

# EXPERIENTIAL EDUCATION AND EMPLOYABILITY SKILLS

Exploring Experiential Education and Post-Secondary Student Employability Skills:

A Twenty-Year Review

by

Cora E. Dupuis

A Thesis Submitted to the Faculty of Graduate Studies of

The University of Manitoba

in partial fulfillment of the requirements of the degree of

MASTER OF EDUCATION

Faculty of Education

University of Manitoba

Winnipeg

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### **Abstract**

Over the past decade, Canadian leaders from across all sectors of industry, education, and the media have called for more experiential education opportunities for post-secondary students, believing they will better equip students with the employability skills needed to succeed in the workplace. This review summarizes research across Canadian post-secondary institutions to examine the link between students' experiential education and their subsequent development of employability skills. I collected studies completed between January 1, 1997, and December 31, 2017, from four databases, Academic Search Complete, ERIC, Sage Journals, and Scopus, that: (1) focused on post-secondary student participation in experiential education programs or courses at college or university institutions located in Canada; and (2) emphasized the development of specific employability skill outcomes as they relate to participation in post-secondary experiential education programs. Of the 453 yielded results, 42 articles met the inclusion criteria, representing a sample size of 4,739 students. I then assessed and sorted the articles into four outcome categories: positive effect, no effect, unknown/unidentified effect, and mixed effect. The results show promising evidence that the development of communication and teamwork skills through experiential education at the post-secondary level does better equip students to succeed, and it is my recommendation that more Canadian research be done to further understand this relatively new field. Based on this thesis' literature review, I also created the Experiential Education 3P Model, which visually explains the interconnected relationship between the philosophical, practical, and pedagogical aspects of experiential education.

*Keywords: experiential education, experiential learning, employability skills*

### **Acknowledgements**

I cannot express enough thanks to my advisor and committee chair Dr. John Wiens. I offer my sincere appreciation for his continued support and encouragement. I would also like to thank my committee members, Dr. Robert Renaud and Dr. Michelle Honeyford for their thoughts, insights, and kind words along the way.

Finally, my deepest gratitude to my family, and especially E.



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## **Chapter One – Introduction**

Over the past decade, voices from across all sectors of industry, applied research groups and the media have arisen, underscoring a modern-day “skills crisis” (Blackwell, 2013; Friese, 2012; Lamb, 2016; Livingston, 2013; Munro et al., 2014; Ridout, Bartlett & LaRose, 2013; Tal, 2012; World Economic Forum, 2016), to which others have heralded experiential education as the solution (McKay, 2016a, 2016b; Business Higher Education Roundtable, 2016). The Federal Government has responded to these recent calls by committing substantial funds, focusing a standing committee, writing reports, and establishing both a centre and council for the development of future employability skills (Government of Canada, 2017, 2019; House of Commons of Canada, 2018), and Canadian universities and colleges have responded in kind. Inspired by this pressing topic, I conducted a cursory review of nearly two dozen post-secondary strategic plans, which revealed a common emphasis on creating or increasing access to experiential education for students (see Appendix A for a full list of references). And students appear to agree with this new direction. In a national survey, three-quarters of students indicated they want some form of experiential learning to be part of their post-secondary experiences (Canadian Alliance of Student Association, 2018).

I can say for certain that experiential education has tremendously impacted my own skill development, personally and professionally, as an undergraduate co-op student, a seasoned university professional, and now as the leader of Brandon University’s co-operative education program. I witness the transformative effect experiential education can have for students on a daily basis, so whenever there are calls to increase experiential learning opportunities for post-secondary students, I am in full support.

But as I watched the number of voices in the conversation increase, I began asking myself: Where did this collective harmonization come from? Why are leaders from across sectors making proclamations, governments committing hundreds of millions of dollars, post-secondary institutions increasing access, and students voting for more experiential opportunities? What underpins this commonly-held belief that post-secondary experiential learning is the best way to build the necessary employability skills to address the skills gap? These questions guided my decision to explore research related to experiential education and employability skills among Canadian post-secondary students. By conducting a 20-year review of Canadian peer-reviewed, published research, I sought to answer these guiding questions: How much does experiential education opportunities develop post-secondary students' employability skills? What are the findings, and what are the gaps and opportunities for future research?

Before I could commence my research review, I needed to better understand the intended meanings of the two key concepts in this project: employability skills and experiential education. Superficially, each term seems evident and straightforward; however, they are far more intricate and complex than they appear. Once these two concepts were defined, I was then able to conduct my narrative review, commencing with a literature review of foundational theorists, followed by an explanation of my methodology, and concluding with a summary of findings and recommendations for future research.

