk was chosen with the aim of gaining accounts of the participants' lived experiences during their clerkship in ways (and places) that were significant to them. This meaningfulness was achieved through eliciting, and then situating, their stories within the communities in which they had gained their experiences. Data were gathered during walks through community hospitals, clinics and in neighborhoods, and to intended destinations such as coffee houses. Findings from this research highlighted adaptive strategies involved in the transition processes of clerkship students: from classroom to clinical learning; dealing with disorientation and restoring balance; and developing professional identity formation as a future physician. This research also identified students' sources of social support during the CCC, specifically clinical teachers, peers, family, health professionals and community members. The study findings underscore the important aspects of the relationships between medical students and the sources of social support as a feature of ICEE. The students' social supports helped them to manage the demands and challenges of their clerkship more effectively.

The contribution of general community members stands out as a feature of the CCC. The students, without exception, described their reception as welcoming and also commented on how the communities demonstrated an interest in their achievements. The students' immersion was largely facilitated by support from members of the community in promoting broadly that the medical students were completing their clinical training there, and that together the community collectively contributed to providing a positive

learning experience. The students felt the patients they encountered in clinical settings had increased awareness of their presence in the community which facilitated the patients' willingness to allow the students to participate in their care. One student commented that "We do feel as though the community enjoys having us here. That in itself is supportive. Not once have I felt that we aren't really accepted [or] that they don't want the medical students here" (MS3-post).

Entry and exit interviews of NOSM MD students and subsequent interviews of practicing NOSM graduates have provided further data on the student experience, including their perceptions of career directions and choice of practice location, and their experience of rural generalism (Strasser & Cheu, 2018). A NOSM student focus group undertaken by the Canadian Federation of Medical Students (CFMS) in 2010 indicated that: "clinical experiences during (the CCC) are more substantial than anything in traditional medical school experience" and that the CCC: "creates 'generalists' and encourages students to maintain a broad focus". NOSM students and graduates consider generalist care as a comprehensive service with a strong focus on responding to the health needs of the community they serve, reflecting adherence to social accountability. A rural medicine 'true generalist' is viewed as a physician who provides care ranging from promoting prevention to performing specialist tasks. One student observed that: "Having had eight months in [my CCC community] last year, I quite enjoyed it and I see that that would be a place I would be happy practicing in. The bottom line is that one can always learn. The key of rural practice is to stay resourceful and learning [*sic*] all the time." In contemplating the immersive CCC rural practice experience, another student reflecting on rural medicine commented that: "You don't know it until you live it" (Strasser et al., 2018, pp. e33–e43).

DISCUSSION

NOSM has been successful in graduating physicians and other health professionals who have the skills and commitment to provide care where it is most needed in rural and underserved communities. Ninety-two percent of all NOSM students come from Northern Ontario with substantial inclusion of Indigenous (7%) and Francophone (22%) students. Most years, all graduating students have been matched to residency programs in the first round of the Canadian Resident Matching Service (CaRMS) with 62% of NOSM graduates having been matched to family practice (predominantly rural) training. Seventy percent of NOSM residents (graduates from both NOSM and those from other medical schools) have chosen to practice in Northern Ontario after completing their training and 94% of the doctors who completed undergraduate and postgraduate education with NOSM are practicing in Northern Ontario (Hogenbirk et al., 2016; Strasser, 2016). Many NOSM graduates are now faculty members and an increasing number have taken on academic leadership roles in the School.

Findings from various studies highlight immersive community engaged education as central to NOSM's distributed learning model. Active community participation is a feature of the four-week Indigenous Integrated Community Experience and the eight-month CCC. In general, learners and communities report net benefits from participation in NOSM programs.

The term community engagement has been adopted by universities to describe relationships which vary from student recruitment to fundraising to formal partnerships which achieve specific purposes. Generally, universities are in large cities so community engagement is particularly challenging for remote rural communities (Hodge et al., 2016). For NOSM, community engagement occurs through interdependent partnerships between the School and the communities (Strasser et al., 2018).

Implementing community engagement for mutual benefit is, in reality, quite challenging. In general, communities view academic institutions as distant "ivory towers" that only approach communities when

they are looking to benefit the institution. This preconception has been the case particularly for Indigenous communities. Consequently, engaging communities as genuine contributors and as shared decision makers requires considerable effort. Effective strategies that promote mutually beneficial partnerships involve frequent discussions and regular face-to-face contact between NOSM personnel and community members. This relationship is facilitated by formal collaboration agreements and organizational structures such as the 17 local NOSM groups that function as steering committees in communities and are a mechanism by which NOSM is a part of the community and the community is a part of the School. In addition, there are two Reference Groups that are advisory committees on the health needs of Indigenous and Francophone populations in Northern Ontario and staff in the communities are hired to work for the School. It is an ongoing challenge to facilitate meaningful, reciprocal collaboration and ensure that suggested improvements are made, while meeting accreditation criteria and other external constraints.

There is evidence that NOSM's community engagement approach is beneficial to the communities. For example, researchers from the University of Toronto and Waasegiizhig Nanaandawe'iyewigamig Health Access Centre conducted a study of medical learner elective attachments in Kenora, Ontario and found a difference between trainees from NOSM and from other Ontario schools (Coke et al., 2016). Interviewees observed that NOSM learners had superior baseline knowledge of the historical, political and geographical issues affecting rural communities, including Indigenous peoples, and a sound understanding of the social deprivation that exists in some First Nation communities. In addition, a joint CRaNHR-NOSM study found that NOSM is making a substantial economic contribution to the communities of Northern Ontario not only directly in terms of new economic activity but also indirectly through economic opportunities that are incidental to specific NOSM activities (Hogenbirk, Robinson et al., 2015). Another CRaNHR-NOSM study showed that small communities that had previously struggled to recruit and retain physicians have moved from perpetual crisis mode to planning ahead (Mian et al., 2017). Before NOSM, the eight rural communities in this study had approximately 30 full-time equivalent (FTE) physician vacancies. At the time of the study, they had but one vacant FTE physician position.

An important aspect of ICEE is the fact that students are learning in the community and clinical settings, where they are expected to pursue their careers after completion of their training (Strasser & Strasser, 2020). This contrasts substantially with the conventional Flexner model of education in which clinical education occurs in a single context, the teaching hospital. From an educational perspective, learning in context is consistent with WIL, as well as service learning (Seifer, 1998) and socially accountable education (Strasser & Neusy, 2010; Palsdottir et al., 2016). The immersion aspect of ICEE is enhanced by active community participation in the development and delivery of education programs that help students to appreciate the social determinants of health at the local level and contribute to the service-learning aspects of the program. In addition, the community plays a critical role in hosting students. There is a substantial future recruitment opportunity through community engaged immersion. If the students and their families feel at home in the community and valued by the community, they are much more likely to decide to return to this community to join the local healthcare team in the future. There is growing evidence that medical graduates who have undertaken immersive community engaged education are much more likely to choose careers in family medicine/general practice or other generalist specialties (Palsdottir et al., 2016; Strasser, 2016; McGrail et al., 2018).

A key element of the NOSM model is supporting local physicians and other health professionals in communities as the principal teachers of medical students. The vast majority of NOSM's 1400 faculty members are stipendiary clinical faculty practicing in the distributed communities of the School's campus, Northern Ontario. The NOSM faculty appointment and promotion policy recognizes all faculty members as of equal standing with the same opportunity for academic promotion and career progression. This

provides particular challenges for faculty development that are addressed (1) through distributed faculty development: an annual faculty development conference, Northern Constellations, which brings together over 250 faculty members for two days of intensive interactive workshop sessions, and (2) locally: Local Education Groups established by the NOSM academic alternative funding plan, overseen by the Northern Ontario Academic Medicine Association (NOAMA) (Sherman & Warry, 2014).

Although the term "work-integrated learning" does not appear in the medical education literature, Flexnerian clinical education is consistent with the definition of WIL in that it "students are exposed to real-world problems that typically represent the variety of work a professional might experience in their particular field of practice" (Cooper et al., 2010, p. 45). In addition, the goal of health professions education is to produce "work ready" health professionals. ICEE is a development in health professions education that goes further than conventional WIL, involving partnerships that start with the community's perspectives and priorities, rather than those of the academic institution.

Community engagement, with active community participation supporting the immersion of students in community and clinical settings, is more than the usual "employer" or "stakeholder" involvement in WIL, consistent with Community Engaged Learning (CEL) as described by Brabazon et al. (2019). The community contributes to the development and delivery of the education program and the immersion motivates students to focus on the health needs of the people they are serving, consistent with social accountability. During the NOSM CCC, the students develop supportive interpersonal relationships with their clinical teachers, their peers, their family members, health professionals and community members that lend credence to the view that it "takes a community to train a future physician" (Dube et al., 2019 p. e12).

This chapter has presented ICEE as a form of WIL in one medical school, the Northern Ontario School of Medicine with research that has no external comparators and no consideration of other possible contributors to the success of NOSM's DCEL model. There are opportunities for further research to explore the experiences of communities in-depth, for comparative studies with other schools in Canada, as well as in other parts of the world. For instance, NOSM is a member of the Training for Health Equity network (THEnet) and NOSM-CRaNHR researchers are participating in studies that explore implementation, evaluation and outcomes of these socially accountable schools. In addition, there are opportunities for research and educational developments that connect ICEE and WIL.

CONCLUSION

This chapter has presented NOSM as a case study of Immersive Community Engaged Education (ICEE) whereby students are living and learning in a range of community and clinical settings. Beyond the usual work placement, active community participation with prolonged immersion justifies the description of ICEE as more CEL than WIL.

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8 Community-engaged learning (CEL) in preparation for International Development Co-op

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ABSTRACT

This study will consider the benefits associated with Canadian-based community-engaged learning (CEL) in preparation for a long-term International Development Work-Integrated Learning (WIL) experience. We will consider Kolb's (1984) EL Cycle as an analytical tool, as this cycle can create nuanced, deepened, and more thoughtful reflection by giving our students opportunities to complete this cycle more than once. The initial "active experimentation" can occur in a setting where the student is most comfortable (e.g., the local). Once the student embarks on a more long-term cultural experience, they once again enter the cycle with an enhanced ability to reflect and to conceptualize their positioning in the world. The role of reflection and of cultural competence is emphasized, particularly the ability of students to understand their own identities and positionalities within a community. This could only enhance their competencies when in cultural spaces, either within Canada or abroad.

Keywords: *international development studies, community-engaged learning, co-op, self-reflexivity, cultural competence*

INTRODUCTION

The International Development Studies (IDS) Co-op program at the University of Toronto Scarborough (UTSC) began coordinating co-op internships in the non-profit sector in the mid-1980s. At that time, there were few IDS degree programs in Canada and even fewer that sent students on internships in the Global South. Presently, numerous Canadian universities offer IDS-related degrees, and internationalization is a key curricular and co-curricular objective of institutions. Despite this, the IDS Co-op Program remains unique for committing to an international WIL (IWIL) program structure that is almost a year in length. The program is embedded in the academic department, extending the benefits of being a curricular WIL experience. The long-term nature of the co-op requires robust student preparation, which is a core component of the program. With almost forty years of experience, the program has adapted to extensive changes in the international arena, including: the advent of email and social media, the 2008 recession, the eruption of Eyjafjallajökull and, most recently, the COVID-19 pandemic. These realities coupled with ever-increasing global interconnectedness has meant that students need to be prepared to contend with a variety of tensions that they will inevitably experience while on IWIL. As the program grows, it behooves us to remain introspective and consider opportunities to further enhance the learning of our students and the positive impacts for our program partners. Indeed, our Southern program partners have expressed the value of students that arrive with an understanding of their own local context. With this chapter, we investigate the question: w*hat are the potential benefits associated with CEL in preparation for an extended international co-op experience?*

We propose that in addition to the more rudimentary pre-departure training elements, students could benefit from preparation that incorporates CEL. Of particular importance is the opportunity for extended reflection of their positioning in the world. With this chapter, we aim to unpack the importance of such opportunities prior to students embarking on a longer work-integrated learning (WIL) experience. The role of reflection and of cultural competence will be discussed, emphasizing the ability of students to understand their own identities and positionalities within a community. This can only enhance their competencies whether in Canada or abroad.

Use of Terminology

Global North and South are used in this chapter in acknowledgement of two key dimensions of these terms: geography and power (Maringe & De Wit, 2016). Colonial history remains pertinent in discussions of international development (ID), WIL, students from Global North institutions, and hosting organizations based in the Global South. WIL is defined by CEWIL (Cooperative Education and Work-Integrated Learning Canada) as those which: "normally include an engaged partnership between an academic institution, a host organization/employer, and a student" (CEWIL, 2020). "Co-op" and "EL" are used when referring to a source already titled (e.g., the IDS co-op program, and Kolb's EL mode); we view these terms as synonymous with WIL for the purposes of this chapter. The conceptualization of CEL in this chapter draws from the four components of 'critical CEL': being self-critical, engaging with cognitive dissonance, focusing on reciprocal relationships, and emphasizing reflection (Brabazon et al., 2019). This translates well to the needs of preparing IDS co-op students for their long-term international placements, given the emphasis on reflection, self-critique, reciprocity, and wrestling with the dissonance between academics and the field; particularly given that these students are being trained at an elite, Northern institution. This chapter also draws from the three elements of CEL outlined by the University of Toronto's white paper on EL: "a structured learning experience," "partnership with community for the purpose of supporting priorities identified by the community," and "enhancing [of] students' disciplinary knowledge and sense of social and civic responsibility" (University of Toronto, 2017). This helps to situate the context within which this program operates, and therefore, which norms of CEL it is most likely to align with. Brabazon et al. (2019) enable us to move past the limitations of that sole conception.

METHODS

This chapter considers the IDS Co-op Program at the University of Toronto (UofT) Scarborough as a unique case study of long-term IWIL that is embedded within an academic center: The Centre for Critical Development Studies (CCDS). With an ever-increasing commitment of UofT to expanding WIL and CEL offerings at the institution (2017), and an expansion of CEL coursework at CCDS, it is a prudent moment to consider how CEL might better prepare students for meaningful reflection and work during their co-op.

A literature review has proved helpful for this study, as the program structure and strategic direction fit neatly into published scholarship in the areas of WIL, CEL, and cultural competence. Though there is considerable work on WIL and related career outcomes (Tiessen et al., 2018), this chapter is situated in relation to the need for substantial dialogue between CEL and WIL, particularly noting the self-critical and self-reflective components of CEL scholarship (Brabazon et al., 2019). Additionally, it is in alignment with scholarship that seeks to bridge literature between CEL and North-South learning opportunities in order to illustrate ideal pedagogies for these experiences (Sutherland et al., 2020); this is directly related to the growing needs of an international program like IDS co-op. Literature on ethical community-university partnerships (Tarantino, 2017; Tiessen et al., 2018) also assist in contextualizing our responsibilities towards the learning outcomes of students, balanced with reciprocal engagement with program partners.

Finally, we employ Kolb's (1984) EL Cycle, which considers a 4-part cycle consisting of concrete experience, reflective observation, abstract conceptualization, and active experimentation. This will be applied as an analytical tool to elucidate the potential benefits and learning outcomes of CEL being used in student preparation prior to the international co-op.

CASE STUDY: IDS CO-OP

For almost forty years, the IDS co-op program has sent students on IWIL opportunities, predominantly in the Global South. In this section, we will outline the key features of the undergraduate 5-year program.

The inaugural design of the IDS co-op program considered the need for global development workers who had the combination of theoretical and practical experiences, including "confronting or getting involved in and thinking about the challenges of [Global South] countries" (Berry, 2009, p. 1). Increasingly, our students and some of our partners have articulated that while our program offers robust pre-departure training, they would benefit from understanding their local community context prior to entering the new community abroad. This aligns with UTSC's strategic plan "Inspiring Inclusive Excellence", which articulates community engagement and social justice as priorities (UTSC, 2020). The international experience remains paramount to our program's strategy, but we argue that increasing opportunities for students to engage in their local community equips them for this international experience, while ensuring that we are thoughtfully and methodically contributing to the local community.

IDS CO-OP PROGRAM STRUCTURE

Student Preparation: Years 1-3

The IDS Co-op Program prepares students through structured, non-credit classes that are embedded in the students' academic coursework. This has multiple benefits such as the freedom for students to authentically grapple with difficult concepts and emotional material – including identity, power and privilege, and culture shock – without the pressure of grades.

In the first year, incoming students explore the stages and dynamics of professionalism in the ID field. The course culminates with the completion of an application simulation and creation of an IDS Co-op action plan. In second year, students are primarily focused on the increasing demands of their academic coursework, and receive office support on an as-needed basis. We have proposed the formation of a structured second year course, and are reimagining the first to third year scaffolding of preparation through sustained CEL, thus, inspiring this chapter. In the third year, students enroll in the final preparatory course. The course includes presentations by hiring organizations and pre-departure training. In both preparatory courses, community speakers share their journeys to the ID field; so, while there is involvement of community in facets of preparation, there is no CEL as part of the preparatory curriculum.

The infusion of CEL into the preparatory model would need to consist of "partnership with community for the purpose of supporting priorities identified by the community" (University of Toronto, 2017, p. 8) and "reciprocal relationships" (Brabazon et al., 2019). This represents a shift in IWIL student preparation as the focus moves away from the professional capacities of these students, to the growing ability of students to engage in sustainable and self-reflective work. The opportunity within our current preparation structure is in its extended nature. Students effectively spend the first three years preparing for and reflecting on their skill set, professional identity, and how this relates to the ID field. The simulation activities help them to unpack their professional identity in a theoretical way; however, this chapter suggests that CEL as preparation could enable students to be more deeply prepared for the dynamics of an intercultural workplace context.

LITERATURE REVIEW: CRITICAL CEL AND CULTURAL COMPETENCE

As a co-op program situated in a center for Critical Development Studies, which trains students for the ID sector, it is crucial to remain aware of the impacts of the broader neoliberal agenda on initiatives like WIL.

While the outcomes of a co-op program must consider the employability of its students upon graduation, the authors of this chapter greatly appreciate critical engagement with the tendency to "worship employability as the main objective of higher education" (Fook, 2017, p. 405). As such, drawing from notions of 'critical CEL' (Brabazon et al., 2019) that distinguish it from traditional WIL, frame the need to incorporate CEL as preparation for IWIL; namely, the four components of being self-critical, engaging with cognitive dissonance, focusing on reciprocal relationships, and emphasizing reflection (Brabazon et al., 2019). Indeed, this investigation is motivated by the desire to engage in self-reflection and self-critique, to ensure that we are emphasizing reciprocity in relationships with community, and to acknowledge the cognitive dissonance between critical theory and practice in the field.

Tiessen et al. (2018) highlight the perspectives of host organizations where Global North individuals engage in community work. Utilizing participatory methods with hosting organizations in nine different countries, they exposed the tensions that arise when critical theory is "disconnected from the practical realities and the complexity of lived experiences of those who host...." (Tiessen et al., 2018, p. 10). Our desire to examine CEL as preparation for IWIL, is impacted by this disconnect. Though students are deeply entrenched in critical theory, we hope to minimize the bewilderment that comes from the need to apply these frameworks to a practical sphere. The outcomes of CEL have been found to directly address that chasm. Cited benefits of engagement in CEL have been noted as: change in perspective, critical thinking skills, and group maintenance skills, such as facilitation and decision making (Tarantino, 2017). These outcomes appear to bridge the need for self-reflective practitioners who possess strategic professional skills. Similarly, the cited learning outcomes engage with the notion of 'deep' learning. Namely, depth of knowledge, depth of understanding, and depth of integration between interests and coursework (Tarantino, 2017).

Other scholarship has placed emphasis on moving past transactional relationships and engaging in notions of 'self-realization' and 'self-fulfillment' (Sutherland et al., 2020). This aligns with our programmatic values but it can be challenging to measure such learning outcomes. How can we conceptualize IWIL in a way that is not transactional? It is our intent in this chapter to unpack how CEL can be a useful tool in the preparation for IWIL; however, the impacts of this on community members and organizations must be considered. It is suggested that the potential for North-South CEL programs is in "provok[ing] a shift in how participants relate to themselves, to others and to knowledge" (Sutherland et al., 2020, p. 386) and it is this element of CEL that must be incorporated into IWIL preparation.

It has been noted that an extended period (6 months+) for IWIL is ideal for the activation of "cultural engagement" (Tiessen, 2018, p. 142; Heron, 2011, p. 113), which we view as paramount to cultural competence. Our program has been at the forefront of understanding the importance of longer placements – we have mandated a minimum 8-month requirement since the program's inception. However, students must still contend with the challenges of entering a new community. As a program of ID, it is crucial to avoid replication of short-term 'voluntourism' or opportunities that feed 'white saviorism,' and instead prioritize long-term, sustainable, and mutually beneficial relationships with WIL partners. Literature suggests that students struggle with actively engaging in their community, and that cultural competence is not an automatic response to moving to a new environment (Epprecht, 2004; Cook, 2007; Heron, 2007; Batey & Lupi, 2012). Conceptualizations of students' inabilities to truly engage in their community include: that of the student never leaving the veranda (Ogden, 2008); the "tourist gaze" (Urry, 1990); and the tendency of 'othering' the new community (Ehrichs, 2000, p. 7). A component of this disconnection from community can be rooted in student motivations for these international opportunities, which are often more focused on gaining experience for future career endeavors (Li & Bolaria, 1993; Tiessen, 2018), rather than community engagement. CEL can also ensure that students attending university in Scarborough have an opportunity to engage with the community outside the confines of campus.

It may also be an example of the power differentials that created the "asymmetrical power relations" prevalent in IWIL programs (Tiessen & Grantham, 2017; Tiessen, 2014). Sutherland et al.'s (2020) work on CEL for North-South learning experiences, suggests that it is important for learning and reflection to go beyond the 'absolving of discomfort' or 'acknowledging of complicity.' Rather, it ought to focus on "disrupting the narratives of progress, development, universality, mastery, superiority and innocence" (Sutherland et al., 2020, p. 391) that underpin a student's relationship with their own self-image. It is therefore important to nurture the self in a student's reflection and relationship to community, whilst inevitably guiding students *beyond* the self.

Indeed, students will contend with immense global challenges when entering their ID co-op placement – work terms that usually occur in the Global South. The political, economic and social structures are often significantly different from the student's experience in Canada. For international students, even if the Global South is their home region, they return to work with a new global lens, honed through theoretical work in IDS. In both instances, students must contend with differences in culture that may run contrary to their own personal values.

A critical learning objective of IWIL experiences is cultural competence, which can greatly enhance the student's ability to enter these new contexts. We take Bennett's (2004) view of using cognitive constructivism to "people…. more or less 'sensitive' to cultural difference" (p. 73). This would be the overarching goal of attained cultural competence – that our students enter new environments sensitive to complexities of cultures and aware of their own ethnocentric tendencies. Though we provide students with the knowledge of intercultural competence, we emphasize that these skills are best honed through practice. This parallels Gordon and Mwavita's (2018) findings that students who participated in courses undertaken in international settings have higher rates of intercultural sensitivity. In consideration of Hammer et al.'s definition of intercultural competence – "the ability to think and act in interculturally appropriate ways" (Hammer et al., 2003, p. 422); the student will not know what is "appropriate" until entering the culture, but can work on their cultural sensitivity such that they are attuned to learning about the cultural nuances of a new environment. Kealey's (1989) seminal work of Canadian technical ID workers indicates that cross-cultural adaptation abilities increased as workers spent time in the field. Interestingly, this study did not find a strong correlation between previous time spent overseas and successful adaptation into the new environment. Instead, effectiveness in intercultural adaptation was associated with the attainment of skills – participation, interpersonal skills and altruistic values (Kealey, 1989, p. 409).

We offer CEL as means to strengthen cultural competence in a community in which students are more familiar, as students can operate through Kolb's (1984) EL cycle more than once; however, we must remain mindful that multiple EL cycles will only be effective insofar as they are scaffolded to maximize self-critique, engagement with cognitive dissonance, reciprocal relationships and reflection (Brabazon et al., 2019).

KOLB'S (1984) EL CYCLE AND IDS CO-OP

Kolb's (1984) EL theory recognized that for WIL opportunities to best foster student learning, students need to flow through a 4-part cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation, thereafter, re-entering the stages through a newly adapted concrete experience. Through our work with IWIL students, we have observed that this cycle is not a presumed trajectory. Instead, students require training and prompting to encourage active reflection, conceptualization and experimentation. Pre-departure training and mandatory monthly check-ins with the IDS Co-op Manager are checkpoints where students are encouraged to analyze, and reflect on, their own experiences. Still, more

reflection and action could be facilitated through practice engaging with the EL cycle, such that the steps become second-nature (e.g., reflection requires practice and action – see Schön, 1983; Kehily, 2012).

