

SITUATEDNESS OF WORK-INTEGRATED LEARNING ACTIVITIES ON COLLEGE
STUDENTS' ORIENTATION TO LEARNING PROCESSES AND OUTCOMES

By
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A thesis submitted to the Faculty of Education
in conformity with the requirements for
the degree of Doctor of Philosophy

Queen's University
Kingston, Ontario, Canada
August 2021

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Abstract

Post-secondary institutions have incorporated mandates to expand work-integrated learning (WIL) opportunities for students. Specifically, the Ontario college system has responded to this demand and sought to provide every student with a WIL experience. The uniqueness of these learning experiences, coupled with the connection to the workplace and task authenticity means the learning environment of the WIL activity may impact students' learning processes and outcomes differently. In this dissertation, I explored how WIL activities influence changes in orientation to students' conceptions and experiences of learning. Students registered in three WIL activities completed a range of pre- and post-surveys, final course assignments, and post-reflection questions. This exploratory study was grounded in situated learning theory to identify how the physical and social environment, students' readiness for self-directed learning (SDL), and students' conception of the words learning and understanding were impacted by participation in a particular WIL activity. Employing a multiple case study methodology, data were collected using the PRO-SDLS survey tool, post-reflection surveys, and final course assignments to better understand the influences of the learning environment, changes in readiness for SDL, and students' conceptions of learning and understanding post-WIL activity. The data from this research suggested that physical and social aspects of the learning environment influenced students' learning processes. Students' perceived readiness for SDL also increased depending on the WIL activity. Lastly, students' conceptions of the words learning and understanding indicated learning as a process of new skill acquisition leading to the final stage of complete understanding. These findings highlight the importance of ensuring students are ready for a WIL activity within an SDL environment, are exposed to learning environments promoting high task authenticity with a strong connection to the workplace, and are provided assignments that

encourage reflection-in-action and demonstration of knowledge and skill to strengthen their professional identities across contexts. By monitoring the authenticity of the learning environment, this will continue to ensure the quality and integrity of the WIL activity remains connected to meeting workplace outcomes.

Acknowledgements

My faith grounded me in times of uncertainty in my various learning environments. I'm so thankful to have crossed paths with Dr. Ian Matheson earlier in my time at Queen's. The energy he put forth to motivate and reassure me and add perspectives to this study is represented throughout this thesis. To my family, thanks to my parents for instilling in me the value of education and Lisa, Theodore & Raphi for your support and humour. Finally, to my committee, Dr. Denise Stockley and Dr. Chris DeLuca, who remained committed to my success in the program, I couldn't have achieved this without you.

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Chapter 1

Introduction

In Canada, post-secondary and secondary school institutions have had a long history in technical and vocational training, essentially having their core purpose as work-integrated learning (WIL) in the local communities. Vocational or technical educational training dates back to Québec City and St-Joachim, in what today is known as Québec where the Roman Catholic Church led trade schools providing instruction in carpentry, roofing, shoemaking, and the arts (Buck, 2013). As immigration increased, and a government formed with a mandate for education in what is known today as Canada, regions began to introduce vocational schools, such as the Halifax Marine School, Mechanics' Institutes in Saint John, New Brunswick and the Ontario College of Art. By the early 1900s, most regions introduced some form of technical education within the secondary school system (Buck, 2013). Not until the Ontario Industrial Education Act of 1911 did technical education begin expanding into communities across Ontario. Despite most provinces offering some form of technical training at the secondary school level in Ontario and even in Québec's General and Vocational College system, Canada has relied on immigration of skilled workers due to historically low enrolments in what was seen as a stream of programming for at-risk or low academic achievers (Taylor, 2016). This narrative initially defined the college system in Ontario where the secondary school system developed streams of courses for students titled "applied" to be college prepared and "academic" for university.

Originally, WIL was identified as workplace-based experiences. It was not fully incorporated into public policy until the late nineteenth century because the original purpose of vocational schools was to enable businesses to hire already trained individuals who had the skills industry required (Sweet & Gallagher, 1999). Today, between 65% and 70% of college students

in Canada enroll in WIL programs (Business + Higher Education Roundtable, 2016). Internationally, WACE has launched the global challenge student-industry project program, which brings together students and industry partners to work on solving real challenges. In 2019, the Canadian federal government invested \$150 million over four years into the development of WIL experiences through innovative partnerships with businesses. In addition, \$631.2 million over five years was allocated to expanding the existing Student Work Placement Program in Canada. In 2021, the Canadian Government partnered with Business + Higher Education Roundtable (BHER) to launch an online national competition titled “Canada Comeback Challenge” to contribute to Canada’s COVID-19 recovery plan. This initiative aims to create up to 10,000 WIL experiences for post-secondary students and recent graduates. The virtual challenge presents real-world business problems for student teams to pitch innovative solutions to a panel of judges. Provincially, the benefits of WIL led the Ontario Government in 2016 to amend Bill 172 to recommend that all post-secondary students engage in at least one WIL opportunity before graduation. Both levels of government in Canada have shown commitment to deepening a national WIL strategy.

The system of Ontario’s public colleges was established in 1965 by the Government of Ontario to address the need for technical training; a system outside of the scopes of the university and secondary school systems (Davis, 1965). A strong link to industry and economic need expanded colleges across the province, whereby today there are 24 institutions within Ontario Colleges of Applied Arts and Technology (CAATs). As such, Ontario has developed the largest system of technical colleges in North America (Skolnik, 2010). Colleges have been encouraged to be entrepreneurial and creative when developing initiatives and programming to serve their communities (Brennan, 2014).

The desire of governments, institutions, and industry to map what is learned in post-secondary education to what knowledge, skills, and abilities are required in industry has driven WIL to dominate curriculum discussions at Ontario's colleges (Turcotte et al., 2016). These institutions have incorporated WIL mandates into their strategic plans based on four motivations:

1. Professional (related to practice orientation and work-based learning)
2. Democratic or humanitarian (related to service learning)
3. Critical (related to scientific issues)
4. Pedagogical (related to deepening one's knowledge of the subject matter) (Helle et al., 2006)

The need for colleges to promote professional knowledge is driven through a rich WIL strategy that deepens student learning by integrating practice with theory through alignment in academic and workplace settings (Billet, 2009). The importance of good academic research on the topic of WIL advances the discipline by ensuring experiences demonstrate reciprocal value among student, employer, and institution. WIL experiences create opportunities for students to craft a professional identity and promote professionalism (Trede, 2012). This professional identity has also been termed as career resiliency (Mate & Ryan, 2015). Students who demonstrate knowledge of the social and political contexts of the work environment are considered more employable and have greater confidence seeking out employment opportunities (Jackson, 2013; Rae, 2007; Sattler & Peters, 2012; Smith et al., 2018). Employers have reported declines in basic communication skills and dissatisfaction with graduate employability skills (Moore & Morton, 2015; Sarkara et al., 2016). For decades in Canada, there has been a controversial 'skill gap' reported between skills gained in school and skills needed in the workplace (Stanford, 2020). A more 'just-in-time' labour market approach coupled with immigration measures have propelled

discussions among government, industry, and post-secondary institutions about how to promote ‘market-ready’ graduates for jobs that may not even exist yet based on the rapid advancements in technology. However, even as post-secondary education in Ontario continues to be an engine of innovation, the funding levels from provincial grants and tuition continue to be the lowest in Canada (Drummond, 2012). As colleges continue to introduce and enhance WIL programming, the quality of WIL activities and how students meaningfully participate in these experiences supports a more comprehensive research agenda.

Purpose

To address the importance of WIL, I explored how specific WIL activities influence changes in orientation to students’ conceptions and experiences of learning through a multiple case study approach at one Ontario college. Specifically, I investigated students’ responses across three WIL activities to determine the impacts of each activity on their learning processes and outcomes. The following research questions guided my analysis:

1. How do social and physical aspects of the WIL environment influence students’ perceptions about their learning processes?
2. Is there a positive change in perceptions of self-directedness in pre- and post-survey scores based on the WIL activity and program?
3. How do students interpret the words learning and understanding in each WIL activity?

Rationale

The rise of WIL in Ontario’s Colleges to meet student and industry demand creates greater urgency for research on how WIL activities impact students. As student populations continue to diversify and students arrive having completed various levels of post-secondary education, employing more innovative WIL activities becomes increasingly important. While

these activities need to accommodate a greater number of students, the authenticity of the experience and connection to the workplace remains fundamental. A better understanding of WIL activities supports a more comprehensive design process to support reflective practice and develop opportunities that are closely aligned to more authentic learning environments; a level of authenticity that relates to the discipline. Given the various activities captured under WIL, researchers must seek to clarify and describe how the activities impact students and more importantly how these experiences support skill development and meet learning outcomes connected to developing students' professional identities. Examining and comparing specific WIL activities creates opportunities for researchers to highlight similarities and differences to strengthen decisions for the types of WIL activities employed.

To increase capacity at the college, the expansion of WIL activities outside of the workplace to include more virtual and flexible models allows for a greater number of students to participate (Kay et al., 2019). These new models are an important development in the literature that requires further consideration in terms of ensuring the sustainability and integrity of WIL programming. The realities of student learning in practice are relatively unexamined; the insights, subtleties and realities of emergent student learning in practice provide insight into students' learning processes and outcomes (Bytheway, 2018). The preparedness, learning environment, and personality indicators of students impact their motivations for learning (Müller & Palekčić, 2005). The perceived impacts on students' learning processes and the connection to the learning environment creates a need for further research into the relationship between agent and environment during the WIL activity.

In an era of measuring and evaluating student performance outcomes (Allison & Pomeroy, 2000), researchers have examined major topics, such as assessment, employer and

student perceptions, and teaching and learning frameworks for individual WIL activities through individual program studies (Stirling et al., 2016). The design of these studies has in some cases led to “insider-knowledge” where the researcher works in close proximity to the WIL activity and has background knowledge not otherwise known (Fleming, 2018). While researchers have sought to summarize student experiences of WIL activities, the influence of these activities on learning processes driven through self-direction needs more discussion (Bowen, 2020).

Accordingly, the WIL community has calls for studies into how institutions can strengthen the credibility of WIL activities, and collaborate, share, and strengthen the WIL learning model to support an enhanced level of quality in the WIL development process (Co-operative Education and Work-Integrated Learning Canada, 2020). Strengthening the credibility of WIL has become even more important given the impacts of the COVID-19 pandemic on WIL activities. Surveys conducted by the Cooperative Education & Work-Integrated Learning (CEWIL) Canada and Statistics Canada investigated the effects of COVID-19 on programs at Canadian colleges and universities. The results showed that over 6,700 student work placements had been canceled and 35% of students had their WIL activities canceled or paused. In May 2020, a Statistics Canada report titled, *COVID-19 Impacts of the pandemic on postsecondary students*, identified that 48% of students had lost their jobs or been temporarily laid off, 26% had reduced work hours, and 49% had lost their job prospects (Wall, 2020). These data show that the more traditional WIL models like co-op and field placement are subject to market conditions and may require further consideration for some programs.

Definitions

There are various definitions of WIL that has complicated the research field in terms of comparing and contrasting activities across education environments. The term co-operative and

work-integrated education was created by the World Association of Co-operative Education (WACE) to capture the many words used in literature to describe WIL. The term WIL is often used with other similar terms, such as work-based learning, practice-based learning, work-related learning, vocational learning, experiential learning, co-operative education, clinical education, internship, practicum, and field education (BHER, 2016). These learning experiences develop the understanding, procedures, and dispositions required for effective professional practice. There is also an argument to move away from using WIL as a term to reference a finite experience, which suggests the experience is considered a means to an end with the end being employability (Ferns et al., 2014; Oliver, 2015); the benefits of WIL go far beyond solely obtaining employment.

The definition of WIL in this dissertation outlines the activity, as defined by the research site through which students come to learn practically using the terms: capstone project, field or simulated placement, and applied project. These activities seek to capture curriculum and pedagogic practices that can assist, provide, and effectively integrate learning experiences in both educational and practice settings (Billett, 2009).

The authenticity of the learning environment grounds the WIL experience in a workplace context promoting a set of outcomes aligned to developing students' professional identities. An authentic learning environment is a pedagogical approach that allows for the construction of meaning grounded in real-life situations and the learners own personal experience (Newmann et al., 1996).

Ontario Public College Sector

Ontario was one of the first provinces in Canada to legislate a community college system to meet its economic needs and one of the few to choose a technical education model. The

growing complexity of the economy, coupled with the fast-paced development of new technology, threatened to make citizens without skills and knowledge obsolete (Fleming, 1971). The economy was expanding, while immigration from postwar Europe was decreasing fueling job growth in industries not directly tied to the university system. Employers needed technically skilled prospects to fill these roles with employees who could keep pace with developing technologies before commencing employment in the industry. Population explosion fueled an urgency to create a flexible, responsive education system to support Ontario (Davis, 1965). In 2003, five of the 24 colleges became designated Institutes of Technology and Advanced Learning. This designation reflected the changing nature of the programs being delivered. Colleges deliver a range of programs varying from eight months to four years at the certificate (one year), diploma (two years), advanced diploma (three years), post-graduate certificate (one or two years), and degree level (four years). In 2000, colleges also received authorization to grant degrees and in 2020 to grant stand-alone nursing degrees. There are two agencies, Ontario Colleges and the College Employer Council, which support and strengthen the system as a whole by providing a collective voice on advocacy issues and collective bargaining respectively. The technical education model has grounded a system of post-secondary education to ensure a match between current and future employment needs and programs available for students. Furthermore, the Government's \$59.5 million investment in micro-credentials, which reflect smaller, rapid training programs for students reframes how skills are acquired by students and delivered by post-secondary institutions.

Canada's higher education structure is governed under provincial and territorial structures. The Ontario college system, compared to the university system, has a separate administrative and academic structure that allows the provincial government to directly intervene

in the affairs of the college, something forbidden in the university structure (Hogan & Trotter, 2013). In Ontario, each college has a board of governors that oversees the president of each institution. These boards consist of professionals from the community and government and staff representatives. Technical college systems were meant to be distinctly different from universities in that the purpose was the separation of knowledge creation and its later commercial application (Considine, 2006).

The economic downturn in 2008 changed Ontario's fiscal environment (Mackenzie, 2010). Colleges experienced declines in enrolment, lowered growth projections, and less operating grant funding (Ministry of Training, Colleges, and Universities, 2013). Ontario Colleges were left to preserve and enhance educational quality with fewer resources. Colleges went from raising 15% to 20% of funds to "raising from 30% to 50% of their total revenues from non-government sources" (Brennan, 2014, no page). Furthermore, "In 2018-19, college system revenues totalled almost \$5.5 billion. Grant revenue from all sources accounted for only 37 per cent of college system revenue." (Colleges Ontario, 2020, p. 1). This has increased colleges' reliance on alternative sources of revenue and more specifically through international student recruitment.

In 2013, the Government of Ontario launched Ontario's Differentiation Policy as a primary policy driver for the system to manage institutional cost structures that were and continue to be under pressure. Colleges were encouraged to be entrepreneurial and creative when developing initiatives and programming to serve their communities and when implementing cost-recovery training programs for businesses (Brennan, 2014). The introduction of the Strategic Mandate Agreement (SMA) (2014-2017) facilitated discussions with CAATs to help articulate unique mandates, strengths, and aspirations. These documents acted as a foundation for

the government to direct future funding and ensure coherent decision-making (MTCU, 2020). In 2016, the Ministry launched SMA2 (2017-2020) to continue to differentiate colleges and universities based on strengths and future ambitions. In 2019, the Ministry launched the process for SMA3 (2020-2025) that also sought to tie provincial funding to performance and implement a corridor funding model for enrolment.

In 2017, Colleges Ontario commissioned PricewaterhouseCoopers (PwC) to conduct an independent assessment of the fiscal sustainability of the Ontario college sector. An assessment of the fiscal condition, and interviews with senior executives at each college contributed to their findings related to future fiscal challenges for the system. The consultants identified that by 2024-25, given demographic declines domestically, decline in provincial grant revenue, rising labour costs, and revenues increasing at a slower rate than inflation, “The projected deficits indicate that there is likely no single measure the colleges and policymakers can realistically take to ensure their future fiscal sustainability” (PwC, 2017, p.4). This gives rise to future mandates promoting innovation given the fixed cost structure that exists within the college system.

Biases

As an administrator at an Ontario college, I bring a bias to the research in terms of how I view the definition and outcomes of WIL activities. I am privy to information in terms of the method of WIL selection, process of implementation, and commentary throughout the WIL experiences. While this certainly impacts my ontology, this dissertation was designed to remove myself from the data collection process.

Organization of Dissertation

This dissertation contains five chapters. Chapter 1 provided an introduction with rationale and purpose. Chapter 2 contains a literature review of WIL, authentic learning environments,

situated learning theory, and self-directed learning. Chapter 3 outlines the research methodology, including participants, methods of data collection, and data analysis. Chapter 4 presents the findings in the results section. Chapter 5 concludes the dissertation by further discussing the findings and describing limitations of the study, and suggestions for future research.

Chapter 2

Literature Review

In this section, I provide a review of the literature relevant to the purpose of my research. First, I summarize research regarding the public Ontario College system, critique the literature on WIL, and review situated learning theory. This literature sets out the context of the dissertation, followed by a restatement of the purpose and an identification of the research questions.

Overview of WIL Research

The intersection of academic theory with application creates richer learning processes to develop personal and professional competencies. Strategies to incorporate more practical experiences into curricula in higher education have primarily been driven by this strong link to train industry ready graduates (Jackson, 2013; Rowe & Zegwaard, 2017) and as the Co-operative Education and Work-Integrated Learning Canada (CEWIL) states, “Future-Ready Students through Work-Integrated Learning.” The research field has used competing definitions and terms representing WIL throughout the literature. A broad definition of WIL captures these activities that intentionally integrate formal learning within an academic institution with practical application often associated with a workplace setting; relevancy to students’ program of study or career goals is foundational (Billett, 2009). WIL has historical roots in professional disciplines, such as engineering, nursing, and education. WIL, as a distinct form or model of learning, has emerged from the umbrella term experiential learning that incorporates activities that build real-world skills directly connected to the workplace (Stirling et al., 2016). WIL is a form of immersion learning which differs from experiential learning activities by focusing more on workplace integration; WIL is the practical application of theory as it relates to industry

knowledge, skills, and abilities. The structured integration of theory and practice focuses students' attention to the workplace through activities, such as job shadowing, industry field trips, career mentoring and work-study experiences (Sattler & Peters, 2012).

The popularity of co-operative (co-op) learning has driven on-the-job training to be seen as the preferred activity of WIL. A large-scale research study conducted by Ferguson and Wang (2014) captured data from 333,100 college and university graduates across Canada three years post-graduation. Results suggested that students who had a co-op experience were more likely to be working full-time in a role related to their field of study. However, not all tasks and knowledge need to be learned on-the-job and when broken down, tasks can be trained independently of the domain-specific context to help employ fewer cognitive resources and reserve capacity to perform more specific skills in complex settings (Anderson et al., 1996). Underpinned with the philosophy that all genuine education comes through experience (Dewey, 1938), WIL is achieved when the cycle of experience, reflection, and learning is completed (Kolb, 1984). Kolb's model of experiential learning and learning styles relies on the individual learning through experience, considering both personal and environmental factors, and includes learning through observation, interaction and reflection. It is understood that knowledge attainment improves in learning when based on the following conditions:

1. Actively participates in the experience.
2. Has been provided the opportunity and knowledge to reflect.
3. Has acquired the skills to conceptualize.
4. Has been able to innovate during the experience (Foster & Yaoyuneyong, 2016; Helyer, 2015).

Students' intentionality in terms of the effort put forth in their WIL activity supports greater opportunities for knowledge attainment.

Many underpinnings of WIL are derived from the widely known construct of co-op education. The origins of WIL are founded on the traditional co-op model, first introduced by the University of Cincinnati in 1952 in engineering, and shortly after adopted by the University of Waterloo in 1957. In Canada, there are differences in the education schism that exists between universities and colleges. Researchers seeking to compare and contrast WIL experiences are challenged to draw cause and effect relationships without further examining specific factors, such as length of study, program outcomes, and availability of resources. There is still a dearth of research as it relates to WIL in the Canadian context, specifically in the Ontario college system.

A lack of common language around WIL is a barrier to the development of a unified strategy (Rosse & Brown, 2013). In Canada, there has been momentum to advocate for the development of a global WIL framework that incorporates key attributes that define a quality activity, such as experience in a workplace setting, curriculum integration of workplace and academic learning; student outcomes that lead to employability, and reflection (McRae & Johnston, 2016). The focus on a key set of learning outcomes as opposed to a common definition has been central to this framework. Beyond the key learning outcomes of WIL, the components of the design, such as mandatory, non-mandatory, paid, unpaid, open-access, direct mentorship, and length, may all impact students' perceptions of their WIL processes and outcomes. Researchers have strengthened their approach to better understand WIL experiences and highlighted the importance of a mentor, well-defined structure, formative check-ins, and competency mapping to ensuring an experience mirroring a more authentic learning environment (Smith et al., 2016; Smith-Ruig, 2014).

WIL studies have been primarily designed using qualitative methodology within a constructivist theoretical framework. In particular, WIL draws upon a number of student-centered pedagogies and learning theories, such as experiential learning, immersive learning, and transformative learning (Mezirow, 1998). Earlier approaches in WIL employed more cognitive perspectives focused on mental processes to observe how the environment influenced behaviour; however, this approach limited the potential input of the community and environment on the individual (Cobb & Bowers, 1999). A focus on the relationship between individual and environment has introduced more sociocultural variables to identify quality indicators and experiences to better understand WIL. The active and reciprocal relationship between agent and environment is an important reflection within any WIL framework.

Early research in WIL was mainly focused on processes of delivery of WIL and were void of theory (Wilson, 1988). As more researchers have incorporated theory into research, the field has shown more promise in terms of greater validity of results (Fleming & Zegwaard, 2018; Smith, 2014). More recently, to add more quantitative data to the field, mixed methods methodology has become prevalent in WIL research and there has been a push to use more mixed methods in WIL research (Coll & Kalnins, 2009; Zegwaard & Hoskyn, 2015). An exploratory review from 2014-2018 found that interviews and surveys/questionnaires were the preferred methods for empirical research in WIL (Dean, 2019). One challenge from drawing conclusions from solely quantitative data where experiences are individually perceived and unique is how relevant the results apply to broader contexts. Before drawing conclusions, the quantitative data must be examined based on the phrasing of the questions, program, context, and the structure of the WIL activity. Researchers seeking to compare results across cases often employ a more constructivist epistemology with qualitative methodologies, such as case study,

ethnographic, biographical, and phenomenology to better understand the social and cultural experience (Allison & Pomeroy, 2000; Harrison et al., 2017; Hyett et al., 2014). These qualitative methodologies allow for the nuances and uniqueness found within each WIL activity to be recorded.

Typologies of WIL

WIL experiences typically include an engaged partnership made up of at least an academic institution, a host organization, and a student. WIL design includes the development of learning outcomes related to employability, personal agency, and life-long learning. Support for the use of active learning strategies where teams are used as a core element of design to address real-world problems benefits students (Hrynychak & Batty, 2012; Stockdale & Williams, 2004). Work-based learning is differentiated from WIL in that work-based learning focuses primarily on learning through the work experience, whereas WIL suggests a collaboration of work and educational experiences (Gardner & Bartkus, 2014).