### **Employability Skills & the Skills Gap**

Though the term “employability” may seem trendy and new, it was actually first published in the 1950s (Feintuch, 1955). In the decades that followed, the definition evolved from describing an unemployed person's mindset towards becoming employed to encompassing the knowledge and skills required for *any* person to gain employment at *any* point in their life

(Feintuch, 1955; Forrier & Sels, 2003; Harvey, 2001; McQuaid & Lindsay, 2005; Bridgestock, 2009; Moreland, 2006). Simply put, the term “employability skills” is a multi-dimensional, psycho-social construct that is neither specific nor general enough to capture the complexities of people, skills, and types of work. That is why new terminology has been continuously introduced over the past 70 years, in an attempt to shed light on the concept of employability skills. Some of the terms introduced over the years are “general skills and specific skills” (Becker, 1964), “transferable skills” (Bridges, 1993; Stevens, 1996), “core skills” (Bennett et al., 1999), “generic competencies” (Warn & Tranter, 2001), “competencies” (Bartram, 2005; Schmidt-Wilk, 2009), “key skills” (Washer, 2007), “soft and hard skills” (Andrews & Higson, 2008; Chamorro-Premuzic & Furnham, 2010), “survival skills” (Jain, 2010), “key competencies” (Wiek et al., 2011), and most recently “dynamic capabilities” (Finch et al., 2015). While each researcher attempted to bring clarity, these additional terms instead obfuscated the field.

Trying to bring coherence to this long-time complexity, the Canadian Federal Government undertook the Essential Skills Research Project (ESRP) in the mid-1990s to better label and quantify the necessary skills for the vast majority of occupations (Human Resources and Skills Development Canada, 2004; Employment and Social Development Canada, 2015). These nine essential skills, featured and defined in Appendix B, are reading, writing, document use, numeracy, computer use/digital skills, thinking, oral communication, working with others, and continuous learning (Employment and Social Development Canada, 2015). In the years that followed, provincial and territorial governments, including the Government of Manitoba, adopted these nine “Essential Skills” and implemented them in their own structures and government-funded work programs, such as Workplace Education Manitoba (Government of Manitoba, n.d.; Workplace Education Manitoba, n.d.).

Coinciding with the introduction of the Federal Government's Essential Skills Research Project, the Conference Board of Canada, an applied research group, articulated its version of essential skills with the Employability Skills Profile, or ESP (Bloom & Kitagawa, 1999). A few years later, the Conference Board rewrote and rebranded ESP to reflect changes in the Canadian workplace. Now called Employability 2000+, this rebranded framework reworked many skill categories into three main ones, as seen in Table 1 (Conference Board of Canada, n.d.-a). This updated edition also included skills such as numeracy, problem-solving, and digital, which were absent from the first iteration (Conference Board of Canada, n.d.-b).

**Table 1**

*Conference Board of Canada Employability 2000+ Skills*

<b>Fundamental Skills</b>	<b>Personal Management Skills</b>	<b>Teamwork Skills</b>
Communicate	Demonstrate positive attitudes and behaviours	Work with others
Manage information	Be responsible	Participate in projects and tasks
Use numbers	Be adaptable	
Think and solve problems	Learn continuously	
Communicate	Work safely	

*Note.* This table was adapted from the Conference Board of Canada Employability Skills Poster (Conference Board of Canada, n.d.-a).

As the Conference Board of Canada had been connected and committed to researching the employability and skills landscape in Canada, it was fitting that in 2014 they published the progress report *Skills—Where Are We Today? The State of Skills and PSE in Canada*. This particularly critical piece brought a troubling narrative to the forefront, a multifactor occurrence often referred to as the skills gap. Employers have unfillable jobs while newly-minted grads are

unprepared to fill those vacancies, all of which puts society and the economy at risk (Munro et al., 2014).

In response to this 2014 report and a few other articles, President and CEO of RBC David McKay used his platform speaking to the Universities Canada Governing Council to set a new objective. He said, “I believe we need to start with an audacious, national goal — to ensure 100% of Canadian undergrad students are exposed to some form of meaningful experiential learning before graduation” (McKay, 2016a, p.8). In his address, he presented “meaningful experiential learning” as the solution to the skills gap and emphasized the role post-secondary institutions have in creating these opportunities for students (McKay, 2016a).

### **Experiential Learning and Skills**

Two months after David McKay made this bold proclamation, the Canadian special interest consortium known as the Business Higher Education Roundtable (BHER) adopted McKay’s call to action as its primary mission (Business Higher Education Roundtable, 2016). Since 2017, other entities, including the Federal Government and various post-secondary institutions, have taken several notable steps towards supporting experiential learning. These actions are what led me to conduct the narrative review detailed in this thesis. Before I could commence my research review, I first needed to better understand the other main concept, experiential education, and what is meant by those who use it.