We posit that CEL prior to IWIL affords students an opportunity to utilize this cycle in a more familiar context, learning the cycle through practice (Finlay, 2008). Here we draw on work of theorists including Easterley (2006), Heron (2007), Cook (2007), Bell (2013), Hanchey (2019), Tiessen (2008) who identify the othering and the 'white saviorism' that is rampant in Northern volunteers entering the South. Community engagement must be carefully executed to ensure the centering of community priorities and to avoid exploitation. Langdon and Agyeyomah (2014) note that self-reflexivity can exacerbate inequalities when students predominantly think through the apparent "privilege of positionality...and not …the way power circulates" (p. 48). We argue that this demonstrates the need for students to practice critical reflection – through a CEL experience - prior to engaging in IWIL.

Engaging in critical CEL heightens students' awareness of realities in their own communities, which can help them to foster a sense of "social and civic responsibility" (University of Toronto, 2017) in their local community. By enabling students to recognize and engage with challenges in their own context, they could improve their engagement in international contexts by lessening the 'othering' critiqued in North-South student programming (Ehrichs, 2000). It is important we mention that by 'familiar context' we do not disregard the need for ethically robust and contextualized training prior to engaging with communities. However, while students may enter an unfamiliar context for their CEL experience, they do not need to contend with broader personal challenges that students entering IWIL face, including navigating new transportation and banking systems, locating accommodation, understanding emergency protocols, and building personal relationships. Without these additional challenges, students can spend time understanding the community context with a greater awareness of the socio-political and historical factors. Training students to enter a new environment with differing cultural norms is an important component of our pre-departure training in the third-year co-op class; students can be better prepared for working and living within the complexities of these differences through experiences in their home context. While communities and workplaces both can have cultural differences from the student's, the student working in the local context can leave their daytime experience and return to the comfort and familiarity of their own community at home.

Batey and Lupi (2012) suggest that IWIL experiences carry the potential for distinct types of transformation which can occur at various stages for the participant. In our experience, some of these are perceptible during the initial stages, such as overcoming isolation, acquiring the ability to thrive independent of the usual support network, and a gradual understanding of the surface culture (Holtzman, 2014). The transformational opportunities that emerge throughout and after the experience can include an increase of practiced technical skills, an enhanced sense of professional identity, an ongoing forging of connections between classroom theory and practice, a growing knowledge of the deep culture (Holtzman, 2014), and a better sense of their identity in relation to the world.

A critical learning objective of IWIL experiences is cultural competence. Without the appropriate reflection and experimentation articulated in Kolb's cycle, students are likely to lack cultural competencies, particularly in the beginning. In contrast, we wish for students to enhance their reflective abilities, leading to increased capacity to adapt, and thus enriching their deep engagement with the host community. Students ought to become "active participants" in their learning in order to critically reflect on their practices (Thomson & Pascal, 2012). CEL as preparation can be leveraged to support the growth of students to exhibit "a critical hyper-reflexive approach to social change engagements" (Langdon & Agyeyomah, 2014, p. 43). We see notable parallels to Kolb's EL framework: students need to be in a continuous cycle of reflection of self and reflection of their practices, such that they better conceptualize their impact on

communities, and adapt their practices where necessary. By exercising these steps in CEL prior to IWIL, it encourages reflection and adaptation in the local context where it can be wrongly assumed that students will be professionally and ethically engaged.

DISCUSSION

In consideration of our program as a case study, the literature surrounding CEL, reflection, and cultural competence, and Kolb's cycle as an analytical tool, this chapter examines the potential benefits and learning outcomes of CEL as preparation for IWIL. Before students engage in any form of experiential learning, they need training in community engagement practices, recognizing their own positionality within the new community. During the first CEL opportunity, we would offer students continuous opportunities for group discussion, walking students through each component of Kolb's learning cycle so that it is apparently understood and practiced. Throughout the concrete experience of CEL, students are brought through the other components of Kolb's cycle – reflective observation, abstract conceptualization, and active experimentation based on their observations and conceptions with the intent of improving their own work in the community. By the end of the CEL opportunity, students should be familiar with Kolb's cycle, employing it even when not directed.

This guided approach should assist student learning; as well, it will initiate student reflections on their role and impact in the community. Reflection is a deeply personal journey, and as educators and WIL practitioners, it is imperative that we foster an atmosphere that can engage with students at various stages of that journey. The opportunity to go through the Kolb's cycle multiple times ensures that students have the breathing room needed to raise consciousness of the self's impact on a community. It is known that long-term engagement with a community enhances the quality and benefits of EL (Roberts, Mason, & Marler, 1999) so it will be important to consider how the CEL and IWIL can be integrated to add sustained value to a community.

We agree with the UofT white paper that CEL must prioritize the articulated desires of the community (University of Toronto, 2017). While prioritizing this learning trajectory, it is also the responsibility of WIL practitioners to minimize harm to community organizations that graciously educate students. It is crucial that community not be used as a playground within which to unlearn unethical and inequitable behavior. Experiential learning in all forms ought to not simply benefit students, but must be mutually beneficial to the community, whether locally or internationally. When students prepare for IWIL through a structure that centers the priorities of the community, this has the potential to resonate with internalized notions of who possesses valuable knowledge and who ought to be included in decision-making processes; crucial questions to contend with in the ID field.

Kolb's model gives opportunities for careful pause and reflection where we emphasize that individuals must assess their own practices within the lens of community priorities. When students engage in the IWIL experience, they will already be accustomed to using Kolb's cycle, which should facilitate the transition to learning and working in a completely new environment.

Looking Forward

IDS can move past the traditional North-South models by leveraging opportunities in the local campus community via CEL. The IDS Co-op Program provides an excellent case study for examining a holistic IWIL program, unique in both its robust practices and long history of novel programming. As IDS Co-op continues to remain cutting-edge, we view an opportunity for all IWIL programs to strengthen practices by adopting CEL as a desired prerequisite to working abroad. Though our aims are reflected in our

administrative duties (improving IWIL), as development practitioners we equally strive for CEL opportunities that are thoughtful, sustainable, and grounded in best practices, recognizing the harmful impacts plausible without an informed, participatory approach. We offer the following recommendations:

RECOMMENDATIONS

1. IWIL programs use CEL to encourage students to understand their own context prior to departure. This equips students to reflect and contextualize their international experience. It can also positively disrupt the post-colonial tendencies that can arise when students only observe problems in the Southern setting, thus 'othering' development challenges.
2. Students should understand and practice Kolb's EL cycle prior to their IWIL experience.
3. Students should undertake a CEL experience prior to IWIL in the Global South context, which may have the added benefit of decreasing potentials for voluntourism (see Bandyopadhyay, 2019; Vrasti, 2013; Wearing & McGehee, 2013 – for discussions on voluntourism). Further research is needed here but there may be an opportunity for CEL experiences – not associated with travel given their local context – to foster a sense of true engagement, rather than the more superficial attributes that critiques of travel-volunteer work articulate (Guttentag, 2009).
4. The creation of *global citizens* is often cited as a rationale for students to engage in international opportunities (Lough, 2020; Cameron, 2014; Tiessen & Huish, 2014). Further research could investigate if "local citizenship" is gained through CEL, and if this has a direct impact on global citizenship formation during IWIL.
5. IWIL programs which adopt CEL as a precursor to outbound mobility should ensure appropriate research and dialogue occurs, recognizing that CEL practices can harm communities if not enacted thoughtfully and sustainably. ID specialists are not necessarily community engagement specialists; both students and program administrators ought to receive training in CEL from experienced practitioners prior to developing and/or engaging in this work.

CONCLUSION

Exposure to CEL prior to an international co-op placement enables the student to enter the EL cycle (Kolb, 1984) with a strengthened ability to critically reflect and more confidently engage in communities. By exposure to and experience in this cycle through CEL engagements, we posit that students have a greater chance of meaningfully contributing to their IWIL experience through heightened self-reflexivity and cultural competences. The UTSC IDS Co-op Program has been at the forefront of innovative, robust programming since its inception in the mid-1980s. We are appropriately positioned to investigate new opportunities through the emerging and important field of CEL.

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9 A case study of four remote work-integrated learning courses: Teaching online, learning objectives and future teaching

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ABSTRACT

The COVID-19 pandemic forced universities to offer many, if not all, courses remotely. This presented a challenge for faculty teaching Work-Integrated Learning (WIL) courses that had rarely been offered online, especially those that included community partnerships. This chapter tells the story of four varied WIL courses taught remotely for the first time either during the pivot term or in the fully remote term. It details challenges, successes and lessons learned by faculty in meeting student learning objectives and in meeting community partner expectations. Evidence from the cases presented in this paper demonstrated that it was not only possible to teach WIL courses online but with equally positive learning objective results and successful community partnerships. New methods of course design, tools and techniques for delivery and the importance communication with students and community partners discovered in these cases will be useful in teaching remote, traditional and hybrid classes in the future.

Keywords: *work-integrated learning, online, remote, learning objectives*

INTRODUCTION

In January 2020, the University of Toronto Scarborough Campus (UTSC) offered over 220 Community Engaged Learning (CEL) Work-Integrated Learning (WIL) courses across all of its academic units. When the first COVID-19 lockdown forced all classes to pivot online in March 2020, faculty teaching courses that semester had to scramble to find ways for their students to finish the WIL projects remotely. Faculty planning courses for July/August and September terms had to decide if they would include WIL projects in their courses. This chapter tells the story of four diverse WIL courses from the perspective of the faculty members who designed and taught them online either during the semester they pivoted to remote teaching, or in the September semester when they taught online for the first time. The courses included some common and some unique learning objectives. All four faculty found ways to meet their learning objectives by experimenting with different tools and techniques. Experimentation with new teaching techniques led to a variety of suggestions for future courses.

Work-Integrated Learning

According to the International Journal of Work Integrated Learning, WIL is defined as:

> …an educational approach that uses relevant work-based experiences to allow students to integrate theory with the meaningful practice of work as an intentional component of the curriculum. Defining elements of this educational approach require that students engage in authentic and meaningful work-related tasks, and must involve three stakeholders, the student, the university, and the workplace/community. (Zegwaard et al., 2021, p. 1)

Community Engaged Learning

Community engaged learning (CEL) broadly refers to WIL activities in which students contribute to meaningful projects within community for the purpose of addressing existing needs of individuals, agencies or organizations that are not currently being met, as well as enhancing student learning and development. CEL differs from other forms of WIL by its intent to benefit the provider and the recipient of the service equally, as well as to ensure equal focus on both the service being provided and the learning that is occurring (Furco, 2010). Bringle and Hatcher (1995, p. 112) define academic community-engaged learning as an "educational experience that allows students to (a) participate in an organized service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content".

Remote WIL

In March 2020, the COVID-19 pandemic forced most higher education institutions in Canada, as a well as many other countries, to cease in-person teaching and learning. Within a week of the shutdown, UTSC was fully operational online. Since it was toward the end of the term, all courses converted to online formats, including those with WIL projects. All community partner projects were converted to an online format as well. Although the terms remote and online are often used synonymously in this context, it should be acknowledged that when communicating with community partners, faculty, and each other, students may use text and telephone, making remote the more appropriate term, while course delivery is conducted via the internet, thus online.

With the pandemic continuing, the decision was made that the UTSC courses would continue to be offered online-only in September 2020. This led faculty to re-evaluate their plans to offer CEL courses and many decided to wait until January 2021. However, a few faculty members, supported by the efforts of the University's Integrated Learning Experience Coordinators who seek community partners for CEL, and the Educational Development and Educational Technology teams from the Centre for Teaching and Learning, chose to offer WIL courses remotely.

CEL courses taught remotely are not a new phenomenon. Bates (2014, p. 1) stated that "increasingly, faculty members are finding that experiential learning can be applied fully online, through a combination of synchronous tools such as a web conference, asynchronous tools such as discussion forums and/or social media for group work, and e-portfolios and multimedia for reporting." They were, however, not common prior to the pandemic.

Learning Objectives

CEL can lead to more powerful academic learning than traditional classroom-only courses and help students achieve intellectual goals commonly associated with liberal education (Eyler, 2009), including:

- a deeper understanding of subject matter than is possible through classroom study alone,
- the capacity for critical thinking and application of knowledge in complex or ambiguous situations, and
- the ability to engage in lifelong learning, including learning in the workplace.

> Experiential education also identifies the practices necessary for achieving these outcomes, particularly the use of structured reflection to help students link experience with theory and, thereby, deepen their understanding and ability to use what they know. (Eyler, 2009, p. 26)

In a study that involved interviews about students' accounts of their experiences with remote working, Pretti et al. (2020) found that the combination of the three core themes of socialization, productivity, and meaningful work are the necessary ingredients from the students' perspectives for remote WIL. Socialization was defined as both formal and informal processes through which a newcomer develops the attitudes, behaviors, and knowledge to be successful within the organization (Van Maanen & Schein, 1978). Students indicated that to be productive they needed their work situations to be flexible and adaptable. They also indicated that the work they were assigned needed to be meaningful and not downgraded to menial tasks because of the remote work context.

A study of college students tested the power of CEL to facilitate cognitive development (Eyler & Giles, 1999). Students who were involved in intensive, highly-reflective CEL courses showed significant increases in reflective judgment over the course of their study as compared to those in less-intensive WIL courses and those with no WIL experience at all.

Research Questions

There has been little research conducted on remote teaching of WIL courses because it was uncommon until the COVID-19 pandemic. This study was designed to investigate the following two questions:

1) How has remote WIL delivery affected student learning in the four courses studied?
2) How might these experiences affect how WIL courses are taught in the future?

METHODOLOGY

Case study research design is flexible (Robson, 2002), in that it can adapt to and probe areas of planned but also emergent theory. This requires a rigorous approach to the research design, the formulation of research questions and the data collection. "Most researchers find that they do their best work by being thoroughly prepared to concentrate on a few things, yet ready for unanticipated happenings that reveal the nature of the case" (Stake, 1995, p. 55). Yin (1994) noted that a high-quality case study is characterized by rigorous thinking, sufficient presentation of evidence to reach appropriate conclusions, and careful consideration of alternative explanations of the evidence.

Four faculty members at the UTSC campus documented their experiences in transitioning to remote work-integrated learning to consider how this affected their course's learning objectives. A multiple case study approach utilizing inductive coding was used to gather evidence for this chapter. Emerging themes were developed around the two research questions. Comparison of the four case studies revealed what lasting changes might come from this period of remote-only WIL.

For this multiple-case study, data collection and analysis are developed together in an iterative process (Hartley, 2004). Data were gathered through faculty observations and generalized themes drawn from course evaluations. An ethical review was not required since no individual students were surveyed. Themes were developed from the data and compared to existing theory from the literature, patterns were observed, conclusions were made, and recommendations were developed.

All four courses are similar in that they are CEL courses that include an in-class component, engage students in community partner projects, and include reflective assignments. They share some learning objectives and all were offered in part or wholly online. Further comparisons are made in Table 9.1.

RESULTS

Case Studies

TABLE 9.1: A Comparison of the Four Cases.

	Case 1	**Case 2**	**Case 3**	**Case 4**
Class Size	~1600	40	27	23
WIL Activities	Either work as a group to pitch eLearning ideas OR Work as individuals to pitch suggestions for enhancing engagement	Design training programs on leadership skills. Participate in and write about leadership skill-building experiential exercises (e.g., role-plays)	Develop communication projects for external organizations	Statistical analysis and consulting for community partner organizations
Learning Objectives	-Deepen concept learning by having students work with information in an authentic context -Exercise core transversal skills (e.g., critical thought, communication) -Highlight the relevance of learning to future success	-To read, learn, and apply academic research on leadership skills to students' own behaviors while developing their critical thinking skills -To apply student's knowledge from course activities to develop and present a leadership training program to an employer from a community partner organization. -To improve research, communication, and team management skills.	-Engage in community-oriented projects aimed to strengthen their civic awareness and increase their feeling of empowerment -Solve a real-life problem of a local organization by proposing a solution for playful participation -Bridge the theories and examples discussed in class to real life context -Develop communication, creative thinking, and group skills	-To understand how statistical analysis and sound theoretical rationale, proper data collection and research design methods are critical -To consult statistical literature as needed to solve problems that arise during data analysis, even if the content was not covered in class. -To communicate the findings of the analyses effectively and accurately, in a manner that is tailored to the intended audience.
Number of Students per Group	Either 4 or 1	3–6	2–3	2–4
Level/Year	1st	3rd & 4th	4th	3rd
Course is Elective or Required	Required for some, elective for others.	Required	Elective	Required for some, elective for others.
Planned vs. Unplanned Online	From hybrid to fully online content delivery, all else planned online.	Planned experiential exercises, Planned and Unplanned synchronous group presentations.	Unplanned online	Planned
Timing of WIL Projects	Weeks 9–12	Weeks 7–12	Weeks 1–11	Weeks 8–12

Case 1: Bringing WIL into an extremely large, introductory level, online course - Course and Project Overview

The implementation described in this case focuses on what may seem like an impossible context for WIL: a first year, 1,600-student Introduction to Biological and Cognitive Psychology course. This course was offered in a completely online format for the first time in September 2020 term. Having the university's newest students considering their learning in terms of their future careers is key to "set the stage" for their tenure at our institutions, especially if it is followed by other such experiences throughout the curriculum. This leads to the question: how can one possibly provide anything like a WIL experience to 1,600 online students? What follows is one approach, along with the pedagogical considerations that went into developing it.

First, the professor identified an overarching theme of relevance to the students, to the course, and to community partners. The course described in this case includes sections on learning, human attentional process, memory processes including those involved in the encoding and retrieval of information and skills, and the issue of conscious control over one's own behavior. All these topics are relevant to something every student had directly confronted in their final term of secondary education and this first term of post-secondary work; the psychology of learning, and specifically remote learning. Thus, the theme became how to create optimal contexts of learning.

Two community partners were secured. One provided what will be termed the Primary WIL activity. It involved students working in groups to produce "pitches" from the perspective of a small consulting company. Group work is a fantastic approach for allowing students to practice critical communication and collaboration strategies (Ballantine & Larres, 2007). However, because of the potential for some students to not contribute equally, many students dislike working in groups. It could be argued that this non-collaborative mindset should not be nurtured, but in this case the desire was to create activities the students would enjoy and fully engage in and, thus, students were given the choice to instead participate in the Secondary WIL activity, one that allowed them to work as individuals. Approximately half of the class chose to do the Primary WIL project (200 groups of four students), the remaining ~800 students elected to do the Secondary WIL project.

The primary WIL activity involved acting as consultants to the Ontario Provincial Government, more specifically to a group of individuals within it who were responsible for policy decisions related to Ontario's offerings of online learning. Many students in this class experienced the earliest versions of this "emergency online teaching" making them hyper-aware of the need for improvement. In addition, these students were also experiencing variants of online learning in their first year at university. As highlighted earlier, the course itself was also introducing them to the psychological concepts, theories and data related to learning including those linked to motivation, attention, learning and memory. Thus, the challenge posed to students who chose the primary WIL project was the following:

> Working as a group of four students, identify at least four evidence-based ways in which the Ontario eLearning offerings could be improved. Then create a pitch that highlights: 1) why you chose the ones you did, 2) what the evidence favoring their use is, and 3) how they might be implemented.

Four members of the policy group overseeing online learning in Ontario agreed to introduce the project to the students via a recorded interview with the class professor. The goals of the project were laid out, but the professor and community partners also discussed the work environment and the critical role that skills like critical thought and collaboration played in everything successful that they have been part of. This video really humanized the partner, and the professor believes that it was because of this video that over half of the class chose to do the primary WIL project even though it involved working in groups.

The Secondary WIL activity involved students working as individual consultants for the Durham Flight School. The Durham Flight School came to the university because they noted lower than desired levels of engagement in their students during the learning process. They felt that their flight students were not appropriately attending to and learning information that could be critical to their safety and the safety of others and they were curious to learn about evidence-based approaches to enhancing the presentation of information. Students who chose this activity were given the following challenge.

> Create a pitch to the flight school wherein you: 1) describe two to four evidence-based ways the school can enhance engagement in their presentations, 2) provide the evidence in support of them, and 3) describe explicitly how they might be implemented.

Assignments and Evaluations

In both activities a "hack-a-thon"[1] influenced approach was used with a heavy reliance on peer-assessment. The process was managed using peerScholar, a peer-assessment and formative learning technology (see peerScholar.com). Either groups (Primary) or students (Secondary) first submitted a pitch to the external entity, one that directly addressed the challenge as might a consultant. In the next step, individual students logged into the system again and this time saw the pitches submitted by five other groups (Primary) or students (Secondary). They were asked to first rate each pitch by giving it an overall score out of 100, then they were to apply a specific pitch rubric to each, resulting in another score out of 300. Finally, they were asked to provide constructive feedback to each to help the authors see ways in which their pitches could be further improved. Each pitch was then rated by 20 peers, resulting in an average score out of 400, an average that should have a high level of validity as a measure of pitch quality (Paré & Joordens, 2008).

Based on the peer-averages the "Top Ten" Primary and Secondary pitches were selected. Each of these groups or individual students were then allowed to revise their pitch based on the feedback they received, for final submission to the external agencies. Individuals in the appropriate community partner agencies then assessed the Top 10, choosing a first, second and third, and provided feedback to each.

The initial pitch for both activities was submitted in the ninth week of a 12-week course. Thus, students had already learned much of the relevant psychology by that time. To further tie all the parts of the course together all students also did a different peerScholar activity prior to their WIL activity. That initial activity asked them to find an experimental paper within which some educational process or technology was assessed for efficacy. Thus, they were to find evidence in favor of some approach, and they were charged with summarizing the work briefly then considering how that process or technology might be implemented in a learning context. During the peer-assessment step they directly assessed the work of five peers and thus were exposed to six different evidence-based educational processes or technologies. Going into the WIL activities, students had their general learning of psychology, their lived experiences with online learning and their experience in this initial peerScholar activity to inform their WIL pitch.

It is important to highlight that efforts to ensure students were exposed to these evidence-based practices, and could think them through outside of the WIL activity, was intended to ensure that their work would have quality and value, even though they were first-year students. Thus, the initial pitches submitted in the WIL activity should have already been fairly good. When the hack-a-thon peer-assessment step was added, the 10 best of an initially large set of submissions were selected. Finally, those Top 10s also received feedback from 20 of their peers that they could use to refine their pitch even further.

The students did the hack-a-thon peer-assessment step during week ten, and the top 10s were then given

[1] A hackathon is any event of any duration where people come together to solve problems. (Tauberer, 2017)

an additional week to revise for final submission. The judges were then invited from community partners to assess the top ten, provide feedback to all of them, and to choose their top three. These top three were offered various COVID-friendly experiences including the option to discuss careers in government with the judges and to get in-person feedback on how the pitch could be improved (Primary) and the opportunity to try the flight simulator when it is safe to do so (Secondary). Both seemed highly desirable to the students involved. For the primary WIL activity, the possibility that the students' suggestions might actually impact eLearning in Ontario was very motivating!

Each activity was worth a total of 4% of the final course grade. Students received 1% each for simply submitting a pitch and then assessing the pitches submitted by five peers. The remaining 2% was based on the quality of the feedback they provided to others.

Student Success

The professor's observation was that the students appreciated and enjoyed these WIL activities very much and that the quality of their work was very high. Several spontaneously commented that it was the highlight of the course, and others commented that the course all seemed to "fit together" in a relevant way thanks to the WIL activities. For all learning objectives, the course and specifically the WIL activities within it, scored higher on all measures as compared to other departmental or institutional offerings. The learning objective, relevance of learning, the course average was 4.2/5 while the departmental average was 3.7/5 as was the institutional average. For deepen concept learning, the course average was 4.0/5 while the departmental average was 3.8 and the institutional average was 3.9 /5and for the course average was 3.9/5 and the departmental average was 3.5/5.

Future Directions

In terms of implementation, all worked smoothly and the ability for students to choose the context of work they found most engaging was also met with appreciation. While the context of the activities will change to stay current and relevant, the basic process will be replicated going forward.

Case 2: A Business Leadership Skills Course - Course and Project Overview

This case illustrates how students in a mid-sized leadership skills course of ~40 students who were incentivized for their participation in synchronous and remote WIL opportunities, engaged with the course in deep and meaningful ways. In the first eight weeks of a 12-week semester, students developed their knowledge of leadership skills by reading and writing about them, participating in experiential exercises, writing plans for these exercises, and reflecting on their experiences with them. In the latter part of the semester, teams of three to six students applied the knowledge they gained from course activities to develop and present a leadership skill development program for employees in a community partner organization with whom the course collaborated during that semester. Community partner organizations were for example, a large multinational financial services firm (Omers), a small, woman-owned training consultancy serving mid-Appalachia, and a large Canadian airline company (WestJet).

Assignments and Evaluations

The activities and assignments in the first eight weeks of the course were sequenced, structured and incentivized to help students: read and learn concepts from academic research articles; motivate them to attend and take part in experiential exercises; and to reflect on what they learned from these exercises by writing and talking about them. Based on previous research of its effectiveness, students were graded on a credit/no credit basis for taking part in experiential exercises (Radhakrishnan et al., 2009), writing plans

and reflecting about them. Students first learned about a leadership skill by reading an academic research article and answering questions about it. This low-stakes assignment was based on previous pedagogical research of its effectiveness (Radhakrishnan et al., 2012). In the synchronous session, students wrote plans on how they would behave before participating in experiential exercises (e.g., brainstorming exercises, role-plays, etc.). After the synchronous sessions, students reflected about their experiences in such exercises. These elements were included because previous research established the effectiveness of these types of written plans (Radhakrishnan & Leonardelli, 2008).