WIL is predominantly captured through field placement and co-op activities, but the field has seen a shift towards more diverse models of live experiences. These models are designed to expose greater number of students to WIL by employing various approaches in the design process, such as micro-placements, online projects, placements, hackathons, mock interviews, role playing, volunteering, vacation work, one-day site visits, competitions and events, and incubators/start-ups and consultations (Kay et al., 2019; BHER, 2016). BHER (2016) identified seven types of WIL distinguished by various characteristics and organized them into three main categories as shown in Table 1.

Table 1

Categories of WIL Activities

Categories	Definition
Systematic Training	To put the workplace as the central place of learning in an apprenticeship model
Structured Work Experience	To familiarize the world of work within a post-secondary program through co-op, internships, field experience
Institutional Partnerships	To achieve community and/or industry goals through applied projects, service-learning

Rowe, Mackaway, and Winchester-Seeto (2012) organized WIL based on two primary factors: location (on-campus or off-campus) and level of community engagement. Within this framework, Leong and Kavanagh (2013) identified four types of WIL available to students: (1) work samples and training; (2) industry/community projects; (3) work placements; and (4) professional practicums. Groenewald, Drysdale, Johnston, and Chiupka (2011) presented a taxonomy to differentiate four categories of WIL practice: (1) community/service focus; (2) professional practice (apprenticeships, internships); (3) field and industry based (sandwich, co-op); and (4) other (teaching and research assistantships, leadership and peer programs)

Given various typologies and definitions, there are four principles to guide research in the field of WIL to reduce ambiguity and improve the quality (Gardner & Bartkus, 2014):

1. WIL terms should not be seen as entirely different. While there may be distinct differences, they are all intended to meet similar goals and objectives.
2. Use definitions and descriptions that are appropriate and documented in the literature.
3. Recognize terms for very similar models and programs of work/education experiences may vary depending on the geographical region or the specific discipline.
4. Continue the discussion regarding the terms used to describe the nature and scope of work/education experiences.

More recently, a hybrid WIL model involving external stakeholders off-site has been presented with three main components in its design: (1) core curricula embedded in a program; (2) simulated experiences emulating contexts and processes; and (3) scaffolded across the program (Tezcan et al., 2020).

As it relates to this dissertation, the following terms: (1) capstone project; (2) field or simulated placement; and (3) applied project were used based on documentation from the research site. The following terms seek to review literature that reflects the use of these terms as well as the intent of the WIL experience in order to provide greater context and clarity for the boundaries of each case.

Capstone Project

The use of the term capstone project is not specifically defined by CEWIL; however, the capstone project is meant to be a final cumulative project where students showcase their knowledge learned from the program (Rowles et al., 2004; van Acker & Bailey, 2011). The project usually occurs at the end of the program and can look forwards and backwards preparing students for the workforce and reinforcing previously learned knowledge and skills (Starr-Glass, 2010; van Acker et al., 2014). The term doesn't always denote a demonstration of learning, which may contradict core learning outcomes of WIL. A learning experience connected to workplace aids in developing a professional identity. While project-based learning does not always require participation in a work environment, this form of learning is a component of WIL design as there is an intentional integration of educational instruction and practice. Assessments that allow for contextual and situational knowledge are key aspects to designing a capstone project and require students to move beyond declarative knowledge to promote demonstration (Poikela, 2004). This type of project-based learning is part of the instructional approach

originating from Dewey (1938), who stressed the importance of practical experience in learning. In project-based learning, students work in small groups on academic tasks. The task can be in the form of investigation or research on a particular topic. These small groups pursue solutions to a problem by asking and refining questions, debating ideas, making predictions, collecting and analyzing data, drawing conclusions, and communicating their findings to others. This approach is widely believed to be a powerful teaching strategy that would enhance student motivation and promote independent learning strategies. An example of a capstone project in this dissertation is a student group working on a website idea for a simulated client. The capstone project is meant to focus on collaborative problem solving; solving non-routine problems that necessitate several factors to be considered simultaneously considering current resources (Mylopoulos et al., 2011). Students in a capstone experience have the ability to engage in higher order learning (Payne et al., 2008). While industry-based projects develop a students' leadership and project management skills and network, capstone project have shown effectiveness in developing students' critical thinking and providing choice to students, which enhances their responsibility for lifelong learning (Gilbert et al., 2018; Smith et al., 2014). In this dissertation, the research site has differentiated capstone project from applied project based on the simulated involvement of an external agent.

Field Placement

The terms field placement, placement or fieldwork provides students with an intensive short term hands-on practical experience in a setting relevant to their subject of study. An often-cited term, practicum also defines a field placement. Practicum is considered a form of experiential learning (Boud et al., 1993) and can be described as field-based learning (Lonergan & Andresen, 1988), work-based learning (Foster & Stephenson, 1998), learning by doing

(Schön, 1987), learning from action (Hutton, 1989) or in community service-learning settings. Field placements may not require supervision of a registered or licensed professional and the completed work experience hours are often not required for professional certification. Field placements account for work-integrated educational experiences not encompassed by other forms, such as co-op, clinical, practicum, and internship (CEWIL, no date). A review of websites from various colleges in Ontario suggested that the terms placement and internship are used interchangeably. In the literature, the word internship is associated with unpaid work but not volunteering based on the primary benefit of connecting to educational goals and outcomes (Grant-Smith & McDonald, 2018). Internship and placement laws and practices tend to vary widely between countries and even within the same country. In Ontario, the Employment Standards Act, which seeks to provide basic rights to employees, does not apply to students on a field placement through a college or university program and encourages employers to provide students with practical training that adds to their classroom learning. This exemption requires colleges to remain vigilant in assessing the risks of WIL as some students may be vulnerable in certain environments and tasks, especially for students with identified disabilities (Gatto et al., 2020; Turcotte et al., 2016).

Field placement describes structured and supervised, often for academic credit, relevant work experiences, and provides students with an opportunity to apply classroom knowledge to real world practice. Field placements may occur at different times in a program for varying lengths. As a result, students can participate in more than one experience during their education. The field placement experience may allow students to apply what they have learned in the classroom and to acquire new knowledge and professional skills as well as build on previously acquired knowledge to use across a variety of contexts.

Field placements provide an opportunity for students to develop a professional identity; however, frequently cited in literature is the concern related to the use of fragmented knowledge acquired from the academic curriculum in order to make meaningful connections in the WIL experience (Cleak & Smith, 2012; Ferns et al., 2014). Students may have difficulty using concepts previously acquired in class when the field placement environment does not support or mirror their learning. The quality of field placements can range widely with some students immersed in significant learning experiences while others may engage in more menial tasks. Researchers conducted a study examining 77 internship programs at colleges and universities in Ontario that uncovered significant differences both within and across academic disciplines (Stirling et al., 2014; Stirling et al., 2017). Researchers note that the present design and delivery of field placement or internship programs often neglect educational requirements, and assume too much about students' ability to connect classroom learning and practical experience. There is a call for a more structured approach, informed by learning theory, and recommend explicit learning activities that target each stage of Kolb's experiential learning theory, clearer role delineation for all parties involved, and emphasize standards of education over standards of employment.

In a field placement, it has been widely cited in literature that an optimal WIL experience comes from a supportive professor and field placement host, who provides regular, balanced feedback and supervision, facilitates appropriate learning activities, acts as a strong role model, and engages in both formative and summative reflections and self-assessments (Patrick et al., 2008; Stirling et al., 2016). The design structure should consider industry and community engagement, professional practice requirements, and industry recognition (Tezcan et al., 2020). A focus on activities and assessments promoting integration may predict employability skill

development (Smith et al., 2016). The validity of these assignments, in terms of the purpose of the WIL experience, and the subjectivity related to the tie to learning outcomes must be considered (Scholtz, 2020). The assessment of learning in workplace practice is unable to devoid itself from the identity of the individual (Boud & Soler, 2016). The sociocultural aspects of WIL combined with knowledge gaps for assessment by industry and community hosts can create difficulties related to reliable and valid assessments (Jackson, 2018).

Applied Project

The term applied project is meant to capture the connection to an external agent during the problem-based WIL experience. The more widely cited term, applied research project defines students engaged in research that occurs primarily but not limited to the workplace, including consulting projects, design projects, and community-based research projects (CEWIL, no date). These project-based learning activities focus on action, and the creation of social interactions that enhance the learning process. Students move beyond reflecting-on-action to applying knowledge to offer meaningful responses to relevant, real community needs where there may be no single correct solution. This WIL activity allows for the implementation of diverse knowledge, fosters learning-in-action, and provides the student with a professional perspective. As a result, these projects become meaningful and have emotional value (Wurdinger, 2016). The design promotes the process of knowledge restructuring and transfer for the development of expertise to ensure one learns by doing (Helle et al., 2006); students are active agents in their own learning process. The project-based approach seeks to enhance the learning process through the creation of social interactions that moves students from describing their learning to applying their learning to relevant needs outside of the institution (Simonds et al., 2017). In this case, the term applied project is a service-learning project, as defined by

CEWIL, where students work on short-term projects with a community organization often in groups. Researchers examining all terms of WIL are served in some capacity by examining students' perceptions in WIL to continually better understand how students interpret aspects of WIL.

Students' Perceptions in WIL Research

Students benefit from WIL experiences by developing an enhanced level of self-efficacy combined with generic skills such as leadership, teamwork, communication, problem solving, which have been important outcomes for student attainment post-WIL (Freudenberg et al., 2011). Researchers have increasingly shown that students who participate in WIL are more likely to succeed in the workplace (Sheridan et al., 2019; Stirling et al., 2016). There are however, important questions being asked in research about the effectiveness of preparing students to access future job opportunities and successfully performing in them once secured (McRae et al., 2016). The degree of success for students is determined by the number of opportunities students build on from previous knowledge and skills. Researchers have considered both 'knowing-in-practice' (Schön, 1983) and 'reflection-on-doing' (Felicia, 2011; Schön, 1983) in examining students' perspectives. It has been understood that knowledge attainment improves when the following conditions are met:

1. One has actively participated in the experience.
2. Has had the opportunity and knowledge to reflect.
3. Acquired the skills to conceptualize
4. Has had the ability to innovate during the experience (Foster & Yaoyuneyong, 2016; Helyer, 2015).

Reflective WIL processes contribute to students' analytical, critical, and systems thinking (Gardner, 2017). WIL contributes to a range of outcomes including the development of professional skills, enhanced employability and work readiness (Jackson, 2013), the application of theory to practice (Coll et al., 2009), development of professional identity (Trede, 2012), and citizenship (Gamble et al., 2010); however, the extent to which WIL contributes to enhanced employability outcomes can vary across disciplines (Peters et al., 2014). Students must play an active role and become a co-participant in acquiring knowledge. While some students may be unable to explain or understand how or why something has occurred (Pader, 2006), research focused on student perceptions is important to ensuring these voices are captured (Dean, 2019).

The origins of researching student perceptions in higher education can be traced to two studies in the United States (Perry, 1970; Becker et al., 1968). In the first study, the researchers immersed themselves into the students' experience; in the second, a counsellor at Harvard University, helped categorize the intellectual development of university students and showed a shift toward greater relativism in thinking and personal development as they progressed through their programs (Grosjean, 2003). Researchers have shown that the more students are prepared prior to their WIL experience, the greater level of engagement students have with learning processes that go beyond information sharing to active engagement with various scenarios (Billett, 2015). Furthermore, quality indicators have shown that students must be equipped on both psychological and educational aspects to yield effective participation in the workplace, supporting students to be reflective and agentic learners (Billett, 2006, 2015).

How students interpret their learning process, and define learning and understanding, are important to WIL practitioners as studies have revealed students approach learning situations differently. How the WIL activity is perceived and the context within which the activity is

produced may be determined by tools and their appropriated use; this contributes to how individuals learn and act (Brown et al., 1989). Individuals come to interpret their experiences through the lens of their own narratives and perceptions (Allison & Pomeroy, 2000). How we facilitate access to learning through the environment is central to development. The field of experiential education research aims to help learners make meaning of the world around them (Allison & Pomeroy, 2000). Researchers have found that when students are focused on issues like financial stability and food insecurity, their capacity to learn decreases, which makes research on students' perceptions of WIL even more relevant (Hemy et al., 2016). A study conducted at Queensland University of Technology showed that students experience multiple stresses as a result of taking on a WIL experience (Grant-Smith et al., 2017). These researchers sought to capture the voices of students and administrators from health and social services, nursing, and education through an online student survey and focus groups. Through purposive sampling, the researchers were able to capture feedback from 552 students, but only five students in the focus group. The characteristics of students within a case are important when seeking to draw conclusions across WIL as perceptions from students registered in a nursing program may be very different than those registered in an education program.

The more researchers can explore students' perceptions, the more institution and employer practices are informed by focusing on aspects in the WIL experience that add value and help support graduates' attributes (Martin & Rees, 2019). A study conducted by Martin & Rees (2019) sought to better understand students' perceptions using 271 of 299 student post-practicum reflections. This longitudinal study analyzed nine years of reflections in Massey University's sport management and coaching practicum through a case study methodology. These reflections asked students to reflect on perceived WIL learning outcomes and overall

experience. The authors found that students enjoyed their placements, were thankful for staff engagement, felt the experience reinforced their career decisions, and prospects of employability. Interestingly, the authors noted that while the experience develops a community of practice, other attributes like life-long learning and global citizenship were developed later in a career. The researchers used post-practicums that were not part of any course assessment which may have yielded stronger themes using thematic coding analysis (Braun & Clarke, 2006) because students were not concerned about writing specifically to achieve a high grade. However, only 6% of participants were able to consider the critical reflection aspects of activities in terms of linking theory to practice. This is concerning given the importance of reflective practice throughout WIL literature. By using post-practicums not linked to assessment, the researchers may have limited the ability to examine students' level of reflection as these journal entries were freely-written as opposed to following a structure linked to developing the ability to critically reflect on how the experience linked back to theory. The researchers did note that measures were put in place to limit the researcher's bias as Martin (2013) also referenced his previous study while in his position as coordinator of the program, which had yielded opportunities to interpret and experience phenomena, but increase the potential for coding bias.

Students' learning processes are different depending on the WIL experience. A study conducted by Dimenäs (2010) used survey and interview data collected from graduate students enrolled in a teacher training program at a Swedish university. With a response rate of 50%, some students separated the reality of the workplace from the theory of the university located education, while others were able to move beyond such dichotomies by the way they drew conclusions from concrete examples of learning from participation in work-integrated education. For these latter students, the data demonstrated student learning by concretization, shown by how

students were able to apply, identify with, and assume critical and self-directed approaches to their learning. The researcher noted that the use of term ‘reflection-on-action’ as opposed to ‘reflection-in-action’ (Schön, 1983) as important; students can separate out and make meaning post-WIL of interrelated experiences. A further consideration is the concept of ‘reflection-for-action’ which drives the focus to future goals. While the author notes that experiencing also means perceiving, the notion that students are able to critically reflect post-WIL requires more study in terms of their ability as well as the assumption that post-experience, students’ memory is served as the most-correct.

Knowledge transfer in WIL is an important aspect of students’ perceptions. A study conducted by Beach (1995) examined the knowledge transfer in students from a situated perspective. The study was conducted in a Nepali village focused on the transitions between work and school. Changes in arithmetical reasoning were compared between 13 high school students who apprenticed with a shopkeeper and 13 shopkeepers who attended adult education classes. The researcher found that arithmetical reasoning was more closely related to work of the shopkeepers and the phenomenon called knowledge transfer (Anderson et al., 1996) was greater in shopkeepers than students. This was due to students learning arithmetic as an end in itself; a weak relationship in the goal of studying arithmetic in school and shopkeeping. The results indicated that students’ goals and intentions, and how knowledge transfer was facilitated in various environments is important in order to produce less inert knowledge and more knowledge that can be recalled across various scenarios.

Knowledge recall and its relationship to the social environment is important when researching students’ perceptions. Through a sociocultural perspective, a study conducted by Eames and Coll (2006) analyzed 22 students’ perceptions of learning processes and outcomes of

their work placements, and how these processes and outcomes integrated with their learning at university. Semi-structured interviews were conducted throughout the experience, and reflective journals were encouraged and later analyzed. The researchers found a sociocultural view of learning was useful for investigating learning outcomes and processes, as also noted in a similar study conducted by Eames and Bell (2005). The focus on the social processes yielded the students' learning through mediated actions and participation in a community of practice that was unique, yet complimentary to the university environment. WIL activities serve as a point of entry for students into a community of practice as well as expose students to worlds of learning that are complementary yet different (Eames & Coll, 2010).

The impact of WIL on students' psychological attributes provides key information on how students perceive these constructs. Experiences with the environment and individuals who play significant roles within a network influence attributes like hope, self-concept, self-efficacy, study skills, and procrastination. A large-scale study was conducted across four universities in Canada, USA, UK, and Sweden (Drysdale et al., 2016). Students registered in WIL and non-WIL programs completed an online survey. The results suggested that students participating in WIL reported higher levels of self-concept related to problem solving and math. Interestingly, students participating in WIL reported weaker results in perceived critical thinking and self regulation skills. While there are many shared attributes between all students, there were significant differences reported for students who were participating in a WIL experience in the domains of motivation, self-concept, and anxiety. The surveys were issued early in the WIL experience which may have impacted students' perceptions on their abilities and self-concept as opposed to administering a pre-and-post survey to determine the influences of the WIL activity.

The increase in international students in post-secondary education, and the rise in the importance of using WIL as a learning strategy to attract these students, it is surprising that there is very little research examining the impact of WIL on international students (Gribble, 2014; Orrell, 2011; Patrick et. al., 2008). There has been an issue with participation in WIL by international students, and international students can experience discrimination and deskilling (Wall et al., 2017; Gribble, 2014). WIL experiences are reduced to smaller more simpler tasks that are often repetitive and lack critical thinking. A study conducted by Tran & Soejatminah (2016) examined learning and work experiences of international students and adaptation of pedagogic work in vocational education and training in Australia. The researchers conducted 105 interviews over a four-year period with international students across three states. The researchers found that international students recognized the importance of WIL beyond vocational skill development to include personal development that provided social connectedness. Wall et al. (2017) used the same interview data to further the findings to show that international students experienced less favourable treatment because of their status as an international student. Their skills and knowledge had little appreciation in the workplace, the experience was deskilling, and issues with navigating the social suggestions of the workplace.

Studies examining employment post-WIL for students who participated in WIL activities suggest mixed results. For example, the first known empirical study linking internships and career success showed students with the relevant experience reported receiving job offers approximately ten weeks sooner and with higher starting salaries (Gault et al., 2000); in a study one decade later, employers reaffirmed the value of WIL through more full-time opportunities at generally higher starting salaries (Gault et al., 2010). However, researchers have also noted the lack of empirical evidence that supports this belief that WIL participation improves employment

prospects and that different WIL activities create a relative advantage for students finding employment (Jackson & Collings, 2018; Wilton, 2012).

Overall, the field of research in WIL has increasingly expanded to incorporate a wide-variety of disciplines. The research on students' perceptions indicates a wide-variety of benefits from participating in WIL experiences and the importance of capturing multiple perceptions and implications of the environment helps contribute to the field. Students' experiences are enriched by a learning environment that allows students to craft and build on their professional identity and practice skills in a more authentic work environment.

Authentic Learning Environments

The authenticity of the tasks within context emphasizes that learning and teaching approaches should anchor knowledge as close as possible to professional practice. Within this learning environment, tasks are expected to be coherent, meaningful, and purposeful activities that represent the ordinary practices of a culture (Brown et al., 1989). These authentic tasks involve activities that students engage in during real problem-solving situations, as opposed to the more traditional simulated processes (Wilson, 1993); ordinary activities are highlighted in everyday situations that possess extraordinary motivational potential (Choi & Hannafin, 1995). In order for students to develop the skills used by experts, they need to engage in similar cognitive activities in authentic contexts; a more direct link to the real-world environment. Engaging in meaningful, worthwhile work experiences with purpose that aligns to students' sense of self and ambitions associates to positive graduate attributes espoused from active participation in WIL (Haddara & Skanes, 2007; Rosso et al., 2010). When the learning is situated authentically, students are able to become self-referenced and purposefully engage in the material. Since authentic tasks are often problem-based, students are able to see their learning

process and how to apply it (Collins, 1993). This understanding is a concept that ties to students' motivation in learning.

While experience is a necessary condition, it is not a sufficient condition for learning (Kolb, 1984). Students need to be able to receive feedback and to reflect on the outcomes of their work. Students often face challenges like innovativeness, interdisciplinary collaboration, and real-world experience in authentic work contexts (Foster & Yaoyuneyong, 2016). They need to conceptualize their learning and to test out these concepts in order to understand how to apply their learning to new circumstances to achieve successful outcomes and avoid previously made mistakes (Weisz, 1999). Students need to be prepared to actively engage in the learning process. It is through active involvement, conceptualization, and reflection that students are able to translate their work experiences across a variety of contexts and engage in deeper levels of learning. This deeper level of learning occurs when experiences are integrated into the learner's body of knowledge and understanding and connections are made to previous lessons (Ramsden, 1992). Students should consider their own perspectives and experiences while engaged in deep intercultural activities that expose contexts of various learning environments (Barton & Ryan, 2017). WIL experiences provide opportunities for students to learning within and about different sociocultural systems.

The notion of internalization and the influence of participating in a social interaction was a new way of thinking in research. Social relations that have been internalized build higher-order mental functions. The core focus on introspection mirrors the writings of Dewey, who was concerned with experience, interaction, and reflection. Dewey framed a new model for education that combined both ideas from the world and ideas from the classroom (Dewey, 1938). Dewey's work framed the future work of Kolb (1984), Schön (1987), and Mezirow (1998), prominent

theorists to suggest that meaning, which is difficult to measure and observe, plays a central role in the learning process and the learners' ability to mobilize across contexts. The learning process of internalizing, sought through reflection, is important when examining students' perceptions of WIL learning processes and outcomes. What is learned can not be separated from the context in which it is learned or applied; there is an emphasis on the importance of learning in real-life context, where knowledge is acquired by embedding the subject matter in the experiences of the learner and creating opportunities for the learner to interact in the context of real-life situations (Choi & Hannafin, 1995). Learning activities are embedded within a learning environment. Learning occurs as a result of the learner adapting to the environment and the environment to the learner. Whether experienced as a physical activity or through a simulated environment, solving authentic, complex, non-routine problems often encountered on the job promotes knowledge transfer (Winn, 2003). Human actions are dependant on the context in which they occur and perceived experience captured through active learning.

Active learning is an instructional approach that is firmly grounded in constructivism (Meyer, 2014). The work of constructivists Dewey, Vygotsky, and Piaget have greatly influenced current efforts to increase active learning in the classroom (Kolb, 1984). The constructivists' framework encourages teachers to design a learning environment where student autonomy is encouraged (Brooks & Brooks, 1993). Under this constructivist framework, learning tasks are designed using resources to promote critical thinking skills, and an open dialogue between student and teacher. Vygotsky was a strong proponent of the idea that knowledge is constructed through individual processes in the social context of learning that occurs from the first years of schooling. Learners who are actively engaged in content relevant tasks are able to construct knowledge through the interaction (Meyer, 2014).