### ***Experiential Education***

Used as an umbrella term, experiential education is a philosophy that is multifaceted, context-dependent, and complex (Association for Experiential Education, n.d.-b). Grounded in its philosophical underpinnings, experiential education is *also* a teaching method and practice (Association for Experiential Education, n.d.-b). Over the past century, theorists, scholars,

educators, and practitioners have tried to capture its essence in a definitive way, but they have done so with little agreement (Kraft, 1990).

This cacophony can also be observed at the Canadian post-secondary level. For example, the Colleges and Institutes of Canada (CIC) association put forth a position paper that referred to Work-Integrated Learning (WIL) as a “subset” of experiential learning and listed nine terms with their definitions including apprenticeships, co-operative education, practicums, clinical placements, internships, work terms, field experience, simulation, and virtual reality (Colleges and Institutes Canada, 2018). In contrast, Universities Canada (UC), while leveraging the same opportunity to submit its own position paper, opted to use the following language: “quality experiential learning experiences, such as co-ops, internships, research projects, and mentorship programs” and indicated that each of these experiential learning types could be conducted internationally (Universities Canada, 2018, p.4).

These two examples confirm the aforementioned point: there is no consistency. One group referenced simulations and virtual reality within its definition while the other mentioned mentorship and international mobility. Put another way, these two large, national advocacy organizations used the same language differently, and different language altogether, to describe the *same thing* to the Federal Government’s Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities.

In an effort to address this constraint, the BHER wrote a letter to Finance Minister Morneau in September 2018. In that letter, it advocated for the adoption of common definitions and a national work-integrated learning framework (Business Higher Education Roundtable, 2016, 2018). Appendix C lists the specific terms and descriptions the BHER used to establish its position. This list also differs from what the other two national advocacy groups put forth. In



closing, there is no common agreement about what experiential education in Canadian post-secondary is, or what it is not.

Despite all the differences, however, one thing is the same: these organizations all refer exclusively to out-of-classroom learning experiences as experiential learning. In doing so, they make no space for the skill-building that happens through in-classroom experiential learning opportunities. In a desire to provide a solution to the skills gap, they equate skill-building as external to institutional learning, making the institution a skills *facilitator*, not a skills *educator*. This oversight does not leverage the full spectrum of benefits that come from understanding and applying experiential education more holistically.

The experiential education pedagogical approach as defined by the Association of Experiential Education is a broad and flexible concept, used on both philosophical and practical levels. Canadian organizations that operate in the same field with similar mandates have defined experiential education for their individual purposes, but have done so equally broadly but exclusively for external learning opportunities. Ultimately, their definitions, as varied as they are, support the same outcome: to advocate for experiential education to build skills among post-secondary students, beyond what students learn in the classroom.

This returns me to the purpose of conducting this review of peer-reviewed, published research: how much do experiential education opportunities develop Canadian post-secondary student employability skills? What are the findings, and what are the gaps and opportunities for future research? This study is a summative response to these questions.

### **Limitations**

Naturally, when researching a topic as contemporary as experiential education and its connection to employability skills, additional complex and contentious questions arise, such as

the role Canadian post-secondary institutions play when it comes to job-readiness, or employers' realistic or unrealistic expectations of new graduates. However, my primary objective with this work was to provide a substantive narrative review of two decades of Canadian peer-reviewed published research. To go beyond that focus, as interesting and valuable as that research would be, would have taken away from the intended depth of this project, so such questions will not be addressed in this thesis.

I think it is also important to recognize here an inherent but unintended limitation in this work: my professional connection to the field of experiential education. While my familiarity and fervency for the practice is a significant strength and is what drew me to this topic, my questions as a researcher are underlined by my beliefs that experiential education is extremely beneficial in positioning students for success. And though no researcher who is connected to her topic can ever truly excise her beliefs, informed research design and self-awareness can mitigate it. To manage my biases I took clear steps and made specific decisions, consistent with a specific methodological approach; these steps and decisions are discussed in the chapters ahead.

## **Thesis Overview**

This first chapter established the timeliness of this project and attempted to clarify the necessary background behind the two key concepts, employability skills and experiential education, as convoluted as the results may have been. The next chapter explores the relevant literature surrounding this field, including the theories and origins of experiential education and employability skills, and some of the influential minds behind those concepts. Chapter Three summarizes the methodology I used in conducting this narrative review, and chapters four and five explain my findings, conclusions, and recommendations for future research.