One example of a brainstorming exercise was where students developed their critical thinking skills by writing together on a shared and visible document during the synchronous virtual session. Students simultaneously wrote examples of inter-related concepts on a leadership topic (e.g., for negotiation they wrote about examples of "issues" they could negotiate with a potential employer [e.g., flexible working hours, telecommuting etc.] and examples of "interests" that underlie those issues, [e.g., work-life balance in the example]). While students were writing examples, the professor encouraged them to distinguish between examples of related concepts (i.e., "issues" and "interests" in this example) and to build on each other's ideas by naming and classifying examples already listed by other students. For example, if one student listed an issue like "flexible working hours" then another student wanting to write about that example was encouraged to classify and name the category of the example of the interest it fulfilled (i.e., work life balance in this example). The brainstorming exercise allowed all students to engage simultaneously and more deeply with the concepts and because it allowed for synchronous written participation, it reduced the need for synchronous oral participation – a limitation of contemporary online meeting platforms. Answering questions about a leadership skill in an article helped students learn more about that skill (Radhakrishnan et al., 2012). In addition, writing together on a shared document – accessible and visible to all the students during the synchronous session while getting feedback and encouragement from the professor – helped students to develop their critical thinking skills by learning to generate, name, and classify examples and counter examples of closely related concepts.

Students applied what they learned from reading and writing about a leadership skill by planning for, and taking part in role-play exercises with each other during the synchronous sessions of the course. For example, in one role-play about negotiation, students played the role of a supervisor or a subordinate and negotiated with each other on issues like bonuses, flexible work hours, and office space. The value of these issues (e.g., "bonus") and each role's positions on each issue (e.g., bonus of 1%, 2%, 3%, etc.) were quantified by points (e.g., 10, 20, 30 points etc.). Agreements that each pair obtained were scorable and classified as mutually beneficial (i.e., if the pair achieved the joint-optimum), compromising (i.e., if the pair achieved a 50-50 allocation of points), or win-lose (i.e., if one member of the pair got more than 60% of the points possible).

Before engaging in these role-plays, students were incentivized to write plans for their role-plays by answering questions about their role. The questions facilitated the recall and use of concepts they learned from reading and writing about the academic research on the skill (i.e., the incentivized preparatory work for that session). Examples of behaviors students could practice in the negotiation role-play were: to ask the other party about their high vs. low priority issues; to trade low for high priority issues; and to combine issues into equivalent and multiple packages. After completing role-plays, students: viewed optimal and sub-optimal outcomes (e.g., mutually beneficial, compromise and win-lose solutions for negotiation role-plays); compared their own agreements to these outcomes; and participated in oral discussions of role-play debriefing questions, another incentivized experiential activity mimicking mid to large-sized meetings. These debriefing questions encouraged students to reflect on how they applied what they learned from reading and writing about the academic research on that skill in their role-plays, while participating in class

discussions was intended to teach them oral communication and critical thinking skills.

Students submitted written reflections of their role-play experiences and classroom discussions as part of their homework for that session (typically due at the end of the week). At the end of each synchronous session, the professor reminded students that the reflections they wrote on completion of their role-plays and class discussions, would be good notes to use while answering questions on the "open-book open-notes" final exam of the course. Incentivizing students to complete pre-role-play plans and post-role-play reflections while giving reminders of their usefulness to students' answers in the "open-book open-notes" final exams motivated students to reflect more deeply about their learning from role-plays and increased student engagement with synchronous course activities.

In the second half of the semester, students formed teams to design training programs for employers seeking to develop leaders in their own organizations. Projects were initiated via a networking platform (e.g., Riipen[2]) or through a university staff member dedicated to seeking and building relationships with employers. The professor and community partners wrote project descriptions together to ensure that the course's learning objectives were aligned to project needs. Student teams applied their learning in the course by researching, describing, and evaluating a training program on a leadership skill for these projects. The online and synchronous delivery of team presentations enabled community partners to attend and engage with students by asking them questions and giving them feedback after presentations.

Student Success

Taking part in experiential exercises with classmates and writing about them helped students to apply the knowledge, skills and experiences they gained in the course to the WIL project – thus contributing their skills to the broader human resource development community. For many students, it was the last course they took before graduating, leading to comments such as: thank you for the opportunity to work on a project that involves a real company, few courses have this feature, and I appreciate the prompt measures taken to facilitate for an online learning environment over just one weekend. The online synchronous team presentations with a Q&A period helped students develop their professional networks while fostering critical thinking skills and giving them opportunities to learn and develop their team-management, communication, and research skills. Other comments were made such as: I enjoyed the role–play activities and the group project as they allowed us to think outside the box and to try something different from previous courses.

The multiple, incentivized and synchronous WIL opportunities in the online offering of this course were all deeply engaging for students. The experiential exercises, the written pre-role-play plans and post-role-play reflections for an open-book open-notes final exam helped students solidify the learning objectives of the course. Students commented: that the course took a unique look at management skills with an interesting method of teaching; that they enjoyed the role-plays and simulations a lot; that there was a lesson behind the role-play which helped deepen the understanding of topic at hand; and that the course was engaging and applicable to real life. It was also commented that even though the content of the course was little dry and that they were not especially interested in the material, the professor made the course more fun by implementing group discussions and game-like exercises with roleplaying scenarios with others in the class, even in an online setting.

[2] *Riipen* is an experiential learning platform designed to help businesses find, test and acquire top talent by bringing real projects to the classroom. https://www.riipen.com/

Future Directions

The online written brainstorming exercise shows potential for engaging students in a deeper way with concepts and will be continued future offerings of this course. Enabling and incentivizing students to plan and practice behaviors in role-plays were always a part of this course. However, preceding it with an incentivized, shared and synchronous online brainstorming activity increased student engagement with concepts and with each other and can be continued in future offerings of this course. Reminders of the usefulness of the written role-play plans and post-role-play reflections for the open-book open-notes final exam also incentivized students to attend and engage with these experiential exercises more deeply. Delivering online synchronous group presentations with a question-and-answer period enabled many more employers to attend them and engage meaningfully with students. The group project, which helped students develop their team management and communication skills while realizing the relevance of their academic course work to the broader human resources community, will also be used in future offerings of the course.

Case 3: A Fourth-Year Senior Seminar - Course and Project Overview

This case describes a seminar with varying topics similar in structure and size to a graduate course (the enrollment is usually capped at 30 students). The January 2020 iteration of the course was built on a WIL framework, emphasizing the idea of playful civic participation, an increasingly popular form of active engagement at a global level. Working in groups, students had the opportunity to develop communication projects for the Town of Ajax, a town of 121,000 inhabitants located in the Durham region, in the Greater Toronto Area, and CNIB, formerly called Canadian National Institute for the Blind, using a list of problems proposed by these organizations.

Assignments and Evaluations

Building on a scaffolding structure, all course assignments were related to the communication projects students developed for the community partners. After submitting the first assignment, a 350-word proposal for solving the problem and an annotated bibliography of at least five scholarly sources that would be included in the literature review of the final report, each group had a 10-minute meeting with the professor to discuss feedback. In the next seminar, students reviewed the work of their peers: each group reviewed the idea of two other groups working on different topics. The capstone project for this course was a final report with a structure approved by our community partners that included a) a literature review, b) a description of the proposed solution with an emphasis on how the solution might generate word-of-mouth benefits to the local community and be re-iterated in the future, c) a list of all incurring costs and d) a list of risks associated to the project implementation with suggestions for mitigation.

Initially scheduled for the last week of March 2020, the presentation events for both organizations were moved online in response to the COVID-19 pandemic. On the day that the cancellation was announced, the professor sent a detailed message to students, informing them of the changes regarding their presentation delivery and advising them to become familiar with Blackboard Collaborate, the learning platform that we would use for the remainder of the term.

At the time that in-person classes were cancelled, students had significantly progressed in their project work so they were only unsure about the process of delivering their presentations online. Anticipating their questions, the professor sent them a document prepared by the University: Blackboard Collaborate Ultra for Student Use that detailed the steps for joining a class or delivering a presentation online.

Online student presentations were followed by a Q&A session attended by the project community partners

and by university representatives including the Special Advisor to the Dean on Experiential Education and the Integrated Learning Experience Coordinators. The presentations were recorded and the links were shared with the community partners.

Student Success

In their course evaluations, students noted that they were disappointed they did not have the opportunity to deliver their projects in person, but had adjusted rapidly to the remote environment, motivated by the opportunity to develop projects that addressed the real problems of community organizations. They also appreciated the scaffolding structure of the evaluation scheme with each assignment contributing to the development of the final project. Students rated the quality of [their] learning experience in this course as very good, with a mean score of 4.4/5, mentioning that they found the course intellectually stimulating (4.4/5), that the professor created an atmosphere that was conducive to learning (4.2/5), and that the course assignments provided an opportunity to demonstrate an understanding of the course material (4.2/5).

Taking into consideration the process of delivering the presentations, as well as students' evaluations, it may be assumed that the unexpected transition to an online format did not have a significant impact on the learning experience in this course. The learning objectives outlined at the beginning of the term were met. The final reports proposed solutions to the real-life problems indicated by our community partners, and this enhanced students' awareness of community issues as well as their sense of achievement. The solutions were built on the scholarly sources included in the literature review, but equally tapped into creativity as students had to incorporate playfulness in the civic activity they proposed. Finally, students had the opportunity to work in groups on their projects, as well as coordinate and deliver a presentation online. The latter task was not included in the learning objectives as outlined at the beginning of the semester, but may be considered an asset, as it allowed students to develop skills that are in high demand on the labor market in the context of the COVID-19 pandemic.

Though students would have preferred to deliver their presentations in front of the community partners, they did not find the unexpected shift in the course format disheartening. The course evaluations indicated that students found the feedback provided very helpful throughout the term, without showing any aspect that could be improved in the future iterations of the course.

Future Directions

From the beginning of the course, when switching to remote teaching could not be anticipated, the professor allocated time each week to address students' questions and to offer suggestions on the communication solutions proposed by each group, and later in the term, on how the literature review of the final report should be structured. Communicating with students in a clear, consistent, and empathic fashion enhanced their resilience during the process of transition from in-class to remote teaching. This is the most valuable insight that the professor has drawn from teaching this course in two formats and will be used in all future courses whether online or in person.

Another lesson the professor learned from this experience was that CEL courses may be taught online as effectively as in a classroom setting if the professor adjusts the class activities and assessments to an online environment. It is also important that the professor liaises frequently with the community partners and they agree on the steps to follow to carry out the project. Right after informing students of the new class format, the professor sent a detailed message to the community partners about the changes that the course would undergo. Due to their resilience, students' projects were successfully presented and delivered.

The shift to online teaching has emphasized once again the importance of cohesion and team spirit in the

class. These are key ingredients for the proper functioning of a small-size course regardless of format. Students were aware of the professor's constant support for them and this helped them approach their online presentation events with confidence. The frequent interaction with the professor throughout the term, as well as the opportunity to give feedback on their classmates' work, strengthened the sense of belonging to a team. This was visible during the online presentation events when student groups encouraged each other through positive comments in the chat box and offered advice for their classmates who were still confused by the features of the learning platform.

The WIL component of this course allowed students to develop "knowledge and meaning from real-life experience," (Yardley et al., 2012, pp. 161–162) enhanced by the opportunity to learn in a community setting, moving closer to the core purpose of adult education: "to discover the meaning of experience" (Knowles, 1978, p. 11). The unexpected change of the course format from in-class to online teaching did not appear to have diminished the assets of this learning model.

Case 4: An Advanced Applied Statistics Course - Course and Project Overview

This case describes how remote WIL opportunities offered new ways of student engagement and learning in an advanced applied statistics course within the Department of Psychology. The class consisted of 23 students, the majority of whom were planning to apply to graduate school after completing their undergraduate degrees. In weeks one through eight of a 12-week course, students were taught the theory underlying the multiple regression analysis and its applications and learned how to analyze data using SPSS software by completing a series of seven minor assignments (one per week, from week 2).

In addition to building students' knowledge of statistical theory and software use, it was a priority for the professor that students develop real-world skills and experience in statistics, which could be applied to careers in both academia and industry. A WIL project was therefore created as a substitute for the final exam in which students were assigned to groups with three or four members tasked with providing statistical consulting to one of three community partner organizations. The Durham Flight School (DFS), a flight training unit and private career college was interested in determining whether certain training factors (e.g., time spent in a plane versus simulator, total number of lessons taken, weather conditions during which training took place, etc.) could significantly predict the amount of time required for a new trainee to be prepared to fly solo. TD Canada Trust (TD), a large commercial bank in Canada, was interested in determining whether factors related to their branches (e.g., queue length, service quality, amenities offered, geographic location, etc.) could significantly predict customer service star ratings on Google (on a scale of 1–5). Spirit of Math (SoM), an after-school mathematics education service was interested in determining the factors that can significantly predict student retention. They were particularly interested in determining whether female students were more likely drop out in the higher grades (Grade 6 and above) compared to their male counterparts.

Given the variety of characteristics of the three partner organizations, students were placed in groups based on their educational, personal and/or career interests, which were ascertained through a placement survey. Once the groups were formed, all members signed a group membership contract to ensure that students had reviewed and understood the requirements of the consultancy project and agreed to the terms put forth by the project. Upon completion of the group membership contract, groups were provided with a raw dataset (prepared for analysis by the professor and teaching assistant in collaboration with the community partner organizations) to be analyzed using statistical techniques learned in class. The raw dataset was accompanied by a debrief form that described the nature of the variables provided in the raw dataset, as well as their assigned organization's specific needs, objectives and/or hypotheses. The final project was assigned to students in the 8th week of the 12-week course, ensuring that students had already learned

much of the relevant statistical analyses by that time. The remaining four weeks of the course did not include any new lectures or material, so that students could focus on producing the best possible final project.

Assignments and Evaluations

Two weeks into the project, groups submitted summaries of the analyses they had conducted at that point, together with an explanation of how the analyses addressed the partner organization's objectives. These summaries also included discussions of areas that needed additional analysis, limitations of the analyses conducted thus far, and/or problems that the group needed guidance on (e.g., violations to assumptions, variables being unfit for certain analyses or needing transformation, being unsure of which model is ideal if there are multiple candidate models to be tested, etc.). The grade received on this part depended entirely on how much effort had been put into the analyses and the appropriateness of the analyses that were conducted at that point.

Groups were encouraged to take this summary seriously, as the quality of the work would affect the quality of the feedback provided by the professor in the meeting that followed the submission of the summaries. In these meetings (which lasted up to two hours per group), the professor met with the groups individually to discuss their progress, which most often resulted in extensive changes that needed to be made to produce reports that were as professional as possible. To ensure that the groups understood the changes that were required, they were invited to submit a new summary following their meeting with the professor for additional feedback. While this second summary was optional, all groups took advantage of this opportunity for additional feedback. The professor along with the partner organizations, were also available to answer students' questions as they completed their final projects.

After four weeks, students submitted their final projects, which consisted of: a) a group technical report that emulated the results and discussion sections of a peer-review article structured to engage students in critical thinking through evidence-based interpretation of findings; b) an infographic based on the technical report that provided a brief summary accessible for the partners not familiar with statistics; and c) supplementary information, consisting of all data and output files, along with a "lab notebook" document that summarized the work that was completed. The last step of the project was for students to reflect individually by answering a series of questions aimed at analyzing their personal and emotional responses to the learning objectives of the course.

Student Success

The project was met with overwhelmingly positive feedback, even though the project itself, based on course evaluations, was considered by most students to be more challenging and work-intensive than other courses. Eighteen students (78% of the class) stated that the most enjoyable aspect of the project was being able to work with real data to provide tangible results and suggestions to their partner organization. Many students appreciated how this style of project enabled them to apply the theoretical content learned to a practical setting. Students also mentioned that they were proud of their ability to apply knowledge from lecture to the project, and were surprised that they were able to complete such a project at all. Overall, the project was successful in exposing students to the hardships involved in processing and analyzing large datasets in a manner that was not overwhelming to the students but instilled self-confidence in their statistical knowledge and general analytical skills.

Future Directions

The greatest challenge expressed by students had to do with time management, which is something to be

mindful of in future iterations of this style of remote WIL project. The COVID-19 pandemic made it unusually difficult to coordinate schedules, particularly in instances where students were working from different time zones or had additional non-academic responsibilities. Another challenge posed by the remote nature of this project was dividing the labor equitably between group members and accounting for differences in working style. Several students expressed that the issues with time management only became apparent towards the end of the project when it was too late and that deciding on how to divide the work at an earlier stage would have helped with the progress of the project, resulting in fewer last-minute and late-night meetings right before the deadline. While the group membership contract explicitly discussed the importance of time management and communication among group members, it is evident that this style of remote project needs to be refined to include additional scaffolding and support from the professor regarding time management. This could be accomplished by students drafting their own group membership contracts which explicitly detail individual responsibilities, providing the professor with proposed timelines and schedules of meetings for the entire project at the beginning of the project, and/or as one student suggested, by providing a group member peer evaluation form at the end of the project as a motivator for all group members to fulfill their obligations in a timely manner.

DISCUSSION

Overview

The case studies describe four courses that were quite different from each other as demonstrated in Table 9.1. They were, however, similar in that they were all CEL type WIL courses taught online for the first time. Many students in each of the courses had concerns about the potential difficulties in meeting learning objectives, as did the professors teaching them. The professors all worked hard to formulate creative strategies to help students meet the learning objectives and for the community partners to have positive experiences as well.

Learning Objectives

Lowes et al. (2020, p. 1) observed that with the challenges of converting to online course delivery "come unique opportunities to creatively examine courses and programs and consider alternative ways to meet learning goals". The four cases described in this chapter include a variety of learning objectives. All four courses focused on critical thinking and communication as their common learning objectives. Some unique learning objectives across cases included highlighting the relevance of academic learning to future workplace success, research skills, team-management skills, time-management skills, application of academic theories and examples discussed in the course context to the real-life context, and consulting the literature as needed to solve problems that arise while completing the WIL project, even if that content was not explicitly covered in course material.

The first research question investigated whether the learning objectives were affected by the switch to online delivery. In all four cases, learning objectives were met even though the course had to make an unplanned switch to an online format or when remote delivery was planned but the course was taught online for the first time. In the first case, course evaluations related to the core learning objectives were higher on all objectives than other department and institutional courses. The second case found that the WIL project fostered critical thinking skills, communication skills and team management skills among students. The third case demonstrated that learning objectives outlined at the beginning of the term were met despite the unexpected transition online. Students in the fourth case felt that the WIL projects instilled self-confidence in their statistical knowledge and analytical skills even though they found the course more challenging than a conventional one.

Course Innovations

An interesting follow-up is to ascertain from the cases how the students successfully met learning objectives even though many said that online learning was more challenging. In all four cases, student success was enabled by innovations incorporated by the professors. Face-to-face class versions of the type of WIL project detailed in the first case often include consultations with community partners who are invited to the classroom to present problems for students to solve. Since in-class consultation was not possible, as an alternative to a live videoconference with the community partners, the professor recorded an interview with the community partners about the problem to be solved which students could review asynchronously leading to a deeper understanding of the assignment. Another innovation by the professor was the use of peerScholar. Although it should be noted that the use of peerScholar was not new for the online offering of this course, its use facilitated asynchronous peer to peer feedback remotely. VanSchenkhof et al. (2018, p. 92) found that "Peer feedback is a critical component" of WIL. Another difference between this iteration of the course and previous in-class versions was the inclusion of two WIL projects so that students could choose between working in groups and working alone. This change was made to accommodate students who felt that in an online format, it would be harder to keep other group members accountable for their work.

In the second case, the faculty member innovated by enabling students to engage with each other during the synchronous session. She incentivized them to participate in experiential exercises like role-plays and brainstorming exercises where they wrote together on shared documents synchronously. Students then reflected on the process. Students also made live online team presentations to WIL partners who then asked them questions and gave them feedback. Students reported that the WIL project allowed them to engage more deeply and meaningfully with more community partner members than they could have when giving face-to-face on-campus presentations.

In the third case study, student presentations were recorded for community partners to access remotely on their own time. This gave students new to virtual presentations the confidence to present through online tools and allowed community partners to watch the presentation at their convenience. Goldberg (2020, p. 1) cautioned that when converting traditional courses to online, "You have to be even more aware of how often you're communicating and that you're reaching out intentionally, communication doesn't flow as naturally as you'd think." The professor for this course realized that clear, consistent, and empathic communication with students was a key to student success.

In the fourth case although students found the online course delivery particularly challenging, successfully completing and delivering the projects for the community partner gave students more self confidence in their knowledge of the subject matter of the course. Students also learned valuable lessons about time management and working in groups, both of which posed challenges in the online format.

Professors in each case found ways to overcome students' challenges related to online course delivery. There were no common solutions across the cases, but all the tools and techniques were a result of quick thinking on the part of the professors to address issues that were new to their students as a result of the switch to online format. A number the innovations involved aspects of presentations; either problems to be solved or the results of the projects but were delivered in different ways such as live or videotaped. Another commonality was that all the interventions were successful and that all four professors have plans to use these tools in the future.

LOOKING TO THE FUTURE

As the tertiary educational sector recovers from such disruption, several opportunities for WIL remain to be explored. Technology will be leveraged at a greater scale and innovations will emerge that have not yet been imagined. This recent pivot online may also be the catalyst to move towards more inclusive WIL approaches, such as: exploring opportunities for students or organizations in regional and rural settings; exploring bespoke activities or partnership experiences; and scaling WIL through novel, collaborative, online platforms (Dean & Campbell, 2020). Puri (2020, p. 1) suggested reimagining higher education in other ways that include online content, online experiences and reimagining academic transcripts to include micro-credentialing "as a way to reflect the kind of nimble and transferable skills that are most useful in today's workplaces."

Upon reflection, faculty members were able to imagine how their future teaching, both online and in traditional settings, would be shaped by the lessons learned from teaching their first remote WIL courses. In the first case, the faculty member was initially apprehensive about teaching this course with a remote WIL project. In the end, due some of the innovations mentioned above, the course worked as well or better than it had been delivered through in-person format. The professor in the second case study plans to use the synchronous experiential exercises and live group presentations for community partners in future courses. In the third case study, the faculty member found a renewed appreciation for clear and abundant communication with students and community partners. Such practices were required to create cohesion amongst teams after abruptly moving to the online format. This new appreciation for communication will strengthen her teaching in face to face and online settings in the future. In the fourth case study, the faculty member discovered that her approach to time management and distribution for group work was inadequate. In the future, she plans to use an approach that involves students being more active in designing their own group contracts for increased accountability.

The solutions developed to enhance student success in WIL courses in the online environment were innovative and diverse. The professors in all four cases identified new practices they would consider incorporating in future offerings of their courses whether they are taught online, remotely or in some sort of hybrid delivery. The exact nature of such hybrid delivery, while fascinating, is beyond the scope of this chapter.

CONCLUSION

Teaching WIL courses in the online environment and working remotely with community partners has been regarded by many as potentially too difficult and time-consuming, leading many faculty members to decide to wait for the return to face to face classroom teaching to engage in WIL projects (Lowes et al., 2020). Evidence from the four cases presented in our chapter demonstrated that it was not only possible to teach WIL courses online but with equally positive learning objective results and successful community partnerships. In doing so faculty members discovered and created new tools, techniques, and communication methods that will strengthen their teaching in both environments.

Many believe that the return to traditional in-class teaching may result in permanent changes in how we teach. In fact, some have suggested that the pandemic has accelerated inevitable changes already underway due to new technologies and novel demands from society (Contact North, 2020). Our findings suggest that incorporating the innovations described in this chapter along with traditional face to face teaching components may work even better than only classroom teaching or only online teaching.

Our chapter described and analyzed four different courses–small and large, required and elective–and proposed some important insights on WIL in the remote environment. We know little about how to facilitate WIL in such environments because this was not common practice until the COVID-19 pandemic. The time is ripe for future research to investigate how to design and teach WIL in the virtual world!

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PART 4
Work-Integrated Learning and Disciplinary Areas

10 Future work-ready students in the Canadian mining industry: Lessons from professional experience

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ABSTRACT

This study is based on the premise that experiences, attitudes and perceptions of past mining professionals are useful in guiding work-integrated learning (WIL) students in becoming skilled future practitioners. The study applies a strategic methodology, backward mapping, to analyze professional experiences with the objective of foreshadowing future directions for mining professionals. An online survey of 240 Canadian mining professionals was conducted to identify existing strengths and limitations in the current practice of mining skills and competencies. The results indicated while there was a strong understanding and practice in the competencies of Leadership and Initiative, there was a much lesser understanding in Cultural Awareness. The study therefore recommends gearing WIL curriculum more towards the understanding and application of the affective aspects in the industry to bridge its gap with industry, tertiary institutions and students, to meet the future needs of the Canadian mining industry to improve WIL pedagogy.