The role of context, content, facilitation, assessment and community underpin the design and use of an authentic, situated learning environment (Choi & Hannafin, 1995). Specifically, in WIL activities Kaider et al. (2017) suggests that the proximity to workplace and authenticity of the tasks shape how authentic learning environments are viewed. Previously, researchers suggested that individuals think and behave quite differently in everyday versus controlled environments (Lave, 1988). These differences are critical considering more formal learning settings, like a classroom compared to informal everyday activities. The inability to apply knowledge to everyday activities for some students may be a consequence of the more traditional ways of learning that emphasizes ordered compliant cognition to accommodate a variety of factors like faculty and curricular expectations (McCaslin & Good, 1992). Comparatively, individuals learning in an informal learning context, apply knowledge practically and routinely to solve everyday problems and use experiences in future application, a more compelling reason to incorporate a WIL mandate into post-secondary programming (Brown et al., 1989).

Internationally, there have been definitions and recommendations made for WIL programs that reflect a scale of authenticity. A UK scoping study which was completed to inform three Scottish universities on major projects involving work-related learning (Connor & MacFarlane, 2006). These opportunities support the achievement of learning outcomes through activities which are based in, and derived from, the context of the workplace (Nicol & Macfarlane-Dick, 2006). This definition aligns to a widely-cited definition used in Ontario that outlines a pedagogical practice whereby students come to learn from the integration of experiences in education and workplace settings (Billett, 2009). The key component is the notion that WIL experiences can be measured from low to high in terms of authenticity and alignment to real-world tasks that benefit students (Bosco & Ferns, 2014). The range in authenticity

supports a broader design principle that allows for WILs to connect to a workplace context. Students must actively engage in experiences promoting leaning situations (Roth, 2007) that mirror future career aspirations. These experiences gradually challenge students through diverse tasks to master discipline and cross-discipline skills and abilities with greater autonomy; these learning situations should challenge students and allow for several strategies and solutions (Hovington et al., 2020). How students act in controlled environments like schools can be quite different than in informal everyday activities (Lave, 1988). Students gaining new knowledge and behaviour must be challenged to demonstrate and engage in more authentic learning activities that results in better learning (Durning & Artino, 2011). These activities must situate in related learning environments, meaning students perceive the work to be consistent with their learning and career goals (Nevison et al., 2016). Factors within the surrounding environment play a critical role in how students interpret their WIL experience.

Situated Learning Theoretical Framework

Situated learning theory interconnects theories of perception, cognition, language, teaming, agency, the social world, and their interrelations. There are different genres of situated approaches to learning: cognition plus, interpretive, and social practice (situated learning). Within a situated learning framework, both psychological and anthropological foci define the various theories. The anthropological (sociocultural) focus of Lave and Wenger, Vygotsky's socially-mediated environment, and Rogoff's learning through participation models. The psychological (social cognition) focus brings in the role of the individual mind in the learning process, which is consistent with a focus on critical thinking and authentic problem solving (Resnick, 1987), cognitive apprenticeships (Brown et. al., 1989; Schoenfeld, 1985), and

experimenting within realistic contexts separate from the professional environment (Senge, 1994).

A situated learning framework pulls from principles of constructivism, which is also the most prevalent ontological vision used in experiential education (Guba & Lincoln, 1994). The constructivist approach allows for the individual's reaction to the environment (situation) to determine the action (Nardi, 1996). The constructivist framework lends itself well to WIL experiences within a situated learning framework as WIL learning is considered situated whereby learners construct meaning and knowledge in-situ, and the experience and context where the learning occurs (environment) is then explored (Wertsch, 1991). Constructivism focuses on the meaning that individuals or groups make of knowledge and attempts to interpret experience. The main differing ideal of constructivism from other methodologies is that of subjectivism. The constructivist perspective considers that the object of a science is not a given, but rather the result of an intellectual construction driven by the knowledge seeker. Pragmatic value of knowledge and coherence of knowledge are the two most pervasive sets of epistemic values in constructivism (Castelló & Botella, 2007). Constructivist approaches support the idea that mental structures such as cognition and perception are actively built by one's mind rather than passively acquired through teaching.

Not all constructions are considered complete. How knowledge is constructed is judged against a framework, and information can be challenged when new information becomes available (Schwandt, 1998). There exist many forms of constructivism. As it relates to WIL, social constructivism focuses on the social processes as the knower constructs meaning; knowledge is created in interactions; individuals negotiating a shared set of meanings. The writings of Schültz, Berger, and Gergen championed the term social constructivism to reflect the

reality in which people create the world around them through the process of social exchange; the world around is understood by situated interchanges among people or social artefacts (Gergen, 1985; Schwandt, 1998). The actions of people produce an outcome that then produces subsequent actions causing the situation to continuously unfold and ground the cognition process within the situated setting (Roth, 2007).

The complex term constructivism exists along a continuum; individual psychology versus public discipline. Central to this continuum is humans the creator versus nature the instructor. Construction of knowledge is an active process, and the activity can be described in terms of individual cognition or social and political processes (Phillips, 1995). The central question to ask is does the knower construct or create new knowledge driven primarily from the mind or is knowledge acquired passively or imposed from the outside based on public discourse whereby nature serves as a template to inform and discover (Phillips, 1995).

The psychological foundation of situated learning is an approach to understanding how individuals interact with their environments. From a cognitive perspective, knowledge is represented in memory through extracting conceptual and procedural knowledge (Anderson, 1982). Cognitive structures that underpin acting and thinking are seen as constructed by the individual (Billett, 1996). Through reciprocal causation, individuals' personal factors labeled under cognitive, affective, and biological events, together with the environment, one can better understand learning processes. By assuming individuals are active agents in shaping their environments, one can better understand human cognition, motivation, and emotion; people are agents of experiences as opposed to passively participating in experiences (Bandura, 1986). This theory is grounded in the principle that people are able to symbolize their experiences into internal models of action that exerts determinative influence. These cognitive processes assume

that individuals are capable of self-reflecting about their behaviour and experiences and transfer a range of knowledge to various contexts (Anderson et al., 1996). Social cognition acknowledges that each individual's reality is unique and there is personal understanding created to establish meaning, as opposed to simply acquiring learning. Human functioning is explained as a triadic reciprocal causation where internal personal factors, behavioral patterns, and environmental influences all operate as interacting determinants of influence that move bidirectionally (Bandura, 2001); the influences of the environment and individual are reciprocal whereby one always serves as the background of the other (Rogoff, 2003).

The anthropological foundation of situated learning examines the interactions between the individual and their social and cultural environment. Specifically, knowledge is represented as being culturally shaped (Goodnow, 1990); dispositions are patterned by social and cultural circumstances (Davydov, 1995). Learning is viewed as appropriation, meaning transformational and reciprocal constructive processes (Rogoff, 1995). The reciprocation of the social and cultural circumstances and how individuals act within them is referred to as co-construction (Valsiner, 1994). Sociocultural theorists assume a link from activity to participation in a practice that is culturally organized (Cobb, 1994). Sociocultural perspectives consider learning a situated activity through participation or better known as distributed cognition where resources are shared socially to accomplish something not otherwise possible through a mediated action. Vygotsky emphasized the importance of outlining activities with concrete goals considering the developmental stage of the person; the same environment impacts people differently depending on their stage of development (Eun, 2019).

Situated learning is inherently tied to the social, societal, and cultural context. A situated learning framework provides a basis to deliberate on and evaluate acting and thinking as it

relates to learning (Billett, 1996). Using a situated learning perspective allows for a range of units of analysis. The basic unit of analysis is ‘the activity of persons-acting in setting’ making the unit of analysis a combination of the individual and environment, a key tenant of situated learning frameworks (Lave, 1988). By examining authentic problems through a situated lens, and working collaboratively, the individual can negotiate meaning through practice (Barab & Duffy, 2000). In relation to WIL, how the activity is structured is influenced directly by the immediacy of the situation (Lave, 1988; Suchman, 1987). Learning is connected to a situation with individuals’ meaning and knowledge socially and culturally constructed; there is an interdependence of the environment and agent in terms of exploring the context and culture of the activity in terms of the quality of meaning, cognition, learning, and knowing (Lave & Wenger, 1991). There exists a situatedness of learning that reflects sociocultural in relation to processes reflecting history, mind, culture, and the social world. The learning environment builds connections between academic pursuits and the WIL activity as well as the WIL activity and career relatedness, signifying the work or learning environment can be designed to improve meaningfulness (Trede et al., 2013; Nevison et al., 2016). The ways students interpret learning and understanding through a situated learning lens is important to better understanding students’ experience in WIL. As WILs are situated and often require a level of independent learning, students’ readiness for self-directed learning becomes relevant.

Self-Directed Learning

Self-Directed Learning (SDL) is a well-researched construct associated with many different terminologies and definitions (Hammond & Collins, 1991; Loyens et al., 2008). The concept of SDL has been a topic of interest and one of the most widely studied concepts in the field of adult education and has accounted for more than 70% of studies in adult learning with

the definition adapting to new approaches to learning as researchers have sought to explain the concept (Brockett, 2008). The concept of learner self-direction derives from Maslow's (1970) concept of self-actualization; self-actualizers are creative individuals who have a great deal of self-understanding and insight, and are consistently working toward higher levels of personal growth. These individuals are able to utilize available resources to their highest potential (Brockett & Hiemstra, 1991). Knowles (1975) describes SDL as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (p.18). SDL occurs when learners take responsibility of their own education, especially in post-secondary education. Knowles is widely credited with introducing the concept of andragogy described as the art and science of helping adults learn, describing the process of a learner moving dependency to self-directedness; however, Knowles first learned about the principles of andragogy from a Yugoslavian adult educator's use of the term in the mid-1960s (Knowles, 1980).

Self-directed people accumulate experiences leading to a readiness to learn and an immediate application of new knowledge, shifting focus to learning from performance-centeredness (Knowles, 1980). SDL involves individuals assuming control of their learning (Merriam & Brockett, 2007) and empowering individuals to make decisions in their learning process (Brookfield, 2013). SDL is not considered assessed, but has to be done to lead meaningful lives. Research in SDL has shown positive relationships to life satisfaction, curiosity, creativity, aspiration, and academic performance, which are also important areas of students' learning processes considering WIL (Edmondson et al., 2012).

In SDL, the professor's role shifts from instructor to facilitator of learning. The facilitator role guides students in their learning process and recognizes students come to understand learning in different ways and provides opportunities for these multiple ways to learn. It is the responsibility of the professor to recognize the learner's stage of self-directedness and promote further learning by providing direction and preparing the learner to advance to higher stages. This view is in tension with literature in regard to whether readiness can be taught or if it suggests that readiness is an attribute or trait (Lounsbury et al., 2009). A learner can be guided to become more self-directed when activities are created to promote independent construction of understanding (Borich, 2014). Increasingly, an individual's age has been associated with increasing levels of readiness for SDL along with previous levels of education, the higher the qualification on entry into the program, the higher the readiness for SDL. Self-directedness does not advocate autonomy in learning, but on the whole encourages information exchange; the balance of autonomy and collaboration should be viewed as complimentary. Self-directed learners may choose to learn on their own or in groups and have the capacity to transfer learning from across environments. Culminating WIL activities emphasize SDL and incorporate assessments tied to both formative peer-assessments and self-assessments and summative final reports (Rasul et al., 2015).

SDL is often defined as a continuum with a certain degree present in all individuals. At one end of the spectrum is the individual who is totally professor dependent for learning and at the other end is the independent self-directed learner who determines what is to be learned. A person who is highly self-directed in one area of learning may be totally teacher-dependent in an unfamiliar area of study. The focus on SDL appears to involve personal control over one's learning that becomes lift-changing and recognizes the social milieu in which activities occur

(Brockett & Hiemstra, 1991). SDL states that individual adults have the capacity to plan, navigate, and assess their own learning on the path to their personal learning goals (Hiemstra, 1994). Research in SDL and e-learning suggests that learners set goals, self-regulate, and self-evaluate their learning processes (Saks, 2014). For adult learning to thrive, the environment should promote learner control where learners can employ self-regulated learning strategies, reflection, and interact with the social environment and the physical world. Self-direction involves intrinsic or extrinsic motivation that is freely chosen by the learner (Ryan & Deci, 2000). Early studies and writings in SDL have focused on the learner's self-confidence (Stockdale & Brockett, 2010); however, researchers have now suggested Bandura's (1986) concept of self-efficacy more accurately defines SDL as it relates to adult education (Murphy & Alexander, 2000).

Authentic WIL experiences are grounded in principles of SDL and are crafted with a focus on authentic problem solving through minimal guidance or an independent learning framework. Specifically, non-field-placement learning activities are designed with a constructivist, experiential, problem-based, or case study approach (van Acker et al., 2014). These approaches assume that knowledge is constructed by learners, which originates with constructivism (Steffe & Gale, 1995). This independent learning assumption of WIL has propelled academia to highlight terms such as discovery research, problem-based learning, inquiry learning, experiential learning, and constructivist learning in place of SDL. Research in SDL is important to WIL because students need to be ready to learn independently when engaging in a WIL activity. In research, several instruments are used to measure SDL, such as Guglielmino's self-directed learning readiness scale, Oddi's continuing learning

inventory, Ryan's ability and importance scores, Fisher's SDLR, and Stockdale & Brockett's PRO-SDLS. The PRO-SDLS was the instrument chosen for this dissertation.

Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS)

The PRO-SDLS (Stockdale, 2003; Stockdale & Brockett, 2010) was developed based on the PRO model (Brockett & Hiemstra, 1991) in order to measure SDL among college students. The PRO model focuses on the idea of the learning process being stimulated by the learner assuming personal responsibility for their learning. The PRO model begins with personal responsibility followed by the balance of SDL (process orientation) and learner self-direction (personal orientation) all taking place within the social context (Brockett & Hiemstra, 1991). The PRO-SDLS is an operationalisation of the PRO model of SDL (Brockett & Hiemstra, 1991) and has origins in SDLRS readiness scale (Guglielmino, 1977).

Brockett and Hiemstra (1991) developed the Personal Responsibility Orientation (PRO) model to conceptualize SDL as it pertains to two constructs, personal responsibility involving learner characteristics (LC) and the teaching-learning transaction (TLT) that is part of the learning process. The PRO-SDLS represents the PRO model with four factors (control, initiative, motivation, and self-efficacy) as shown in Table 2. These factors were then captured within two constructs: initiative and control are considered TLT, and SE and motivation are considered LC. TLT is the process where the learner assumes primary responsibility for planning, implementing, and evaluating the learning process with a faculty resource playing a facilitating role, and LC orientation involves the internal state or personality of the learner or the individual's beliefs and attitudes that predisposition one toward assuming primary responsibility for their learning (Brockett & Hiemstra, 1991).

Table 2

Factors in PRO-SDLS Readiness Tool

Factors	Definition
Control	To take control of one's learning that determines their potential for self-direction.
Initiative	To take proactive initiative to understand one's learning needs, set learning goals, identify resources, choose learning strategies, evaluate their learning outcomes.
Motivation	The desire to act.
Self-efficacy	To believe in one's capacities for self-direction in learning.

This instrument was chosen to survey students pre- and-post WIL activity based on its use in previous research studies exploring self-directedness (Boyer et al., 2008; Fogerson, 2005; Hall, 2011; Holt, 2011; Langshaw, 2017; Payne et al., 2013). Using confirmatory factor analysis, Stockdale indicated that the PRO-SDLS produced corrected item-total correlations greater than .31, and the calculated coefficient α for the 25-item scale of .91. A four-latent variable model fit the data with internal consistency values of: initiative (.81), control (.78), motivation (.82), and self-efficacy (.78). The model chi-square absolute value was significant, the other relative goodness-of-fit indices suggested the model had a good fit with the data. (Stockdale & Brockett, 2010).

Fogerson (2005) used the PRO-SDLS to examine the relationship between self-direction readiness and learner satisfaction with online courses. The study of 217 students taking only online courses through a university focused on seven important readiness factors and how they related to five critical satisfaction characteristics. The scale's internal consistency ($\alpha = .92$) for The study was consistent with the level ($\alpha = .91$) reported by Stockdale (2003) and Stockdale and Brockett (2010). The overall PRO-SDLS score of 96.91 was higher than Stockdale's (2003)

84.05 and Stockdale and Brockett's (2010) score of 80.05. Fogerson found a positive correlation ($r = .29, p < .01$) between age and self-direction, but, interestingly, found a significant correlation to those 35 or younger ($r = .25, p < .01$) and no significant correlation for above the median age. The study also revealed a positive correlation in the younger group between self-direction and computer-related experience.

Boyer et al. (2008) used the PRO-SDLS to investigate the relationship between constructivist apprenticeship techniques meant to improve programming pedagogy and student self-direction. The study of 15 students enrolled in junior-level programming courses yielded a PRO-SDLS score of 89.62. Due to the limited number of participants, who were a mix of engineering and information technology students, the study did not yield significant results.

Gaspar et al. (2009) continued the study to investigate the relationship between constructivist apprenticeship techniques and self-direction. In this new study, multiple forms of data collection methods were used including a pre- and post-PRO-SDLS survey. All students completed the pre-survey, but only five completed the optional post-survey. The mean score of the pre-survey completed by all 14 students was 90.64; supporting a high degree of readiness for SDL.

Hall (2011) conducted a pre- and post-test survey using the PRO-SDLS in an effort to advance the understanding of SDL characteristics of first-year, first-generation college students participating in the Freshman Summer Institute, a summer bridge program that provides comprehensive support for first-year students at the University of South Florida. There were 110 students recruited from the freshman summer program. A pre-test mean of 89.62 and a post-test mean of 91.17 were reported. Consistent with prior research, reliability was confirmed with a Cronbach's alpha of .84 pre-test and .97 post-test. Significant relationships were found between academic achievement and PRO-SDLS scores after one semester as well as between admissions

GPA and university GPA. No significant relationships were found among ethnicity, gender, and PRO-SDLS scores. Despite the concern of measuring self-directedness through a clear criterion-related variable, especially when engaging with various target audiences and settings, this survey noted the correlational relationship between an increase in a student's PRO-SDLS score and an increase in academic performance and was considered an acceptable use as an instrument to add unique variance to studies in higher education (Hall, 2011).

Holt (2011) used the PRO-SDLS to identify the relationship between SDL and technology use for people entering the workplace. This researcher sought to examine the extent to which recent four-year graduates' SDL readiness skills predict factors influencing their technology use. The goal was to further the study of how current college students are prepared for the 21st century workplace. The study of 572 college students at a large university examined the relationship between SDL and computer self-efficacy. The PRO-SDLS reliability and results were consistent with prior research with a Cronbach's alpha of .88 and a mean score of 89.13. While the PRO-SDLS proved reliable, the results of this study were found to be statistically significant but with weak relationships, which may be attributed to the low reliability of the computer self-efficacy scale used in the study.

Langshaw (2017) used the PRO-SDLS instrument to examine the relationship between self-efficacy and SDL in adult learners. Langshaw collected data from 113 participants in undergraduate programs. She found a strong correlation between total scores and both TLT ($r = .937, p < .001$) and LC ($r = .775, p < .001$) constructs. Langshaw also reported significant correlation for each factor of LC, motivation ($r = .811, p < .001$), and self-efficacy ($r = .845, p < .001$) to total scores. Langshaw found no significant correlation between age and self-efficacy ($r = .180, p > .05$), sex and self-efficacy ($r = -.207, p < .05$), and GPA and self-efficacy ($r = -.233,$

$p < .05$). Langshaw suggests that correlation exists between adult learner's self-efficacy and overall SDL, but low correlation found in the study for some variables may have been attributed to variables outside of the study. Questions within the instrument seek to measure students' perceived levels of confidence related to SDL, but inherent in these questions and factors are the students' belief in the process and conceptions of learning and understanding.

Conceptions of Learning and Understanding

The pursuit to examine ones' beliefs of learning was introduced by Perry (1968). The impacts of a students' conceptions of learning, as it relates to epistemological beliefs (Chan, 2008; Purdie & Hattie, 2002), have been grouped along a continuum, starting from a reproductive conception, representing knowledge from an authoritative source to a constructivist conception, representing the active effort in co-constructing knowledge and sharing meaningful learning (Vezzani et al., 2018). Researching students' conceptions of learning has explanatory power when exploring the quality of learning outcomes (van Rossum & Schenk, 1984).

The seminal writings of Marton and Säljö (1976) framed the work of Entwistle and Ramsden (1983), who identified deep and surface approaches to learning, and who also noted the presence of what was considered a third approach, the strategic approach, where students were aiming towards top achievement using either a deep or surface approach as was deemed necessary (Case & Marshall, 2009). These approaches to learning were then tied to intrinsic, extrinsic, and achievement motivation (Biggs, 1987), respectively (Vermunt & Vermetten, 2004). Students using a surface approach to learning by memorizing and reproducing factual information are motivated by academic performance and seek to meet minimum task requirements. This is in opposition to students engaged in a deep approach to learning who seek

to engage with the subject matter and link new information with previous knowledge to achieve competence (Kirby et al., 2002).

Research studies have expanded conceptions of learning at the individual level to include the sociocultural influence (Bruner, 1996). The works of Marton and Säljö suggested that students' conceptions are influenced by specific contexts; students' conceptions of learning are impacted by previous learning experiences they may have had with teachers and parents. The situated nature of the learning and the conception of knowledge in-situ became important considerations. Säljö (1979) thought about learning in five different ways: 1) increase of knowledge; 2) memorizing; 3) acquisition of facts, procedures, which can be retained and/or utilized in practice; 4) abstraction of meaning; and 5) interpretative process aimed at understanding reality, with a sixth category later added (6) changing as person (Marton et al., 1993).

One of the major differences in conceptions concerns the relationship that people perceive among learning, understanding, and memorizing. Researchers suggested that students' conceptions of learning are related to both the approach to learning and the quality of the learning outcome (Dart, 1998; Marton et al., 1993; Trigwell & Prosser, 1991; van Rossum & Schenk, 1984). Dart et al. (2000) highlighted the important role of students' personal characteristics, such as their beliefs about learning, their perceived self-ability, and their locus of control orientation, in influencing their approach to learning and search for meaningful learning. Conceptions of learning, perceptions of the classroom environment, and approaches to learning were measured for high school students and tested through structural equation modeling. Researchers found that students who reported an experiential or qualitative conception were more likely to use a deep approach to learning (Dart et al., 2000). Other research studies have

focused on students at the university level, highlighting various aspects of conceptions of learning like how naïve and sophisticated students' conceptions of learning relate to contextual and personal factors (Vezzani et al., 2018) or how students' epistemic beliefs about learning and knowledge are related (Lonka et al., 2020).

How students think about learning varies widely considering cross-cultural perspectives. A study conducted by Hou (2009) found that mainland Chinese students held multiple conceptions of learning related to their challenges and adjustment strategies studying at a Western university. The approaches to learning were related to strategies for social, personal, and academic challenges. Another study conducted by Marton et al. (1993) conducted a study with mainland Chinese teacher educators and compared these to Western interpretations of the phenomenon of learning. The results suggested that there are differences with how non-Western cultures perceive learning, memorizing, and understanding. Students interpreted understanding to relate to memorizing as opposed to Western cultures that view the two ways of learning as very different. The word understanding was also interpreted in several ways from an abrupt moment there was a revelation to a more gradual process. This research is important to WIL as the students' learning models may impact their experience in a WIL activity, especially based on previous experience through a more SDL activity.