## **Chapter Two – Literature Review**

Experiential education encompasses philosophical, practical, and pedagogical approaches to facilitate learning. Starting with an exploration into the foundational philosophers and thinkers, this chapter explores historical and contemporary understandings of the concept of experiential education; looks at current practices from the field to highlight how it is occurring in Canadian post-secondary education; and closes with a model I have created to explain how these philosophical, practical and pedagogical terms fit together into a rich multi-dimensional concept.

### **Experiential Education on a Philosophical Level**

John Dewey was an educational theorist, and at the turn of the 20th century, he developed a new theory of experiential education to complement his experience working in progressive schools. A pioneer in the field, Dewey penned core ideas that had been practiced for centuries and turned them into a working theory. This theory, distilled in his 1938 book *Experience and Education*, is founded upon three central tenets: the educational context is paramount; educational experience should decrease or remove the hierarchy between educator and learner; and the iterative process of experimentation is where the most profound learning happens.

#### ***First Tenet: The Educational Context is Paramount***

When Dewey published this book in 1938, a traditional classroom was not like any room in the home, and it was unlike any workplace either. It was a fabricated space, the teacher at the front of the room with a blackboard and the students seated in “fixed rows of desks” (Dewey, 1938, p. 61). This physical arrangement gave the teacher authority and control over the students, as the teacher was the keeper of order and the purveyor of knowledge (p. 55). The students, on the other hand, were considered empty vessels that needed filling.

In contrast, for Dewey (1938), the “ideal aim of education is creation of power of self-control” (p. 64). In other words, the purpose of education is to ready a person to become a citizen with all the benefits and responsibilities of that term (Itin, 1999, p. 92). With this goal in mind, Dewey (1938) believed that the traditional classroom was an inadequate educational context to facilitate the development of the citizen, as it was isolated and insulated from everyday life (p. 61). Instead, he thought that academic subjects should be taught in an environment that is in the closest proximity to where that subject takes place in real life (p. 46). Therefore, it was incumbent upon the teacher to use all aspects of the setting, which is “the local community, physical, historical, economic, occupational, etc.” (p. 40) to facilitate developmental opportunities through experience. This educative approach would allow the surroundings to facilitate the student’s learning, because learning happens as a result of an exchange between an individual and their surroundings (pp. 43-44). These surroundings, or “objective conditions” according to Dewey, are terms used with the broadest intended meaning; the surroundings could be a physical space, an object, or the facilitator and the fellow learners also present at that moment. Ultimately, Dewey believed that education was an exchange between the learner and everything else around them (p. 45). Thus, Dewey identified three key components: first, whenever possible, the learning should happen in a location with resources and people that are closest to the real-life setting; second, learning can be replicated but never duplicated; and third, it is incumbent upon the educator to curate experiences and guide the students through them.

**The Educational Context Should Be Proximate to Reality.** Connected to Dewey’s first tenet, the educational context is paramount, is the notion that the context should be as close to an authentic setting as possible. For example, let’s say a university student is studying dairy production as part of an agriculture degree. This study could be achieved by reading a book,

attending a lecture, reviewing a diorama, or watching an educational film. Alternatively, the student could visit a working dairy farm. The student could meet the dairy technician, watch the technician clean the udders, attach the robotic milking machine, and milk the cow. Better yet, the student could practice all of those steps under the supervision of the technician. The student could observe and then practice how to move a cow, how to load the feed into the trough, how to score the animal's body condition, and learn to record the necessary information into the digital recording system. In all of these situations, learning happens, but the last mentioned farm experience with the student practicing the steps under the technician's watchful eye, would be experiential learning by Dewey's definition. It is the only instance that allows the learner to create knowledge through curated experiences with practitioners and actual resources, using legitimate processes in an authentic setting.

**Educational Context Is a Unique Combination of Factors.** Given how paramount the educational context is, one may think that a well-developed educational context can be duplicated to achieve the same successful result; however, Dewey (1938) did not believe this to be possible. For him, the educational context is a unique combination of factors; therefore, if any of those factors are different, then the learning would be different too. Further, the learner is made up of thousands of previous learning experiences that inform the learner's readiness for current study and preparedness for future learning. The surroundings are made up of specific physical spaces on that particular day, during that moment in time. The resources that are available at that moment in that physical space also play a factor. Furthermore, the facilitator along with the learners each bring their respective learning experience into the equation, and all of this combines to contribute to the collective learning experience.

Moreover, the activity of learning is such a profoundly personalized endeavour that even if the surroundings were the same, two learners would experience them differently and as a result, leave that experience with different learning. More succinctly, an educational context may be replicated but never duplicated because if any aspect of the surroundings changes, or if the learner changes, so will the learning.

**The Educator Must Curate the Educational Context.** To achieve an educational context that is in close proximity to reality and maximizes the unique combination of factors, the educator must curate it. Therefore, the educator must select the environment where the learning will take place, hand-pick the resources to enhance the learning, and so on (Dewey, 1938, p. 40).