Keywords: *Canadian mining, work-integrated learning, work skill development framework, cultural awareness*

INTRODUCTION

Graduate employability and the successful transition from student to professional is a pivotal element to work-integrated learning (WIL) and relies on communication and relationship between higher education institutions and industry. This research promotes that connection with the objective to prepare future mining professionals in Canada. Currently however, the Canadian mining industry is experiencing decreasing student enrolments (Business in Vancouver, 2018) and predicts the industry will need approximately 97,450 workers over the next 10 years (MiHR, 2019) to survive.

Research indicates that most WIL programs rely on experiential learning where students learn about workplace competencies (Knight & Yorke, 2002) by engaging in a practicum, placement or internship (Patrick et al., 2008). Yet research has highlighted the poor connectivity between higher education pedagogy and industry requirements (Jang, 2015). Further, it is highly likely that this gap will be exacerbated with the rapidly changing digital and technological innovations, global mobility and effects of post COVID-19. In the Canadian mining industry, this is evident in the rapid advances in technology (Montpellier, 2020; BDO, 2018, p. 3; Scales, 2017), shortage of skilled workers resulting from retiring baby boomers (Mining Industry Human Resources Council [MiHR], 2019), the recent decrease in Chinese consumption of mining raw materials (Hoffman & Leal da Silva, 2020) and the COVID-19 effects on the industry from physical distancing and risk mitigation guidelines (Hoffman & Leal da Silva, 2020). Another particularly interesting aspect to the Canadian mining industry is the fact that it is the largest employer of the Indigenous community which will continue to grow in the future (MiHR, 2019, pp. 5, 61–62). As Caron and Asselin (2020) correctly posit, the need to conduct research (cultural integration) about Indigenous employment in mining is now more pressing than ever.

WIL is designed as a pathway to becoming a professional. WIL helps students acquire professional acumen/identity (Bowen, 2016) and facilitate the transition to professional work environments (Billett, 2009;

Crebert et al., 2004; Kramer & Usher, 2011; Linn et al., 2003). Traditional WIL practices provide students the opportunity to reflect on what they are learning in the workplace through reflection, observation, actions, responsibilities, and how to become professionals (Dall'Alba, 2009; Nystrom, 2009). It helps students create their professional identity (Trede, 2012) and develop 'professionalism' (Bowen, 2016).

Generic research on work-readiness has certainly been much researched in the past (Raftopoulos et al., 2009; Caballero et al., 2011; Daniels & Brooker, 2014; Smith et al., 2014; Bandaranaike & Willison, 2015), career-ready students (Kramer & Usher, 2011), work ready graduates, (Oliver et al., 2007; Nettleton et al., 2008; Plant et al., 2019) preparedness for work (Ali & Rehman, 2020; Alex et al., 2017), technical skills in the workplace (Hilson & Murck, 2000; Heath, 2002), and on career pathways (Kenkre & Foxcroft, 2001; Lopatto, 2017; Kazis, 2016; Sheppard et al., 2015; Hedge & Rineer, 2017). While Kazanin et al. (2017) and Ali et al. (2020) acknowledge the relevance of skills required of a mining professional, they claim there is negligible research on the future skill requirements of the Canadian mining professional. In this context, this study is valuable in identifying the required employability attributes for the future mining industry of Canada.

Appendix 10A provides a comprehensive summary of tertiary institutions in Canada that provide training to mining professionals. In summary, these programs emphasize theory and knowledge in terms of the cognitive application of work skills, but not the affective application (cultural, social, emotional intelligence) required for more effective mining practice. Barnett (2012) suggests the lack of understanding of their relationship with the rest of the world is a sign of their lack of empathy. This study therefore aims to further explore this gap in mining research: the lack of knowledge of cultural awareness in the workplace and more specifically its application particularly to Indigenous mining labor.

Canadian higher education is under pressure from the current decrease in student enrolments in the mining industry (MIHR, 2020) and, the demands to evaluate the appropriateness of its teaching to workplace practice (Bates, 2008). Given the above context, the purpose of this study is to create a better connectivity between the mining industry and WIL pedagogy in mining courses. The specific objectives of this research are firstly, to identify the current gaps in the professional mining industry, and secondly, to address those gaps and develop the capacity to build future work-ready students and a sustainable future for the Canadian mining industry.

METHODS

WIL competencies are acquired through active engagement in the workplace by practice (Patrick et al., 2008) or, by receiving direct instruction from employers invited to the university, as was the case during COVID-19 (Bandaranaike et al., 2020). The method employed in this study is based on 'backward mapping' (Elmore, 1980), or creating a pathway to develop work-ready mining professionals of the future. The method focuses on addressing future needs of the mining industry and determines a plan/route to reach the desired outcome, the future mining professional. It is a novel approach to identify gaps in WIL pedagogy and differs from traditional approaches as it identifies strengths and limitations experienced/perceived by current and past mining professionals across the Canadian mining industry.

Since professional practice is institutionally defined (Bleach, 2014), this study reviews the practice of current and past mining professionals as the basis to understand the existing status of the mining industry and to build on the gaps to guide future professionals. A professional is someone who earns their living from performing an activity that requires a level of education, skill, and training. The survey in this study, comprises 240 Canadian mining professionals working in five major occupational categories – Mining Geologists / 'Geologists' (50.8%), Engineers in Mining / 'Engineers' (37.9%) Mine Site

Environmental Scientists / 'Environmental Sc.' (4.6%), Managers on mine sites / 'Managers' (2.5%), and Mining Tradespersons/ 'Tradespersons' (4.2%).

Mining is a diverse field employing Canadians in all provinces and territories from trades to engineering. Their skills are acquired via a university (degree) or vocational/college education (Diploma, Trade Certificate) to comprise the mining professionals in Canada (MiHR, 2019). The study therefore reviews employability competencies across all major groups of professionals in the mining industry.

In the absence of an appropriate sampling frame to locate Canadian mining professionals, the technique of snowball sampling (Naderifar et al., 2017) is used as the preferred method where existing mining professionals listed in the Laurentian University database are used to provide referrals to recruit others with similar characteristic of interest required for this study. The survey was administered both in French and English. Advantages of this method include cost and efficiency (Johnson, 2014). The data collected can be qualitative or quantitative in nature and represented in graphs and charts (Shafie, 2010).

The survey questions are designed using an internationally trialed Work Skill Development (WSD) framework (Bandaranaike, 2018) using seven interlocking generic competencies – *Initiative, Leadership*, *Lifelong Learning*, *Management, Critical Thinking*, *Communication*, *Cultural Awareness.*

These competencies can be applied across all occupations whether based on academic (Engineers) or technical qualifications (Tradespersons) since each competency defines the expected employability attributes as illustrated in Table 10.1. While column 1, lists the generic work-skill competencies, column 2 gives the employability attributes of each of the competencies as applied to the mining industry, and column 3 summarizes the content of each question in the questionnaire. The function of the survey question is to extract further details on the six work-skill competencies on the nature and character of the skills practiced, their perceptions and attitudes, to compare behaviors across the five occupational categories in this study.

The survey instrument comprised fifty-four questions divided into two sections. The first 12 questions required information on the professional/occupational background, and the other 42 sub-set of questions specific to the seven generic competencies required responses on a 5-point Likert scale ranging from 1=Strongly Disagree, 2=Disagree, 3=Neutral/No Response, 4=Agree, 5=Strongly Agree. These values are referred to as 'scores' in this paper. These Likert scores from respondents for each question across seven competencies (42 questions) are then averaged and mean scores computed for cross comparison.

TABLE 10.1: Generic work-skill competencies (adapted from Bandaranaike, 2018) applied to occupations in the mining industry.

Work-Skill Competencies	Employability Attributes	Survey questions [content]
INITIATIVE	Passion to engage in role/occupation Motivation to work in isolated & remote areas Willingness to spend time away from home Outgoing and self-reliant Embrace new techniques & technology Curiosity	Confidence in performing the role Motivation to set & achieve goals Motivations to succeed at work Align personal values with Company Persistence despite setbacks

LEADERSHIP	Ability to manage self & motivate others Ability to deal with challenges Ascertain risks Train & supervise staff	Connecting for positive change Empathy & understanding others Adapting as work evolves Meets job role & responsibilities Welcomes new ideas to improve
LIFELONG LEARNING	Project into the Future Assess feasibility Be respectful & understanding of others Be creative and progressive Reflect and evaluate actions Project self-esteem Future training Be innovative Knowledgeable Health and safety compliance	Learning new skills Impact on Emotions-awareness Aware of personal strengths & limitations Interest in post-secondary training Opportunity to follow Career Path Benefits accruing from a Mentor Value in additional training Understanding all aspects of Mining Understanding of Mining Economics Familiarity with Govt. Regulations Benefit from additional technical training
MANAGEMENT	Time management & planning Prioritize workload Finance & budgeting Emotional & Social intelligence Financial acumen	Planning & managing projects Contributing to growth & sustainability Fostering positive relationships Taking responsibility for actions Ease in making decisions
CRITICAL THINKING	Analytical problem solving Knowledge of IT & specialist software Digital skills Resourcefulness Innovative	Innovative solutions Convincing others Trustworthiness & Honesty Setting high standards Convey ideas to gain buy-in Appropriate technical skills
COMMUNICATION	Working as part of a team Communication & presentation Networking Sharing knowledge with colleagues	Communicating for positive change Communicating with others outside your area Presenting own ideas clearly Following company code of ethics Demonstrating professional conduct Successfully navigating conflict Working collaboratively
CULTURAL AWARENESS	Knowledge of other cultures Awareness of Indigenous culture Dealing with diversity Cultural intelligence	Understanding Indigenous culture Interacting with other cultures Awareness of other cultures

RESULTS

In this section first, the overall trends observed in the work-skill competencies across all sample occupations–Geologists, Engineers, Environmental scientists, Managers and Tradespersons–are discussed and then, the variations within each competency (with reference to the survey questions) are analyzed to identify the industry needs and WIL requirements for the Canadian mining industry.

Overall Trends in Work-skill Competencies

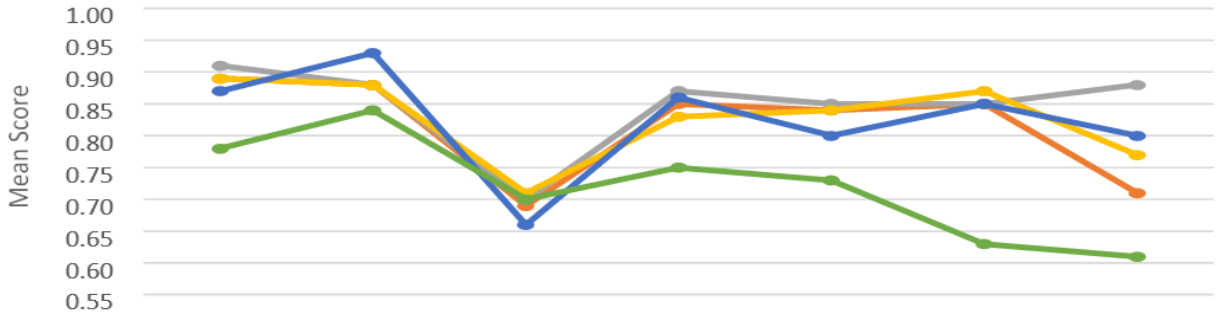
Table 10.2 summarizes the overall response to all (survey) questions within each work-skill competency. An average score of 1.00 or a mean score of 5.0 indicates there is total agreement by all respondents for all the questions in a given competency. While the passion to engage in one's role/occupation (*Initiative*) and, the ability to manage self and motivate others (*Leadership*) rates high among the sample population, other

skills such as projecting into the future (*Lifelong Learning*), and knowledge of other cultures (*Cultural Awareness*) showed a lesser understanding amongst all, irrespective of whether they were Engineers or Tradespersons (Table 10.2). These averages were then analyzed further to illustrate cross occupational variations (Figure 10.1).

TABLE 10.2: Comparative averages and rank orders across all competencies for all occupations.

Competency	Average Score	Mean Score	Rank Order
Initiative	0.89	4.4	1
Leadership	0.88	4.4	1
Lifelong Learning	0.70	3.5	7
Management	0.84	4.2	4
Critical Thinking	0.83	4.1	5
Communication	0.85	4.3	3
Cultural Awareness	0.74	3.7	6

FIGURE 10.1: Variations in individual competencies across occupations.



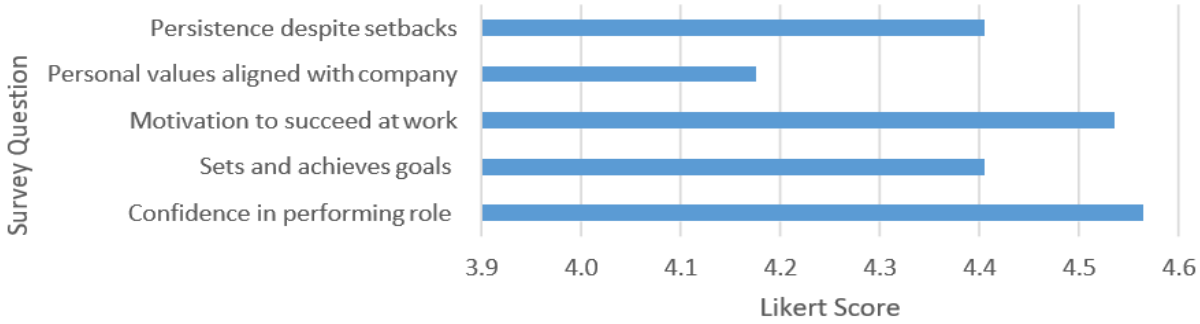
	Initiative	Leadership	Lifelong Learning	Manage-ment	Critical Thinking	Communica-tion	Cultural Awareness
Engineers	0.89	0.88	0.69	0.85	0.84	0.85	0.71
Environ. Sc.	0.91	0.88	0.70	0.87	0.85	0.85	0.88
Geology	0.89	0.88	0.71	0.83	0.84	0.87	0.77
Managers	0.87	0.93	0.66	0.86	0.80	0.85	0.80
Trades	0.78	0.84	0.70	0.75	0.73	0.63	0.61

Figure 10.1 illustrates the perceived degree of understanding and successful practice of individual competencies as a whole by each of the five mining occupational groups. Tradespersons as an occupational group have a lesser understanding across all work-skill competencies, ranging from 0.61 (*Cultural Awareness*) to 0.84 (*Leadership*). On the other hand, the higher degree of understanding among Environmental scientists is reflected in the higher overall mean scores of: *Initiative* (0.91), *Cultural Awareness* (0.88), *Management* (0.87), and *Critical Thinking* (0.85). Geologists indicate a sound understanding in *Initiative* (0.89) and *Leadership* (0.88) while approximately 93% of the Managers agree their understanding of *Leadership* skills in the workplace are 'very good' with 89% Geologists and 89% of Engineers acknowledging an excellent understanding of their role /occupation (*Initiative*) in the workplace.

Strengths and Shortcomings

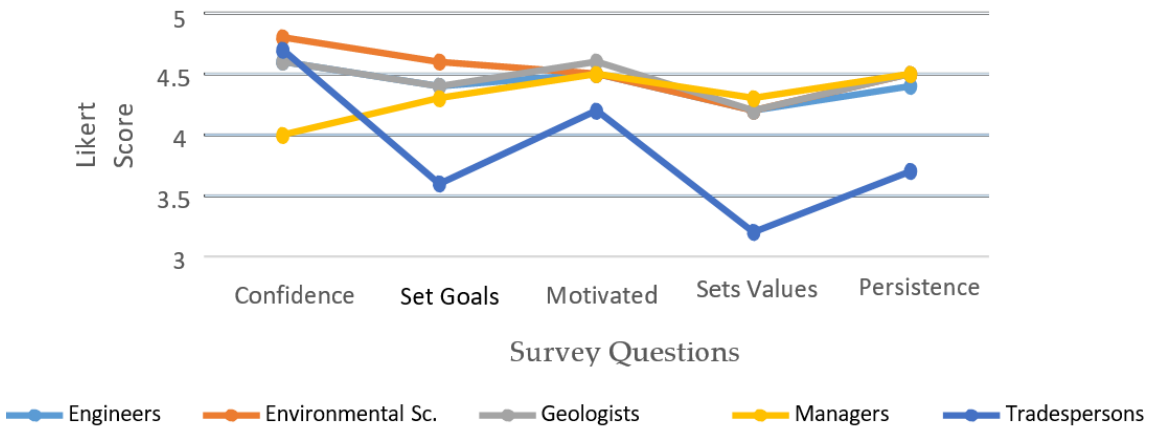
Each competency has a sub-set of skills (via survey questions) embedded to extract specific strengths and shortcomings within that competency (Table 10.1, column 3). A score of 5 indicates 100% agreement by all respondents to an individual survey question. For example, in Figure 10.2 (*Initiative*) a majority of the respondents (across all occupation groups) agree they are 'confident in performing their current role' (4.56) and in their 'motivation to succeed at work' (4.52), yet they are less confident whether their 'personal values are aligned with that of the company' (4.16).

FIGURE 10.2: Initiative to engage in the role/profession – Strengths and Shortcomings



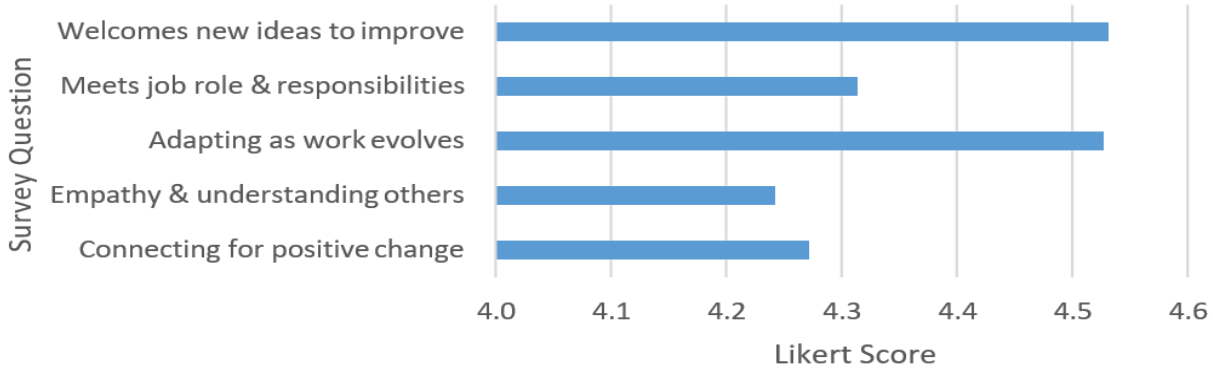
While the above responses give an overall summary of how the mining professionals engage in their profession – showing passion, desire to achieve goals, personal values and so on – these responses can be further analyzed to examine variations across occupational groups within a competency. For example, measuring *Initiative* among Environmental scientists, they have the least variation with a high Likert score of 4.5 to 5 (Figure 10.3). On the other hand, Tradespersons have some of the lowest Likert scores overall, with the lowest score (3.2) in the attribute 'aligning personal values with that of their company' sets values.

FIGURE 10.3: Initiative – Strengths and Shortcomings by Occupation Categories.



Comparing the seven competencies across all occupational groups, *Leadership* has one of the highest overall Likert scores (4.25 and above) in all the employability attributes measured in the survey (Figure 10.4) thus reflecting the current strength in professional *Leadership* across all mining professions. However, it was noted that within *Leadership* the more affective skills of 'empathy and understanding others' (4.23), and 'connecting for positive change' remain less well understood (4.26) (Figure 10.4).

FIGURE 10.4: Leadership – Strengths and Shortcomings.



Comparing Likert scores for leadership across individual occupational groups (graph not included), Tradespersons have the least understanding of leadership and express little 'empathy and understanding of others'. Managers in contrast, have higher average scores in all leadership competencies listed in Table 10.1, indicating a stronger understanding of overall leadership qualities.

Figure 10.5 illustrates *Lifelong Learning,* scores ranging from 1.7 to 4.3. Some of the lower scores (indicating their disagreement with the survey question) are associated with their doubts in the benefits accruing from 'further technical training' and 'having a mentor' to help improve their performance. Further, cross-occupational comparisons in this competency indicated little variation in their responses.

FIGURE 10.5: Lifelong Learning – Strengths and Shortcomings.

Responses to the work-skill *Management* are quite positive in that most agree (4.0) or strongly agree (5.0) with the given survey questions (Figure 10.6).

FIGURE 10.6: Management – Strengths and Shortcomings.

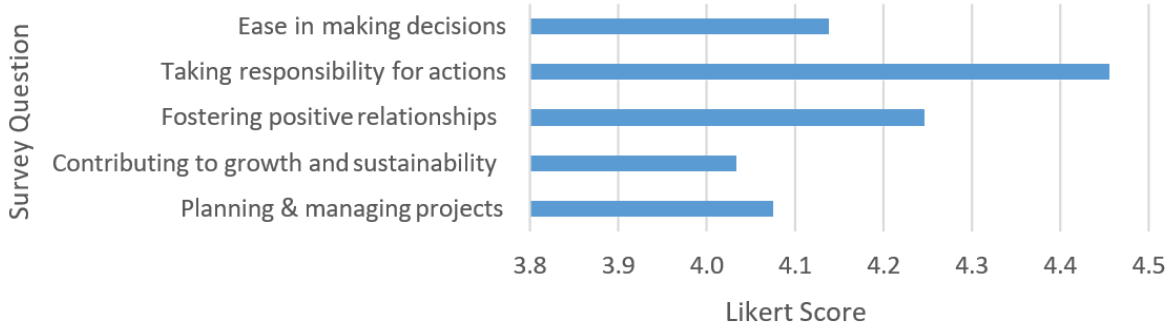
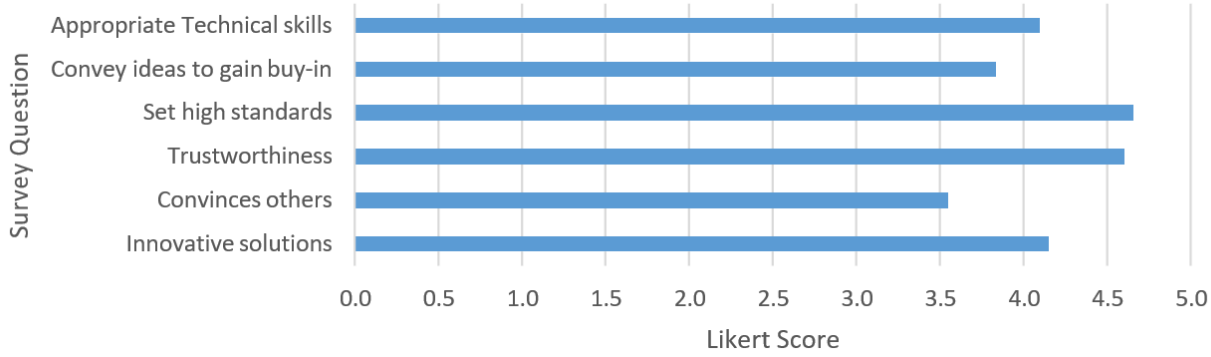
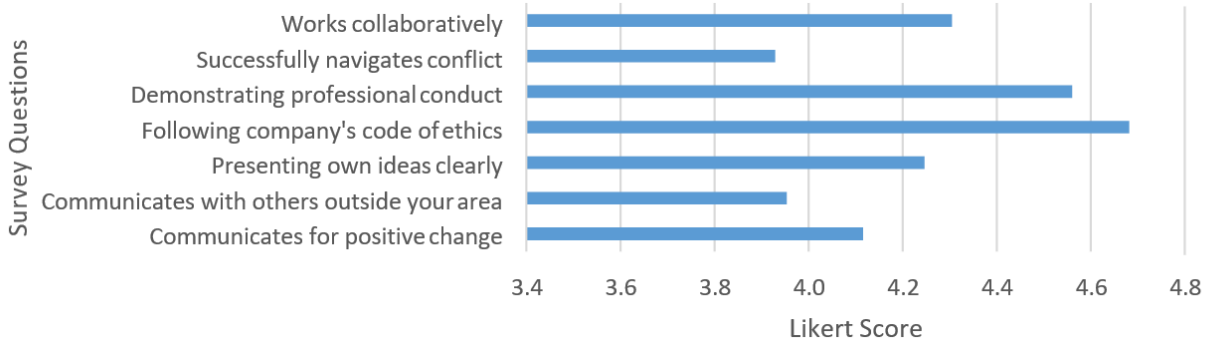


FIGURE 10.7: Critical Thinking – Strengths and Shortcomings.