Dissertation Conceptual Framework

The complexities of WIL support the use of a situated learning framework. This framework has gained popularity when thinking about research in education (Anderson et al., 1996). Considering the epistemology of WIL research, the participants' ontology creates unique perceptions of experiences, so researchers must seek to appreciate the learning environment where WIL activities allow participants to make meaning of the world around them, in other

words, to learn experientially. The problems and tasks of everyday life are represented in the workplace, which asks individuals to apply forms of knowledge, not always easily expressed, and recognize the social system and how we use language within it to describe our world (Munby et al., 2007). Situated learning recognizes the processes of thinking and the inherent significance of real-life contexts in learning (Bransford et al., 1990), and the readiness for SDL to participate successfully. Knowledge is the by-product of unique relationships between an individual and the environment, so learning and understanding is then a by-product of individuals engaged within contexts where knowledge is embedded naturally (Bednar et al., 1991; Brown et al., 1989). There is an emphasis on providing experiences in authentic versus decontextualized contexts and cultivating learning processes versus learning outcomes.

SDL and conceptions of learning are important areas of research within situated learning and WIL. For conceptions of learning, how students interpret learning and understanding provides a window into students' ontology of the origin and nature of knowledge (Lonka et al., 1996). Situated learning theory captures the complexities inherent to WIL activities. By having the unit of analysis be a combination of the individual and environment, the researcher can focus on the activity of persons acting in setting and explore similarities and differences across multiple WIL activities. Not only does the learning environment play a key role in better understanding how the activity impacts learning processes and outcomes, students' perceptions of their learning process, and how they define learning and understanding further deepens the research available to the WIL community.

Summary

There are emerging themes from the literature review that provide rationale for this dissertation. Researchers in the field of WIL have shown how effective variables, such as

curricular design, assessment, relevancy to careers, development of personal factors, and consistent use of terminology support students' perceptions of success in the WIL activity. A situated learning framework is best positioned to capture how specific WIL activities influence changes in orientation to students' conceptions of learning. Important considerations, such as learning through activity, the relationship between the individual and environment when creating knowledge, and contextualized learning, captures key aspects of this theory.

The practical nature of WIL can provide opportunities for students to deepen their learning process. The WIL experience requires students to experience learning in a more self-directed way, and while SDL is a well-research term, the preparedness of students entering into this model remains relatively unknown, especially in an Ontario College context. The research is clear that WIL activities benefit students. What remains unclear is how each WIL activity influences students' perceptions of learning. Furthermore, the range of authenticity that WIL activities encompass, and the impact on students' ability to demonstrate their learning is inconsistent across post-secondary programming. In this present study, the aim was to explore how specific WIL activities influence changes in orientation to students' conceptions and experiences of learning. Interpreting students' experiences of the impacts of the social environment across different WIL activities, and measuring their readiness for SDL will allow for a better understanding of how the different WIL activities captured under the broad definition of WIL impact students' conceptions of learning and understanding.

Chapter 3

Methodology

In educational settings, the phenomena studied are essentially unpredictable and indeterminate, so researchers should only seek to describe, appreciate, interpret, and explain social and individual behaviour (Cziko, 1989). As it relates to WIL, the exploration of perceptions helps articulate a unified strategy to benefit all stakeholders. Furthermore, the experience within different environments mirroring related employment goals forms new knowledge and skills. The situation is a function of the person, which makes it impossible to separate the environment from the person observing it (Bowers, 1973). Researchers in education cannot assume to isolate the variables or simplify by isolation (Bartlett, 1932). Each variable has its own qualities, and an effect is produced by the interaction (Altman & Rogoff, 1987). There is meaning to be made when researching a variable (Salomon, 1991). When studying WIL, the variables of interest must be clearly defined.

Researchers seeking to better understand how knowledge is constructed and how meaning is created use a constructivist methodology. Constructivist theorists prioritize conceptual activity and further explore individuals' conceptual processes in thought (Cobb, 1994). Through the use of a constructivist framework, knowledge is honoured in the belief that learning is a subjective and active process where experiences and knowledge are constructed as a representation of one's personal reality (Stake, 2010).

The field of experiential education, an umbrella term that documents WIL as a form of learning, captures research related to input, process, and outcome to help clarify a framework for understanding all of the complex layers (Allison & Pomeroy, 2000). Drawing on data collected in my doctoral program, I grounded my research in a situated learning theoretical framework.

Using a multiple case study research methodology and a mixed method process for data collection, these data were collected at one Ontario college in three WIL activities. These data captured the purpose of exploring how specific WIL activities influence changes in orientation to students' conceptions and experiences of learning. This research contributes to the field of WIL by enhancing the understanding of the impacts of each WIL activity on students' SDL readiness and conceptions of learning and understanding. The protocols for each research question related to the purpose of this dissertation are summarized in Table 3.

Table 3

Summary of Research Protocols

Purpose	Objectives	Research Questions	Instruments	Theoretical Framework	Method of Analysis
To explore how specific WIL activities influence changes in orientation to students' conceptions and experiences of learning.	To examine factors of the environment that influence students' perceptions of WIL.	How do social and physical aspects of the WIL environment influence students' perceptions about their learning processes?	Post-reflection survey Course Final Assignment	Situated Learning	Thematic content analysis
	To better articulate the influences of experiencing a WIL activity.	Is there a positive change in perceptions of self-directedness in pre- and post-survey scores based on the WIL activity and program?	Pre- and post-survey Post-reflection survey		Independent t-tests, ANOVA Thematic content analysis
	To deepen understanding about students'	How do students interpret the words learning and	Pre- and post-survey		Thematic content analysis

	conceptions of learning.	understanding in each WIL activity?	Post-reflection survey Course Final Assignment		
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Case Study Methodology

Case study research in WIL has been contested as both a methodology and method (Pearson et al., 2015). As a methodology, case study explores and critiques a phenomenon in context using multiple data sources (Baxter & Jack, 2008). Case study methodology is by far the most popular when exploring perceptions in WIL programming as the case study approach provides a flexible methodology to capture the evolving nature of WIL (Brink, 2018; Lucas et al., 2018). Stake (1995) outlined three types of case studies intrinsic, instrumental, and collective. There are also times when researchers may want to use a case to explain a phenomenon which drives the use of the instrumental case study approach. Yin (2013) outlined case study types as: explanatory, exploratory, and descriptive. An explanatory case helps explore causal links, exploratory explores situations where the case has no single set of outcomes, and descriptive describes the phenomenon within context (Lucas et al., 2018). An exploratory case framework was applied in this study. Cases can be holistic or embedded within a single or multiple case study approach. The holistic case allows a researcher to isolate a single unit whereas embedded allows researchers to explore multiple units within a larger case. Stake (1995) outlined three types of generalizations in case study research: petite, grand, and naturalistic. The researcher has applied petite generalizations that can be made to capture similarities and differences across very similar cases.

As a methodology, case study helps to not only answer the research question but allows the researcher to explore the why and how (Yin, 2013). Research employing a case study

methodology can provide an in-depth, intrinsic, exploration of one case and seek to understand all of the particulars of the unit of study. Case study research has been criticized for being too specific and limited in terms of results contributing to theory; however, for the complex nature of WIL experiences, it allows nuances to be documented. Case study methodology permits researchers to unpack more complex experiences, which may not have a specific outcome, yet is important in exploring students' perceptions of important events. Case study methodology allows for the flexibility required when capturing complex data, especially when interpretations must be sensitive to contexts. The approach used in this dissertation was the collective case or multiple case study approach which examined multiple cases and highlighted differences and similarities between these cases (Stake, 1995). The use of multiple cases captures variations and complexities of WIL activities and explores how context and learning environment impact students' perceived learning.

A case study methodology supports exploring students' perceptions of learning processes in outcomes in each WIL activity. The boundaries of each case were based on the specific definitions outlined by the college for each WIL activity. The design of the WIL suggested that three cases were appropriate. Students in cases one and three remained in the college environment during their team-based WIL activity; however, the differentiating factor being students in case three had projects that were connected to community organizations whereas students in case one had no connection to the community. Students in case two either participated in a field placement or simulated placement activity. A description of each case is presented in Table 4.

Description of Cases

Table 4

Case Descriptions

Case	WIL Activity	Programs	Case Specifics
One	Capstone Project	Program A; Program B; Program C	<p><u>Program A</u></p> <ul style="list-style-type: none"> - 56 hours (4 hours/week) - 14 weeks - numeric grade for evaluation - focus on planning within the college environment for the 2nd semester capstone project <p><u>Program B</u></p> <ul style="list-style-type: none"> - 84 hours (3 in-class, 3 independent study) - 14 weeks - numeric grade for evaluation - team focused project within the college environment. <p><u>Program C</u></p> <ul style="list-style-type: none"> - 70 hours (5 hours/week) - 14 weeks - team focused project within the college environment.
Two	Field Placement or Simulated Placement	Program D; Program E	<p><u>Program D</u></p> <ul style="list-style-type: none"> - 98 hours (7 hours/week) - 14 weeks - pass/fail grade for evaluation - reflection-in-action connected to their role within an organization or simulated placement experience <p><u>Program E</u></p> <ul style="list-style-type: none"> - 98 hours (7 hours/week) - 14 weeks - combined with a seminar course (2 hours/week) –

			- community-focused placement outside of the college.
Three	Applied Project	Program F	- 84 hours (3 in-class, 3 independent study) - 14 weeks - numeric grade for evaluation - team focused project within the college environment for an external community organization.

Case one contained two post-graduate programs that ran over eight months in a two-semester format. Program A was made up of all international students who have previously achieved some form of post-secondary education. These were first semester students who were completing part one of their capstone project. This was their first WIL activity. Program B was made up of all international students who have previously achieved some form of post-secondary education. These were second semester students who were completing part two of their capstone project. This was their second WIL activity. Program C was made up of 80% international students who have previously achieved some form of post-secondary education. These were second semester students who were completing their capstone project. This was their first WIL activity.

Case two contained two programs, one post-graduate program (Program D) that ran over eight months in a two-semester format and one diploma program (Program E) that ran over sixteen months in a four-semester format. Program B was made up of 68.5% international students who had previously achieved some form of post-secondary education. These were second semester students who were completing their 14-week field placement with a company. For students who were unable to secure a field placement, a simulated placement experience was

created by the faculty member outlining hypothetical problem-based learning exercises encountered in the discipline. This was their first WIL activity. Program E was made up of 58% international students who had no previous post-secondary education. These were second semester students who were completing their 14-week field placement with a community organization. This was their first WIL activity.

Case three contained one diploma program that ran over sixteen months in a four-semester format. Program F was made up of 34% of international students who had no previous post-secondary education. These were fourth semester students who were completing their 14-week team-based applied project for a community organization. This was their first WIL activity.

Mixed Methods for Data Collection

Mixed methods research uses both quantitative and qualitative data sources and asks the researcher to consider how these data mix, integrate or link to answer the research questions (Creswell & Plano Clark, 2011). Using a mixed methods data collection process in WIL helps to appreciate the nuances and uniqueness of individuals' learning processes and outcomes. As more quantitative data is sought, students' perceptions of the environment, learning processes, and the WIL activity are inseparable and are interdependent in that one affects the other when studying experiences (Salomon, 1991). Students were asked to complete a pre- and post-survey, as shown in Appendix A, submit course final course assignments or participate in a post-reflection survey asking a series of open-ended questions related to their conceptions of learning and understanding, as shown in Appendix B. The post-reflection survey was the instrument used in place of a semi-structured interview due to the difficulties caused due to the Coronavirus pandemic.

Participants

There were 258 students who participated in this study out of a total of 349. A majority of these students were registered in the college as international students. Participants were recruited using a purposive sampling method based on the selected cases programs. Purposeful sampling was employed to yield the anticipated richness and relevance of information to answer the research questions (Yin, 2009) and maximize what can be learned from the data (Stake, 1995).

Procedure for Data Collection

Research ethics board clearances were granted for the present study from both the research site and university. The university's letter is shown in Appendix C. Data were collected during the doctoral program as part of the researcher's program of study. Prior to data analysis, ethics board clearance was granted by the university. Ethics approval was also granted by the research site before data were collected. The data were collected over a four-month period (January – April 2020). The students were registered in one of six programs, all of which were running concurrently. Faculty members assigned to the course were asked to participate and liaise with students throughout the data collection process.

Pre- and Post-Surveys

The survey method was chosen based on other studies involving perceptions in WIL activities (Alamdarloo et al., 2013; Boyle et al., 2017; Clouder, 2009; Conrad & Newberry, 2011; Cook et al., 2004; Donkin & Holmes, 2019; Freestone et al., 2006; Gault et al., 2010; Gault et al., 2000; Gresch & Rawls, 2017; Gribble et al., 2019; Lisá et al., 2019; Purdie et al., 1996; Purdie & Hattie, 2002; Riggio et al., 1994; Sheridan et al., 2019; Smith et al., 2016). Specifically, the pre- and post-survey was chosen based on recent studies (Donkin & Holmes,

2019; Khampirat et al., 2019; Payne et al., 2008). Students were asked to complete a survey pre- and post WIL activity.

Assuming knowledge is constructed by the learner, using a survey about SDL readiness to better understand the learning process of students supported the use of active inquiry (control), independence (initiative), internal effort (motivation), and confidence (self-efficacy) in supporting new knowledge creation through the use of the PRO-SDLS (Langshaw, 2017). The survey asked 41 questions, 25 questions taken from the PRO-SDLS (Stockdale & Brockett, 2010), which the researcher sought approval from the authors to use, and the remaining questions taken from the original version. A 4-point Likert scale, as opposed to a 5-point scale, was selected to ask students to agree or disagree with statements as opposed to providing an option to remain neutral. While the survey contained 41 questions, the analysis specifically focused on the 25 questions related to the PRO-SDLS factors. These factors and associated questions were: Initiative (2, 8, 10, 15, 18, 19); Control (5, 7, 13, 14, 16, 17); Self-Efficacy (SE) (28, 29, 32, 34, 40, 41), and Motivation (21, 27, 31, 33, 36, 37, 39). Questions 7, 17, 18, 21, 27, 32, 33, 34, 37, 39, 41 were reverse coded. IBM Statistical Product and Service Solutions (SPSS) version 26 was used to conduct descriptive, difference of means, ANOVA, and Tukey tests. To examine differences within each case, an independent t-test was conducted using pre- and post-survey results. Secondly, ANOVAs were run to determine significant differences between mean scores of pre- and post-survey results to compare across cases. Lastly, post hoc comparisons were conducted using Tukey's HSD test to determine which mean scores between cases were most significant when analysing survey results separately. Survey results were presented to include pre-and-post response numbers as not all students completed the post-survey. Pre-and-post surveys were not tracked by individual student.

During the first week of the course in each program, the researcher presented the survey to the class in order to answer any initial questions, speak about the importance of the research, and familiarize terminology. The pre-survey was completed in-class, distributed and collected by the faculty member assigned to the course. A Letter of Information and Consent Form was also provided with a sign-up sheet for students to elect if they would like to share their final course assignments or participate in the originally planned interview at the end of the course. Students who did not wish to participate were able to elect to not return the survey. The students did not write their name or student number on the survey. During the last week of the course, the same faculty member administered the post-survey to all students. Due to the Coronavirus pandemic that caused a mid-semester switch to an off-campus learning environment, the post-survey was administered electronically to support obtaining student feedback. Only those students who completed the pre-survey were encouraged to participate.

Post-Reflection Survey

The second method of data collection was distributed and collected by the faculty member assigned to each course. Interviews were to be scheduled at the end of the course; however, due to the Coronavirus pandemic, this became difficult due to scheduling. All students were alternatively sent the interview questions via email through their faculty member and asked to reflect on their WIL activity and send their responses back to the faculty member. The faculty member collected all responses and sent them to the researcher. The questions asked about the WIL environment, conceptions of learning and understanding, and current experiences in the WIL activity. A question was also added about the impacts of the Coronavirus pandemic. These questions sought information about the students' experiences during the WIL activity (Martin & Rees, 2019). Reflection and debriefing have been highlighted as one of the most reliable methods

to promote student learning in WIL (Harvey et al., 2010; Lucas, 2017; Winchester-Seeto & Rowe, 2019). Through self-reflection exercises, students take responsibility for their learning by establishing personal meaning of both pre-determined and unexpected events throughout the activity (Garrison, 1997).

Final Course Assignments

For Programs E and F, students submitted their final course assignments in place of the post-reflection survey, as shown in Appendix D. These final course assignments were also used for assessment purposes by the faculty member. Qualitative data were obtained from final assignment submissions (Hovington et al., 2020; Reyneke & Botha, 2020) to help answer the research questions. There were 14 final individual assignments submitted in Program E and 13 final group assignments in Program F. The faculty members removed the names and sent the assignments to the researcher.

The final assignment in Program E asked students to summarize their experience and highlight important learning from the WIL experience. This assignment captured areas of confidentiality, professionalism, and workplace dynamics. The final assignment in Program F asked students in groups to prepare a final report outlining strategies to solve a problem identified by a community organization. These final reports had students outline a competitor analysis, recommendations, and sample implementation plan. Group work was a main component of the course. In these reports, students focused on summarizing their knowledge of concepts within the business program to make recommendations to their respective companies. There was a client from the community who elected to answer questions and provide context to the business problem.

Missing Data (or Inclusion of Data)

Prior to conducting statistical procedures, the data sets were screened for missing data, which was recorded and remained in the analysis given that incomplete surveys still yielded some data. A compliance analysis was conducted to run normality assumptions. Due to students in Program F not completing the post-survey, pre-surveys were omitted from the analysis. Direct quotes were used to report results.

Data Analysis

To answer the first and third research questions, analysis of the qualitative data collected from post-reflection surveys and final course assignments in Programs E and F were compiled and analyzed using thematic content analysis (Braun & Clarke, 2006) in NVivo11 (Winchester-Seeto & Rowe, 2019). As outlined by Braun and Clarke (2006), “thematic analysis can be an essentialist or realist method, which reports experiences, meanings and the reality of participants... or a ‘contextualist’ method...and characterised by theories such as critical realism, which acknowledges the ways individuals make meaning of their experience, and, in turn, the ways the broader social context impinges on those meanings.” (p. 9). Thematic content analysis is a popular method to data analysis when examining the complexities of WIL activities (Aggar et al., 2020; Barton & Ryan, 2020; Irwin et al., 2017; Martin & Rees, 2019). In a nomothetic analysis the goal is to identify themes that are relevant beyond the unique experience of one individual (Stephenson et al., 2018). Using students’ reflective data provides an opportunity to examine the gap between theory and practice (Bruno & Dell’Aversana, 2017).

For the first research question, data were coded and analyzed thematically and compared across cases. The 6-step inductive approach (Patton, 1990) guided the researcher’s analysis, specifically, familiarization with data, generate initial codes, search for themes, review themes,

define themes, name themes, and report (Aggar et. al., 2020). This allowed for richer descriptions, perspectives of diverse participants, and identification of key themes (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). A code hierarchy was created by merging and aggregating to align with higher level themes based on the research questions (Martin & Rees, 2019). The codes selected represented words or phrases forming a patterned response that could be discovered within a case. After initial codes were summarized, a secondary review was conducted on each of the 88 codes to retheme to a set of more focused codes. A code was created regardless of the length of the phrase. The phrase could be one sentence or a paragraph within where the specific word or phrase was used. A latent approach was employed to solely move beyond the semantic content of the data and identify underlying ideas, assumptions, and interpret meaning.

To answer the second research question, pre- and post-survey results (Aggar et. al., 2020) were compared and contrasted to determine impacts of the WIL activity on students' perceptions on their readiness for SDL. A comparison of the responses from pre- and post-survey results yielded the impacts of the WIL activity on self-perceived change (Lim et al., 2020). The quantitative data from the survey was analyzed through a nonexperimental design using the SPSS. The researcher used SPSS to cross tabulate, calculate means, and conduct tests to analyze the data (Bist et al., 2020). The dependent variables for this study were the perceived readiness of students to be self-directed and students' confidence in their ability to be self-directed (Langshaw, 2017) to correlate the self-reported perceptions of students in each WIL activity. For the constructs, TLT was measured by scores on the PRO-SDLS in initiative and control factors, and LC was measured by SE and motivation factors from the PRO-SDLS (Stockdale & Brockett, 2011). Tests for normality and homogeneity were run for the samples, and tables for independent

sample t-tests, ANOVAs, and Cronbach's alpha were generated. Given the expectation that there would be a positive correlation between the pre- and post-survey scores and the WIL activity, a two-tailed test was reported. In addition, one question on the students' post-reflection survey that asked about their level of SDL readiness post-WIL was also analyzed to enrich the discussion.

For the third research question, the data were coded and analyzed using labels from the conceptions of learning framework outlined by Säljö (1979). Using the five different ways individuals thought about learning: (1) increase of knowledge; (2) memorizing; (3) acquisition of facts, procedures, which can be retained and/or utilized in practice; (4) abstraction of meaning; and (5) an interpretative process aimed at the understanding of reality, data were analyzed using these as the five codes for how students interpreted the themes learning and understanding. Theoretical or deductive analysis was chosen, as opposed to the inductive approach, as the process of coding the data was meant to fit into a pre-existing coding frame; the coding process was more analyst driven (Braun & Clarke, 2006). The weighting of codes (relative frequency) was standardized by assuming the absolute value in the count and not factoring in the number of information sources. The first three of these codes represented a surface conception of learning and the last two codes represented a deep conception of learning. These codes were then compiled and reviewed together to further analyze within and across cases. The use of both inductive and deductive thematic analysis strategies has been used in previous research involving students' perceptions (Barton & Ryan, 2020).

Summary

This chapter provided an overview and detailed summary of the methodology and method used in this dissertation. The three research questions focus the analysis of the data through both qualitative and quantitative measures. An inductive approach was used to help

answer research question one and a deductive approach to answer research question three. For research question two, SPSS was used to examine statistically significant variables of SDL readiness using the PRO-SDLS tool. These findings are reporting in Chapter 4 and discussed in Chapter 5.

Chapter 4

Results

This study aimed to determine significant changes in students' perceptions of the social and physical environment, SDL readiness, and conceptions of learning and understanding within their specific WIL activity. This chapter is structured by presenting data for each of the three research questions. The treatment of these data is first described, followed by the statistical method employed, and finally the results.

Research Question 1: How do social and physical aspects of the WIL environment influence students' perceptions about their learning processes?

Results were compiled from post-reflection surveys and final course assignments. The data were analyzed using an inductive thematic analysis approach that highlighted phrases and words with frequencies related to the two themes: aspects of the social learning environment; and aspects of the physical learning environment. The words that described each theme are shown in Table 5. Even with a pre-established research question, inductive analysis was chosen as the process of coding was not meant to fit the data into a pre-existing coding frame; the coding process was still data-driven even with the pre-established themes (Braun & Clarke, 2006). The weighting of codes (relative frequency) was standardized by assuming the absolute value in the count and not factoring in the number of information sources.