Additionally, it is up to the educator to consider the learner who is participating in the experience. Does this learner come with the necessary preparedness and readiness to fully embrace this opportunity to be a productive one? If not, what does this learner need in order to be prepared? On top of that, the educator must deliberately select a particular learning approach, the one that would best meet the needs of the learners at that particular time. Simply relying on what was done in the past, no matter how effective, will not work, because that learning approach does not account for the uniqueness of the learners and the surroundings in the present (Dewey, 1938, p. 46). Moreover, according to Dewey (1938): “every experience lives on in further experiences” (pp. 27-28); therefore, the educator must think of the outcome she is trying to achieve with those learners at that moment but also consider how that experience informs the future of that student’s learning (p. 47).

In summary, for Dewey, the educational context is paramount because it is an exchange between the learner and a series of unique, curated, authentic surroundings selected by the

educator. The educator must also remember that the learning experience for that learner is informed by their past, experienced in the present, and shapes their future.

***Second Tenet: Educational Experience Has the Capacity to Decrease or Remove the Hierarchy between Educator and Learner***

Dewey's second tenet of experiential education emphasizes that when experiential education is practiced, the implied hierarchy between educator and learner is diminished. He believed this to be possible because all people bring their own experiences to an educational context, and as such, all people can contribute and gain from the shared experience.

At the time of writing *Experience and Education*, the control put forth by the teacher forced the pupils to conform their behaviour in a particular way, which inhibited these young learners from truly expressing themselves (Dewey, 1938). This was unsettling for Dewey, and that is why in the progressive school, Dewey fostered a community atmosphere so students would share of themselves and their "true natures" more willingly (p. 62). This sharing fostered two things: first, it allowed the teacher to understand and appreciate the uniqueness of each student and curate the educational contexts accordingly; secondly, this sharing of the pupils' "true natures" allowed this collective of individuals to form a community or social group instead of a class (p. 59). When the community emerged among this group of people, the distinction between teacher and pupil diminished. The teacher became an educator and went from a purveyor of knowledge to a "leader of group activities"; and the students became learners, going from empty vessels to active participants contributing to the educational context (p. 59). This led to Dewey's second tenet: experiential education has the power to alter the learning dynamic such that everyone becomes an active contributor to the learning (p. 56). With experiential education, both the educator and the learners are dynamic givers to the experience and take away from it.

Therefore, the hierarchy is diminished, and everyone becomes contemporaries in learning (p. 59).

***Third Tenet: The Iterative Process of Experimentation Is Where the Most Profound Learning Happens***

For Dewey (1938), another by-product of experiential education is the repetitive process of trial and error, which makes deep learning possible. A prime example of this is learning to ride a bicycle. When a child is learning to ride a two-wheeled bicycle, an adult often begins by holding one handlebar and the back of the seat while running alongside the child who is pedalling. Upon reaching an ideal speed, the adult lets go of the moving bicycle. In most cases, the child falls, because she is unable to negotiate the complex series of minute adjustments required to stay balanced. However, with persistence, that child learns something different with every attempt: “When I don’t pedal enough, the bike falls over,” or “When I pedal fast and lean left, I have to compensate with turning the handlebars slightly right,” or “If I turn too far right, then the bike falls down.” The aspiring rider gathers information and outcomes: “When I do this, this happens, and when I do that, that happens.” This iterative process of learning the minute adjustments required to stay upright allows the child to balance her weight, the steadiness of the handlebars, and the speed of the bicycle. Eventually, within microseconds, the child takes in aggregate amounts of information (equilibrium, direction, and speed), executes split-second decisions, and can continuously pedal and stay upright, ultimately achieving her goal.<sup>1</sup> When it comes to skill building, this iterative process creates something at an intuitive level, better known as deep learning. When the physical, mental, and spiritual spheres are all aligned, this skill (knowing how to ride a bike) becomes ingrained and allows a rider to know how to ride a bike

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<sup>1</sup> Teaching me to ride a bicycle is one of my father’s favourite stories to tell. Sharing this specific example to describe the iterative process of deep learning is a tribute to him.



permanently. That is why the phrase “like riding a bike” is often used when mastering other skills, because once you learn to ride a bike you never forget.

Beyond simple repetition of a task, there is also the necessity to self-observe, self-assess, and self-reflect. As Dewey (1938) eloquently put it, “What he has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations which follow. The process goes on as long as learning and life continue” (p. 44). By reflecting upon previous experience, noting the relationship between action and consequence, and applying it to a similar or new contexts, deeper learning can happen.