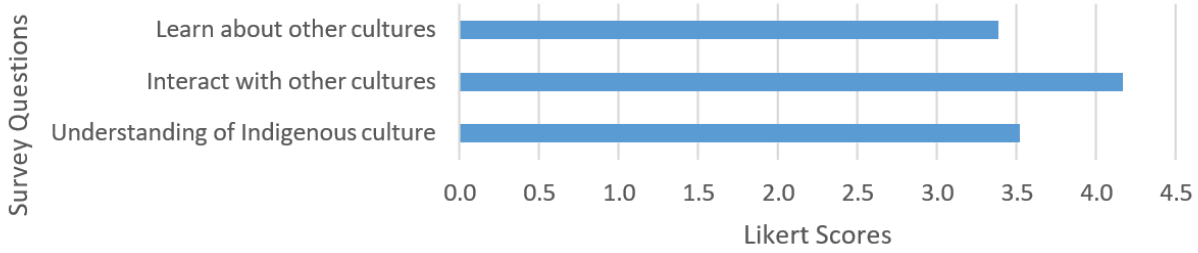
While the range in the scores are similar between *Management* (Figure 10.6) and *Critical Thinking* (Figure 10.7), in the latter there is a slight uncertainty in 'convincing others to adopt' their ideas (3.5) and in 'conveying ideas to gain buy-in' (3.6).

FIGURE 10.8: Communication – Strengths and Shortcomings.



Communication as a work-skill competency, scores very favorably across all occupational groups (Figure 10.8), and shows it is particularly strong in 'following the company's code of ethics' and in 'demonstrating professional behavior' within their industry.

FIGURE 10.9: Cultural Awareness – Strengths and Shortcomings.



A significant outcome of this study was the insight into the poor understanding of C*ultural Awareness* in the workplace (Figure 10.9) amongst all mining professionals. *Cultural Awareness* refers to the social and emotional acceptance of a culture other than your own. In Canadian mining, it references the global acceptance of the Indigenous population within the mining industry and the cultural acceptance of the Indigenous population in the mining industry (Hipwell et al., 2002).

Intercultural competence is one of the most valued skills in the contemporary workplace (Harvey, 2002) and yet it has one of the lowest scores (3.7) in this analysis (Figure 10.9). Although most participants agree they 'interacted with ease with people of other cultures' (4.2), they admit their minimal 'understanding of indigenous and other cultures' (3.5) within their workplace, and that they have not made an attempt to 'learn about other cultures' (3.4).

A score of 3.0 on the Likert scale could either imply a neutral response to the question or non-response, which would indicate a lack of knowledge or reluctance to commit a response. This is evident most in their responses to *Cultural Awareness.*

DISCUSSION

The rationale of this study was to ascertain information on current and past experiences of mining professionals as the basis to understand the existing status of the mining industry, and build on the gaps to guide future professionals. This approach is recognized as one of the key elements in the development of professional expertise and vocational competence (Collins & Tynjälä, 2003). Further, higher education is under increasing pressure to evaluate the appropriateness of its teaching to workplace practice and incorporate these experiences to its curricula (Bates, 2008).

This research also identifies employability attributes important to the mining industry of Canada via the WSD framework. The results of the study indicate *Initiative* and *Leadership* are the strongest competencies in the existing Canadian mining industry. This proves that current mining professionals show passion and constructive engagement. Ninety-two percent of the respondents expressed 'confidence in their ability to perform their current role' even though they showed hesitancy when asked if 'their values are aligned with that of their company'. This response is most likely due to limited knowledge or unfamiliarity with the company objectives. On the other hand, *Leadership* was well received, especially in the categories of 'welcoming of new ideas', 'approaches or information from others to improve their own work' and 'willingness to adapt to new work'. These positive findings foreshadow the potential to introduce innovative practices and foster ongoing improvement, particularly with predictions of new digital technologies in the future of mining. (Holcombe & Kemp, 2019; Deloitte, 2020).

This study has also brought to light some of the major shortcomings in the current Canadian mining industry in *Cultural Awareness* and *Lifelong Learning*. In fact, *Cultural Awareness* is affiliated to the

competency '*Lifelong Learning'* and supported by Billet (2010) who suggests cultural awareness represents both the ongoing learning between individuals via negotiation, and their interaction with the physical and social environment. Although most of the mining professionals who participated in this study agree that it is easy to interact with people of other cultures, they acknowledged the poor understanding of Indigenous culture within the context of their current workplace. This suggests a poor social and emotional acceptance or understanding of other cultures within the mining industry's workplaces. In Canada, cultural acceptance refers specifically to the acceptance and understanding of the Indigenous population and of diversity in the workplace (Caron & Asselin, 2019). Intercultural competence is one of the most important skills in the contemporary workplace (Harvey, 2002) and yet in this study, it had one of the lowest scores (3.7).

Harvey (2002) explicitly supports this limitation in stating that future training modules should be directed more towards cultural awareness. Changing these perceptions is essential to improving motivation, productivity and sustainability of the Canadian industry. It has also been argued that worker output and motivation are affected by negative organizational behaviors (Harvey, 2002). Holmes (2001) posits that graduates must excel in all generic competencies and be adaptable and transformative to accept change for the future. Mouros (2003) further supports this notion and says that having skills in the affective domain is required to engage in the cognitive domain.

The case for cultural awareness

The mining industry in Canada is one of the most significant economic sectors and largest private sector employer of Indigenous people (MiHR, 2020). The lack of education on cultural awareness within some professional groups, such as Mining engineers, is a major impediment for the understanding of Indigenous culture (Costa & Scoble, 2006).

There is very little evidence from previous research to support the advocacy of the affective domain in the mining industry. Montpellier (2020, p. 1) specifically refers to "transformational changes … to drive performance and operational goals". He emphasizes the need for technology and problem solving but makes no reference to the inclusion of cultural awareness in its practice. Solomon et al. (2008) believe that although the social dimensions of the mining industry are increasingly acknowledged as critical to business success, they are the least understood aspect of the business concept of sustainable development.

Caron and Asselin (2020, p. 1425) are somewhat skeptical about integrating the Indigenous workforce to the labor market in North America and admit it is poorly researched. The general lack of understanding of cultural diversity notably causes bias, stereotyping (Pearson & Daff, 2013) and racism (Thiessen, 2016). In addition, Fowkes and Sanders (2015) posit that existing programs aiming to integrate Indigenous workers have proven to be ineffective. Caron and Asselin (2020) believe providing knowledge of Indigenous culture and cultural diversity may overcome bias, stereotypes and racism in the industry.

This perceived low relevance of cultural awareness in the Canadian mining industry can be addressed either through direct industry training, such as the modules in cultural awareness offered recently to workers and supervisors by MiHR (2020), or via undergraduate and post-graduate training at tertiary institutions (Costa & Scoble, 2006) to educate non-Indigenous employees to understand Indigenous culture, practices and beliefs. Caron and Asselin (2020) believe cultural diversity fosters a good work climate, improved efficiency, creativity, innovation, social integration and organizational performance.

Parmenter and Trigger (2017) support the contention that cultural awareness training could alleviate prejudice about Aboriginal (Indigenous) co-workers and improve relationships between Aboriginal and

non-Aboriginal employees. However, they also refer to difficulties in addressing content relating to everyday life, and how this might inform the actual beliefs and practices of Aboriginal employees.

While Indigenous land rights are incorporated in the UN Sustainable Goals (United Nations, 2020) in remote mining communities, there is no specific reference to the obligation to understand Indigenous culture and cultural diversity within a labor force.

WIL is dependent on the successful connection/partnerships with higher education institutions, industry, and often the community (Fleming & Zegwaard, 2018). This study has emphasized the need to rebuild appropriate skills for the future, to enhance student work-skill capacity and employability to ensure the future sustainability of the mining industry. This case study has demonstrated how collaboration can take place between tertiary education and industry, and has the potential to close the gap between the current and the future-fit workforce.

Limitations

Some of the probable limitations in this study are associated with the snowball sampling technique. Limitations include reliance on the subjective judgement of informants, non-random selection procedures and confidentiality concerns (Johnson, 2014). However, this method was used due to the lack of a reliable sampling frame in the Canadian mining industry. Also, since the survey is self-administered, there were some questions left unanswered (no response), probably due to ambiguity or lack of understanding. Using the Likert Scale with a 'neutral' response (3) may have prompted some to remain non-committed in their response. A limitation in the questionnaire survey was that although it implied the use of technology in mining under the category *Leadership*, it did not directly include questions on the use of digital and technological resources. Therefore, an extension of this survey incorporating specific attitudes towards digital and technological futures, including artificial intelligence in the mining industry would be of value.

The lower numbers representing Tradespersons in this survey is a direct result of the sample selection. The Laurentian University database had limited access to Tradespersons. Nevertheless, the results (calculated as percentages and not as absolute numbers) did not affect the outcome of the results, for example, their overall lesser understanding in aspects of lifelong learning and cultural awareness more so than the other sub-groups. This could possibly reflect their employability training being cognitive and based more on aspects of maintenance, instrumentation and production. Further, civil/mechanical/electrical trades focus more on problem solving, initiative, management and leadership, than cultural awareness and lifelong learning, which are more affective competencies.

RECOMMENDATIONS

- The Canadian mining industry to incorporate special training of the existing labor force (staff and employees) in cultural diversity and cultural intelligence and, monitor the outcomes using an external advisor.

- Tertiary Institutions in Canada to introduce cultural awareness education programs to emphasize the affective application of mining skills in workplace practice. Since it is not the knowledge per se of skills that matter, but the 'affective' application of those skills in the workplace.

- Further collaboration between tertiary education institutions and industry to close the gap between the current and the future-fit workforce in the application of all work-skill competencies. Better leadership from Canadian tertiary institutions to influence mining schools to work collaboratively and increase student numbers in mining.

- The UN to incorporate the clause 'sustainable cultural diversity' within the practice of sustainable development in mining, in order to provide greater awareness of cultural diversity in the mining labor force.

CONCLUSION

Professional experience is increasingly defined by institutionally prescribed practices and outcomes. Research into current experiences, attitudes and perceptions among mining professionals combined with future projections and training are required to guide WIL students as future practitioners.

The global mining industry is facing significant challenges with respect to its professional workforce and worldwide mining. The Canadian mining industry echoes these trends and unless these gaps are addressed in the near future by the combined effort of the Canadian mining industry and tertiary education (WIL), the Canadian mining industry could collapse or lose its prime position in world mining. To move into the future, the mining education in Canada must meet the expectations of mining companies by providing 'job-ready' (Spearing & Hall, 2016) and comprehensively trained graduates, equipped with relevant skills of cultural awareness and lifelong learning to become fully proficient next generation mining professionals.

This research has identified the contemporary gaps in the Canadian mining industry as perceived by contemporary mining professionals. Collaboration between tertiary education institutions and industry is thus vital to close the gap between the current and the future-fit workforce. The study has emphasized the need to re-build appropriate skills for the future via WIL programs and protect the future sustainability of the Canadian mining industry.

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APPENDIX 10A

Current training in Mining Engineering at Canadian tertiary institutions (as of 2021).

University	*Mining Course*	*Training in …*	*Reference*
Bachelor of Engineering in Mining Engineering	Laurentian University	Study and work with professionals in one of the most productive and fertile geology in the world. Learn to consider the environmental, social and economic impacts that influence decisions in mining and the community.	https://laurentian.ca/program/mining-engineering
University of Alberta	Bachelor of Science in Mining Engineering [Coop]	…applying science and technology to plan, design, manage and optimize mining and mineral projects around the world.	https://www.idp.com/canada/Categories/University-of-Alberta/Bachelor-of-Science-in-Mining-Engineering-Co-op/p/PRG-CA-00100446
Cambrian College, Sudbury	Mining Engineering Technician	"part of mining engineering teams responsible for a wide range of projects involving surveying, drafting, design, environmental studies, industrial geological and geophysical fieldwork, ventilation, ground control and supervision"	https://www.idp.com/canada/Categories/Engineering/Mining/Diploma-in-Mining-Engineering-Technician/p/PRG-CA-00086606
Saskatchewan Polytechnic	Diploma in Mining Engineering Technology	surveying, ventilation, ground control, mine planning or supervision	https://www.idp.com/canada/Categories/Saskatchewan-Polytechnic/Diploma-in-Mining-Engineering-Technology/p/PRG-CA-00113733
University of British Columbia	Bachelor of Applied Science (Engineering) in Mining Engineering	Mining engineers focus on finding ways to extract minerals or metals from the earth. Their expertise in mining, mineral processing, and mine waste management is highly sought after around the world, wherever mines are located. UBC's Mining Engineering program integrates courses on engineering principles, earth sciences, and mining and mineral processing with content covering health, safety, management, economics, and environmental and social issues.	https://you.ubc.ca/ubc_programs/mining-engineering/
BC Institute of Technology	Bachelor of Engineering in Mining & Mineral Resource Engineering	The vision of the program is to provide students with a flexible educational path for successful careers in the mineral resource industry both in Canada and worldwide. As such, the degree will have a strong practical focus built upon a broad foundation of engineering theory, analysis and design. Throughout this program, students will be challenged to develop their critical thinking skills and exercise their creative abilities.	https://www.bcit.ca/programs/mining-and-mineral-resource-engineering-bachelor-of-engineering-full-time-8610beng/
BC Institute of Technology	Diploma in Mineral Exploration & Mining Technology	The Mineral Exploration and Mining Technology program focuses on geology, mining methods, exploration technology, surveying, and computer applications for mining operations and mineral explorations. Students learn hands-on science and engineering skills, and complete an industry-standard report during the second year of the full-time program.	https://www.bcit.ca/programs/mineral-exploration-and-mining-technology-diploma-full-time-6640dipma/
Dalhousie University	Bachelor of Engineering in Mineral Resource Engineering [Non-Coop]	evaluate the economics of mineral deposits, develop plans for surface mines, roadways and tunnels, design underground mine plants and ventilation systems, ensure mine safety and environmental protection, and develop innovative mine technology.	https://www.idp.com/canada/Categories/Engineering/Mining/Bachelor-of-Engineering-in-Mineral-Resource-Engineering-Co-op/p/PRG-CA-00355050
Cambrian	Advanced Diploma in	surveying, drafting, design, environmental studies, industrial geological and	https://www.idp.com/canada/Categories/Cambrian-College/Advanced-

College	Mining Engineering Technology	geophysical fieldwork, ventilation, ground control, and supervision.	Diploma-in-Mining-Engineering-Technology/p/PRG-CA-00086605
Queen's University	Bachelor of Applied Science in Mining Engineering	locating, extracting, refining, and disposing of mineral and metal products and by-products.	https://www.idp.com/canada/Categories/Engineering/Mining/Bachelor-of-Applied-Science-in-Mining-Engineering/p/PRG-CA-00090154
University of Toronto	Bachelor of Applied Science in Mineral Engineering	Areas of Focus; Environmental Impact & Risk Assessment, Mine Design, Mineral Processing, Mining Economics & Finance, Surface & Underground Mining, Wastewater Management	https://discover.engineering.utoronto.ca/programs/engineering-programs/mineral-engineering/
McGill University	Bachelor of Engineering in Mining Engineering (Coop)	"Professional Mining Engineer can plan, design, organize and supervise the development of mines, mine facilities, systems and equipment, and can also prepare and supervise the extraction of metallic or non-metallic minerals and ore from underground or surface mines.	https://www.idp.com/canada/Categories/Engineering/Mining/Bachelor-of-Engineering-in-Mining-Engineering-Co-op/p/PRG-CA-00111285
University of Saskatchewan	Bachelor of Science in Engineering – Geological Engineering (Mining Engineering)	…trained to characterize and predict the behavior of natural materials and fluids. They find and develop resources and in the disposal of society's wastes.	https://www.idp.com/canada/Categories/University-of-Saskatchewan/Bachelor-of-Science-in-Engineering-Geological-Engineering-Mining-Engineering/p/PRG-CA-00221594
University of Saskatchewan	Bachelor of Science in Engineering – Mechanical Engineering (Mining)	Trained in statics, dynamics and vibrations, heat transfer and fluid mechanics, solid mechanics and biomechanics, robotics, controls and mechatronics, materials science, analysis and synthesis of mechanical systems and manufacturing	https://www.idp.com/canada/Categories/University-of-Saskatchewan/Bachelor-of-Science-in-Engineering-Mechanical-Engineering-Mining/p/PRG-CA-00243278
McGill University	Bachelor of Engineering in Mining Engineering [NB. Coop Program]	Professional Mining Engineer can plan, design, organize and supervise the development of mines, mine facilities, systems and equipment, and can also prepare and supervise the extraction of metallic or non-metallic minerals and ore from underground or surface mines.	https://www.idp.com/canada/Categories/McGill-University/Bachelor-of-Engineering-in-Mining-Engineering/p/PRG-CA-00251204
University of Alberta	Bachelor of Science in Mining Engineering	"opportunity to gain hands-on experience, participate in research, and contribute to team projects both inside and out of the classroom."	https://www.idp.com/canada/search/mining/undergraduate/?q=:popularity:studySector:Undergraduate&page=1
Northern College	Ontario College Diploma in Mining Engineering Technician	The technician is part of the engineering team, involved in all aspects of mining from exploration, planning, development and operation, to mineral extraction and environmental control.	http://www.northernc.on.ca/mining-engineering-technician/
Dalhouse University	Bachelor of Engineering in Mineral Resource Engineering [Coop]	Mineral resource engineers evaluate the economics of mineral deposits, develop plans for surface mines, roadways and tunnels, design underground mine plants and ventilation systems, ensure mine safety and environmental protection, and develop innovative mine technology.	https://www.dal.ca/faculty/engineering/civil-resource/programs/undergraduate-studies/mineral-resource-engineering-program.html

(Source: https://www.idp.com/canada/search/mining/undergraduate/)

11 Delivering undergraduate medical education on rural and remote practice: Commentary and preliminary findings

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ABSTRACT

Previous studies on rural medical education have identified three factors associated with medical students' entry into rural medical practice to overcome physician shortage in rural and remote areas: rural upbringing, rural clinical training during undergraduate medical education, and targeted rural training at the postgraduate level. Despite these findings, however, delivering early and sustained exposure to rural medicine has become even more challenging in light of the COVID-19 pandemic and cancellation of in-person shadowing opportunities. To address this challenge, the use of videoconferencing technology to conduct virtual interviews is explored to provide medical students with the opportunity to learn about how healthcare is delivered in rural settings, skills and attitudes needed to practice rurally, and realities of living in these regions. Preliminary findings revealed that the virtual interview had little effect on students' interest in practicing or training in rural or remote communities, but many agreed they enjoyed the learning opportunity.

Keywords: *rural medicine, remote medicine, videoconferencing technology, undergraduate medical education*

INTRODUCTION

Physician shortage continues to be a significant issue in the equitable delivery of a sustainable level of high-quality healthcare in rural and remote communities in Canada. Indeed, physician maldistribution is one of the main contributors to physician shortage (Curran et al., 2004). According to data collected by the Canadian Medical Association in 2019, 19% of Canadians, around six million people, reside in rural and remote areas, while only 8% of physicians practice there. The physician maldistribution is even more apparent among specialists, with approximately 2% of all specialists in Canada practicing in rural communities, compared to 14% of family physicians (Canadian Medical Association, 2019). The aging of the rural population places a significant additional demand on the healthcare system. Due to the issues with recruiting and retaining healthcare providers in rural and remote regions, rural family physicians often need to adopt a broad, and often stressful, scope of practice (J. Rourke, 1991; J. T. B. Rourke, 1997).

Dr. Roger Strasser, who led the creation of the Northern Ontario School of Medicine in Canada to improve the health of the rural population in Northern Ontario, identified three factors associated with entry into rural medical practice: rural upbringing, rural clinical training during undergraduate medical education, and targeted rural training at the postgraduate level (Strasser et al., 2016). While rural background has been suggested as the most important independent predictor of rural practice (Rabinowitz et al., 2001), multiple studies have explored the impact of an early and brief exposure to rural medicine on medical students'

career choices (Landy et al., 2012; Lynch & Willis 2000; Myhre et al., 2014; Newbury et al., 2005; Wyatt & Lyons, 2018). Lynch and Willis (2000) revealed that a brief exposure to rural medicine through a three-day shadowing program had little effect on first year medical students' opinion about living and working in a small town. The other studies, however, described positive changes in students' attitudes and perceptions of rural medicine following a remote and rural medicine learning experience. Specifically, students' early exposure to rural medicine through the discussion of rural issues and the incorporation of rural medicine practice experiences during undergraduate and postgraduate medical education has been found to provide medical students with the clinical competencies, networking opportunities and attitudes needed to practice confidently in rural settings (Brooks, 1994; Tepper & Rourke, 1999). Overall, rural exposure during undergraduate medical education has been shown to be vital in fostering urban medical students' interest in rural practice (Kent et al., 2018; Myhre et al., 2015; Tolhurst et al., 2006), and in helping students with rural backgrounds stay connected to those communities (Crump & Fricker, 2016). The latter is vital as Rourke and colleagues suggested that prolonged urban-focused medical and cultural experiences can contribute to a shift towards urban values in medical students of rural origin (J. Rourke 1996).

GROWING CHALLENGES IN EXPOSING URBAN MEDICAL STUDENTS TO RURAL MEDICINE

Despite these findings, however, delivering early and sustained exposure to rural medicine has become even more challenging in light of the COVID-19 pandemic. Since the outbreak, Canada and many other countries have taken robust measures to slow the spread of the virus and reduce the burden on national healthcare systems. As a result of travel restrictions and physical distancing policies, medical schools adapted their preclinical curriculum to virtual platforms. Although didactic lectures and related teaching methods have smoothly transitioned to virtual domains, all work-integrated learning (WIL) opportunities, including medical shadowings – aimed at helping students explore different medical specialties at varying sites and communities – have been cancelled. Specifically, the removal of medical students from clinical learning environments due to mandates of social and travel restriction, the safety of students and the preservation of personal protective equipment has greatly limited students' WIL experience in rural settings.

Prior to the physical distancing mandates, medical students' exposure to rural medicine took various forms. This included but was not limited to pre-clinical courses on rural medicine, student-initiated shadowing opportunities in rural communities, rural health fairs, and clinical placements in rural and remote communities. Some schools also established rural student groups or built new learning sites in rural locations to train students who intend to practice rurally (Bates et al., 2021; D'Amore et al., 2011). Rural student groups expose medical students to rural medicine; they nurture students with an interest in rural practice and establish a positive image of rural medicine in an urban medical environment (Dunbabin & Levitt 2003; Kamien 1996). With the current social distancing mandates and other policies, the cancellation of these opportunities altogether limits medical students' educational exposure to rural and remote medicine. Consequently, the restrictions imposed by COVID-19 on the sustained exposure of undergraduate medical students to rural medicine may exacerbate the existing concern of physician shortage in rural and remote regions in Canada in the long-term.

PROPOSED SOLUTION TO OPTIMIZE MEDICAL STUDENTS' EXPOSURE TO RURAL MEDICINE

With the new challenges imposed on delivering early and sustained exposure to rural practice, medical educators face the urgent need of providing students with alternative opportunities for exploring rural medicine. As described in our previously published paper (Jeyakumar et al., 2020), videoconferencing (VC) is frequently used for the delivery of education in medicine, nursing and allied health. Various studies have explored the effectiveness of VC technology for physicians' training in rural areas and for the delivery of

patient education to remote communities. Indeed, a group of researchers in Australia found that remote supervision via VC provides readily-available guidance to rural trainees, supporting their delivery of appropriate care to patients (Newbury & McKenzie, 2004). Similarly, VC has been shown to be effective as a clinical and educational tool among surgeons (Smith et al., 2012). Regarding patient education, a group of researchers in Australia found VC to be an acceptable, effective, feasible and efficient way to provide timely support to elderly rural patients and their families (Read et al., 2019). Similarly, study findings confirmed the feasibility of using VC for delivering patient education programs to remote Ontario communities (Warmington et al., 2017).

While these studies highlight the use of VC for the training of rural physicians/medical students and education of rural patients, few studies have explored the use of VC in delivering pre-clinical rural education to urban medical students. Thus, as next steps, it is vital to understand how VC technology can be used to provide urban medical students with opportunities to learn about rural practice and to entice interest in rural medicine while simultaneously ensuring learner, patient and healthcare provider safety. One avenue to address the limitations imposed by the COVID-19 pandemic on the sustained exposure of urban preclinical medical students to rural medicine is the implementation of virtual interviews with healthcare providers in rural or remote communities.

Virtual interviews with rural providers can provide medical students with the opportunity to learn about how healthcare is delivered in the unique rural context, skills and attitudes needed to practice rurally, and the realities of living in these regions. These are all factors found to be essential for an effective rural practice experience (J. Rourke 1996). Continuous exposure to rural practice through these virtual interviews encourages recruitment into rural medicine by providing students with sustained exposure to rural communities and rural physician role models (Kamien & Buttfield, 1990). While rural physicians can foster medical student interest in rural practice, they often lack adequate support for their roles in medical education (Price et al., 1994). VC technology may facilitate the academic supports to rural preceptors since the online sessions reduce preceptor's travel time and expenses.