Table 5

Raw # of Codes and Frequencies

Codes	Case One	Case Two	Case Three
Quiet	40	15	N/A
Comfort	31	20	N/A

Familiarity	25	13	N/A
Observation	20	10	N/A
Competition	20	5	N/A
Friendship/Friendliness	15	7	N/A
Peace	13	5	N/A
Respect	10	12	N/A
Share	9	6	N/A
Trust	7	4	N/A
Supportive/Helpful	10	5	N/A
International	11	0	N/A

In cases one and two, the codes “quiet” “comfort” and “familiarity” related to the theme of physical aspects of the learning environment. The codes “observation” “competition” “friendship/friendliness” “peace” “respect” “share” “trust” “supportive/helpful” related to the theme of social aspects of the learning environment. In case one, there were 11 students who also identified their international student status, which was coded as “international.” This code related to the theme of social aspects of the learning environment, particularly the challenges of WIL participation and learning about the sociocultural aspects at both the institutional and societal levels. For case three, the final course assignments reviewed revealed no data relevant to this research question.

Case One

In case one, the researcher reviewed and coded 222 post-reflection surveys. Related to the theme of physical aspects of the learning environment, students described how their learning processes were influenced by physical conditions in the learning environment and how these

conditions impacted their perceived ability to learn successfully. For 40 students, a “quiet” environment was associated with a preferred learning environment. The code “quiet” captured phrases describing an environment that was free from distractions. The code “comfort” was reported 31 times by students to describe phrases beyond simply a quiet physical environment, but one that also included the comforts of home, including visual objects, smells, and sounds. As one student described, “My learning is made more comfortable by the physical surroundings and things which bring me comfort.” The code “familiarity” was used to describe the physical aspects of the learning environments that felt familiar or recognizable. One student reported, “I found if I sat down with the text and learned the concepts in my own [familiar] environment, the concepts seemed to be more understandable.” The learning environment created a safe space for learning. Some students’ reflections were coded using all three codes. For example,

“the surrounding play a crucial role on my learning process as I need a comfortable environment without any nuisance to learn. I look for comfort, such as an environment with the right temperature. In addition, an environment that is psychologically comfortable: for example, environments that are familiar. In study halls progressively intelligent meetings and viable works can make beneficial outcome.

At the point when its outside homerooms and when I read the subject by and by, I favor quietness and serene condition. It is distractive when there are broad clamors around or more exercises occurring around.”

This WIL activity was a team-based project. This project was reported as unfamiliar in most students’ reflections. The code “familiarity” captured students’ preferences for individual assessments and tests. Students reported some discomfort based on a perceived lack of control of their grades, uncertainty related to SDL, and the relative newness of working in teams which

created greater uncertainty. The switch to an online learning environment mid-semester due to the pandemic also meant most of the group work was completed online. For example, one student reported, “I had trouble with group work as I never saw my team and we were not organized so when I went to work on group things it was difficult.” There were, however, some students who expressed more familiarity working on a team post-WIL and became more comfortable after time. As one student said, “I learn in a group environment. Because I love hearing and getting different views about anything I have to work on because this helps me also get different approaches to a single problem.” As aspects of the learning environment became more familiar, the impact of the WIL activity on students’ learning processes appeared to play greater importance.

Related to the theme of social aspects of the learning environment, students described how their learning processes were influenced by interactions with people. The social aspects created some difficulties for students in their perceived learning post-WIL activity. The codes “peace” was used 13 times and “trust” seven times to describe phrases related to a positive feeling after interacting with group members. How students felt within the learning environment related to engagement with their peers and staff was considered memorable. One student said,

“the environment is major factor for learning anything. If the people around us are focused to learn and share their knowledge, then it’s a healthy competitive environment to learn. But if teachers become biased and everyone tend to communicate rudely or ignore or stop you from stating your point, then it is impossible for anyone to learn in this kind of environment.”

The code “observation” captured students’ reflections about how one another was doing in the WIL activity and how students judged their own learning against how much perceived

knowledge others learned. This judgement also related to the code “share” that reflected how students shared knowledge and learned in a learning environment where they can observe one another. One student reported “I always follow and observe every little thing going on around me whether it is people, process or environment. I learn from differences and always see things that are superior from me.” Another student reported, “I always follow and observe every little thing going on around me whether it is people, process or environment. I learn from differences and always see things that are superior from me. I try to apply new things in my life and that’s how I learn.”

Students reported seeking perfect knowledge. This perfect knowledge was sought through “observation” of others to ensure they had learned a concept correctly. As one student indicated, “Environment is the term in which we must observe our surroundings first before learning or understanding anything. I need to know how I relate to others.” Another student reported, “In my case, I learn in an environment by observing the surroundings and in case of the people, I learn by observing their way of talk, gestures or the way they behave in the society. Environment and the people play important role in learning.” This code captured both internal and external sociocultural factors related to the theme. One student reported, “I always learned many things from the environment. During my classes I learned how to interact with the people of different culture and learned about their tradition and culture. This also enhance my self-confidence.” The switch to online suggested that students were less able to observe one another and therefore reported more concerns. As one student reported, “the switch due to the pandemic created a lot of challenges for me to see how I was doing compared to others...was I learning properly and did I get the material right.”

The code “competition” referenced phrases which described how students felt competing in the learning environment with one another on the basis of grades. This perceived social aspect to competition was expressed by one student as, “The surrounding environment influence me to work harder and better. When I see my friends, family and colleagues work harder for it their influences and motivates me to follow my dreams and achieve my goals.” The goal as one student described was, “The outward expression of knowledge”. An online learning environment made the competition among students more difficult as they were unable to view one another in person.

The code “friendship/friendliness” was reported 15 times and related to social interactions from peers and staff within the learning environment. As one student said, “For me, learning become more easier if you are having friendly environment. It can diminish your shyness. So, you can ask about any queries without any hesitation. My environment is very friendly. I believe in asking something new from everyone. It helps me to figure out new things everywhere.” Students were very concerned with the perceived friendliness of the learning environment in order to best learn. This code was also used for phrases associated with making friends. The opportunity within the WIL activity to introduce students to one another and create a supportive team environment. As one student reported, “First of all, the environment should be friendly where everyone put their viewpoint without any hesitation and about the process it should be discussions based on problems, situation by giving proper examples and people should co operative and productive.”

The codes “peace” “respect” as well as “share” and “trust” captured students’ choice of words about similar descriptions of situations relating to the theme of social aspects of their learning environment. These words were coded in their transcripts keeping students’ choice of

words to highlight the different words. Students reported the importance of having space that allowed for students to share knowledge promoting trust and peace. As one student reported, “the surroundings create a feeling of trust and safety and then allow you to absorb learning and feel confident in that learning.” Especially related to working on a team, these students reported needing to feel a level of respect that built trust and allowed students to share knowledge.

Case Two

In case two, the researcher reviewed and coded 29 post-reflection surveys in Program D and 14 final placement assignments in Program E. Across both programs, students participated in reflection-on-action exercises where summative assignments were submitted focused on knowledge, skills and abilities developed while on the field placement. Through inductive coding, specific phrases and words were highlighted related to the two themes.

For students in Program D, most students’ reflections related to the theme of physical aspects of the learning environment. A “quiet” environment promoting “comfort” and “familiarity” was the preferred learning environment. The word “comfort” was coded at the greatest frequency. For some of these students, they participated in a simulated placement that did not remove them from the college’s environment and therefore reflected more on classroom activities. As one student reported, “The environment during a lecture, I require fellow students to be quiet, and only speak when asking the facilitator, a question related to the topic.” Another student reported, “Noisy, technological distraction...will slow down the process of learning.” The WIL activity was not the main focus for students suggesting that the tasks within the WIL were similar in nature to assignments in the courses. As one student reported, “I learn many things during my course. My recent and most interesting process is negotiation in which I learnt that

how to talk with management in a good faith by having compliance with all federal laws as well as provincial laws. A very good environment was created, and all the team members were there.”

Related to the theme social aspects of the learning environment, students’ phrases most related to the codes: “observation” and “respect.” These codes captured how students perceived the social aspects of the learning environment while on their field placement or simulated placement. In terms of “respect” one student indicated, “The employer was so respectful of my position on practicum and created an environment that allowed me to learn comfortably.”

Another student wrote,

“The first day at placement was a lot to take in, and I felt rather anxious with the abundance of information that I had to absorb in a little amount of time. I feared that I would not be able to adapt; however, by asking questions and completing given tasks, I was able to catch on and complete my goals fairly quickly.”

For these students, the social aspects of the field placement activity provided important insights into their future career choices. The experiences of actively participating in unfamiliar work environments provoked reflections about not only how they felt about the tasks but how it may impact their future employment goals. As one student reported, “I don’t think I’ll be pursuing a career in the line of work that is charity, I prefer more hands-on work like construction of farming. This is because I like to see the physical results of my labour.” A WIL experience that exposed this student to the social aspects of the organization helped shape their professional identity.

For students in Program E, a majority of students did not report on either theme. These students reported more on tasks in the field placement experience. This was likely due to the questions asked on their final placement assignment. Students were asked to specifically indicate

what was learned post-WIL activity. For example, one student reported, “I improved my skills with data entry and spreadsheeting and managed to develop new skills with scanning and the usage of a software I am unfamiliar with for the purpose of a database.” Another student reflected, “I learned lot of things from this event I also obtain some skill from this such as teamwork, leadership and coordination. This is my first time when I plan event in my school or college, but I organize some other of home event such as marriage and birthday party gathering with my siblings’ team.” These students appeared to capture the new skills learned post-WIL activity. A few students mentioned phrases related to the learning environment in terms of their perceived ability to adapt to its conditions. As one student reported, “My strengths, as demonstrated by the duties assigned on placement, would be adapting quickly to various conditions and learning at a fast pace.” Another student said, “Sometimes, we enjoy listening songs at work. I like this situation very much. I feel energetic while doing work and listening my favourite songs. It is different feeling. It helps me to keep a smile on my face. It also assists us to do work in a rhythm.” The experience to learn within a new environment appeared to provide opportunities to reflect about how perceived influences impacted their learning process. As one student reported, “Unfortunately for me I am a bit of a bad person when it comes to cursing, bad jokes at bad times so I guess the whole mindset of watching my mouth at work was really hard at first but slowly it got easier as I started to adjust to the environment.” For this student, their reflection put themselves as an active agent in the learning environment and how the learning environment perceived to impact them.

Summary Research Question 1

Student interpretations relating to the two themes of the physical and social aspects of the learning environment suggest how the WIL activity impacts students’ perceptions differently.

The theme of physical aspects of the learning environment, such as “quiet”, “comfort”, and “familiarity” had the perceived greatest impact on students’ perceived ability to learn in the WIL experience. For students in case one, the theme of social aspects of the learning environment, such as “observation” and “friendship/friendliness” were also reported at the greatest frequency. However, for many students, especially students in Program E, neither of the themes were reported as influencing their learning processes.

Research Question 2: Is there a positive change in perceptions of SDL readiness in pre- and post-survey scores based on the WIL activity and program?

The following results came from statistical tests run in SPSS to respond to the research question. In the following section, data for reliability, normality, independent t-tests for each program, and ANOVAs for each activity and program are presented.

Reliability and Normality

The combined alpha associated with the four factors of the PRO-SDLS in the pre-survey was $\alpha = .80$, and in the post-survey was $\alpha = .82$. According to Cohen (1988), these alphas for both the pre- and post-survey results were acceptable as an alpha of .80 or greater is preferred.

The assumption of homogeneity of variances for pre- and post-survey scores were tested and satisfied based on Shapiro-Wilk. The Cronbach’s Alpha if Item Deleted, in this case factor, was also run for the data. Control and initiative factors represent the individuals’ responsibility for the learning process with faculty facilitating, and the SE and motivation factors represent individuals’ beliefs and attitudes toward assuming responsibility for their learning. For the pre-surveys, three of the four factors reported lower alphas: control ($\alpha = .74$); SE ($\alpha = .68$); initiative ($\alpha = .76$) and one factor reporting a higher alpha, motivation ($\alpha = .81$). For the post-surveys,

three of the four factors reported lower alphas: control ($\alpha = .75$); SE ($\alpha = .74$); initiative ($\alpha = .79$) and one factor reporting a higher alpha, motivation ($\alpha = .82$).

Differences of Pre- and Post-Survey Results Across Programs

The independent samples t-tests were conducted for each program within each case. Independent t-tests were conducted to identify any significant statistics to further the analysis of the data and draw potential conclusions. While an alpha level of .05 has been most often used in the literature on WIL, the alpha level was set to .0125 for the present study in an attempt to control for type-1 error. This more conservative level was generated by dividing .05 by the number of factors (4) used for each set of tests.

Case One

An independent-samples-t-test was conducted for Programs A, B, and C in case one to compare pre- and post-survey results on the PRO-SDLS survey across four factors. For Program A, there were no significant differences reported across the factors using a four-point Likert scale, as shown in Table 6. These data suggest that there is no significant difference in self-reported levels of readiness pre-and-post WIL activity across the four factors.

Table 6

Means for Program A

Factor	Pre-Surveys #	Mean	Post-Surveys #	Mean
Initiative	81	18.62	104	19.14
Control	80	19.81	104	19.92
Motivation	77	23.47	103	23.09
SE	79	20.43	103	20.20

For Program B, there were significant differences reported for motivation ($t(99) = -2.81$, $p < .0125$), and SE ($t(102) = -3.33$, $p < .0125$). As shown in Table 7, students in this program reported increases in their perceived level of SDL readiness in the post-survey compared to the pre-survey in both motivation and SE factors. For motivation, students reported a high level of perceived readiness ($M = 19.76$) ($p < .0125$) pre-survey and increased post-survey ($M = 20.96$) ($p < .0125$). These data suggest that students throughout the WIL activity increased their perceived level of readiness in terms of their desire to act in an SDL environment. For SE, students reported a low level of perceived readiness pre-survey ($M = 16.66$) ($p < .0125$) and increased post-survey ($M = 17.76$) ($p < .0125$). These data suggest that students throughout the WIL activity increased in their perceived level of readiness related to their belief in self for SDL. These results mirrored results reported in the post-reflection survey. For example, one student wrote, “Initially, a bit hesitant with this approach because of never experiencing it before. But once the things started to move forward, the more discussions we had our confidence levels also went up with more clarity we were gaining.” Another student reported, “There is a huge difference between my confidence level when compared to starting of course and now. I have become more confident to carry out both individual and group projects, teamwork, developing skills, etc.)” There was a perceived benefit to learning in this learning environment. Another student reported, “My confidence increases when I do individual learning because I have to be more conscious and aware to achieve good results, so self learning is good way to increase your confidence level.” These students suggested that the SDL environment increased their readiness for future learning opportunities.

Table 7

Means for Program B

Factor	Pre-Surveys #	Mean	Post-Surveys #	Mean
Initiative	53	16.57	44	17.55
Control	54	18.11	46	18.66
Motivation	54	19.76	47	20.96
SE	55	16.66	49	17.76

For Program C, there were no significant differences reported across the factors using a four-point Likert scale, as shown in Table 8. These data suggest that there is no significant difference in self-reported levels of confidence pre-and-post WIL activity across the four factors.

Table 8
Means for Program C

Factor	Pre-Surveys #	Mean	Post-Surveys #	Mean
Initiative	24	17.88	30	18.07
Control	24	20	29	19.69
Motivation	23	21.74	26	21.23
SE	22	18.41	27	17.85

Case Two

An independent-samples-t-test was conducted for Program D to compare pre- and post-survey results on the PRO-SDLS survey across four factors. There were no significant differences reported across the factors using a four-point Likert scale, as shown in Table 9. These data suggest that there is no significant difference in self-reported levels of readiness post-WIL activity across the four factors.

Table 9
Means for Program D

Factor	Pre-Surveys #	Mean	Post-Surveys #	Mean
Initiative	27	17.93	28	18.75
Control	27	20.04	28	19.39
Motivation	26	20.42	29	20.28
SE	26	18.04	29	18.72

Case Three

An independent-samples-t-test was conducted for Program F to compare pre- and post-survey results on the PRO-SDLS survey across four factors. There were significant differences reported for initiative ($t(72) = -3.11, p < .0125$) and motivation ($t(60) = -2.004, p < .0125$), as seen in Table 10. Students reported increases in their perceived level of readiness in SDL in the post-survey compared to the pre-survey in both initiative and motivation. For initiative, students reported a low level of perceived readiness ($M = 15.56$) ($p < .0125$) pre-survey compared to post-survey ($M = 17.58$) ($p < .0125$). These data suggest that students throughout the WIL activity increased their perceived level of readiness in terms of their ability to proactively take initiative to understand their own learning needs. For motivation, students reported a high level of perceived readiness pre-survey ($M = 19.40$) ($p < .0125$) and increased post-survey ($M = 20.78$) ($p < .0125$). These data suggest that students throughout the WIL activity increased their desire to act in an SDL environment.

Table 10
Means for Program F

Factor	Pre-Surveys #	Mean	Post-Surveys #	Mean
Initiative	50	15.56	24	17.58
Control	52	18.15	26	18.12

Motivation	45	19.40	23	20.78
SE	48	16.58	26	17.15

Differences of Pre- and Post-Survey Results Across Activities

A set of ANOVAs were conducted using pre-test scores and post-test scores across the three WIL activities. Tukey’s post-hoc analyses were conducted for each significant difference at $\alpha = .05$. As shown in Table 11, means and standard deviations for each factor within the pre- and post-surveys across three WIL activities are presented. According to Cohen (1988), the difference in means between two groups based on established benchmarks is defined as small ($\eta^2 = 0.01$), medium ($\eta^2 = 0.06$), and large ($\eta^2 = 0.14$).

Table 11

Means and Standard Deviations for Pre- and post-surveys

Factor	Cases	Pre-Survey			Post-Survey			Difference (Means)
		N	Mean	SD	N	Mean	SD	
Initiative	One	232	17.8	2.31	134	18.9	2.15	1.1
	Two	27	17.93	2.16	28	18.75	1.53	0.82
	Three	50	15.56	2.48	24	17.58	2.89	2.02
	<i>Total</i>	<i>309</i>	<i>17.45</i>	<i>2.46</i>	<i>186</i>	<i>18.71</i>	<i>2.21</i>	<i>1.26</i>
Control	One	233	19.19	2.46	133	19.87	2.47	0.68
	Two	27	20.04	2.24	28	19.39	2.31	-0.65
	Three	52	18.15	3.1	26	18.12	3.09	-0.03
	<i>Total</i>	<i>312</i>	<i>19.09</i>	<i>2.6</i>	<i>187</i>	<i>19.56</i>	<i>2.6</i>	<i>0.47</i>
Motivation	One	227	21.63	2.72	129	21.41	2.38	-0.22
	Two	26	20.42	2.64	29	20.28	3.12	-0.14

	Three	45	19.4	3.33	23	20.65	2.33	1.25
	<i>Total</i>	<i>298</i>	<i>21.19</i>	<i>2.93</i>	<i>181</i>	<i>21.13</i>	<i>2.53</i>	<i>-0.06</i>
SE	One	232	18.48	2.88	130	18.26	2.09	-0.22
	Two	26	18.04	1.97	29	18.72	1.93	0.68
	Three	48	16.58	2.7	26	17.15	2.36	0.57
	<i>Total</i>	<i>306</i>	<i>18.14</i>	<i>2.86</i>	<i>185</i>	<i>18.18</i>	<i>2.14</i>	<i>0.04</i>

Pre-Survey Differences

Across all activities, there were significant pre-survey differences among mean scores for all factors. These pre-survey differences suggested the boundaries of the WIL activity within each case impacted students' readiness for SDL.

For initiative, ($F(2, 306) = 19.681, p = .001$), the case three results ($M = 15.56$) ($p < .05$) were significantly lower than case two results ($M = 17.93$) ($p < .05$), and case one ($M = 17.8$) ($p < .05$) with a medium effect size ($\eta^2 = .11$). These data suggest that students in case three had a lower perceived level of readiness related to their ability to proactively take initiative to understand their learning needs. The data for cases one and two suggest students were similar in their perceived level of readiness.

For control scores ($F(2, 309) = 5.521, p = .004$), the case three results ($M = 18.15$) were lower than case two results ($M = 20.04$) ($p < .05$), and case one ($M = 19.19$) ($p < .05$) with a small effect size ($\eta^2 = .04$). These data suggest that students in case three had a lower perceived level of readiness related to their ability to take control of their learning. The data for cases one and two suggest students were similar in their perceived level of readiness.

For SE scores ($F(2, 303) = 9.195, p = .001$), the case three results ($M = 16.58$) ($p < .05$) were significantly lower than case two results ($M = 18.04$) ($p < .05$), and case one results ($M =$

18.48) ($p < .05$) with a small effect size ($\eta^2 = .06$). These data suggest that students in case three had a lower perceived level of readiness related to their belief in self for SDL. The data for cases one and two suggest students were similar in their perceived level of readiness.

For motivation ($F(2, 295) = 12.879, p = .001$), the case three results ($M = 19.4$) ($p < .05$) were lower than case two results ($M = 20.42$) ($p < .05$) and case one results ($M = 21.63$) ($p < .05$), with a small effect size ($\eta^2 = .08$). These data suggest that students in case three had a lower perceived level of readiness related to their desire to act compared to students in cases two and one. The data for cases one and two suggest students were similar in their perceived level of readiness.

Post-Survey Differences

Across all activities, there were significant post-survey differences among mean scores for three of the four factors. The motivation factor was not significant.

For initiative, ($F(2, 183) = 3.739, p = .026$), the case three results ($M = 17.58$) ($p < .05$) were lower than case two results ($M = 18.75$) ($p < .05$), and case one ($M = 18.9$) ($p < .05$) with a small effect size ($\eta^2 = .04$). These data suggest that students in case three had a lower perceived level of readiness related take proactive initiative to understand their own learning needs. The data for cases one and two suggest students were similar in their perceived level of readiness.

For control ($F(2, 184) = 5.274, p = .006$), the case three results ($M = 18.12$) were lower than case two results ($M = 19.39$) ($p < .05$), and case one ($M = 19.87$) ($p < .05$) with a small effect size ($\eta^2 = .05$). These data suggest that students in case three had a lower perceived level of readiness in their ability to take control of their learning. The data for cases one and two suggest students were similar in their perceived level of readiness.

For SE ($F(2, 182) = 4.167, p = .017$), the case three results ($M = 17.15$) ($p < .05$) were significantly lower than case two results ($M = 18.72$) ($p < .05$), and case one results ($M = 18.26$) ($p < .05$) with a small effect size ($\eta p^2 = .04$). These data indicate that students in case three had a lower perceived level of readiness related to their belief in self for SDL. The data for cases one and two suggest students were similar in their perceived level of readiness.

Correlation of TLT and LC Constructs Holding Constant the WIL Activity Pre- and Post-Survey

Data analysis conducted in SPSS for Pearson's correlation of the two components of SDL readiness controlling for each case. These results were all above a correlation coefficient of .50. These data suggest that the initiative and control factors making up the TLT construct were strongly positively correlated pre-survey, $r(300) = .506, p < .001$, and post-survey, $r(182) = .603, p < .001$, and the motivation and SE factors making up the LC construct were strongly positively correlated pre-survey, $r(291) = .534, p < .001$, and post-survey, $r(178) = .56, p < .001$. These results suggest that students registered in all cases positively perceived their readiness for SDL in both constructs. For TLT, students' scores on the two factors were positively correlated suggesting that students assumed primary responsibility for planning, implementing, and evaluating their learning with a faculty resource playing a facilitating role. For LC, students' scores on the two factors were positively correlated suggesting that students took responsibility for their individual beliefs and attitudes that positively increased their predisposition toward assuming primary responsibility for their learning across all WIL activities.