### ***Dewey’s Influences***

Although John Dewey pioneered using the term “experiential education”, several other theorists’ and practitioners’ work informed the philosophy behind the concept. Philosophers Socrates, Locke, and Rousseau all made valuable contributions to this revolutionary theory of learning.

**Socrates (470–399 B.C.E): the Value of the Learner’s Contributions.** When Greek philosopher Socrates began as a sophist, he challenged the standard teaching method of the day. At the time, it was believed that young learners were devoid, and it was the role of the sophists to fill them up with knowledge (Kraft & Sakofs, 1990, p. 75). Success was achieved when a pupil could recite and retell what they had been taught. Socrates challenged this idea by using elements of experiential education with his pupils. He would pose questions, foster discussion, and elicit the learners’ experiences and ideas as part of the learning process (Kraft & Sakofs, 1990, p. 75; Warren et al., 1995, p. 6). At the same time, Socrates prioritized the development of the individual as a learner above grasping the specific content (Kraft & Sakofs, 1990, p. 75; Warren et al., 1995, p. 6). These two ideas (valuing the contributions of the learner as a part of the

learning process and the learner's whole development) are foundational to Dewey's experiential education theory.

**John Locke (1632–1704): The Idea of Repeat Exposure.** In Locke's 1693 book *Some Thoughts Concerning Education*, he proposed many ideas, but most notable for this context is the one regarding repetition and habit development in the teaching of children: "Practice, and the same action done over and over again, under the eye and direction of the tutor, till they have got the habit of doing it well, and not by relying on rules trusted to their memories; has so many advantages..." (Online Library of Liberty, n.d., p. 66). Dewey built upon this idea with his third tenet: The iterative process of experimentation is where the most profound learning happens.

**Jean Jacques Rousseau (1712–1778): Nature or Surroundings as Educator.** By the 18th century, it was commonly believed that humans were born with a corrupt disposition best known as original sin, and the only way to overcome this innate deficiency was through education, which at that time was namely Christian "catechetical memoriter" and physical punishments such as whippings or beatings (Sahakian & Sahakian, 1974, pp. 53-54). These practices evoked boredom, created pain, and ultimately conflated learning with suffering.

Rousseau believed that there was a better way to educate children, and he promoted his many ideas in *Emile, or On Education*.<sup>2</sup> Put briefly, Rousseau believed that humans are inherently good, and therefore education should maximize that goodness (Sahakian & Sahakian, 1974, p. 54). For him, learning happens best through experience and activities practiced in nature or real-life surroundings. Case in point, Rousseau believed total immersion was the best way to learn a trade, such as carpentry. In his ideal scenario, he and Emile would:

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<sup>2</sup> Several ideas he espoused from John Locke's 1693 book *Some Thoughts Concerning Education*.

Once or twice a week...spend the whole day at our master's; we should get up when he does, we should be at our work before him, we should take our meals with him, work under his orders, and after having had the honour of supping at his table we may if we please return to sleep upon our own hard beds (Rousseau, 1762/2009, p. 165).

Throughout *Emile, or On Education*, Rousseau underscored the value of nature and the surroundings where the learning happened, which directly connects to Dewey's first tenet: the educational context is paramount.

### ***Closing Thoughts about Dewey***

Building upon the ideas of Socrates, Locke, and Rousseau, Dewey developed his own theory: first, he expressed that the educational context is paramount, and should closely resemble, if not actually be, a real-life setting; second, he maintained that the hierarchy between teacher and pupil fades away when using experiential education strategies; and third, he advocated for repeat experience with reflection, because that is where the most profound learning happens. By putting *how* a student learns on par with *what* the student learns, Dewey set the tone for the next several decades of conversation surrounding experiential education. Dewey's tone also informs my own experiential education practice, and I often refer to his three tenets when I share experiential education with others or when I design a learning experience. Dewey's philosophy is the cornerstone of the model that I present later in this chapter.

### **Bridging Philosophy to Practice in Experiential Education**

For the next few decades after the publication of Dewey's book, various educators, facilitators, and practitioners from formal, informal, and non-formal educational spheres embraced the tenets of experiential education excitedly, but also in small and haphazard ways.

Furthermore, a difference started to emerge. Dewey had created the philosophical underpinnings behind experiential education, but it took until 1984 when David Kolb published his book *Experiential Learning: Experience as the Source of Learning and Development* to bridge that theory into praxis. This bridge created the distinction between the philosophy of “experiential education” and the practice of “experiential learning”.