From the medical learner's perspective, the use of VC technology offers students the opportunity to explore rural and remote medicine in various settings, including practices in locations otherwise unreachable for many of them. Virtual interviews help students to have a more diverse experience by connecting with physicians almost anywhere in the country with access to the Internet. Not all rural and remote practices are the same, and the scope of work carried out by physicians in these areas differ significantly based on where they practice. Therefore, connecting with rural and remote physicians from various locations without geographical limits can offer a more accurate picture of what rural and remote medicine looks like in the field and can help overcome the common misconception that all rural and remote medicine is the same.

Despite the above benefits, however, several challenges in scaling up in the longer term remain, including the recruitment of rural physicians, feasibility, and follow-up education on rural medicine. For instance, recruiting enough rural physicians to provide equal opportunity for all medical students must be balanced with the current workload of rural physicians who are already experiencing the shortage of physician supply. Also, the development of a continuous curriculum on rural medicine during pre-clerkship years and whether to continue incorporating VC technology in follow-up education must be considered carefully to maximize the benefit of VC technology use for both students and rural physicians. Lastly, the use of VC technology to connect with physicians from various locations has its limitations.

First, the virtual interview format lacks the same quality of interpersonal relationships and transmission of knowledge seen from in-person interviews or shadowing opportunities. Students are able to only ask

questions in a restricted environment and observe what is shown on the screen at the moment. Second, while interviewing physicians from various locations adds diversity to the medical learner's experience, it also raises the concern with the standardization of the experience for students. The interview quality and the overall learning experience will largely depend on who students are paired up with. Some students may gain more out of the experience than others because their physicians were more prepared or enthusiastic about sharing their expertise with the students.

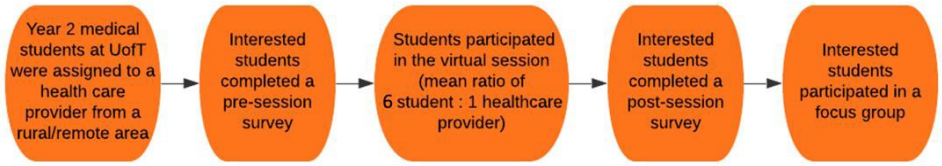
METHODS

As a pilot project to explore the utility of VC technology in the delivery of pre-clinical rural education to urban medical students, Year 2 medical students at the University of Toronto (UofT) were divided into groups and assigned to a healthcare provider from a rural/remote area who agreed to discuss their practice and community through a virtual interview. This curriculum component was made mandatory to all second-year medical students at UofT. In a mean group size of six, students completed a 60-minute virtual interview with the rural or remote community healthcare provider via Zoom software or telephone. The session was a one-day event and each group had its session between the period of September 24 and October 22, 2020. The goal of the call was to help students learn more about how the specific environment of the provider's work, shapes patients' health outcomes with a focus on systems, equity and social determinants of health.

Our study focused on obtaining feedback from students regarding their virtual experience. The study protocol was approved by the Research Ethics Board at the University of Toronto (Protocol #:23072). The study had three components for evaluating the new learning modality; (1) pre-session survey, (2) post-session survey and (3) focus group. Before the virtual experiences commenced, all Year 2 students were emailed and asked to fill out a brief and anonymous pre-session survey. The pre-session surveys required students to briefly describe their concerns, comfort with, and expectations of the interview (Appendix 11A). Following the completion of the virtual interview, all students were also emailed and asked to fill out a brief and anonymous post-session survey (Appendix 11B). The post- session survey required students to describe their overall impression of the new learning modality and elaborate on the impact that the experience had on their career exploration journey, especially regarding work in rural and remote areas (Figure 11.1).

The student surveys used a 5-point Likert scale to understand students' pre-existing knowledge about rural health, their desire to participate in similar virtual interviews in future, and the utility of this experience for interacting with rural role models and fostering interest in rural practice. The five levels of the Likert scale are; strongly disagree, disagree, neutral, agree and strongly agree. The scale was coded as 0 for strongly disagree to 4 for strongly agree. Students were also asked about their interest in participating in a 30-minute focus group to elaborate on their overall experience (Figure 11.1).

FIGURE 11.1: Flow-chart depicting the study design.



Students are known to have a low response rate to course evaluations. The response rate for evaluations of longitudinal courses is around 30-40% at UofT Medicine. Therefore, to simplify the study requirements and increase the likelihood that students participate in the study, students were permitted to complete any, some or all of the study components. As a result, it is possible that students who completed the pre-session survey did not complete the post-session survey or participate in a focus group. Similarly, it is possible that students who completed the post-session survey or participated in a focus group, did not complete the pre-session survey.

PRELIMINARY FINDINGS

The expectation of the brief one-hour virtual interview was to provide students with an understanding of how the specific environment of the provider's work shapes patients' health outcomes while providing students with just enough exposure to spark their interest in learning more about rural/remote medicine. Overall, 76 students completed the pre-session survey and 45 students completed the post-session survey. Indeed, of the 76 students that completed the pre-session survey, the reported mean Likert scale was 1.45±0.8 for the proposition that the student had a strong understanding of the health systems in rural and remote areas. A comparison of this data to that of a similar proposition in the post-session survey (mean Likert scale: 2.89±1) suggested a significant positive correlation between the virtual interview and student's understanding of health systems in rural and remote areas ($p<0.0001$). Specifically, the findings suggest that the interviews provided students with a better understanding of the challenges that exist in rural and remote settings, including access to healthcare (mean Likert scale: 3±1, proposition: 'I now have a better understanding of the challenges that exist in rural/remote settings, including access to healthcare') (Table 11.1).

The survey results indicate that the virtual interview had little effect on students' interest in practicing or training in rural or remote communities (mean Likert scale: 2.18±1.2, proposition: 'Because of this experience, I am now more attracted to practicing/training in rural/remote areas'). Similarly, results suggest that the virtual interview had little impact on providing students with networking opportunities with rural healthcare providers (mean Likert scale: 2.27±1.1, proposition: 'This session provided me with networking opportunities that will be important for my medical career'). However, 12 of 45 (26.6%) students agreed that this learning experience attracted them to practicing/training in rural/remote areas, and 6 of 45 (13.3%) students strongly agreed (Table 11.1). Further analysis should focus on the qualitative findings obtained from the focus groups to identify how the interviews did or did not influence students' interest in rural medicine.

TABLE 11.1: Data from the post-session survey administered to students following the virtual interview.

Post-session survey statements (N total responses = 45)	**Likert scale (mean ± standard deviation)**	**Strongly Disagree (%)**	**Disagree (%)**	**Neutral (%)**	**Agree (%)**	**Strongly Agree (%)**
This experience gave me a better understanding of the health systems in rural and remote areas	2.89 ± 1	2.2	4.4	15.6	48.9	28.9

I now have a better understanding of the challenges that exist in rural/remote settings, including access to healthcare	3 ± 1	0	6.5	26.1	37.0	30.4
Because of this experience, I am now more attracted to practicing/training in rural/remote areas	2.18 ± 1.2	8.9	17.8	33.3	26.6	13.3
This session provided me with networking opportunities that will be important for my medical career	2.27 ± 1.1	4.4	24.4	24.4	33.3	13.3
I enjoyed this learning opportunity	3.14 ± 0.8	0	4.4	17.8	40.0	37.8

Since recruitment to rural practice is aided by connection to positive rural role models, it was vital to further explore the utility of the interview platform for this purpose. However, the expectation was that a longitudinal experience would be more appropriate to provide students with positive exposure to rural medicine role models, a key factor influencing students' interest in rural practice and participation in rural clerkship rotations. This is impactful because students who participate in rural clerkship are more likely to enter rural medicine. Indeed, students identified the large student-to-provider ratio and short duration of the interview as a barrier to establishing mentorship opportunities during the interview. Balancing the scarcity of rural healthcare providers with the benefit of a smaller student-to-provider ratio, the study defined the ideal ratio to be 3:1. Having three students paired up with one practitioner would allow students to communicate and exchange ideas at ease, maximizing the interaction time with the provider. Going forward, it would be useful to explore the utility of longitudinal three-to-one interviews with rural physicians.

Overall, 35 of 45 (77.8%) students agreed or strongly agreed to enjoying this learning opportunity (mean Likert scale: 3.14±0.8, proposition: 'I enjoyed this learning experience'). The mean of student's overall satisfaction was 7.6 ±2 (Scale of 0-10; 0 being completely unsatisfied and 10 being very satisfied). As not all study components are yet completed, it is anticipated that successful analysis of both qualitative and quantitative findings in all participants will yield results that will further inform routes for the development of rural-oriented undergraduate medical education curriculum and optimization of student-physician mentorship opportunities.

APPLICATION OF VIRTUAL SHADOWING IN NEW COMPONENTS OF MEDICAL CURRICULUM

Our aforementioned study focuses on the effectiveness of virtual platforms for providing medical students adequate exposure to real-life practice in rural and remote communities. Going forward, it would be important to further explore the use of virtual platforms for this purpose, with a greater focus on interaction with very remote communities in Canada and potentially internationally. Uniquely, these virtual interviews may offer medical students the opportunity to interact with physicians residing in areas requiring air travel for essential needs (i.e., medical personnel, food, first responders). While visiting these communities would provide the most optimal learning experience, the regional conditions and travel expenses are a strong barrier, even in the absence of the COVID-19 pandemic. Therefore, this educational

platform may facilitate medical students' exposure to remote populations to learn about the unique regional, cultural and social factors contributing to their health.

In addition, beyond the virtual interviews with healthcare providers, it would be informative to explore the possibility of using virtual platforms to live stream physicians in their remote clinical practice. This platform may allow medical students' participation in learning opportunities that mimic in-person medical shadowings. By virtually participating in clinical encounters, the student would be able to ask questions, witness authentic physician-patient interactions, and potentially engage in a physician mediated discussion with consenting patients, all in real-time. This design may allow medical students to virtually explore what the delivery of healthcare is like in different sites and communities while simultaneously ensuring patient, student, physician safety and physical distancing during the COVID-19 pandemic. Importantly, even if these learning opportunities do not foster medical students' interest in rural medicine, it would be important to explore whether they improve students' cultural sensitivity and knowledge of the population's unique social and health challenges.

As an example, further research needs to be done to explore whether this virtual platform can effectively provide medical students with the opportunity to meet physicians caring for remote Indigenous communities. There are multiple questions that are important to address. Would this platform encourage longitudinal student-physician interactions that can foster mentor-mentee relationships? Would these relationships encourage medical students' recruitment to Indigenous rural and remote medicine? If not, would the knowledge gained from these interactions provide students with the skills, attitudes and comfort needed to provide culturally-competent care to Indigenous peoples residing in urban areas? Extensive study design and research ethics board approval would be required to explore this proposal further. However, if successful, this approach may be adopted by medical curriculums and other health disciplines to support career exploration in situations mandating physical distancing.

Similarly, one long-term goal would be to explore the use of these virtual platforms to connect medical students with providers serving remote communities outside of Canada. This initiative may educate students about various global health issues and help them develop communication and cultural competency skills that can be applied to caring for similar populations residing in Canada. One such population is refugees. Due to the effects of displacement and the psychological and/or physical trauma endured, refugees present with a higher incidence of mental health concerns and challenging health conditions (Afkhami, 2016; Dussán et al., 2009). However, language barriers and lack of sensitivity to cultural backgrounds and religious values continue to be significant barriers to the delivery of care to this population (Altman 1990). Unlike cultural diversity (Dogra 2001; Dogra et al., 2005; Dogra & Karnik, 2004; Dowell et al., 2001), refugee health has been much less studied and is rarely incorporated into medical education despite the growing number of refugees in Canada.

Medical students' exposure to refugee health is currently largely from student-led initiatives or didactic lectures, with no longitudinal integration across medical curricula (Mohamed-Ahmed et al., 2016; Murphy-Shigematsu & Grainger-Monsen, 2010). A recent review revealed that the integration of refugee health into the undergraduate medical curriculum through clinical electives and community involvement increased student's knowledge on refugee-related conditions, improved their cross-cultural communications skills, encouraged greater advocacy for refugees and increased participation in refugee health initiatives (Rashid et al., 2020). As a result, the longitudinal integration of refugee health into the medical curriculum through virtual interactive methods should be further explored in the context of the current limitations on in-person clinical electives and community involvement.

Since refugees often endure challenges that are unfamiliar to medical students residing in Canada, arranging virtual interviews and clinical encounters with physicians working in refugee clinics within Canada or remote refugee camps outside of Canada may be beneficial. Interacting with physicians serving the refugee population within Canada may provide students with first-hand exposure to the health concerns and social struggles that this population experiences as they integrate into a new society and navigate a new healthcare system. This experience may be integral in helping students develop the communication skills, cultural competency and confidence needed to address the needs of this growing population. Similarly, the possibility of interacting with physicians serving in remote refugee camps outside of Canada can provide students with a deep insight into the lifestyle that refugees may have endured prior to their arrival in Canada. Students can learn from the treating physicians and consenting residents about life in the camps, common health concerns, and social struggles. However, it is important to recognize that the possibility of interacting with physicians outside of Canada is associated with many challenges, including language barriers, privacy concerns, physician recruitment, patient consent, and student's safety in virtually participating in emotionally difficult situations.

Overall, the aforementioned virtual learning opportunities may expose students to populations that they otherwise would not have been able to interact with. The knowledge gained from these interactions may help students develop the communication skills and cultural sensitivity needed to provide culturally competent care to remote Indigenous and refugee populations, among others.

Further research needs to be done to explore the utility of virtual interviews for exposing urban medical students to physicians practicing in rural and remote communities in Canada, and potentially beyond. Similarly, it is important to further explore the ethics and practicality of using virtual platforms not only for physician interviews, but also for live streaming clinical encounters for the purpose of mimicking in-person medical shadowings. Results obtained from conducting further research on the use of virtual platforms in medical education might inform medical curricula's and other health disciplines' approach to career exploration opportunities in situations requiring physical distancing. If these programs are successful in increasing student interest in rural medicine, they may play an important role in increasing recruitment to these regions to limit physician shortage.

CONCLUSION

Ensuring that people in rural and remote communities have sufficient access to quality healthcare remains a persistent challenge in Canada, and intentional solutions starting at the level of medical training are required. Overall, existing findings suggest that a rural origin, an interest in primary care medicine, and positive exposure to rural medicine role models are key factors for students' interest in rural practice. To encourage students' exposure to rural medicine amid mandates of social restriction, a clear need exists for more research on the effectiveness of virtual medical education on rural practice. VC technology is a useful tool in connecting with rural and remote physicians across the country and even outside Canada. It opens up a new chapter in delivering medical education that is not restricted by geography and borders. Nevertheless, it also introduces a new set of challenges in scaling up in the longer term, including the limitations inherent to the use of VC technology, such as the lack of in-depth connection between preceptors and learners. Exploring this area may provide health professional educators and students with a scientifically supported, cost-effective, and feasible framework for educating students about rural communities and effectively fostering students' interest in rural medicine.

Our study's preliminary findings concurred with the previous findings that brief exposure to rural medicine has little effect on students' interest in practicing or training in rural or remote communities. Yet the virtual interview itself was perceived as a positive learning experience for most medical learners. Our

findings also indicated a clear need for more longitudinal exposure to rural and remote medicine, supporting the conclusions reached by other literature on rural medical education. Although the pandemic has forced medical education to be delivered online, exposing medical learners to rural and remote medicine continues to evolve and expand with VC technology. From reaching the country's remotest part to exploring the global community's healthcare issues and challenges, the VC technology and virtual learning opportunities continue to remain a solution worth exploring to overcome the physician shortage in rural and remote areas.

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APPENDIX 11A: Pre-Session Survey

CAP and HC are both core curriculum within ICE (Integrated Clinical Experience). HC is intended to investigate factors that impact health for individuals and populations through a broad lens (i.e., systemic social determinants). CAP is intended to provide an avenue for students to explore careers in medicine through firsthand experiences observing and interacting in clinical environments. Prior to connecting with an interprofessional health provider, please complete the following quick survey.

Please mark the box that most accurately reflects your opinion.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	I currently have a strong understanding of health systems in rural and remote areas.					
2	I will enjoy this learning experience.					
3	This experience will be beneficial for exploring careers in rural medicine.					
4	This experience will educate me about different patient populations that I might otherwise not learn about.					
5	This session will provide me with networking opportunities that will be important for my medical career.					
6	I believe it will be beneficial to learn about health systems in rural and remote areas from individuals practicing there.					
7	After this session, I will be confident in my understanding of challenges that exist in rural and remote settings, including access to health care.					
8	I believe that online format will not impede my knowledge gain from this learning experience					
9	Overall, I have high expectations for this learning session.					

10. What do you hope to gain from this learning experience? (Short answer)
11. What concerns, if any, do you have about virtual field experiences? (Short answer)

APPENDIX 11B: Post-Session Survey

As part of the Health in Community (ICE:HC) curriculum we are evaluating the utility and effectiveness of video conferencing technology for exposing urban medical students to rural and remote medicine during the COVID-19 pandemic. You have all completed your visit with a healthcare provider from a rural/remote community. We hope that your virtual field experience was a valuable learning opportunity. We would really appreciate your participation in this quick 3-minute pre-session survey to learn more about your concerns, comfort with, and expectations for the virtual rural field visit. All survey responses are completely anonymous.

Please rate this session by marking the box that most accurately reflects your opinion.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	This experience gave me a better understanding of health systems in rural and remote areas.					
2	I enjoyed this learning experience.					
3	Because of this experience, I am now more attracted to practicing/training in rural/remote areas.					
4	This experience educated me about different patient populations that I might otherwise not have learned about.					
5	This session provided me with networking opportunities that will be important for my medical career.					
6	I felt comfortable interacting with the tutor during the session.					
7	I now have a better understanding of the challenges that exist in rural/remote settings, including access to health care.					

8. Which elements of this virtual field experience did you like the most? (short-answer)
9. Which elements of this virtual field experience did you dislike the most? (short-answer)
10. How would you rate your overall satisfaction with this learning experience? (Scale of 0-10; 0 being completely unsatisfied and 10 being very satisfied)
11. What impact do you see this career exploration early in your schooling will have on your future career? (short-answer)
12. Do you think that such virtual field experiences can make you less anxious about your career exploration journey?

12 Work-integrated learning experience for public health students: A case study project in partnership with a community farm

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ABSTRACT

This chapter describes a case study on work-integrated learning (WIL) in a public health undergraduate course, where students addressed a health issue in a "real-world" context. Students collaborated with a community partner to develop case study proposals that would target food insecurity. In this chapter, we describe the design and development of the course to integrate the WIL experience. Five key lessons were drawn; aligning learning outcomes with the aspirations of the community partner requires careful dialogue, a well-designed WIL experience enhances critical thinking skills and course enjoyment, WIL must not replace other course learning opportunities and outcomes, students may not value work-integrated learning experiences unless shown how it affects course performance, and WIL can provide students opportunity to create meaningful impact. We discuss the lessons and course implementation in light of Kolb's experiential learning theoretical framework and provide a few considerations for course designers.

Keywords: *work-integrated learning, public health, global health, community partner, high-level education*

INTRODUCTION

Work-integrated learning (WIL) experiences allow students to learn about how concepts are applied in a "real-world" context and derive a more meaningful learning opportunity to understand the material (Slavich & Zimbardo, 2012). Learners who engage in WIL find opportunities to move beyond course concept readings and lectures in traditional classroom settings, to where these concepts are understood in a functional context (Kolb & Kolb, 2017).

WIL experiences have been increasing in public health undergraduate courses, allowing students to apply theoretical knowledge they learn to public health situations (Chorazy & Klinedinst, 2019). Previous research has highlighted that participation in a community-based, student-led public health project, was extremely high, and students learned important workplace skills such as teamwork, identifying social issues, and applying knowledge to real contexts (Wee et al., 2010). Additionally, when two groups of students were compared, where one had received traditional teaching methods (lectures, exams) and the other received a WIL opportunity (hands-on activity, critiques), students who received the WIL opportunity had a much more positive learning experience than the traditional group (Pugsley & Clayton, 2003).

We, therefore, decided to implement WIL in a public health undergraduate course, where students addressed a health issue in a "real-world" context. Students collaborated with a community partner to develop case study proposals that would target food insecurity. This case is a relevant example of the WIL type "Service Learning", where students engage with a community partner to address a challenge that this community faces (CEWIL Canada, 2021). These health studies students from the course, Global Health & Human Biology (HLTC26H3) partnered with the non-profit Black Creek Community Farm to address food insecurity in the Jane/Finch neighborhood in Toronto. Many of the residents in the Jane/Finch area experience food insecurity and difficulty accessing food, and is one of the top four ridings

in Toronto that has the highest per capita food bank use (Bronstein & Haiat, 2019). Issues such as lack of access to vehicles, the far distance of grocery stores, and rising food prices all pose barriers to ensuring food security for this community (Black Creek Food Justice Network, 2019). Academic institutions are in a unique position to offer their resources and expertise to create positive change (Strandberg, 2017). Outreach and collaboration opportunities such as WIL allow students to utilize these resources and apply their knowledge to work with marginalized communities to address community-driven priorities.

There are a few studies that report on the findings of WIL to address food insecurity in Canada, and discuss different modes of practice for post-secondary students to engage in WIL opportunities (Matthews et al., 2014; Pabani et al., 2020). However, there is a geographical gap where these studies are being conducted, as this research does not expand to experiences of students from institutions situated in Toronto working with local non-profits in food insecurity. One in five households in Toronto experience food insecurity (City of Toronto, 2017), so it is important to evaluate food programs and policies currently in place to provide evidence-based research that can inform policy-making.

The focus of this chapter is on how the WIL experience improved "student outcomes" in the course. We provide some key lessons gained from implementing this WIL experience and discuss our findings within the Kolb's experiential learning theoretical framework (Kolb & Kolb, 2017). Finally, we provide a few considerations for future iterations of the WIL experience.

METHODS

This project did not require a statement of Research Ethics Board (REB) approval as it was not conducted for the purposes of research, but rather for evaluation of the WIL experience. The project exists within the requirements of the course syllabus and was a method of student evaluation in the course.

Course Design

The course, Global Health & Human Biology, provides students an opportunity to apply their knowledge of human biology to solving cases of global health issues. There are several learning outcomes that were designed for students to achieve, including:

- understanding the dynamic relationship between biological issues and global health;
- identifying strategies used to prevent or treat diseases in successful global health projects;
- executing problem-solving steps appropriate to completing a variety of global health case study assignments; and
- working with a team to complete specific group projects related to global health and human biology.

These learning outcomes support the overall goal of the course for students to address global health issues, plan a project proposal and apply their knowledge to solve a specific issue. The WIL experience is in line with the learning outcome, where students must work in a team to address a global health issue in a specific context.

Community Partner

Student team projects were focused on addressing food insecurity in a local neighborhood in Toronto. Black Creek Community Farm is a non-profit that works to address food insecurity in the Toronto neighborhood of Jane and Finch. The farm informed participating students that they have had experience

working with academic institutions (including the University of Toronto and York University), to demonstrate how food insecurity can be addressed in the Canadian context. The Black Creek Community Farm organization was asked if they were interested in partnering with students to work on a course project where students could explore and address food insecurity in a local context, with the intention of pitching these projects to the community farm at the end of the course.

WIL Experience

The WIL experience was designed around the last learning outcome of the course, where students work in a team to address a health equity issue. Thirteen out of fifty-eight students participated in the WIL experience. They comprised two groups of six and seven students respectively. These students were asked to create policy recommendations to address food insecurity in the Jane and Finch neighborhood that would be pitched to the community partner. Students were given a hypothetical budget of $20,000–$30,000 and the teams were expected to develop a ten-minute case study presentation. In these presentations, students were expected to provide a description of the biological basis of food insecurity, provide a detailed description of what their response was and how it functioned, and a budget of expenditures for the hypothetical budget. The students were also evaluated on a complementary written 6000-character case study proposal, in which they had to indicate the biological basis of food insecurity, existing evidence, a description of their response and how it functions, how the response will be evaluated, any historical/ethical implications, and, a budget of expenditures.

Students had two in-person meetings with members of the farm to learn about how food insecurity exists in Jane and Finch and how the farm addresses food insecurity in this neighborhood as well as how food insecurity can be addressed in a Canadian context. Students had their team meetings outside of class time, in which they used the project management and evaluation skills they had learned in class to develop proposals. The information learned from the community farm and course knowledge was applied to their projects, and each team produced a presentation and report detailing their proposals. One team focused their proposal on a healthy eating program with local high schools called "Good Eats". In this program, participants could learn about cooking, food, and healthy eating through resources and workshops. The other team proposed a community garden initiative with local schools to teach and provide students of elementary and adolescent age, opportunities for growing food and healthy eating. These proposed projects aligned with the mission and values of Black Creek Community Farm, and also demonstrated students' understanding of human biology and food insecurity. Students also worked alongside the non-profit to create a four-page summary report in the form of an engaging and educational pamphlet regarding their initiatives and goals that was made to distribute to the community.