Correlation of TLT and LC Constructs to Total Survey Results Pre- and Post Survey

Data analysis was also conducted using TLT and LC constructs and total scores on pre- and post-surveys. The two factors in the TLT construct were strongly positively correlated to total results pre-survey, $r = .856, p < .001$, and post-survey, $r = .877, p < .001$, and the two factors in the LC construct were strongly positively correlated to total results pre-survey, $r = .811, p < .001$, and post-survey, $r = .793, p < .001$. These scores suggest that students registered in all cases pre- and post-survey positively perceived their readiness for SDL in both constructs. For TLT, students' scores on the two factors were positively correlated pre- and-post survey suggesting that students assumed primary responsibility for planning, implementing, and evaluating their learning with a faculty resource playing a facilitating role. For LC, students' scores on the two factors were positively correlated pre- and-post survey suggesting that students took responsibility for their individual beliefs and attitudes that positively increased their predisposition toward assuming primary responsibility for their learning.

Summary Research Question 2

Students' responses on the PRO-SDLS revealed varying levels of impact of the WIL activity on SDL readiness based on the factors making up the two constructs. Students in case one had the largest increase in self-reported levels of readiness. Students across all cases indicated almost no impact on their levels of readiness related to confidence in their ability to take control of their learning. Students in all cases reported a positive change in levels of confidence for readiness for SDL related to their belief in self for readiness for SDL. Students in case three reported a positive change in their levels of confidence related to their desire to act compared to students in cases one and two who reported a very small impact. Students in case three also

reported lower levels of perceived readiness across all four factors. Students in cases one and two reported very similar increases in levels of perceived readiness for SDL. The TLT and LC constructs were strongly positively correlated in both the pre-survey and post-survey results controlling for the WIL activity as well as strongly positively correlated with total scores on both pre- and post-surveys.

Research Question 3: How do students interpret the words learning and understanding in each WIL activity?

In order to answer the third research question, the researcher examined students' post-reflection surveys and final course assignments. As previously noted, students in case three did not complete the post-reflection survey and their final course assignments did not reveal any relevant data related to conceptions of the words 'learning (L)' and 'understanding (U)'. In this research question, theoretical or deductive analysis was chosen, as opposed to the inductive approach, as the process of coding the data was meant to fit the data into a pre-existing coding frame; the coding process was more analyst-driven by using the five ways students may think about learning to label codes to analyze the data (Braun & Clarke, 2006). Frequencies related to how students interpreted the words as respective themes driven by five codes based on Säljö's conceptions of learning, as shown in Table 12. The weighting of codes (relative frequency) was standardized by assuming the absolute value in the count and not factoring in the number of information sources. As noted previously, the first three codes (increase of knowledge, memorizing, and acquisition of facts) are considered surface level conceptions and the last two codes (abstraction of meaning, interpretative process) considered deeper conceptions.

Table 12

Raw # of Codes and Frequencies

Codes	Case One		Case Two	
	U	L	U	L
Increase of knowledge	35	40	15	12
Memorizing	47	38	20	10
Acquisition of facts	43	32	15	15
Abstraction of meaning	12	8	5	5
Interpretative process	10	4	7	1

Case One

In case one, the researcher reviewed 222 post-reflection surveys. Phrases were coded by the researcher. The theme of students’ conceptions of the word understanding and the theme of students’ conceptions of the word learning are presented below.

Understanding

Students’ interpretation of the theme understanding had the greatest frequency related to the first three codes with the highest frequency recorded under “memorizing.” Students provided definitions for understanding but did not reflect on how their learning process was influenced. As one student reported, “Understanding means when you acquire knowledge or apply the knowledge to achieve tasks or activities.” Students used phrasing that lacked reflective language. Students were more likely to report about a description of tasks that indicated they understood a topic as opposed to reflect on how understanding as a process influenced their conceptions.

Related to the code “memorizing”, students reported more on the nature of the task to describe understanding. Students used the technique of memorizing to increase their knowledge

and acquire facts; this distinction was captured by coding the phrases including the word memorizing. Students reported about the way memorizing was used as a learning strategy to support theory and practice. For example, “I am good at memorizing, while not always practical, it helps ensure I know everything about the information.” There were students, however, who expressed that learning in a more practical way was perceived to deepen their conception beyond memorizing. As one student said, “For example, when we learn about warehouses and the application of new electronic pick machines, listening to the information did not make much difference as I can memorize the information. However, the same information had much more understandable effect when the professor showed us a video where this idea was practically implemented.” As another student said, “I best learn with practical information that translates into the real world. Memorizing lists is fine for tests, but I generally don’t learn and remember data that way. When I can apply it to the real world and a specific situation, I learn, understand and retain the information better.” Students suggested wanting theory and practice grouped closer together to increase their definition of understanding.

Related to the code “acquisition of facts,” students’ reflections were based on their desire to know the right answer. There was a degree of perfectionism expressed by students when trying to translate their perception of the word understanding. Students described understanding as a finite construct in terms of capturing everything about the topic before being convinced that they understood it. As one student said, “We know everything about the particular concept/skill. I know I know when I stop making same mistakes.” Most students examined both positive and negative aspects of the word and related their level of understanding to their level of perceived confidence. As one student said, “I’m more confident in my ability to understand when I know everything there is to know about the topic.” Students’ interpretations of understanding the

material related to the more emotion/psychological surface reflections; feeling good was associated to the word understanding. One student reported,

“Understanding means, one should [be] aware of another's persons emotions and feelings so that his/her actions can and should not hurt them. Meanwhile I would say understanding also somewhat same as judicious judgement as it reflects our flexibility and adaptability that how we admire other person's perspective.”

This student commented on the importance of an open mindset and expressed appreciation of others thoughts and feelings as part of understanding a topic.

Related to the code “increase of knowledge,” most students indicated that when they felt comfortable sharing their knowledge, their level of confidence was associated with a perceived understanding. One student reported, “Understanding means to keep yourself in other's shoes and then feel or make sense of what they are doing and why they are doing that. With understanding comes empathy.” Once a student felt that they’ve understood the topic and can share information that indicated that their level of understanding had increased. Another student wrote, “To understand the information learned is really important otherwise the gained knowledge is useless.” Another student reported, “The only other thing that I didn't like was when I would hit a wall with a student trying to help them understand the subject. It's a welcome challenge but I do need more experience.” The sharing of the increase of knowledge was considered important for students.

There were few examples reported that suggested a deeper conception of the word understanding, which were coded under “abstraction of meaning.” These reflections suggested an active connection to the environment as agents experiencing understanding as part of their learning process. As one student reported, “Understanding is directly a representation of an

ability, that enables a person to grasp something. In another words, understanding is defined as a power of perceiving the worldly matter. I've understood when I know." The student moved beyond describing a task and considered themselves as part of the reflection. Another student reported, "Understanding according to me is to know the things, how it impacts one's life, how one thing can help me to understand other things and its application in my life and career." Similarly, "interpretive process," the other code suggesting a deeper conception, reported phrases that reflected how the WIL activity influenced habits and the understanding of material; how perceived understanding impacts productive habits in the future. For example, one student reported, "The opportunity to participate in WIL was appreciated as it caused me to reflect on how I deal with people and how they deal with me. I was sometimes unaware how I can come across and my friends in class don't tell me that." This student reflected about how post-WIL activity their professional identity changed.

Learning

Students' interpretation of the theme learning had the greatest frequency related to the first three codes with the highest frequency recorded under "increase of knowledge". Students used the word learning in their post-reflections to refer to the process of continuously increasing their knowledge; it was the process of learning that differentiated students' perceptions from the word understanding. Learning most often was referenced with the increase of new knowledge as opposed to deepening learning about a familiar concept.

Related to the code "increase in knowledge," students reported that the word learning was associated with the process of learning content taught by the professor. As one student wrote, "From my point of view learning means gaining knowledge through experience, study and/or being taught through skilled/experienced person." Phrases were also recorded to describe the

learning that occurred working with team members. As one student indicated, “At that time initially my self-confidence was quite low but after some time I got a good experience and I understand individual learning style and discovered more classroom strategies.”

Related to the code “memorizing,” students reflected on the knowledge learned and used through the memorizing technique to then apply knowledge from the program in the WIL activity. Students were most likely to report memorizing as a technique to conceptualize learning. For example, “I used many theories in my group project by memorizing and allowed me to see how these may impact something.” While this student highlighted the practical nature of the WIL activity, the reflection did not suggest how learning impacted their learning processes. One student said, “the learning process is always happening.” Another student reported, “According to me learning is gradual process. If anything comes on my way and I am able to solve it in a better I have learned something...so its kind of continuous process.” Students reported learning new skills over time. Students used the word to denote learning smaller chunks of new concepts. As one student wrote, “Learning about a particular topic takes place in many environments and can be shared with many people in various stages.”

Related to the code “acquisition of facts,” students made frequent reference acquiring facts from the professor to reach a concept of perfect knowledge. For example, “Surroundings environment has one biggest impact on learning new things, in almost every kind of learning the first thing is to make a learning environment it helps to motivate for within and learning is fun when you have similar environment.” Another student reported, “For me learning is something that I can acquire without repetition.” Few students referred to learning in everyday life and using situations of everyday life to acquire learning.

For deeper conceptions regarding the theme, there were eight phrases related to the code “abstraction of meaning”. These phrases suggested that students placed themselves as active agents experiencing the impacts of WIL on their learning processes. As one student reported, “My leaning in the WIL experience taught me to think about what I learned and how I respond in situations.” The student showed more depth in how they viewed their learning and how their learning was impacted post-WIL activity. Another student dealt with a difficult team issue and reported,

“Now, I know the world is filled with these sort of people who just want to take advantage of another people’s work but these sort of people cannot steal my confidence, knowledge and learnings from me. I am sharing this scenario now with you, to tell that I learned a lesson from this and know how to deal with this sort of people and situation in future.”

Students who reported deeper conceptions of the theme referred to either potential or future changes in their perceived behaviour. Related to “interpretative process,” one student reported, “...according to me, learning involves far more than thinking: it involves the whole personality-senses, feeling, intuition, beliefs, values and will.” Students described learning in relation to their personal interests and what they will take from the WIL activity moving forward. One student referred to their level of interest in the topic and the impact on their learning process. The interest in learning was reported as one student indicated, “For me learning means curiosity, learning is a curiosity for me. Whatever the stream of field of study is, if I have interest then I am going to learn everything about it. That’s learning for me.”

Case Two

In case two, the researcher reviewed 14 field placement assignments in Program F and 29 post-reflection surveys in Program D.

Understanding

Students' interpretation of the theme understanding had the greatest frequency related to the first three codes with the highest frequency recorded under "memorizing." Students specifically in Program D suggested that memorizing the material was key to understanding and therefore eventually deepening understanding of the material. As one student said, "The more I memorize and remember the better I do." Students in Program D participated in either a simulated placement or field placement. Specifically, for students in Program F, phrases used in their final course assignments used the word understand to provide a description of the tasks; there was no self-reflection placing themselves as active agents experiencing the WIL environment and reflecting on the depth of learning the WIL activity had on their learning process.

Related to an "increase of knowledge," students used the word understand to associate with the sharing of knowledge. As one student said, "I know I've understood when I'm able to share the knowledge." Another student said, "it was a great moment to know about each other and to learn about each other. After that we share our viewpoint and ideas which is extremely tremendous for improve our thinking ability as well as imagination." In terms of students sharing their perceived understanding of the material, "I worked with my team member with very cooperative and politely every time I understand my responsibility and try to give my best." Students used the word to suggest a sharing of knowledge or sharing what was perceived as an increase in knowledge. Many students reported having understood when they had no further

questions; the learning process was described as finite. As one student said, “we will never forget that thing.” Another student said, “I have perfect knowledge when I understand everything about the topic.”

Related to “acquisition of facts”, students often reported phrases that indicated the way they felt when thinking about understanding a topic. Using words associated with feelings and emotions, students described when they knew they understood something by the way they felt when acquiring the facts from sources around them, primarily the faculty member. As one student said, “I feel I understood something after I could reproduce it and correctly answer a question. Only then I know that learning has happened” As another student said, “Once I’ve scored good on a test with the concept, I then know that I’ve understood it perfectly.” Another student indicated, “I’ve understood when I know all positive and negative aspects of a specific thing.” Students used the word understand through more surface level conceptions, which described the completion of their learning process in the WIL experience.

Students used the word understand to report about experiences involving people. These phrases were coded under “abstraction of meaning,” given the depth of reflection placing themselves as the agent. As one student said, “Co-operation skill I brought to the team, with co-operating people can understand each other, they can do help of others.” Another student wrote, “My learning is made better when those around me understand my point of view.” Students, who appeared to participate in a simulated placement specifically referenced content from previous assignments and class activities when referring to understanding components of their WIL activity. Students referenced more about striving for perfection as it related to understanding the topic and reported on the idea of perfect and complete knowledge.

Learning

Students' interpretation of the theme learning had the greatest frequency related to the first three codes with the highest frequency related to "acquisition of facts." Students' interpretations of the word learning were associated with the process of acquiring a new concept or skill. There were 12 times students reported learning related to a new software skill. One student reported, "Through the learning of new software and refining of skills with spreadsheets and other software, I managed to develop valuable transferrable skills for virtually any form of employment in an office setting." Another student reflected, "The one goal I was unable to achieve would be learning how to use the computer software." Another student indicated, "...how to organize and prioritize to work and understand responsibilities of their work." Learning related more to process or skill acquisition through individual placements as well as working on a team. As one student said, "working in a team is a good thing for learning new skills and know each other very well."

Related to "increase of knowledge," students most used the word learning in phrases where they felt their learning came before understanding a topic. As one student reported, "The learning I experience makes me believe at the end that I've understood it." The use of the word also appeared to cause some students concern in terms of determining if they had increased their knowledge correctly. As one student indicated, "My professor helps me learn the skill and then marks me right or wrong on that learning." Students reported that professor assistance was sought in the learning process to ensure they were learning knowledge in the correct way. The SDL nature of the WIL activity was referenced as difficult to learn if they had increased their knowledge correctly.

Related to “abstraction of meaning,” there were five times students used the word learning to abstract meaning in their WIL experience. As one student said, “I consider how what I am learning in the program will benefit me in situations in the future.” The phrases related to this deeper conception were seemingly more prevalent for students who participated in a field placement as opposed to simulated placement experience. This was identified by the content of the reflections. Students having a field placement immersion experience in a workplace environment suggested greater perceived learning experiences. While definitions of learning were consistent in terms of students’ ownership in the process, students translated learning into understanding once students perceived they had “used the learning”; the practical aspect was seemingly important in students’ choice of the word learning or understanding.

Summary Research Question 3

Interpretations and reflections on the themes of learning and understanding suggested that students used and interpreted the words differently. There was a greater frequency reported using the word learning to denote a new skill and process as opposed to the word understanding which was used to describe the end of the learning process. The use of the word learning was more process driven and described a series of events throughout the learning process; learning appeared to lead to understanding. The word understanding was associated with using memorization as a technique to complete the learning process. Students in case one reported more phrases related to sourcing the right answer and to know everything about something before they understood the topic. Students appeared to think about learning at more surface level conceptions as identified by the frequency reported of the first three codes.

In this chapter, data relating to the three research questions were presented. The qualitative data collected for research question one was presented using inductive thematic

content analysis and research question three through deductive thematic content analysis. The data for research question one suggested students most often commented on the theme of physical aspects of the learning environment in terms of preferences yielding the perceived greatest opportunities for learning. Students in case one commented more on the social aspects of the learning environment as for a majority of these students, the team dynamics and absence of a workplace connection challenged the experience in the WIL activity. The data for research question two was presented using outputs from SPSS. There were statistically significant differences presented comparing pre-and-post results for each of the three cases. The largest increase in readiness was shown in case one with students in case three reporting the lowest level of confidence across all four factors. For the third research question, the themes of learning and understanding were captured under more surface level conceptions with students reporting on the theme of learning as a process and new skill acquisition and the theme of understanding as a final stage in their learning process.

Summary

In this chapter, I presented the results for three research questions related to the purpose of this dissertation. Through a situated learning theoretical framework, the data were presented by research question with data from each case presented. The first research question captured influences of the social and physical aspects of the learning environment on students' learning processes; the second research question presented changes in SDL readiness scores across cases and individual programs; and the third research question summarized students' conceptions of learning and understanding across cases.

Chapter 5

Discussion

The more colleges understand the way that the situated learning environment impacts students, the more colleges can negotiate with the learning environment to create and augment spaces for learning through WIL that exhibit a high degree of authenticity and proximity to the workplace where students wish to practice (Billett, 1996; Kaider et al., 2017). This practice creates less vulnerabilities for colleges in terms of providing quality practical experiences tied to the workplace and ultimately aids workplaces in their ability to train and onboard new employees. As situated and experiential learning frameworks are under researched related to the student experience (Hayes et al., 2019), the learning environments and how students perceive these environments within the WIL experience remains critically important.

The purpose of the present study was to explore how specific WIL activities influence changes in orientation to students' conceptions and experiences of learning through a multiple case study approach at one Ontario college.

The following research questions addressed the purpose:

1. How do social and physical aspects of the WIL environment influence students' perceptions about their learning processes?
2. Is there a positive change in perceptions of self-directedness in pre- and post-survey scores based on the WIL activity and program?
3. How do students interpret the words learning and understanding in each WIL activity?

In this chapter, I discuss the results and relate to earlier studies and findings in literature. This chapter is structured by examining common themes by research questions for each of the

cases. A summary of how these results contribute to the field are then presented. Finally, limitations and recommendations for further research and practice are discussed. The chapter is then concluded by summarizing perceived influence of WIL activities on students' learning processes and outcomes.

Research Question 1: How do social and physical aspects of the WIL environment influence students' perceptions about their learning processes?

Considering the data through situated learning theory, students' perceptions suggested there were impacts on their learning processes based on the two themes of social and physical aspects of the learning environment. While a quiet, comfortable and familiar environment were described as preferred, the physical space that situated objects and interactions of the experience contained very little reflection. As most students participated in a WIL activity that had no connection to workplace, these students described aspects of the learning environment that were low stakes and tasks that had low authenticity. The everyday discourse contained within the social interactions appeared limited in this case based on students' position within the learning environment. As one student described, "My learning comes from what is learned in my program." There were missed opportunities to connect learning that happens in everyday discourse to strengthen students' perceptions of what was considered impactful on their learning processes. The localized nature of the experience in a familiar classroom environment seemingly did not cause students to reflect at great length about how social practices impacted their learning processes. These social influences, in addition to a connection to workplace, are central to outcomes of WIL experiences and therefore challenge the meaningfulness of students' experiences to meet the learning outcomes associated to WIL. Students did suggest that social aspects of the learning environment, such as to observe other students and compete strengthened

their learning processes; however, the switch to an online learning environment of the WIL activity inhibited their ability to observe other students. Specifically, for students on a field placement, these students referenced the unfamiliar environment and the perceived impacts on their learning. The simulated WILs in this research context were not captured under the typology outlined by BHER (2016) that categorized WILs as systematic training, structured work experience, and institutional partnerships; the proximity to workplace remained low impacting the success of meeting WIL outcomes.

Case One

The familiarity of the college learning environment seemingly limited the impact of the WIL experience on students' learning processes. The experience in the WIL activity appeared to not challenge their attitudes, beliefs and habits. Students may not have interpreted influences from social and physical aspects of the learning environment based on the simulated nature of the tasks and disconnect from workplace. While a common environment may impact students differently depending on students' stage of personal development (Eun, 2019), the common environment in this case appeared to impact a majority of students in the same way and limit the opportunity for personal development in the WIL activity. The opportunity to experience WIL in close proximity to the workplace with highly authentic tasks allows for more opportunities to demonstrate learning and reaffirm their learning across multiple environments.

The inability for students to demonstrate their learning in new contexts limited the potential impacts of the WIL experience. A learning environment that promotes demonstration provides conditions to deepen students' learning and apply knowledge and skills across a variety of contexts. Especially in new and unfamiliar situations, these opportunities provide more learning environments to apply communication skills. In these learning environments, students

are adopted into a community of practice. In this case, students appeared to not progress in the communities of practice as it related to developing a better understanding of workplace norms and strengthening their professional identities. Students were not able to demonstrate important non-technical or human skills, such as oral and written communication, problem solving, and analytical skills that are critical for success in the workplace (Gault et al., 2000). The learning that can occur in WIL is strengthened when students reflect on the use of these skills in workplace experiences that are more authentic with distinct cultures compared to designed learning environments (Kennedy et al., 2015). Experiencing unfamiliar workplaces across various environments supports students' professional identity and learning processes. Students' actively engaging in a WIL activity is where institutions can further invest to promote these graduate employability skills that are aligned with current and future economic needs (Fern et al., 2019).

Students referred to the WIL activity as an isolated experience involving a series of tasks seeking perfect knowledge, which appeared to separate them as active agents experiencing the learning environment. While students suggested that the WIL activity increased their knowledge, their reflections did not suggest a deep connection between themselves and the learning environment. Students seemingly did not benefit from the “invisibles of practice” where norms, discourses, and ways of knowing and thinking are hard to articulate and often immeasurable (Higgs, 2014). While students perceived that they gained further knowledge, mostly procedural or task-based knowledge, the depth and the relationship to the learning environment was not reported or articulated.

A learning environment that is less familiar and structured promotes situated knowledge (Brown et al., 1989). The more controlled and familiar learning environment at the college in this

case appeared to not challenge students' responses in various experiences nor allow for the development of a professional identity (Trede, 2012). The flow of experience in their everyday practice was individualistic and the forms of knowledge students were able to abstract was limited. This familiarity of the environment has been shown to limit the application of knowledge (Gherardi, 2009; Kennedy et al., 2015). Students seemingly considered their learning processes to be separate from the learning environment. This separation is in opposition to the purpose of the WIL activity considering one of the foundations of situated learning is an interdependence of the students' meaning and knowledge with the environment (Lave & Wenger, 1991).

Students reported greater comfort working independently in their own environment to exercise greater control over their learning process and more specifically their final grades. These preferences provide further rationale to scaffold the WIL experience appropriately within various learning environments connected to the workplace. Students described preferences related to the familiarity of the college environment to their learning process; the physical surroundings were known and considered safe which left students' interpretations of their learning processes unchallenged. Furthermore, students did not learn work routines or reasons for certain workplace functions in this case that hindered students' ability to monitor their own learning while performing the work. The ability to monitor and regulate behaviours through a work-based, knowledge-in-action experience helps to develop more practical knowledge and deepen the learning to apply across different work environments (Munby et al., 2007).

Social aspects of the learning environment seemingly had the greatest impact on students' perceptions of their learning processes. How students perceived they felt within the WIL activity seemingly directed students' reflections about what was considered meaningful in their learning

processes. Students often commented on aspects of the social environment in terms of group work, housing arrangements, and the pandemic. Students' responses revealed that there was an interest in engaging socially through the WIL activity with professional industry contacts to create professional networks (Martin & Rees, 2019). However, the design of the WIL activity appeared to not align to support the achievement of these outcomes.