Prior to David A. Kolb, other educational theorists such as Dewey, Piaget, and Lewin contributed to the fields of psychology, sociology, and anthropology, but Kolb was the first to contribute explicitly to furthering the field of experiential education (Kolb, 1984, p. xi). In fact, Kolb has dedicated his entire academic career, nearly 50 years, to the study of experiential learning (Kolb, 2015, p. xviii). If Dewey laid the philosophical foundations for experiential education, Kolb created the next significant contribution: practical and pedagogical approaches. In his 1984 groundbreaking book *Experiential Learning: Experience as the Source of Learning and Development*, Kolb debuted his Experiential Learning Model, made up of the four-stage cycle of learning and the four separate learning styles.

### ***The Four-Stage Cycle of Learning***

Kolb (1984) believed that effective learning happens when all four parts of the four-stage cycle are engaged. Those four stages include concrete experience, reflective observation, abstract conceptualization, and active experimentation, and are described as follows:

- Concrete Experience or CE (Experiencing): The learner faces a new experience or reclarifies an existing one.
- Reflective Observation or RO (Reflecting): The learner reflects on their experience on an individual level to determine if there are any incongruities between the experience and their current understanding.

- Abstract Conceptualization or AC (Thinking): The reflection stage provides changes to existing understandings or creates new ways of understanding all together.
- Active Experimentation or AE (Acting): The learner takes their new or changed understanding and applies it to the world around them, and in that application begins the cycle all over again.

Though it is most common to start with concrete experience and follow each stage into the next, a learner can start at any point in the cycle (Kolb, 1984). It should be known that the cycle is not one-dimensional, but rather a 3D spiral that iterates “with ever increasing depth of understanding and skill” (EBLS, 2019).

### ***The Four Learning Styles***

While developing the four-stage cycle of learning, Kolb also identified four distinct learning styles that complemented it. Organized in each quadrant of the cycle, the learning styles combine two of the four stages to make a type of learner. They are as follows:

- in the top right-hand quadrant, between the Concrete Experience (CE) and the Reflective Observation (RO) stages, is the Diverging learner (CE + RO);
- in the bottom right-hand quadrant, between the Reflective Observation (RO) and the Abstract Conceptualization (AC) stages, is the Assimilating learner (RO + AC);
- in the bottom left-hand quadrant, between the Abstract Conceptualization (AC) and the Active Experimentation (AE) stages, is the Converging learner (AC + AE);

- and in the top left-hand quadrant, between the Active Experimentation (AE) and the Concrete Experience (CE) stages, is the Accommodating learner (AE + CE) (Kolb & Kolb, 2017, p. 22).

According to Kolb, a student's learning style is influenced through a variety of inputs, including personality, preference, and educational and career choices; however, it is the "habitual process of learning that emphasizes some learning modes over others" (Kolb & Kolb, 2017, p. 22). This also means that a learning style is not static, but rather something that is ever-changing and can be created, nurtured, and recreated in different contexts and over time. Interestingly enough, it is through that belief and other researchers' inputs that Alice Kolb and David Kolb (2013) re-created the KLSI (Kolb Learning Style Inventory) numerous times, most recently publishing version 4.0 in 2011. Built upon the original four learning styles, this new model expanded them into nine styles: initiating, experiencing, imagining, reflecting, analyzing, thinking, deciding, acting, and balancing.

In the book where he first introduced the model to the world, Kolb (1984) wrote: "Experiential learning is a holistic integrative perspective of learning that combines experience, perception, cognition, and behavior [*sic*]" (pp. 20-21). Decades later, he refined that belief into multiple components that make up his Experiential Learning Theory.

The components are as follows:

- Learning is best conceived as a process, not in terms of outcomes.
- Learning is a continuous process grounded in experience.
- Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.
- Learning is a holistic process of adaptation to the world.

- Learning involves transactions between the person and the environment.
- Learning is the process of creating knowledge (Kolb & Kolb, 2017, pp. 25-28).

In the field of experiential education, Kolb is the most well regarded academic, researcher, and practitioner, as his work permeates all current conversations. In the same way that Dewey was influenced by theorists that came before him, it is important to know upon which ideas Kolb built these models.

### ***Kolb's Influences***

In addition to Dewey, Kolb's basis for experiential learning is grounded in the work of almost a dozen other scholars and practitioners whose ideas and practices have informed Kolb's Experiential Learning Theory (ELT) (Kolb & Kolb, 2017). Kolb expands on the significant contributions of these key people who include William James, Kurt Lewin, Jean Piaget, Lev Vygotsky, Carl Rogers, and Paolo Freire, in his co-authored book *The Experiential Educator: Principles and Practices of Experiential Learning* (Kolb & Kolb, 2017). Though each scholar's perspective contributed something important to Kolb's ELT, there are two scholars from Kolb's list that deserve special attention: Mary Parker Follett and Carl Jung.