RESULTS: LESSONS LEARNED

Through the design and implementation of the WIL experience, five key lessons were drawn with respect to enhancing both the student learning and community-partner experience.

Lesson 1: Alignment of course learning outcomes with the aspiration of community partners can be challenging to achieve and requires careful dialogue.

The experiences designed for students were primarily based on course learning outcomes and their successful achievement. The learning outcome of *identifying strategies used to prevent or treat diseases in successful global health projects* was achieved through the experience of students engaging with a community partner to learn about their successful initiatives to target food insecurity, which is a prominent global and local health issue. Upon engagement with the community partner, students were also

able to achieve the objective of *working in a team to complete a project about a global health issue and human biology*. They used the experience of community-based fieldwork and learning from the community members about how food insecurity affects Jane and Finch and the initiatives and policies in place to mitigate it. These experiences also aligned with the community partner's mission, which states they wish "*to inspire the next generation by providing leadership in food justice, and supporting diverse natural and social ecosystems"* (Black Creek Community Farm, 2021, para 3).

We did, however, observe some difficulty in achieving several of the aspirations of the partner because they did not fully align with outcomes of the course. The community partner requested that as part of the project, students would create a four-page summary report on the farm's achievements and programs, to be distributed to the community and stakeholders. While this was an interesting task and provided the opportunity to engage further with the farm's activities, it did not fully align with any course learning outcomes. It was therefore difficult to assess how this activity would contribute to the achievement of student learning outcomes. Developing an ongoing collaboration with the WIL partner could help create concrete outcomes that acknowledge the needs of both the students and the partner. This could also bring opportunity for further projects with the course that expands to the different needs of the partner as well as allowing the partner to have more input into the development of the student project instructions and overall design.

Lesson 2: Well-designed situated learning experiences enhance critical thinking skills and course enjoyment.

Students wrote in their evaluations that the experience helped them think critically about course material, how to achieve all course learning outcomes, as well as entice their interest in further scholarly pursuits. WIL experiences begin with a concrete learning experience that encourages more innovative ideas and creativity, compared to traditional learning models. Through this WIL opportunity, students were able to achieve the learning outcomes through critical thinking and developing creative proposals. From the formal course evaluations, students remarked how much enjoyment they derived from the WIL experience. For example, one student remarked: "Black Creek Community Farm was an interesting experience, it's nice to learn more health initiatives in Toronto that doesn't [*sic*] necessarily get the news coverage it deserves". Another student indicated: "I really loved the project for this class – being part of the Black Creek Community group really opened my eyes to the reality of globalization and how although Toronto is considered one of the best places to live, there are neighborhoods with children who don't have access to food".

Lesson 3: Because the situated learning experience is just part of the entire learning experience, careful consideration must be given to how much time students allocate to this experience.

A major course outcome that all students in the course were expected to complete was to develop a project proposal on a real global health issue but in a hypothetical situation. The thirteen students in WIL experience, however, were able to develop a project proposal in a real-life context and engage with a community partner. Although this difference existed, the expectations and rubric for the project remained the same, as the project serves to teach students about project management, human biology, and global health issues. This remained the essence of the project even with the additional community engagement experience. Students were also expected to still engage in other classroom activities such as discussions, reflections, and examinations, to ensure the achievement of the other course outcomes as well. Although time was not taken out of the classroom for students to participate in their WIL experience, a considerable amount of time was spent on field visits, group meetings, and online communication compared to other students in the course who were not involved with the WIL experience. Students felt that the amount of work was a lot higher for their projects, and reducing other

learning activities might have helped alleviate this concern.

Lesson 4: Students may not see the value of such a situated learning experience unless they are clearly shown how such experience might enhance performance in their course summative assessments.

Students who participated in the WIL opportunity have had experience in public health-related summative assessments in past courses. The nature of these assessments is often purely academically-focused and does not expand beyond the classroom. For many of the students, this project may have been their first WIL experience, which can be observed from their commitment to the project. Meeting with community partners was critical for fostering positive relationships and engagement, however only six of the thirteen students participated in these in-person meetings. These absences could be attributed to the distances that students would have to travel to reach the non-profit as well as the conflicting schedules of students. Given the importance of collaborating with community partners, more initiative could have been placed at this stage of the project. It was clear in the later stages of the project when students were developing their proposals, that the engagement with the partner had been beneficial to their learning and application process. In their respective proposals, they clearly incorporated what they had learned through engaging with the partner. This included the farm's mission and values, ideas the partner provided about current gaps, and existing activities the partner presented to them. It was evident that critical thinking, communication skills, and teamwork had been demonstrated to develop these case studies. Students were also able to use their experience with the farm field trip, to incorporate the farm's existing structures to create feasible proposals. To increase students' interests early in the project, learning outcomes specifically related to career development can be listed. This would clearly define the project as a learning opportunity in which students can engage with partners to work on issues within their field of study. Such a learning outcome can be "Engage with community leaders to create partnerships and develop career skills".

Students also did not see the value of developing a four-page summary report for the community partner, which may be attributed to the inability to connect any course learning outcomes to this task. Students spent the majority of their time focusing on developing their case proposals, and the summary report was developed last. This summary report was accepted by the community partner. Students found this to be valuable because once they saw that it was used by the community partner, they understood the application of their research.

Lesson 5: Creating hands-on experiences that stimulate work placements for students allows them the opportunity to create meaningful impact with the knowledge they learn.

Through this experience, students gained three opportunities to make an impact using their existing expertise and newly available resources. Firstly, they were able to engage with the community partner through two meetings, while those who did not attend were able to connect with their peers about the experience. Through these meetings, the community partner thoughtfully described the current issues with food insecurity in Jane and Finch, and how the initiatives their non-profit started addressed them. The students reciprocated thoughtful engagement by critically thinking about their existing knowledge of program planning and health learned from their course. This provided an opportunity for impact on the community partner to learn about student points of view as well. This synergistic learning was also an opportunity for the community partner to impact the students' future capabilities in program planning and addressing local health issues.

In addition, students had the opportunity to present their case study proposals to the community partner. Their reports and presentations in which they had developed unique program ideas that were

specifically catered to the needs of the Jane and Finch community were sent to the community partner to review, and took into account the existing structures and resources the non-profit had to offer. This provided potential impact for the Jane and Finch community as these programs could be considered for funding and policymaking, to address food insecurity. Students were also given the task of creating an engaging document based on the non-profit's achievements and initiatives so that it could be distributed to the community. This was a learning opportunity to understand how to communicate information to the general public, as well as how non-profits allocate their funding and resources. This task was valuable to the non-profit as it can impact the community by reaching a larger audience to engage in and support the non-profit's activities. The four-page summary was forwarded to the Toronto Food Policy Council and local organizations, which provided impact for the non-profit to be able to expand their partnerships with other organizations who also work to mitigate food insecurity.

DISCUSSION

The five lessons we draw from the course implementation had a number of elements related to the Kolb experiential learning theory, a four-stage model that demonstrates how experience is translated through reflection into concepts, which are used as guides for active experimentation, and the choice of new experiences. We, therefore, discuss these stages (concrete experience, reflective observation, abstract conceptualization, and active experimentation) in light of what we observed during the implementation of the WIL experience.

First, students encountered a new experience when engaging with the non-profit and completing the additional pamphlet, which was the basis of the WIL opportunity. It required that the learner encounter a new experience, and the learner had to be part of the experience (Morris, 2020). Concrete learning experiences can include fieldwork and simulations that provide students with learning opportunities that are personal (Svinicki & Dixon, 1987). Students in this project were able to do fieldwork through their visit to the farm and learn about structures such as greenhouses and community education firsthand. They were also able to simulate project management and proposal writing experiences through engaging with the community partner to deliver their presentations. The concrete experiences of the field trip to the farm and creating potential program designs were developed around the learning outcomes expected of the students. However, the aspirations of the non-profit regarding the second concrete experience of developing a four-page document was more difficult to align with learning outcomes. It is important to consider that the concrete experiences offered to students, both align with the learning outcomes and the aspirations of the community partner through careful planning (Allahwala et al., 2013; McPhee & Przedpelska, 2018).

Second, students learned about issues related to food insecurity through the community partner which focused on inadequate policies and unaffordable grocery prices the neighborhood faced. These are local issues that were missing from course instruction as the course provides an opportunity to learn about themes and models, but not for learning about local issues from a unique perspective. A well-designed WIL experience will enhance critical thinking skills so that students will be able to apply the theoretical concepts they learn in class to various contexts (Schell & Black, 1997). As per Kolb's experiential learning cycle, reflective observation provides an opportunity for students to identify gaps in their learning and utilizes the WIL experience to fill these gaps through concrete experience (Svinicki & Dixon, 1987). Reflective experiences can include methods of evaluation like journals or brainstorming (Svinicki & Dixon, 1987). Students wrote in their evaluations that the experience helped them think critically about course material, how to achieve learning outcomes, as well as increased their interest in further scholarly pursuits. WIL experiences are also a way to encourage more innovative ideas and creativity to complement traditional learning models.

Third, the WIL experience does not serve to replace existing course material, but rather to enhance learning and give an opportunity to apply what one has learned (Kolb & Kolb, 2017). In this project, students first learned about human biology and its interaction with global health issues through in-class lectures. Once presented with the community engagement experience, they were able to develop their own ideas and theoretical constructs of how these concepts create food insecurity in marginalized neighborhoods in Toronto. As shown in Kolb's (1984) cycle as part of the abstract conceptualization stage, the learners were able to modify concepts they already learned about in class, to develop more specific theories related to the community engagement experience (Svinicki & Dixon, 1987). Abstract conceptualization includes activities such as lectures or projects (Svinicki & Dixon, 1987), including the development of the case study reports and presentations by students. This was completed by applying theoretical concepts learned in class and the community engagement experience, to develop their new models of addressing food insecurity.

Fourth, the value of WIL experiences may not be apparent to students until they get the opportunity to apply their experience to learning outcomes (Chavan, 2011). Studies have shown that students' attitudes to learning become positive when they are introduced to WIL experiences, as opposed to traditional lectures and teaching formats (Pugsley & Clayton, 2003). Once exposed to the learning experience, students in this project found themselves able to develop innovative proposals using what they had learned. This is reflective of the active experimentation stage of Kolb's (1984) cycle, where the learner is expected to apply what they learned to new contexts and create their own concepts and ideas (Morris, 2020). Active experimentation can include case studies and simulations (Svinicki & Dixon, 1987), and the students were able to translate what they had learned through the WIL experience and in-class lessons to develop their case studies specific to the context of food insecurity in Toronto. Creating this hands-on experience that stimulated work placements for students allowed them the opportunity to create meaningful impact with the knowledge they learned. Through developing such case studies, they were able to present their models to the community partner as a simulation to real project management and policy proposals.

Finally, to maximize experiential learning for students, we provide the following guidelines for consideration. These guidelines emerged from course design and were framed by our experience with this WIL experience:

1. Providing a variety of different opportunities (such as exams, papers, situated learning experiences) can provide students with different methods of learning (Kolb & Kolb, 2017).
2. Ideal community partners should have missions or values that align with the learning outcomes of the course. In this project, the community partner was actively involved in addressing food insecurity, which was reflected in the goal of the students' projects.
3. Partnerships should be created in contexts where both academic and local community goals can be met (Gazley et al., 2013). The partnership with Black Creek Community Farm was also appropriate because they were situated in Canada, so students were familiar with the context and local issues.
4. Evaluate and refine learning outcomes with partners so that learning outcomes are reciprocal and beneficial for both the students and the community partner. A way to overcome this issue is to discuss with the community partner what they expect to achieve and contribute to the experience and, ensure mutual understanding.
5. Design WIL experiences in line with learning outcomes. This can be achieved by introducing learning skills relevant to WIL in course outcomes such as critical thinking, teamwork and

communication skills. The WIL experience must be beneficial for students to achieve the learning outcomes (Chavan, 2011).

CONCLUSION

We designed and integrated a WIL experience in an upper-year undergraduate public health course where students partnered with a community farm to develop case study proposals that would target food insecurity. Through the design and development of the course, five key lessons were drawn from the experience: aligning learning outcomes with the aspirations of the community partner requires careful dialogue; a well-designed WIL experience enhances critical thinking skills and course enjoyment; WIL must not replace other course learning opportunities and outcomes; students may not value WIL experiences unless shown how it affects course performance; and, WIL can provide students opportunity to create meaningful impact.

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13 A structured approach to developing faculty capacity for course-based curricular work-integrating learning opportunities in under-represented disciplinary areas

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ABSTRACT

In Spring 2020, Capilano University was a successful recipient of two BC Ministry of Advanced Education, Skills, and Training funding grants for Work Integrated Learning (WIL) Projects. Aligning with current institutional priorities, a focus of these projects was equipping faculty with the knowledge, skills and resources required for the further development of curricular WIL opportunities in academic areas where there has been little focus/engagement with WIL. In this chapter, we present a case study exploring the use of a structured approach to supporting faculty members in (re)developing courses across twelve disciplinary areas to include an embedded course-based curricular WIL experience. Components of this approach including project design, and faculty supports are explored. Through reporting this case, we highlight the challenges and successes of the approach and key lessons learned from our work of building faculty capacity to increase WIL opportunities for students in under-represented disciplinary areas.

Keywords: *work-integrated learning; curricular WIL; faculty; workload; institutional support; course design*

INTRODUCTION

Work Integrated Learning (WIL) is an educational approach that recognizes the workplace as a valuable learning environment for students (Winchester-Seeto et al., 2016). WIL opportunities are frequently conceptualized as either curricular in focus (intentional links to the curriculum, learning objectives, and assessed learning outcomes) or co-curricular (where learning occurs in the workplace or where the learning is strongly associated with a workplace) (Association for Co-operative Education, n.d.).

Over the past two years, the Ministry of Advanced Education and Skills Training in British Columbia, Canada, has focused on supporting the Province's public higher education institutions in developing increased opportunities for WIL through grant funding WIL initiatives (Government of British Columbia, 2019). Capilano University (CapU) is a teaching-focused university in the greater Vancouver area and a recipient of two large Ministry WIL grants to support the development of WIL initiatives across all five faculties. While CapU has strong pockets of excellence in relation to WIL (in programs such as early childhood education, tourism, business and communications, and fine and applied arts), students in other disciplines and programs have historically had little to no access to WIL opportunities related to their study areas. This lack of equity in relation to student exposure to WIL was especially prevalent in the faculty of Arts and Sciences, where the vast majority of disciplines/departments had little or no embedded WIL opportunities within their diploma or degree programs.

Ministry WIL funding was used to develop a structured approach to increase student WIL opportunities in under-represented academic areas through a focus on embedding curricular WIL components, such as service learning and applied research opportunities, into both current and new academic course offerings. This chapter reports on the components of this structured approach including: approach rationale, identifying key discipline/program areas to target, offering release time for participating faculty, bi-

weekly mandatory in-services for participating faculty for scaffolding course/program (re)design, and a suite of resources and ongoing individualized faculty support.

FACULTY LOAD AND CURRICULAR WIL

In previous years, WIL has largely comprised of worksite placements in which a faculty member often played little or no role after placing the student (Winchester-Seeto et al., 2016). There has been a shift however, in recent years to embed WIL opportunities within course curriculum which requires a greater role and workload for university faculty doing this work (Orrell, 2011). However, despite the move towards further integration of WIL into university curriculum, there continues to be a widespread dearth of institutional valuation of WIL demonstrated by a general lack of institutional commitment to WIL, contributing to continued under-resourcing and reliance on small numbers of faculty who willingly choose to add WIL to their already (in many cases) overburdened workload (Edwards et al., 2015). A wealth of literature has demonstrated that faculty responsible for WIL within their courses and degree programs have significant concerns about the load this work carries, and how it is rarely reflected in faculty workload models (Jovanovic et al., 2018; Edwards et al., 2015; Tuinamuana, 2016). Levin at al. (2010) argue that faculty generally receive little reward for participation in WIL work, and furthermore, as asserted by Patrick et al. (2009), taking on workload in relation to WIL can be seen as career limiting due to the perception that it is not sufficiently scholarly.

To address the challenges faculty face in creating meaningful and sustainable curricular WIL opportunities for students, there is a growing body of literature that has investigated supports that are needed to facilitate this work at an institutional level. WIL work being recognized and valued in workload calculations was a key finding within the literature in addition to calls for WIL work to be considered for promotion, recognition and reward systems (Jovanovic et al., 2018; Peach & Gamble, 2011; Orrell, 2011). In their research, Naylor et al. (2010) also highlight the very real challenges faced by faculty trying to do this work without adequate workload and resources, claiming that staff burnout is as significant a consideration when designing and implanting a WIL program, in comparison with other aspects that institutions generally take more seriously such as occupational health and safety, legal indemnity, and potential student exploitation.

Alongside the concern over faculty workload in relation to WIL design and implementation, there is also a body of scholarship that addresses what constitutes effective and holistic approaches to the integration of WIL into academic programs and curriculum (see for example, Rowe & Zegwaard, 2017). Increasingly, curricular WIL has come under the microscope, with an expanding body of scholarship investigating the practice of teaching and learning in relation to WIL, in an attempt to move away from simple assumptions that curricular WIL is useful in and of itself in preparing highly employable work- ready graduates (Rowe & Zegwaard, 2017). Research into WIL teaching and learning and its relation to curriculum has been especially important in disciplines where fewer WIL opportunities have traditionally existed such as sciences, social sciences, and other areas where there are not necessarily clear vocational paths (Rowland et al., 2020; Rampersad & Patel, 2014; Whelan, 2017). To address these challenges, Boud (2016) argues that faculty need not only the time and resources to design and implement WIL opportunities within courses or programs, but also the requisite knowledge and skills to scaffold students into WIL opportunities through carefully created and integrated practice-like, self-managing, and simulated activities. To accomplish this, curricular WIL opportunities must be not only meaningful and relevant to the disciplinary area (Clark, 2017), but also intentionally integrated and aligned with university curriculum (Rowe & Zegwaard, 2017). Meaningful WIL opportunities must also require faculty to maintain the relationship with key industry partners, reduce risk, and manage the student employer relationship, requiring considerable time and effort on the part of the faculty member (Atkinson, 2016). As such,

supporting the creation of sustainable and meaningfully integrated curricular WIL opportunities in under-represented academic areas is a significant challenge for institutions, departments/disciplines, and individual faculty members alike.

METHODOLOGY

In this chapter, we present a case study developed from the program evaluation of the structured approach to building faculty capacity as part of the Ministry funding requirements. Case study methodology is a commonly used model in social sciences frequently used in sharing lessons learned from practice in relation to WIL scoping, implementation and evaluation (Fleming & Zegwaard, 2018, Ruayruay et al., 2020, Schonell & Macklin, 2019). Program evaluation is generally understood as a practical endeavor, where the goal is a systematic evaluation of the success of a program, rather than an academic or research activity whose primary function is not to develop theory or contribute to the creation of knowledge (Royse et al., 2009). Despite its status as a practical endeavor however, program evaluation is essential to informing the work of new initiatives and practices and how they support (or do not support) teaching and learning outcomes in higher education (Balmer et al., 2020).

Program evaluations do not generally need ethical clearance as they are not empirical research studies, however, it is considered best practice to consult your Institution's research ethics board to ensure that the specific program evaluation being planned does not require ethical approval (Anderson & Corneli, 2018). Before beginning our program evaluation in Fall 2020, we received confirmation from the CapU research ethics board that we did not require ethical clearance for this program evaluation which included gathering data from activities and sources such as anonymous Miro boards where FCDs shared their experiences, successes and challenges, course outlines and assessment documents, resource and support requests, and anonymous bi-weekly seminar feedback surveys.

THE CASE

Project Timeline and Objectives

The project began in June 2020 with the process of internally advertising the WIL project team positions to the University community. Once the project team positions were filled (see descriptions below) the structured approach to faculty development began in the last week of August 2020 to align with the beginning of the 2020–2021 academic year. The structure faculty development approach ran from August 2020 to April 2021 across the two major academic terms. It is important to note that all project team members (faculty and staff) self-selected to participate in the project through a formal application process, and as such, felt that developing curricular WIL opportunities was important to their work, even though not all faculty and staff at CapU may feel that this was an institutional priority.

The focus of the Fall semester was to introduce and support faculty in deepening their understanding of course-based curricular WIL design and providing individualized support in designing or redesigning course(s) in their department to include an embedded WIL opportunity. The focus of the Spring semester was threefold: 1) support faculty in finalizing their new/updated course outlines and assessment structures, 2) develop external partnerships with relevant industry partners for (re)designed courses, and 3) taking the new or redesigned courses through faculty or senate approval.

The project timeline and processes were impacted by the COVID-19 pandemic. Although the pandemic did not affect the timeline significantly, less organic and more deliberate meeting discussions occurred. The loss of informal 'water-cooler' learning and connections opportunities has had a very real impact on the work of faculty during COVID-19 (Levy, 2020), however, we were able to adapt most aspects of the project

for remote delivery.

WIL Project Team Development

To ensure success of the two WIL projects and tap into existing WIL knowledge and resources at CapU, faculty and staff with WIL and/or specific disciplinary knowledge were recruited for the project in line with project objectives. The following section (Table 13.1) outlines the roles and responsibilities of the WIL project team.

TABLE 13.1: Description of WIL project team roles, duties, and workload release.

Position	Role Description and Duties	Workload Release
WIL Project Coordinator – Faculty Position	> Oversee coordination of the two WIL projects and ministry funds to ensure that project milestones, deliverables, and reporting processes were completed. > Other duties included communication with the Academic Leadership Council, planning, scheduling, leading meetings/workshops, meeting with external partners, and finding and applying for further external funding to support continued WIL opportunities.	2.5[1] sections: Fall 2020 (1) and Spring 2021 (1.5)
WIL Hub Developers – 2 Faculty Positions	> Driving the development of WIL hub support increased curricular WIL opportunities across the university. > Identifying and connecting with a diverse range of potential community/industry partners and liaising with faculty to determine program-specific WIL needs	8 sections (4 per developer): Fall 2020 (4) and Spring 2021 (4)
WIL Faculty Associate – Faculty Position	> Joint position between the WIL project and the University's Centre for Teaching Excellence to develop faculty capacity for integrating WIL into current and new academic courses. > Responsibilities included targeted pedagogical and curricular support both during whole group workshops, and one-on-one with each faculty member. > Supporting faculty curriculum developers in taking their (re)designed courses through faculty and/or senate approval process.	2 sections: Fall 2020 (1) and Spring 2021 (1)

[1] At CapU, a full-time faculty load is 8 sections per academicyear.

City Studio WIL Liaison – Staff Position	> City Studio North Vancouver[2] is a collaboration between the City of North Vancouver and CapU where students collaborate on real-world projects with city staff and community stakeholders. > Share experiences, best practices and current examples of curricular WIL projects embedded into academic courses. > Offers ongoing partnership and processes development support to current faculty. This position included an additional .4 FTE workload for the staff member.	Additional .4 FTE[3] workload for the staff member currently working as the City Studio NV Project Lead
Regional WIL Project Liaison – Staff Position	> Supported the development of curricular WIL opportunities for students at our regional campus. > Working with faculty teaching at the regional campus and outreach to potential community/industry partners across our mandated regional areas	Additional .4 FTE workload for the staff member currently working in an educational advisory role at the regional campus
Faculty Curriculum Developers	> Design or redesign academic courses in their disciplinary areas to include an embedded curricular WIL component. > Develop an updated course outline and assessment structure for the (re)designed course and take through to the faculty and/or senate approval process.	Various – see detailed description in Table 13.2

Identification of key discipline/program areas for WIL development

The focus of the WIL curriculum development work was to embed curricular WIL opportunity across a range of new or re-developed majors and minors in the Faculty of Arts and Sciences and in some targeted courses for regional and remote students (areas that have historically had few WIL opportunities for students). The following areas were identified by CapU's Department of Academic Initiatives and Planning as key areas for strategic curricular WIL development to address inequity amongst WIL opportunities across program areas:

Applied Social Justice Major

- Environment Studies Major
- Clean Tech Major
- Data Science Minor
- Life Sciences Major
- Psychology Major

[2] For further information on the CityStudio model see (Moore & Elverum, 2014)

[3] At CapU, a full-time staff position is 1 FTE

- Writing and Literature Major
- Sociology Minor
- Interdisciplinary Studies courses offered at our Regional Campus
- Communications courses offered at our Regional Campus
- University Preparatory Program for Indigenous Learners
- Business School[4]

Table 13.2 shows the breadth of disciplines/areas that took part in the structured approach to building faculty WIL capacity.

TABLE 13.2: Learning areas targeted for the structured approach to faculty WIL capacity building.