Students referenced their international status and how this status impacted the dynamics within their simulated WIL activity. These students reflected about the social aspects of WIL, especially considering the online learning environment and identifying their international student status. For most students, the social aspect to their personal development was equally as important as the experience (Tran & Soejatminah, 2016). There were six occurrences under the code "international" where students referenced their status in Canada and how it impacted their learning process. One student reported,

"international must also be treated as the Canadian students. they should not be treated as the outsider." A second student said, "I'm not sure if this was a norm value, language barrier, or just lack of respect, but integrating the difference of cultural expectations would benefit the entire class." A third student reported "integrating international students with domestic students." A fourth student reported, "there should be more option for the next international students because people like me wanted to have an experience with the placement in the field rather than sitting home to work on a research."

Students suggested an eagerness to participate in a more authentic WIL experience that connected them beyond the college environment to diversify their social interactions.

International students benefit from WIL by introducing and further exposing different workplace cultures and workplace norms. A simulated WIL activity may not achieve this core outcome.

Students' interpretations suggested that the multi-cultural aspects in the WIL experience impacted their learning processes and indicated an importance of diversity when working on teams in multicultural and multilingual environments (Reyneke & Botha, 2020), sometimes working in these environments for the first time (Billet, 2009). Especially for students in this case, which had a large percentage of international students, students should undergo a multi-socialization process in terms of adjusting to various environments which are complex (Barton et al., 2017). While students suggested that, by definition, WIL was considered an important way to learn employment skills and attributes in Canada and cultivate social relationships, the simulated WIL experience did not achieve this outcome. These relationships are considered important for career prospects, job applications, and networking (Tran & Nyland, 2013). The design of this WIL activity challenged students' ability to develop professional relationships and networks.

Case Two

Students' interpretations about perceived influences of the learning environment varied depending on whether the student was on a field placement or participated in a simulated placement. Students reflected very little on the physical aspects, which suggests that students were disconnected from the learning environment of the WIL. For students, who participated in a field placement, the opportunity to immerse in an unfamiliar context outside of the college exposed students to contexts promoting learning in a new context. Coupled with the impact of having a placement host, students were able to see the value of WIL on their learning processes in a different environment. The value of participating in a co-created field placement experience designed by the college faculty member and industry host seemingly had a meaningful impact on students' perceptions of their learning environment. As part of the learning environment, a supportive field placement host has been shown as a strong motivator for a meaningful WIL

activity (Martin & Rees, 2019). Students, who identified participating in a field placement, commented on the relationship to the placement host and how this relationship was impacted by the situations that students documented as impactful on their learning. While these experiences are resource intensive (Organization for Economic Co-Operation and Development, 2019), a high degree of resilience between supervisor and student at the workplace is linked to a more meaningful experience (Beutel et al., 2019).

Students' reflections on the social aspects of the learning environment suggested that a field placement with high task authenticity and close proximity to workplace connected students to the learning environment as active agents. Students commented on the importance of structure in the workplace. Students were able to apply their learning in practical settings and practice their skills in a more authentic context. The social environment was referenced more by students on field placements compared to a simulated placement. This reference was likely due to the exposure to more social interactions throughout the learning process (Wenger, 1998). Social interactions during the field placement influenced how students mediated the connection between themselves as active agents connected to the learning environment.

Students who participated in a simulated placement identified challenges in developing a professional identity. The simulated nature of the WIL activity was not seen as equal to a field placement experience in meeting the core outcomes of WIL in this case. The limited opportunities to demonstrate learning in contexts in a workplace certainly made a stronger case for a higher impact, full immersion form of WIL in this case (Zegwaard & Rowe, 2019). Students' reports suggested a disconnect between knowledge learned in the program and the knowledge applied or required in the field placement. Students appeared to have difficulty applying fragmented knowledge in contexts that should promote learning. This challenge has

been highlighted in the research, especially related to developing meaningful connections (Ferns et al., 2014).

There are situations where mirroring the employment environment may be difficult. For example, students in a business program learn knowledge and skills to apply across a number of employment environments. The generalized nature of the skills taught in the program aligns with a range of field placements across various workplace contexts. The simulated placements in this case seemingly restricted the opportunities for students to develop human and technical skills required in the discipline. There was a perceived disconnect for students experiencing the WIL and creating meaning by engaging in tasks across a variety of contexts. This is in contrast to one of the core outcomes of WIL. Students were descriptive about the procedural knowledge of summative topics covered in the program, but did not write about industry practices, the learning environment or how their skills and knowledge improved post-WIL experience. These challenges for students to reflect may have been due to the design of the simulated placement. Students' abilities to reflect and develop new skills are strengthened in a new learning environment (Gresch & Rawls, 2017). The students were not involved in active learning to promote deeper reflections.

The uniqueness of a field placement experience was meant to immerse students in-situ to provide an opportunity to experience the work world before graduation, develop relevant skills, professional attitudes and abilities, and apply their skills and knowledge (Smith, 2014). For most students in this case, these benefits were not reported. The familiarity of the leaning environment seemingly restricted students from deepening their learning. While some simulation experiences are a valid activity under the construct of WIL, especially in health-related programs, when used in place of a field placement, the low-stakes decision-making may not challenge students'

assumptions or demonstrate learning across multiple environments present in a more abstract and unfamiliar workplace experiences.

Elements of the learning environment must be considered when designing the WIL experience. For international students, the reported impacts on aspects of the social environment and the aspiration to integrate beyond the college environment to build future networks, language skills, and adjust to different work customs and norms creates a case for more authentic WIL activities connected to the workplace. Most students appeared separated from their learning environment, which created less opportunities to reflect on the WIL experience and aspects of the physical and social environment.

Research Question 2: Is there a positive change in perceptions in SDL readiness in pre- and post-survey scores based on the WIL activity and program?

To answer the second research question, pre- and-post survey results, and one question from the post-reflection survey were analyzed. Students in case one (Programs A, B, and C) and case three (Program F) completed the pre-and-post survey. In case two, one group (Program D) completed the pre-and-post survey, and the other group (Program E) commented on components of SDL in their final course assignments. The results from the PRO-SDLS, considering the four factors (initiative, control, motivation, and SE) for each program within each case and TLT and LC constructs are discussed below.

Case One

For students in Programs A, B, and C, there were a range of statistically significant impacts on each factor. In Programs A and C, there were no significant differences pre- and post-survey. For students in Program B, results were significant for motivation and SE factors.

For motivation, the results suggested students increased their level of readiness in terms of a desire to act within an SDL environment. Students reported higher levels of readiness post-WIL activity which suggests that experience in a WIL positively impacted students' level of readiness for future WIL activities.

For SE, the results suggested students' level of readiness in terms of their beliefs in their own abilities to perform in an SDL environment, were positively impacted from the WIL activity. The belief to learn in an SDL environment may have related to previous learning experiences. Learning exists on a continuum – on one-end teacher-directed and the other self-directed (Knowles, 1975). The students' perceived relationship to an SDL environment suggested some students were seemingly uncertain about how the experience would unfold based on their level of perceived SE; however, some students had an increased level of readiness. As one student reported,

“It does not affect my level of confidence when I have to do my learnings at my own because I am always interested to do things at my own. I usually read many articles to improve my knowledge regarding my course. Moreover, my professors are always ready to help me during online classes so whenever I have problem then I clear them with the professors or sometimes I took help from peers.”

This student showed initiative and motivation related to SDL, indicating a readiness to participate in an SDL environment. For some students, they reported feeling confident in their level of readiness for SDL pre-survey. These results suggest that students enter into WIL activities within an SDL environment with varying levels of readiness. For some students, they reported a lower level of perceived SE pre-survey, and post-survey reported an increase in their level of confidence in the learning process post-WIL activity. Students reported a very positive

image of feeling satisfied with their experience. As shown in previous research, SDL was more implied by the instructional methods used in the WIL as opposed to teaching SDL strategies (Langshaw, 2017).

Comparing the results of Programs, A and B to examine impacts of timing within the same program, students in Program A reported no statistically significant differences comparing pre-and-post survey results. These students were registered in their second WIL activity suggesting that additional time spent in an SDL environment may not have yielded any further increases to readiness. Students reported that they sourced their own learning materials outside of the course. This technique of using personal time and sourcing additional learning materials has been shown to help students feel more confident and ready to learn in an SDL environment (Lemmetty & Collin, 2020). Students' initiative to understand their own learning needs was positively impacted. Students in Program B reported lower mean scores across all factors compared to students in Program A, but significant increases in their perceived levels of readiness for SDL related to motivation and SE. Students in this program participated in their first WIL activity, which likely provided a higher desire to act based on previous experience. Related to SE, students reported an increase post-WIL suggesting a greater belief in their abilities when thinking about an SDL activity. For most students, this was their first experience working in a SDL environment. The newness of the experience may have created some challenges for students in their learning process.

These findings suggest that there is a positive change in perceptions of SDL readiness comparing pre- and post-survey scores for factors across programs. Significant changes were reported in motivation and SE factors for students in Program B. Comparing the results of Programs A and B suggested that timing within the program may relate to the level of readiness

to participate in an SDL environment; however, the more time students have spent in an SDL environment may not indicate a higher level of readiness to participate in future experiences.

Case Two

There were two types of placements, field placement and simulated placement. Considered all placements, there were no statistically significant differences reported in each of the four factors. Examining students' final course assignments, students who participated in a field placement suggested that their perceived level of readiness for SDL increased post-WIL. The weekly schedule seemingly provided more structure and allowed students to feel progress; visualizing this progress appeared to improve their level of confidence to engage in SDL. Students may have held a high degree of uncertainty before the field placement given the unfamiliar environment and more high-stakes tasks. The SDL environment was seen as more successful for students on field placement related to organization, formative check-ins, and assignments promoting reflection. Related to employment outcomes, students are considered more career ready when engaged in exercises that promote deeper learning where theory is integrated with practice (Boud & Solomon, 2003). Reviewing the final course assignments suggested that students had increased their level of motivation for future WIL activities within an SDL environment.

While students' reflections were focused more on the tasks, the field placement allowed students to demonstrate knowledge in a less controlled environment with more unpredictable variables in the day-to-day interactions. Students who completed a simulated placement (Program D) reported not feeling better equipped for the SDL environment. These students referenced a desire for a field placement where there were more supports available to navigate the complexity of the SDL environment. The simulated placement seemingly lacked formative

supports to build readiness for SDL in terms of the demonstration of workplace-related outcomes. These students reported a discomfort with an SDL environment given the limited supports available while on a simulated placement. Simulated placements require at least double the time to run based on good planning, decentralized decision making (autonomy), group work, multiple communication options, and quality multimedia (Schonell & Macklin, 2019). These resource considerations support a more flexible delivery that further deepens the authenticity of learning and serving larger groups of students.

Taken together, for students in this case, there was not a positive change in perceptions of SDL readiness comparing pre-and-post survey results and final course assignments. Students commented that support for field placement throughout the experience helped to better learn within an SDL environment; however, the students' level of readiness remained unknown.

Case Three

Students in case three reported a statistically significant difference in their levels of readiness for SDL across two of the four factors. For control and SE factors, the results were not statically significant. The initiative and motivation factors were positively impacted post-WIL activity.

For initiative, the results suggested that students reported higher levels of perceived readiness related to understanding their own learning needs post-survey. Throughout the WIL experience, students may have better understood how resources may aid in their learning process and how their learning needs were met in an SDL environment. Students post-WIL activity suggested a greater sense of knowledge for future readiness related to their leaning needs.

For motivation, the results suggested that students reported higher levels of perceived readiness related to their desire to act within the WIL activity post-survey. This desire to act may

relate to students feeling a sense of accomplishment or achievement in the learning process, therefore yielding a greater sense of internal motivation to participate in future activities in an SDL environment.

Given the program typically attracts students with no prior post-secondary experience, pre-survey readiness results suggested that students may not have had previous exposure to a WIL activity requiring independent learning that, in turn, yielded lower levels of self-reported readiness. The increase in perceived readiness in SDL seemingly came from successfully navigating the WIL activity in an SDL environment. Students in this case appeared to take personal responsibility for their learning, initiative, yielding both personal and process characteristics. These characteristics have been shown to relate to academic achievement and support lifelong learning (Downes, 2020). The value of lifelong learning is further emphasized considering the digitalisation of work processes and rapid technology development in industry (Tynjälä, 2013). The increase in perceived readiness of students suggests a strong congruence between the students' level of self-direction and opportunity for self-direction (Brockett & Hiemstra, 1991). Processes examined through SDL relate to students' pursuit of learning. Considering the findings for this case, there is a positive change in perceptions of SDL readiness in initiative and motivation comparing pre-and-post survey scores.

The time spent in the program, the students' previous experience in an SDL environment, and the available level of support appeared to contribute to increasing confidence in readiness for SDL. Considering the results across programs for the two constructs TLT (combined initiative and control scores) and LC (combined motivation and SE scores), internal and external characteristics were strongly positively correlated suggesting that both educational resources external to the student and students' willingness to accept personal responsibility of the learning

process increased readiness post-WIL activity. Given the relatively new concept of explicitly aligning principles of SDL within a WIL framework, there was seemingly some confusion from students about the implications of SDL in terms of whether success is a learner characteristic or a goal of the institution (Knowles et al., 2012). While the results comparing pre-and-post surveys were not statistically significant, the students' mean scores were similar in levels of perceived readiness to students in case one. The espoused concept of SDL across all cases showed varying levels of readiness and statistically significant changes post-WIL activity.

Based on the results from this case, the lower levels of perceived confidence entering into a WIL activity compared to the other cases creates a stronger argument to provide more than one WIL opportunity in students' programming. The difficulty centers on how to incorporate multiple WIL activities given the short duration of these programs in the college system. While it may not be possible to provide every student a field placement experience, having a range of highly authentic tasks promoting SDL may strengthen students' level of readiness for self-directed tasks.

TLT & LC Constructs Across Cases

Examining TLT and LC constructs in terms of SDL readiness pre-and-post surveys across the cases indicated that the two factors in the TLT construct (initiative and control) were strongly positively correlated, and the two factors in the LC construct (motivation and SE) were strongly positively correlated pre-survey. The TLT construct suggests that a faculty resource supported students facilitating planning, implementing, and evaluating in their learning process. The LC construct suggests that students took responsibility of their own learning process and their individual beliefs and attitudes were impacted positively. These positive correlations are consistent with previous studies using the PRO-SDLS tool in a post-secondary environment

(Langshaw, 2017; Holt, 2011; Fogerson, 2005). The constructs correlate each of the related factors that suggests SE and motivation are strongly positively correlated and initiative and control are strongly positively correlated. A strong positive correlation indicates that the results from the questions related to each construct were strongly positively correlated pre-and-post survey. The positive correlation in both pre-and-post surveys suggests that students within an SDL environment increased their readiness for SDL.

Research Question 3: How do students interpret the words learning and understanding in each WIL activity?

Students' interpretations of these two themes suggested students use the words differently when thinking about learning and understanding in a WIL activity. Students suggested a finality in the use of the word understanding compared to on-going process of learning. Use of the word learning related to the process of knowledge attainment and acquiring a specific skill. Students' conceptions of learning and understanding were, however, surface level and lacked reflective language to suggest a deeper conception of the knowledge either previously acquired or acquired during the WIL activity.

Case One

Students interpreted the word learning as a process that referenced wanting to observe what was considered correct or meaningful in a community of practice where there was a holder of true knowledge. Students' experiences in the WIL suggested opportunities to acquire procedural knowledge and apply previously learned concepts, but did not allow for new knowledge creation through peripheral participation in a professional community of practice. Observation of someone who holds true knowledge was referenced frequently by students. Given the demographic data, indicating a majority of students were identified as international. These

students seemingly experienced learning in an environment that promoted more reproductive conceptions of learning where knowledge was passively acquired through an authoritative source. Given the nuances of knowledge and skills required of graduates, the rote learning of facts on its own is insufficient with the absence of application of that learning (Helyer & Lee, 2014). The process of learning in this case appeared to promote a more surface level conception of learning. This conception undervalues the opportunities to participate in a community of practice likely made more available in experiences that are closer in proximity to the workplace.

Students' conceptions of learning and understanding suggested that participating in a WIL activity does not immediately translate into deepening previously learned knowledge, specifically in this research context. Students lacked self-awareness and sensemaking in their reflections, which are important complex processes which help students develop deep-learning competencies (Stanley & Marsden, 2012). Students may not have known how to self-reflect and self-monitor through this SDL activity and used surface level strategies used previously in their learning. Students suggested that memorizing material was linked to the process of learning material in the WIL experience. This is consistent with previous research suggesting a strong relationship between memorizing and a surface approach to learning (Sparks, 2013). The simulated nature of the WIL activity did not promote deeper conceptions of learning. . The structured learning environment seemingly prevented students from reflecting and practicing skills and knowledge across multiple environments.

Students were not exposed to numerous learning environments connected to related employment with varying levels of task structure. Students may use a surface learning approach in one learning context and a deep learning approach in another (Donnison & Penn-Edwards, 2012). Students differentiated the word understanding by reporting a finality in the process of

learning. Students described more finite constructs in their learning and suggested that learning ends at a point of understanding. For example, one student reported, “All positive and negative aspects of a topic are known.” There were more direct references to studying hard and memorizing material to learn everything before one could report understanding material. WIL experiences are meant to scaffold into more complex tasks and draw from workplace experience and academic sources that requires the integration of knowledge and learning (Orrell, 2011). This simulated WIL activity appeared to lack integration and complex tasks, which challenged the success of meeting core learning outcomes.

The knowledge students referenced in terms of understanding material came from academic sources. Students did not refer to the learning that comes from living everyday situations. The social aspects of understanding material were unrelated to relationships between themselves and the environment nor was there any unintended contextual learning from the WIL. Consistent with the notion that vocational knowing is situated judgement, WIL experiences are made up of language appropriate to the vocation as opposed to knowing in school, which relates to developing the capacities to learn (Lindberg, 2003). Students within each program can be viewed within a distinct community of practice. Within each community, goal setting can aid in successful working relationships and social skills; skills and knowledge promoted through a deeper learning process. There were very few reflections from students on how the WIL activity impacted their future learning goals as part of this community. Students appeared to not outline goals prior to the WIL activity, which is a strategy to promoting a more quality WIL experience (Billett, 2015). To promote deeper learning at the abstraction and interpretative levels, students had to be more actively engaged in decision-making and reflection in a more high-stakes environment in a community of practice actively integrating professionals from industry.

Students suggested that both learning and understanding were developed in the WIL activity through group work. Learning within a group dynamic was reported as a new learning environment for most students. Group work was seemingly made even more difficult due to the switch to online delivery due to the pandemic. Overcoming challenges related to equal participation in group work was referenced frequently. Providing time for students, who are unfamiliar with group projects to discuss the process of collaboration and shared values helps to maximize the benefits of group work (Matsunaga et al., 2020). Students benefited from the collaborative learning with peers to enhance their learning process, and construct knowledge, albeit in these cases at a surface level, by combining theoretical and social constructs (Michalsen & Sweet, 2011). While working in groups initially made the shift to an online WIL activity more difficult, group work was considered a more authentic way to describe learning, especially considering the influence of mediating social norms in a community of practice (Eames & Coll, 2006). Students engaged with WIL activities within a group setting suggested benefits to exchanging ideas, active listening, and navigating team dynamics. A WIL debrief at the end of the experience has been shown to promote deeper reflection (Winchester-Seeto & Rowe, 2019). The reflection process promotes reflection-in-action and reflection-on-action.

Case Two

Students in Program D interpreted the word learning to suggest that learning was a process. How students conceived the process of learning by participating in a field placement conformed to the values of an authentic learning context. Based on students' perceived abilities to experience authentic and problem-centred tasks, these values ranged based on the activity and relationships within each experience. Students often referenced smaller problems in their reflection-on-action exercises as opposed to larger issues that may have had a greater influence

on their development. The smaller issues, such as where to find something and computer problems were reported as meaningful in this case. The students participated in reflection exercises; however, the reflections showed very little introspection and were not on-going throughout the WIL. Results from this case provide support for a more comprehensive reflection process that is meant to be a personal and formative process that allows for space to practice and learn how to be reflective. Reflections need time, discipline, and effort, largely requiring students to be self-directed, to offer deeper insights (Winchester-Seeto & Rowe, 2019).

Students, who specifically participated in simulated placements did not seem to differentiate in their reports interpreting the words learning and understanding. A challenge with the design of this simulated placement may have been that the faculty member also acted as the industry host. How students perceived their learning process and how they interpreted the words learning and understanding may have been influenced by the learning environment. Learning processes are improved when the activity presents opportunities for multiple professional perspectives that allow for diverse knowledge transfer and foster learning-in-action. Even though students' interpretations of the words learning and understanding showed very few differences, the opportunity to reflect on the impact of learning processes throughout the WIL as opposed to post-WIL or reflection-on-action is an important part of developing and strengthening students' professional identities and moving closer to the expert role in the community of practice.

Students in Program E seemingly used the words learning and understanding interchangeably in their final course assignments. With no clear distinction, it was difficult to assess how students' conceptions of learning and understanding while on field placement impacted learning processes and outcomes. Students on a field placement did, however, make reference to success and doing well academically as a main conception. As documented with the

strategic approach to learning, students geared their reflections more towards achievement goals, which suggests both surface and deep approaches to learning may have been used in the WIL. The field placement should seek to encourage students to learn in new contexts by applying previously acquired knowledge and skills to deepen learning and understanding of knowledge while seeking out additional resources for learning. The extent to which students reflected on previously acquired knowledge and how students might have mastered specific skills in the field placement was unknown.

For students on a field placement, there were seemingly missed opportunities to develop and challenge their learning process in this case. This challenge may have been due to the professional dynamics within the field placement. Students' reflections did not form connections with previous material or interpret how the field placement may impacted their professional identity moving forward in new contexts. These types of reflections may indicate a deeper conception of learning. This is consistent with research findings in the field that suggest students had a more surface level conceptualization when representing the relationship between the practical and theoretical components (Stirling et al., 2014). The challenge with some WIL experiences is that learning happens by design; if social infrastructures are not designed to foster learning, then the learning students are expected to bring forward from the theoretical portion of the program is not tested and may therefore be misplaced as it relates to the axiom "theory first, then practice" (Munby et al., 2007). Explicitly linking aspects of the practical experience to previously learned materials helps draw a deeper connection to promote a more authentic WIL experience focused on personal development.

Contributions to Theory

This study contributes to theory related to SLT, SDL, and presenting research within the Ontario college context. The use of an SLT framework was valuable from the perspective of considering how students' learning processes were impacted by the WIL activity based on the learning environment, students' perceived efforts relational to knowledge attainment, and readiness for SDL. As Bandura (1986) discovered, students' personal factors together with the environment are active agents in shaping their environments through reciprocal causation. Using SLT suggested that even though students were considered active agents in their WIL experience, the impacts of active and passive participation were limited; more focus and drive is required in the experience to cause students to strengthen perceptions of their own levels of cognition, motivation, and emotion.