Learning Area	Faculty	Section Release	(Re)Designed courses
Sociology	1	1 release section Fall 2020	3
Interdisciplinary Studies	1	1 release section Fall 2020	5
Geography: Environmental Studies	1	1 release section Fall 2020	2
Physics: Clean Tech	1	1 release section Fall 2020	2
Community Development and Outreach: Applied Social Justice	1	1 release section Fall 2020	2
Chemistry: Life Sciences	1	1 release section Fall 2020	2
Writing and Literature (English)	1	1 release section Fall 2020	2
Data Science (Mathematics)	3	1 release section split by the 3 faculty members (.333 each)	2
Psychology	1	1 release section Fall 2020	1
Business	1	2 release sections, 1 Fall 2020 and 1 Spring 2021	4
University Preparatory Program: Aboriginal Learners Certificate	1	1 release section, .75 Fall 2020 and .25 Spring 2021	1
Interdisciplinary Studies (Regional Campus offering)	1	.05 release section Fall 2020	1
Communications (Regional Campus offering)	1	.05 release section Fall 2020	1

Faculty WIL Capacity Development and Individualized Support

The structured approach started with a virtual 'Kick-off' in August 2020 to introduce Faculty Curriculum Developers (FCDs) to the WIL project team and each other. The purpose of the kick-off was to begin developing a collegial and supportive environment for WIL learning and development, and to explain the structured approach in detail to them including the project timeline, supports, and expectations of their participation.

[4] The Business School at CapU is a 'pocket of excellence' when it comes to curricular WIL. However, a faculty member was given release sections to complete an audit of current WIL opportunities across the school to support work in standardizing the WIL opportunities across a large and diverse teaching staff.

Following the project kick-off, FCDs attended mandatory bi-weekly ninety-minute-long seminars run by the project team which covered a range of WIL topics, resources, and processes including:

- curricular WIL and the BC ACEWIL Matrix;
- embedding course-based WIL opportunities into courses;
- course outline development and assessment design;
- finding and working with external partners;
- communication during student/partner WIL experiences;
- supporting student participation in WIL opportunities;
- trouble-shooting WIL challenges (for example student/partner conflicts);
- current University WIL supports and systems;
- resources (relevant academic literature, planning tools, examples from practice, documents, forms, and scripts for doing curricular WIL);
- WIL funding opportunities;
- external WIL supports (CEWIL, ACEWIL, Riipen); and
- taking a new or redesign course through approval processes.

Each seminar concluded with a task for FCDs to complete before the next seminar. The tasks were the scaffolded process of course design such as 'identify the type of curricular WIL opportunity you will explore', and 'how will student WIL work be assessed?'. Seminars were highly interactive with group discussions and activities (such as Miro boards) which required FCDs to share some of their course development thinking and work to solicit feedback from their peers. FCDs were always given time to ask questions and highlight areas they felt they required further support in. As these seminars were undertaken remotely due to COVID-19, they were recorded. These recordings (as well as materials used during the seminar) were made available to all FCDs for future reference.

In addition to the bi-weekly seminars, the CTE/WIL faculty associate individually met (remotely) with each FCD at least twice during the Fall semester to check in with their progress on course design and offer support and advice in the embedding of relevant and meaningful WIL opportunities in relation to course outcomes and assessment. The project team was available to FCDs as needed and over the course of the Fall semester, offered many further individualized supports such as check-ins, feedback on outlines/assessment structures, wider departmental support, external partner outreach, grant writing support, and a suite of resources housed in an online repository. In the Spring term, the CTE/WIL faculty associate continued to connect individually with FCDs either via email or video conference to support them in finalizing their course outlines/assessment structures and taking the courses through the required approval processes. The project team provided continued support through the development of required resources, targeted external partnership outreach, grant funding support, and individualized support as needed.

At the conclusion of the Spring 2021 semester, 26 of the 28 proposed (re)designed courses with a WIL component had gone through faculty and/or senate approval outlined in Table 13.2. Table 13.3 offers examples of the types of embedded WIL opportunities that were developed as part of this work.

TABLE 13.3: Examples of embedded WIL opportunities developed as part of the structured approach to faculty capacity building.

Course Name	Embedded WIL Opportunity	WIL Assessment Description	WIL Assessment Weighting
Chemistry 411 Medicinal Chemistry: Drug Design and Drug Action	Students examine the chemistry behind the small molecules that affect human health. Project example: students will spend time working at a pharmaceutical company or the non-profit Genome BC, participating in experimental and literature-based research related to medicinal chemistry.	Drug Discovery Project	25%
Aboriginal Studies 099 Foundations in Critical Reflection	Students will collaborate with community partners to synthesize and identify possible solutions to organizational challenges. Project example: students work with an industry partner such as a First Nations band office to define a pressing problem of interest to the community, then work collaboratively to produce a communications piece (a poster, web page, podcast, or performance) to inform a wider audience of the problem	Group Project & Presentation	10%
Community Leadership & Social Change 203 Service Learning in Leadership Roles	Working with non-profit community partners, students explore the roles and responsibilities of boards and committees; non-profit governance; relationship-building; evaluation and assessment skills; and presentation skills. Project example: In consultation with a community partner, students write a draft constitution for a non-profit organization, and present it to the partner and their classmates.	Project Presentation	25%
Mathematics & Statistics 306 Introduction to Data Visualization	Students will gain hands-on experience applying effective visualization techniques to real- world data from multiple disciplines such as social sciences, life sciences, physical sciences, economics, education, and engineering. Students learn multiple visualization techniques and how to effectively communicate the findings from the graphs to multiple stakeholders. Project example: data collected by the City of North Vancouver on the use of its on-street recycling program is graphically visualized by students to help inform the location of future installations.	Informative Graphs	10% to 40% (multiple projects)
Interdisciplinary Studies 335 Grand Challenges: An Interdisciplinary Approach	This project-based course will integrate local community partners to explore and propose solutions to regional issues, such as affordable housing, green transportation and resource development. Project example: Working as a research team, students connect with local organizations such as HUB Cycling to apply quantitative and qualitative research methods to address a specific challenge, such as encouraging greater participation in Bike to Work Week.	Group Project Research Report & Presentation	25%

LESSONS LEARNED

In this section, we share some of the challenges and successes the project team encountered in developing and running the structured approach and anonymous feedback from FCDs gathered from formal and informal evaluations.

During the initial phase of the project, FCDs expressed how they were excited to collaborate with other faculties, "work with community partners", use "integrated and innovative methods of teaching, "build new programs" and "learn from everyone in the group". However, as the academic semester continued, concerns and challenges around FCDs' management of time in relation to project commitments during the abrupt shift to remote learning was a consistent theme. Despite having dedicated workload for course development, many FCDs continued to struggle in completing the required tasks before the next seminar and meeting their mutually agreed upon course outline completion deadline. Faculty having the opportunity to choose how their release time would be structured (as reported in Table 13.2) was reported as a key supportive factor by the FCDs.

Despite these challenges, FCDs did continue to find the seminars as key to keeping them on track and as a source of important information in relation to "identifying community issues", "identifying potential industry partners", and "course approval processes". The seminars and individual check-ins were also key junctures where the project team was able to learn where there was mis-information, or mis-understandings about what constituted meaningful curricular WIL opportunities for students and external partners alike. Having this continuous feedback loop helped the project team tailor upcoming seminars, and schedule individual check-ins with faculty as needed.

Despite some challenges, FCDs consistently expressed that they felt supported in their role and how they felt that the process and information was scaffolded to their needs. At the final bi-weekly seminar in December 2020, FCDs' concerns about course approval processes and "tight timelines for senate approval and expectations" came to the fore, providing key information to the project team about what type of ongoing support would be required for the FCDs during the Spring 2021 term. We also took time to celebrate our successes including the 28 (re)designed courses with WIL components (as reported in Table 13.3).

A final lesson learned that we wish to highlight is our work in unlearning in relation to how CapU may be able to build mutually beneficial WIL partnerships with Indigenous Nations, organizations, and businesses. CapU campuses are located on the traditional and unceded territories of the Lil'wat, Musqueam, Sechelt (shíshálh), Squamish and Tsleil-Waututh Nations. When the FCDs were surveyed in relation to which external community partners they would be interested in developing WIL relationships with, Indigenous community partners was one of the most frequently identified groups, likely due to CapU's commitment to the Truth and Reconciliation Commission of Canada's Call to Action and indigenization and decolonizing approaches. Yet, despite CapU's commitment to working collaboratively with the Nations on whose lands we occupy, and frequent consultation with Elders from the five Nations, CapU has not yet engaged in a discussion about the protocols needed for approaching and engaging in meaningful discussion around WIL, or what indigenized and decolonizing outreach processes might look like. In relation to these challenges, we are seeking guidance and support from CapU's newly formed Indigenous Education Steering Committee to help us to develop appropriate and respectful protocols for engaging with Indigenous community partners in relation to potential WIL partnerships through working in close collaboration with CapU's Office of Indigenous Education and Affairs.

CONCLUSION

A key learning that the WIL project team took from their work in developing faculty capacity-building for curricular WIL, is that time release, mandatory scaffolded learning opportunities and individualized support time were essential for the development of a suite of new or redesigned courses with embedded curricular WIL components. However, despite all these support structures, several faculty members still struggled to meet course outline and assessment structure deadlines due to competing issues for their time (exacerbated by the COVID-19 move to remote learning), highlighting ongoing challenges for faculty in relation to WIL and workload.

Another key learning was the need for ongoing individualized faculty supports in terms of building and sustaining mutually beneficial and reciprocal external partnerships required for WIL work; support for when unexpected challenges occur in WIL situations with students and partners. This learning has supported the future planning for WIL at a university level in terms of institution-wide supports that can support the development of institutional WIL processes and resourcing that will be required in relation to sustaining and extending curricular WIL opportunities.

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14 Work-integrated learning within Ontario's college sector

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ABSTRACT

Work-integrated learning (WIL) initiatives must be considered within the unique contexts in which they are located. While literature focused on WIL has focused on the Canadian university context, literature pertaining to the college sector is sparse. In this chapter, we provide an overview of findings stemming from a pilot study in which we completed a literature review, an examination of sector reports and ministry papers, and an environmental scan of institutional websites for six colleges in Ontario. Analysis revealed that there are differences across the college sector pertaining to how WIL is conceptualized and how these programs are delivered. However, findings also indicated there is a consistent, increased focused on WIL, evidence of mandatory WIL participation, and a growing focus on entrepreneurial/innovative WIL opportunities. Recommendations for future directions for practice and research are provided.

Keywords: *Ontario, college sector, work-integrated learning*

INTRODUCTION

The benefits of experiential and work-integrated learning (WIL) to students, employers and community, educators and institutions, and the economy are well documented in Canada. WIL is seen as an ideal strategy to "future proof" the Canadian economy (McRae, 2019, p. 1) and it supports the origins of colleges[3] and institutes in Canada (Hogan & Trotter, 2013). Differences in WIL across the country must be examined to obtain a comprehensive understanding of the unique intricacies of the national landscape. Research can be found on WIL within Canada's university sector (Cameron et al., 2019; Peters et al., 2014; Pretti et al., 2014; Pretti & McRae, 2021; Sattler & Peters, 2013; Savas, 2010), but little can be found on the college sector. Yet, Colleges and Institutes Canada [CICAN] (n.d.) represents a total of 139 publicly funded colleges and institutes across the country. Examination of the college sector is warranted given differences between colleges and universities, which Skolnik (2013) identifies as:

> the qualifications for admission to a postsecondary institution; the spectrum of occupations for which the institutions provided preparation; the balance and relationship between the applied and the theoretical in the educational process; the balance between teaching and research; and the type of academic credential (i.e., degree versus diploma or certificate) awarded. (para. 15)

In the province of Ontario, many colleges were created in the 1960s and 1970s in response to a demand for increased access to post-secondary education (Dennison & Gallagher, 1986). There are currently 24 colleges (19 CAATs; 5 ITALs) and 55% of new fall 2020 entrants to post-secondary institutions in Ontario were tied to the college sector (Colleges Ontario, 2021). The number of students graduating from Ontario colleges has steadily increased, and each year approximately 500,000 students and clients are serviced by Ontario's public colleges (Colleges Ontario, 2021).

[3] The term 'college' can have a variety of meanings depending on context. Generally, the term may be used to refer to any type of post-secondary institution. In Canada, however, the term is used to differentiate between what may be viewed as two sectors, college and university, which originally had different roles. However, within the college sector, the creation of the Institutes of Technology and Advanced Learning (ITALs) in 2003 created differentiation within the Ontario college sector whereby ITALS were now different than Colleges of Applied Arts and Technology (CAATs) (Skolnik, 2013). Five Ontario colleges were designated as ITALS. For this exploratory study, we do not identify whether the given colleges we examined are ITALs or CAATs so as to conceal their identities.

The Ontario Colleges of Applied Arts and Technology Act (2002) outlined that the purpose of Ontario colleges is to offer "career oriented, post-secondary education and training to assist individuals in finding and keeping employment, to meet the needs of employers and the changing work environment and to support the economic and social development of their local and diverse communities" (Schedule F 2.2). Since their inception, colleges have "remained grounded in local or regional communities and are more and more seen as vehicles of economic development and labor force adjustment, with an increasing number of industry partnerships and contract training opportunities" (James, 2010, p. 197). In Ontario's college sector, there has been an increasing focus on experiential and work-integrated learning, and it has been referred to as "the hotbed of co-operative education participation" (Savas, 2010, p. 1). Recently, the Ministry of Colleges and Universities [MCU] (2020) presented a policy framework for institutional capacity expansion in which they list Jobs and Economy as one of the key performance indicators. Specifically, they explain that proposals for campus expansion must include "proposed academic programming that ties to local labor market needs and offer experiential learning and work-integrated opportunities, in collaboration with the municipality, industry and/or local employers" (MCU, 2020, p. 4), among other requirements. It is therefore anticipated that WIL will continue to be a primary focus of Ontario colleges, and because of the differentiation between colleges and universities in Canada, understanding the college context is necessary.

RESEARCH QUESTIONS

We conducted an exploratory case study focused on Ontario's college sector to begin developing a preliminary understanding of the landscape of WIL in this context. We were guided by the following questions:

1. What literature exists focused on WIL on the college sector in Ontario specifically?
2. What content is shared about WIL requirements across institutional websites of a sample of colleges in Ontario?

METHODS

We investigated scholarly literature, sector reports, ministry papers, and association webinars for information about WIL in Canada, and within Ontario colleges more specifically. Terms used to conduct searches were *work-integrated learning*, *co-operative education*, *internships*, *experiential education*, *experiential learning*, *graduate employability*, and *career development*, used in combination with *Canada*, *Ontario,* and *college*. Additionally, we examined institutional documents and websites of six colleges located in Ontario. Relevant information was gathered from various sources and summarized in an excel spreadsheet. This information was then reviewed for key themes, which we present here. The literature search and environmental scan of six colleges in Ontario combine to provide a preliminary understanding of some key themes of WIL in Ontario colleges. We view the work presented here as a pilot for a larger, more comprehensive project in which we examine the landscape of WIL in the college sector in Ontario in greater detail.

FINDINGS

Conceptualizing WIL

The increasing recognition that experience is an integral component of postsecondary education has created a need for clarity of terminology that is used in reference to WIL. Examination of the literature and college websites revealed that nomenclature in this area is complex and refers to: Work-Integrated Learning (WIL), Experiential Learning (EL), Experiential Education (EE) and/or the integration of experience within

educational design. Whether speaking of cooperative education, collaborative education, learning in the workplace and the community, clinical education, field education, service learning, ambiguity exists between the concepts of WIL Current work within the Canadian context suggests that a WIL typology requires explanation because "the term 'work-integrated learning' (WIL) is often used interchangeably with work-based learning, practice-based learning, work-related learning, vocational learning, experiential learning, co-operative education, clinical education, internship, practicum, and field education, to name but a few" (Sattler, 2011, as cited by Stirling et al., 2016, p. 5). The complexity of language that we found in the literature and on institutional websites is consistent with the literature. For example, in their work, Ross and Guescini (2019) detail the process that an Ontario college went through to develop a quality assurance framework for experiential and work-integrated learning. One of the criteria/standards that they developed for this framework was refined terminology usage, indicating that even within an institution there is discussion of how to talk about WIL and how it relates to other concepts.

Because institutions may not be using similar terminology when referring to WIL, the programs and initiatives may not be designed with the same expectations. Hoessler and Godden (2021) found that there were regional differences such as "a greater focus on student learning outcomes in Ontario than in Nova Scotia … [but] Nova Scotia had a unique focus on community and board engagement" (p. 58). While this speaks to regional differentiation, our focus was on colleges in Ontario, where we similarly found differentiation even within this provincial context. We found differences in whether colleges use terminology that is consistent with either Co-operative Education and Work-Integrated Learning Canada (CEWIL Canada) or the Postsecondary Education Quality Assessment Board (PEQAB) definition. CEWIL Canada (n.d.) described WIL as:

> …a model and process of curricular experiential education which formally and intentionally integrates a student's academic studies within a workplace or practice setting. WIL experiences include an engaged partnership of at least: an academic institution, a host organization, and a student. WIL can occur at the course or program level and includes the development of learning outcomes related to employability, personal agency, knowledge and skill mobility and life-long learning. (para. 1)

CEWIL Canada (n.d.) indicates that the number of required work terms for alternating co-op and co-op internship models varies by program. However, they also explain that "the time spent in work terms must be at least 30% of the time spent in academic study for programs over 2 years in length and 25% of time for programs 2 years and shorter in length" (CEWIL Canada, n.d., para. 3). PEQAB (2019), on the other hand, explains that WIL experiences must amount to "no less than 14 weeks of full-time equivalent work (420 hours), either in one block, or in multiple cumulative blocks appropriate to achieving the learning outcomes" (p. 29). This means that there is a discrepancy between the two requirements: PEQAB's requirements for a college degree with a co-op work term of one 420-hour experience does not equal CEWIL's accreditation standard for it to be 30% of the program ratio. These differences in expectations affect the implementation of WIL in Ontario college degree programs.

Organizational Structures and Delivery Models

The websites of six colleges in Ontario were examined for the location of WIL in the organizational structure and the delivery models of the WIL initiatives and centers. The delivery models could be centralized (i.e., where all forms of WIL and services are coordinated through one department – such as Co-op, Career or Experiential Learning Centre), decentralized (i.e., where all forms of WIL are coordinated in other departments – usually within the respective academic schools and/or program areas), or a hybrid (i.e., where there could be a combination of the previous two delivery models – typically seen where there is a

Co-op and Career center and other forms of WIL are handled in the other academic areas). Our analysis revealed that most colleges we examined utilize a hybrid delivery model demonstrated by a Co-op and Career center *and* other WIL being delivered in the respective academic departments. Only one college utilized an exclusively centralized delivery model while a limited number would be strictly decentralized (i.e., whereby WIL is coordinated in each of the respective academic departments within which the programs exist).

In addition to findings related to centralized, decentralized and hybrid delivery models, we also found that there was limited consideration of underrepresented students – we found only one example of a tailored WIL opportunity for a specific population of students. When reviewing the literature, we found examples of "WIL for All" programming, including Indigenous and accessible WIL opportunities. While the example of Indigenous WIL was for the university context, two Ontario college examples were provided for accessible WIL programs (see Work-Learn Institute, n.d.). These programs address the unique needs of students with accessibility concerns such as topics related to disclosure and accommodation.

Increased Commitment to WIL

The review of institutional websites of a sample of colleges in Ontario revealed evidence that there is an intensified focus on WIL. This was evident through Strategic Mandate Agreements (SMAs), requirements for mandatory WIL participation and entrepreneurial/innovative WIL opportunities.

SMAs in Ontario[4] have created the impetus for many colleges to incorporate a plan to include either a WIL or related opportunity (e.g., experiential learning) into their programs. Many have made this a top priority by including it in 100% of their career-focused programs. Going forward, some colleges have agreed that with each new program and program renewal, WIL or related opportunity must be included. With the newer SMA funding model (i.e., for 2020–2025) having a focus to "ensure students and graduates are set up to succeed in rewarding careers" (MCU, 2020, para. 6), it is no wonder that WIL is incorporated into updated institutional plans. Echoed by Hoessler and Godden (2021), Ontario's university counterparts have identified this as a core component to their SMAs as well. WIL is tied to increasing graduate employability and PSI's do not want to miss that focus in their expected funding outcomes.

Mandatory WIL Participation

Students that are enrolled in Co-op and other WIL-related programs have mandatory requirements to complete these experiential credits as part of their course completion in select colleges. One college's creative focus extends into offering students who have fresh, innovative ideas to their employer partners, proposing they could hire a new co-op student every four months. Most of the colleges that were examined extended their commitment to students and employers by assigning consultants to specific programs (thus ensuring the mandatory WIL requirements of the program completion are fulfilled). With Ontario's colleges offering a trimester format, they enhance the availability of student talent for employers to consider for co-op work terms, field placements, internships, clinical placements, and other WIL. With the strong tie of WIL participation to graduate employability, employers are capitalizing on this prospect for their talent pipeline (Drewery et al., 2020).

[4] The SMA: Strategic Mandate Agreement is a bilateral agreement between the Ministry of Colleges and Universities and the postsecondary institution – of which the Ontario Government considers to be a key feature of the accountability framework for postsecondary education in the province. Discussions will focus on a new performance/outcomes-based funding mechanism (announced in Ontario's 2019 budget).

Entrepreneurial/Innovative WIL Opportunities

Entrepreneurial initiatives and innovation have become part of the DNA that Ontario colleges are integrating into their program delivery and strategic planning. Several colleges have entrepreneurial hubs and programs to provide a workspace to allow students to explore entrepreneurship at the ideation, implementation, or enhanced execution stages. Some colleges not only provide entrepreneurial supports for co-op students, but also offer collective labs to empower students in the gig economy, sales, or venture entrepreneurship. Inspiring both students and community members in entrepreneurship and social innovation, there are a limited number of colleges that establish programs to take it to the next level through resources, training, mentoring, and angel investors. Entrepreneurship is either weaved into the signature learning of the institutions or accessed as viable options for students to integrate experience with their academic program completion.

DISCUSSION AND CONCLUSION

The college sector is often overlooked in research focused on student affairs in Canada, in favor of universities. With a limited understanding of the landscape of WIL in the college sector, a large gap exists in understanding the complexities within the landscape of WIL in Canada. The purpose of this exploratory study was to examine key issues with regards to WIL within the college sector in Ontario. We were focused on understanding what literature exists on the college sector, particularly in Ontario and Canada more broadly, and what content is shared about WIL across institutional websites in a sample of colleges in Ontario.

We identified two themes focused on differences in the section: conceptualization and delivery models. Regarding conceptualization, we found that colleges in Ontario use different terms and language to refer to WIL and draw on both CEWIL and PEQAB definitions. This leads to a lack of common understanding about what WIL consists of and what the requirements are. Delivery models are important to consider because the preferred model may be determined in response to the specific needs of students, academic programs and external stakeholders such as workplace and community organizations. Furthermore, these delivery models and the rationale for their selection may differ between colleges and universities. One of few studies examining organizational structure in Ontario was conducted by Seifert and Burrow (2013), who examined the perceptions that student affairs professionals held towards organizational structures and the impact these structures might have on communication and collaboration between units. They found differences between colleges and universities, whereby student services units in colleges worked together to provide high-quality services for student success. Universities had a focus on provision of services, but also, emphasis on collaboration for the purpose of providing meaningful out-of-classroom learning experiences. Considering this difference, our finding that the colleges we examined mainly had hybrid models is noteworthy. Based on the websites, these hybrid models may address both the provision of high-quality services *and* meaningful out-of-classroom learning experiences. This finding may contribute to the ongoing discussion about differentiation in post-secondary education in Ontario, whereby continued diversification within the college sector (see Clark et al., 2009; Hicks et al., 2013) is perhaps blurring the lines between colleges and universities.

We also identified three themes that were notable within the literature and our scan of six Ontario college websites: increased commitment to WIL, mandatory participation and a shift to entrepreneurial innovative WIL opportunities. Based on these similarities and differences, we provide recommendations for practice and research in Table 14.1.

TABLE 14.1: Recommendations for practice and research.

Recommendation	Rationale
For Practice	
1. Colleges in Ontario should highlight and document their unique strengths of WIL commitments.	With increased commitments to WIL, colleges in Ontario can further position themselves as leaders and innovators in WIL across Canada.
2. College and employer partners in Ontario should continue to expand on the mandatory WIL participation.	Employer industry recruiters have the advantage of available college students in more semesters through Ontario's WIL offerings.
3. Build on innovation, entrepreneurship, and changing industry conditions through WIL programming.	The volatile, uncertain changes within employment sectors can be supported and strengthened by fresh, burgeoning WIL student candidates.
For Research	
1. Conduct an environmental sector analysis on college WIL delivery models, organizational structure, and functions.	Brevity of reports and data available on the Ontario college sector could be supported with more expansive research.
2. Further exploration of decision-making regarding conceptualization.	We found that the terminology used to refer to WIL was complex in terms of the types of program offerings and also, the requirements. Further understanding of decisions that are made around use of language is required to establish greater consistency across the sector.

This pilot study revealed that even though there is a consistent, increasing focus on WIL in Ontario colleges, there may be differences across the college sector in the province that warrant further investigation.

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