The SLT framework allowed for both social cognition and sociocultural aspects of learning environment to influence how results were interpreted. The SLT framework was visible in this study from the learning environment to the data collected from the participants. The connection to SDL readiness and students' conceptions of learning and understanding reinforced principles within situatedness. The boundaries of each case allowed the researcher to explore not only the social and physical aspects of the environment, but also students' perceptions of factors of SDL readiness like motivation, initiative, SE, and control. Interpreting results through a situated learning lens influenced the discussion on what students defined and perceived the WIL experience in the context it was presented and how the WIL activity impacted their learning processes.

The learning environment of the WIL did not seemingly challenge students' ability to demonstrate types of knowledge and skills across contexts. The results indicate that the learning

environment may not have promoted building students' professional competencies in the context of a community of practice. Students described the physical aspects of their learning environment that were perceived as contributing the most in their learning process; however, these aspects weren't connected to meeting learning outcomes from the WIL experience. The students appeared to benefit very little from legitimate peripheral participation. Intraindividual models of learning in the classroom promote faculty and student discussions about experiences. Positioning the learning in the historical and social practices, students' active participation in the WIL experience shifts the students position within the community of practice. The learning from WIL focuses more on the process as opposed to singular events. While the concept of communities of practice has labeled success in the education system as full participation, the results from this study suggest that students were not necessarily actively participating in a community that promoted learning and therefore should not be seen as fully participating. Based on the reflections, there results were limited in terms of moving closer to an expert in the community.

The results from this study highlight an important and underresearched relationship between students' readiness for SDL and active participation in a WIL. The contribution to SDL theory from this study underscores the importance of students' initiative in the WIL. Students may not have a level of awareness about their readiness for SDL. The ability to motivate, take initiative, believe in one's abilities, and control factors are components of SDL that require students to self-reflect and better understand their preferred learning processes. Students' ability to self-reflect is also part of assessing readiness and setting learning goals that align with the learning outcomes of WIL. The results indicated that more surface and strategic approaches to learning and studying were preferred that may not align to achieving the learning outcomes of

WIL, especially when engaged in highly authentic tasks in close proximity to the workplace. The WIL activity must promote learning environments that expose students to new situations in order to deepen students' approaches to learning and understanding. This deeper approach to learning shows a stronger connection between students as active agents understanding ideas of self and applying previously acquired knowledge and skills in new contexts while progressing closer to expert in the community of practice.

Finally, these findings contribute to the dearth of literature documenting Ontario college students' experiences of learning processes and outcomes. The structure of the WIL related to practical outcomes connected to the workplace remains core to promoting authenticity. As shown in this study, the WIL activity may not align to the learning outcomes of WIL. Considering the relatively short length of time students spent at the college based on the programs in the cases, a variety of factors external to students impacted their ability to meet WIL outcomes. The mandate of the colleges aligns well to WIL outcomes; however, depending on the program, further consideration may be required based on resource availability, workplace outcomes, and length of time students are with the college. Furthermore, the readiness for industry to co-create the WIL experience warrants further discussion.

Implications for Practice in WIL

In answering the research questions, six recommendations are presented to aid in future WIL design and implementation to support students' learning processes and outcomes. First, WIL experiences need clear definitions and outcomes. Students suggested that there was support for WIL, but there was some confusion about the learning activities that were captured under WIL specifically related to connection to the workplace. There was some difficulty interpreting the language used in the WIL activity by the research site, including the terms simulated

placement, applied project, capstone, and community project. These data mirror results of a previous study conducted by the researcher where the hosts from industry and faculty suggested the need to coordinate and present a detailed resource package that outlines expectations and presents a roadmap to successfully participating in a WIL activity (Munday, 2020). While implementing a common definition of WIL may be difficult given the number of stakeholders involved, at the very least, a common set of learning outcomes that are well-documented and researched may help strengthen students' experiences ensuring a strong connection to the workplace.

Second, the design process of the WIL activity should actively engage industry and community hosts. Integrating these perspectives strengthens the alignment in terms of relevancy to the program and student. A co-created, learner-centred design of WIL can increase alignment of the knowledge and skills students have acquired throughout the program, while factoring in the occupational requirements and knowledge for effective practice. A tripartite relationship exists with the balance of power among the industry or community host, institution, and student is paramount to fostering a dynamic and authentic experience for students (Harvey, 2007; Henderson & Trede, 2017). Students' learning processes benefit when demonstration outcomes are based on the various forms of knowledge students acquire throughout the program, such as domain-specific conceptual (knowing that), domain-specific procedural (knowing how), and dispositional knowledge (knowing for) (Billett, 2009). To provide more opportunities for students to master a specific skill, categorizing the knowledge, skills, and abilities required in professional practice can be captured under these types of knowledge. Furthermore, the consideration of theoretical or conceptual knowledge that is universal and case-specific knowledge that is intuitive or tacit in nature (Tynjälä, 2008). This strategy also allows for the

consideration to expose students to multiple environments to actively engage in to promote deeper conceptions of learning and understanding.

Third, WIL experiences must align to assessments that promote demonstration and recognize the uniqueness of each experience. Students can learn various types of knowledge and also participate in a transformative experience where new knowledge, skills, and attitudes are created that neither theory nor practice can capture independently (Qualters, 2010). Across all WIL activities, student assessment is a complex process depending on the learning environment, collaborative tasks, and intensity and rigour of certain tasks not always applicable across all experiences (Ferns & Zegwaard, 2014). Furthermore, the learning process of constructing knowledge in a WIL activity has been described as “stolen knowledge” (Brown & Duguid, 1996) and “invisibles of practice” (Higgs, 2014). This knowledge students gain from the experience is not always explicit and attempts to do so may create difficulties. The more assessments are designed considering tasks, learning environment, and proximity to industry and community, the more students can practice developing and enhancing their professional identity and further promote quality standards and outcomes through the participation in WIL activities. The design of the assessments must promote SDL principles recognizing the impacts on students’ culminating experience and their varying levels of readiness to participate in a more independent learning activity.

Fourth, WIL experiences should provide an experience in a learning environment to build a broader professional network beyond the college and build on learning processes to apply across a variety of contexts. These concepts reaffirm the shift and emphasis from on job-procurement of knowledge and skills to having requisite skills to create or obtain work (Smith et al., 2018; Zegwaard & Rowe, 2019). Students indicated that more formative check-ins

throughout the WIL activity to monitor progress and create learning goals would help remain more accountable and confident in the experience, especially related to the self-directed nature of participating in a WIL activity. There exists a heavy resource demand when delivering WIL experiences considering the time required from the college, industry partner, and student to develop an experience that goes beyond foundational concepts and aligns to students' interests (Ferns et al., 2014; Lawson et al., 2011). Through problem solving, students transform problems from non-routine to routine that enables an increased understanding of the impacts of physical and social aspects of the learning environment on their decision-making process (Mylopoulos et al., 2011). Both physical and social aspects of the learning environment in the WIL activity need to be considered in the design of the experience to better align various conditions for learning and understanding knowledge to environments that mirror employment contexts.

Fifth, students participating in WIL benefit from actively engaging in more than one activity in a program. Content should be scaffolded to prepare students to participate in WIL activities as well as task delineation to organize knowledge facilitated during the course work and knowledge or tasks that can be facilitated during the WIL activity. Preparing students for a WIL experience has been highlighted as an important component of any WIL activity (Drewery et al., 2019). An authentic WIL design defines content (types of knowledge and cognitive skills), outlines the methods (modelling, scaffolding, coaching), sequencing (planned work experiences to build on the level of difficulty), and sociology of the learning environment (situated learning, communities of practice, intrinsic motivation, exploiting cooperation) (Collins, 2006). The difficulty in the Ontario college system is the ability to embed and integrate multiple WIL experiences across different learning environments within a typical two-year diploma or one-year post-graduate program. Students negotiate meaning through experience; a collaboration

exists within expansive learning that encourages critical reflection of previous knowledge and the creation of new knowledge through multiple interacting communities of actors and organizations (Engeström, 2004). Embedding multiple WIL experiences gradually introduces students through increasingly authentic and complex learning experiences which models professional practice (Kaider & Bussey, 2018).

Sixth, simulated WIL activities need to follow quality standards related to learning outcomes, task authenticity, and proximity to workplace. The axes of authenticity and proximity help assess the effectiveness of tasks within WIL activities (Oliver, 2015). A low authenticity task creates challenges for students in a simulated environment. A more familiar environment may encourage students to demonstrate knowledge to attain grades compared to in a more high-stakes and unfamiliar environment that exposes related workplace norms and cultures. A study conducted by Gilbert and Wingrove (2019) reported that students who were engaged in more meaningful projects recorded higher project skills and leadership and industry relationships. These lower authenticity experiences, while valuable to accommodate a greater number of students, need to be reviewed against quality performance indicators that examine connection to practice and ability to demonstrate learning in learning environments that mirror potential workplaces. Previously established quality standards frameworks used to evaluate WIL activities may aid in producing more quality outcomes (Khampirat & McRae, 2016; McRae et al., 2018; Smith, 2012). Furthermore, more assessments to promote reflection and to demonstrate SDL readiness would also support a more authentic WIL activity (Egizii, 2015). To provide a greater number of opportunities for students, more opportunities to participate in simulations that connect to the context of the workplace, build relationships with mentors in the discipline, and provide a greater variety of assessments promoting demonstration and reflection may strengthen

the argument for inclusion of more simulated WIL activities. These suggestions create greater alignment in terms of supporting the demonstration of learning connected to a workplace while at the same time considering the resource-intensive model typically found in WIL activities.

In summary, these recommendations add value to the field of WIL research related to mandates exposing students to immersion type experiences to develop workplace or future-ready skills. Through the use of clear definitions and outcomes, co-creating experiences with industry and community hosts, aligning assessment strategies to types of knowledge, considering aspects of the learning environment, reviewing structural timing and scaffolding of WIL activities, and measuring simulated WIL activities against quality indicators, students are better able to focus on personal and professional outcomes to achieve their career goals.

Recommendations for Future Research and Practice

In this section, three recommendations are presented for future research based on the findings from this study. First, the design of WIL activities and the use of the term WIL warrants further research given the present findings and past research studies. The importance of the socialization, productivity and meaningful work must be prevalent in how the students interpret the success of their WIL experience (Pretti et al., 2020). To better understand perceived students' experiences, researchers might employ a multiple case study model to specifically focus on the use of SDL readiness information to examine impacts on self-regulated learning (SRL). The SRL model assumes that students are able to monitor and regulate the various aspects of their cognition, behavior, and study environments, and can effectively assess whether or not their learning process is working for them or if changes need to be made (Pintrich, 2004). Learners are able to make use of a large number of strategies to assist them in their academic pursuits and in managing the learning process (Wolters, 2003). Articulating these strategies further related to

WIL supports a more quality delivery model aligned to student learning processes and outcomes. Furthermore, researchers may investigate how a students' professional background influences their interpretation of the WIL activity and learning experience.

Second, participants in the present study were classified by case based on the WIL activity. The case boundaries contained varying levels of proximity to the workplace environment and task authenticity. Within the learning environment, the level of support from the industry and community host may impact students' readiness for SDL and students' conceptions of learning and understanding. Related to the tools used in this study, pre-and-post surveys were not tracked by each student and the post-reflection survey was completed post-WIL. Researchers seeking to enhance the generalizability of the research may consider tracking each participant, including demographic variables and collect more reflection-in-action exercises to better understand the influence of the industry and community host as well as the impact on SDL readiness.

Third, the impact of WIL on international students may be of interest to colleges given the dearth of research within the Ontario college context. Programs that are primarily comprised of international students may benefit from further examination in terms of curriculum, timing, and structure of the WIL activity. Furthermore, researchers may consider purposively selecting programs with high ratios of international students and multiple WIL experiences and comparing aspects of these programs against programs with only one WIL experience. The value of a large population of international students in the Ontario college system is yet to be fully realized in the context of WIL as international students are still seen as disadvantaged in the labour market of the host country, not just in Canada but around the world based on weak communication skills and employers perceived cultural differences (Jackson, 2017; Tran & Soejatminah, 2016). These

disadvantages relate to a myriad of local customs and ways of knowing that take time, resources, and self-awareness to fully understand and develop solutions that serve the economic and personal interests of students and workplaces. Success in the workplace, and an outward focus on supporting students to be future-ready, creates a market need to further integrate WIL into programs and provide students with multiple experiences throughout the program.

In summary, the specific value each recommendation brings in terms of future research relates to collecting more data for researchers to continue to strengthen the quality of WIL experiences and use of WIL in future program design. The relationship between SDL readiness and SRL, the perceived influences of an industry and community host on SDL readiness, and the impact and opportunities from WIL activities specifically on international students contribute to future research and practice. Aspects of the design of the WIL are important for researchers to explore to strengthen the criteria for specific WIL activities and ensure clear distinction from other experiential learning activities and how students may be best served by the experience related to their personal and professional career aspirations.

Limitations of the Present Study

A number of limitations must be considered in the interpretation of findings for the present study. First, the course final course assignments for students in case three were not relevant to the research questions. More data from case three may have enriched the discussion regarding the case boundaries of the applied project to apply more analysis and compare and contrast against the other cases.

The shift to remote learning due to the pandemic also created challenges in this study as difficulties were presented attempting to conduct semi-structured interviews given lack of time to reframe the dissertation, students' willingness to participate via technology, and the confusion

across the research site given the nature of the pandemic. The impact the pandemic may have had in terms of reliability of the data is a consideration; the pandemic may have caused students to interpret their WIL activity differently.

There also exists challenges related validity and reliability of the data. The first challenge relates to the researcher's position at the research site that required the researcher to rely on faculty throughout the data collection process. The researcher works with professors and students which required professors to collect the data to remove the potential of perceived influence of power from the researcher's position. Second, given the findings were localized at one research site, these findings are not generalizable across all WIL activities across the Ontario college system, especially given the range of WIL definitions and outcomes. Furthermore, the findings from these cases suggest that these activities did not align to widely recognized outcomes of WIL. Finally, the threat to validity exists, including the maturation of the study over time, results and characteristics of the population, and context. These circumstances may cause the data to become less accurate.

Conclusion

As a response to the purpose of the present study and to answer the research questions, the data captured the perceived influences based on students' perceptions of their WIL activity on learning processes and outcomes. The three WIL activities studied were chosen based on how the research site defined the terms and outcomes. The three activities were capstone project, field or simulated placement, and applied project. For each the WIL activity, the impacts of aspects of the physical and social environment, changes in SDL readiness, and conceptions of learning and understanding were varied. For the more traditional field placement, this model seemingly evoked more meaningful learning for students as it related to building a professional identity in a

more high-stakes learning environment with more authentic tasks. This may have related to exposing students to new learning environments that allowed for exploration to experiment in a more authentic workplace setting understanding more norms and workplace values about the specific profession. Students who participated in the capstone project or simulated placement WIL activities suggested perceived benefits of WIL; however, a limited opportunity to demonstrate and build professional communities of practice may limit the value of the activity in future learning environments. For students in the applied project, although engaged in meetings with community organizations, the experience was not connected to a workplace and final course assignments were summative and descriptive, which did not encourage students to reflect on their learning process or the environment. Ultimately, with the exception of the field placement, students were not presented with WIL experiences that promoted and encouraged reflection.

There was a change for some students related to their perceived readiness for SDL. Depending on the students' prior experience with SDL and WIL, the more students had experience with SDL or WIL, the seemingly readier students were for a more independent learning experience in terms of self-reported levels of readiness. Students increased in their perceived levels of readiness for SDL post-WIL suggesting that the more students who engage in WIL, the more confident they become in their ability to participate in the future. Finally, the results of how students interpreted the words learning and understanding indicated that within each WIL activity, there was a process of learning that focused on knowledge attainment and skill acquisition that led to final step in the learning process called understanding.

Identifying how different WIL activities may influence students' learning processes contributes to our understanding of how students interpret aspects of knowledge attainment in their learning and ultimately how researchers involved in WIL can better articulate learning

outcomes, assessments, and knowledge mapping exercises. Considering the boundaries of each WIL activity, these results can continue to advance research in WIL to ensure that as more WIL experiences are incorporated into program design, the specific WIL activity is accurately designed with a focus on the connection to workplace environments, task authenticity, and students' readiness for WIL. The conscious intent of aligning the outcomes of the experience for students to the related profession is critical to maintaining the quality of WIL moving forward.

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Appendix A
Pre-and-Post Survey

Please select one response for each question

1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree

1. I never had a problem carrying out my study plans. ___
2. I frequently do extra work in a course just because I am interested. ___
3. I always view problems I encounter in my learning as “personal challenges” that I can overcome. ___
4. I consistently motivate myself to do well in any course I take. ___
5. If I am not doing as well as I would like in a course, I always independently make the changes necessary for improvement. ___
6. I always feel in control of the learning process. ___
7. I usually struggle in classes if the professor allows me to set my own timetable for work completion. ___
8. I would rather take the initiative to learn new things in a course rather than wait for the professor to foster new learning. ___
9. I always depend on the professor to make sense of things I don’t understand. ___
10. I often collect additional information about interesting topics even after the course had ended. ___
11. If there is something I don’t understand in a class, I always try to find a way to learn it on my own. ___
12. Without the professor’s help, I always have a problem knowing what changes I need to make to improve my learning. ___
13. I always effectively take responsibility for my own learning. ___
14. I am very successful at prioritizing my learning goals. ___
15. I often use materials I’ve found on my own to help me in a course. ___
16. I always effectively organize my study time. ___
17. I often have a problem motivating myself to learn. ___
18. I always rely on the professor to tell me what I need to do in a course to succeed. ___
19. Even after a course is over, I often continue to spend time learning about the topic. ___
20. I see a connection between the content of this course and what I want to do with my life. ___
21. The primary reason I complete course requirements is to obtain the grade that is expected of me. ___
22. I have the ability to take detailed lecture notes required for this course. ___
23. I have had work experiences related to the content of this course. ___
24. I usually find a way to relate my research projects for a course to my own interests. ___
25. The professor is always in control of what I learn about a topic. ___
26. I always assume personal responsibility for my learning. ___
27. I don’t see any connection between the work I do for my courses and my personal goals and interests. ___
28. I am very confident in my ability to independently prioritize my learning goals. ___
29. I am confident in my ability to consistently motivate myself. ___
30. I have a lot of doubts about my ability to effectively direct my own learning. ___
31. I complete most of my college activities because I WANT to, not because I HAVE to. ___

32. I am unsure about my ability to independently find needed outside materials for courses.
33. For most of my classes, I really don't know why I complete the work I do. ___
34. I am really uncertain about my capacity to take primary responsibility for my learning.
35. I am really uncertain about my capacity to effectively organize my study time on my own. ___
36. Most of the work I do for my courses is personally enjoyable or seems relevant to my reasons for attending college. ___
37. The main reason I do the course work activities is to avoid feeling guilty or getting a bad grade. ___
38. I am uncertain about my ability to make sense of classroom material on my own. ___
39. Most of the activities I complete for my college classes are NOT really personally useful or interesting. ___
40. I am very convinced I have the ability to take personal control of my learning. ___
41. I don't have much confidence in my ability to independently carry out my study plans. ___

Please return the completed survey to your faculty member.

Appendix B

Post-Reflection Survey

Please reflect on your work-integrated learning (WIL) experience using the following questions. Please respond to each question with as much detail as possible in a word document, and send as an email attachment to your Professor or Professor XXX. Answering these questions should take you no more than 15-20 minutes. Thank you for your participation in this study.

1. What does the word learning mean to you?
2. How would you define the word understanding?
3. So how do you know when you have understood something?
4. Describe how you learn – think of the environment, process, and people, consider a recent experience. Tell me about it.
 1. What influence(s) does the surrounding environment have on your learning?
5. What has the WIL experience meant to you? What specific skills and knowledge will you take with you in the future?
6. What was the impact on your level of confidence to succeed when it came to participating in a more independent learning-type experience? (i.e., not a traditional lecture (weekly) in-class delivery).
7. How have recent world events impacted your WIL experience?
8. What can be improved to help future students?

Appendix C

REB Approval Letter



January 22, 2021

Mr. Chad Mundy
Ph.D. Candidate
Faculty of Education
Queen's University
Duncan McArthur Hall
511 Union Street West
Kingston, ON, K7M 5R7

GREB Ref #: GEDUC-1044-21; TRAQ 6031797
Title: "GEDUC-1044-21 Examining Students' Perceptions about the Impact of Work-Integrated Learning Activities on Learning Processes and Outcomes"

Dear Mr. Munday:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "**GEDUC-1044-21 Examining Students' Perceptions about the Impact of Work-Integrated Learning Activities on Learning Processes and Outcomes**" for ethical compliance with the Tri-Council Guidelines (TCPS 2) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405), your project has been cleared for one year.

You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events;" under "Create New Event" click on "General Research Ethics Board Annual Renewal/Closure Form for Cleared Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal/Closure Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one-year period (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events;" under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at <http://www.queensu.ca/traq/signon.html>; click on "Events;" under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies." Once submitted, these changes will automatically be sent to the Ethics Coordinator, GREB, at University Research Services for further review and clearance by GREB or the Chair, GREB.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dean A. Tripp".

Chair, General Research Ethics Board (GREB)
Professor Dean A. Tripp, PhD
Departments of Psychology, Anesthesiology & Urology Queen's University

c: Dr. Ian Matheson, Supervisor
Dr. Saad Chahine, Chair, Unit REB
Kyle Cummings-Bentley, Dept. Admin.

Appendix D
Final Course Assignment (Program E)

Journal 1:

First Impressions:

Introduce your placement agency including organization name, location, and services provided. Describe your first impressions and what you hope to gain from this placement.

Journal 2:

Skills:

Describe, in detail, some of the skills that you have been using and developing. What is something you have learned from this placement that you were not previously aware of?

Journal 3:

Stress in the Workplace:

Describe some things that could cause stress in your placement setting (discuss this with others at placement - find out what causes them stress). Discuss ways to deal with the stress.

Journal 4:

Credibility and Final Thoughts:

Explain what credibility means to you and how you have illustrated credibility at your placement. Describe some highlights of your experience at placement and what you have enjoyed the most and the least. Would you recommend this placement to others?

Final Course Assignment (Program F)

The following project plan elements should be incorporated into your Applied Project Plan Report:

Title Page: Identifies that the report is a Project Plan Report. A descriptive title is provided; the date of submission is identified and all team members are identified in alphabetical order (by last name).

Overview: This is a short summary of the purpose/description, scope, goals/objectives, and the General Approach. This section should be written upon completion of the other sections of the report.

Purpose/Description: A description of the purpose of the project is outlined so that the reader clearly understands the business need which is being addressed.

Scope: It is important that you identify the specific project beginning and end points. The more specific the details (what's in-scope and what's out of scope), the less a project may experience "scope creep". Clearly identify which project elements will be included in your project.

Goals/Objectives: It is critical that measurable outcomes are defined for the project goals/objectives. Upon completion of the project these target objectives will hopefully be achieved. You should have a defined goal/objective for each of your Scope elements.

General Approach: This section describes (in layman's terms) the methodology that your team will be using to complete the project tasks.

Schedules: This section outlines the scheduled tasks, the assigned responsibilities for completion of the tasks, the target and actual completion dates, and a section where completed activities can be recorded. Note: Refer to the Project Schedule Template posted on Blackboard. This schedule template will be used to develop the Basecamp 3 project schedule.