**Mary Parker Follett (1868–1933): How the Learning Happens and What Happens to the Learner?** Kolb describes Parker Follett as a “truly interdisciplinary and radical thinker” and prized two of her ideas. The first idea surrounded the cyclical nature of learning and the impact on the individual. In her 1924 book *Creative Experience*, Parker Follett wrote, “We integrate our experience, and then the richer human being that we are goes into the new experience; again, we give our self and always by giving rise above the old self” (pp. 136-137). For her, the impact of the learning experience, fundamentally changes the learner each time the

learner experiences learning. This is in direct alignment with Kolb's idea of the 3D iterative spiral (EBLS, 2019).

Consider Parker Follett's second idea: learning comes from our surroundings. Again, there is an obvious parallel to Dewey's and Rousseau's work; however, it is Parker Follett's interpretation of "surroundings" that makes her contribution to Kolb's work unique. Whereas Rousseau wrote nature was the educator and Dewey purported that experiential education had the power to remove the hierarchy between teacher and pupil, Parker Follett believed it was the *relationships* between all of the people involved in the learning, and their contributions to each other and the learning, that was most important (Kolb & Kolb, 2017, p. 15). This is in alignment with Kolb's use of the all-encompassing term "world" and the interconnected relationship the learner has with it (pp. 25-28).

**Carl Jung (1875–1961): Who is the Learner and What Happens to Them?** Another scholar Kolb acknowledged as an inspiration is Carl Jung, with his concepts of psychological types and individuation (Kolb & Kolb, 2017, p. 22). Jung's four psychological types were a way to conceptualize people's differences in personalities. The four types included feeling, thinking, sensation, and intuition (Jung, 1971). Jung positioned them on a two directional axis with feeling and thinking at the top and bottom of the vertical axis, and sensation and intuition on the horizontal. It is clear that Kolb built upon Jung's ideas for the Experiential Learning Model. Specifically, Jung's psychological types were a way to understand personality differences in people, and Kolb used them to understand *who is the learner*, creating the Learning Styles to understand how students learn best in response.

Kolb's Experiential Learning Model neatly combined the ideas of Dewey, Parker Follett, and Jung, among other foundational thinkers. When Kolb asked and answered questions such as



*how* does the learning happen, *who* is the learner, and *what* happens to the learner, his work became a central educational touchstone for the field (Kolb, 1984, p. ix; Lewis & Williams, 1994, p. 6.). Kolb's Experiential Learning Model inspired me to create my own, which is presented later in this chapter. Just as he used visual representation in his four-stage cycle of learning and four separate learning styles, I opted to do the same to demonstrate the interconnected relationship between the philosophy, practice, and pedagogy behind experiential education.

### **Experiential Education on a Practical Level**

By the early 1970s, a critical number of practitioners were urging for more experiential education for post-secondary students (Keeton, 1976, p. xvi). For those who experienced the power of experiential education, they were zealous about its transformative impact (Wichmann, 1980, p. 8). However, for those unfamiliar with it, they viewed it as radical, expensive, unmeasurable, and ultimately remained unconvinced of its value while openly questioning its validity (Wichmann, 1980, p. 8). In response, associations related to experiential education emerged in the 1970s with two main purposes: to bring together this community of practitioners and to gather evidence which would further illustrate the value and legitimacy of this form of education. One such organization was the Association of Experiential Education (AEE).

### ***Association of Experiential Education***

Founded loosely in 1973, the AEE was created to advance and advocate for the experiential learning movement (Garvey, n.d.). They did this through hosting annual professional development events and publishing the *Journal of Experiential Education (JEE)* (Wichmann, 1980, p. 6). The AEE published anthologies of their best work related to theory and practice nearly every decade. The collection of these journals and anthologies is a rich source of various

ideas and definitions about experiential education that were being promoted during any particular decade. Here are some select, influential definitions which were put forth over the last four decades.

**Early Definitions of Experiential Education.** In Joe Nold's 1977 article "On Defining Experiential Education: John Dewey Revisited", he wrote: "[Experiential education] can only be defined in terms of itself, it has intrinsic worth so there is no other standard to judge it by, it requires no further justification. The values are 'self-evident'" (Nold, 1977, p. 1). Nold does not define experiential education, but instead upholds the belief that you have to experience it to understand it, and that if you define it, you remove its magic and mystique.

Unlike Nold, Keeton and Tate (1978) put forward a definition explaining what experiential learning is and is not. They wrote: "the learner is directly in touch with the realities being studied. It is contrasted with the learner who only reads about, hears about, talks about, or writes about these realities but never comes into contact" (Keeton & Tate, 1978, p. 2). This distinction separates experiential learning from common or standard teaching practices.

At around this same time, there were some early models put forth in the *JEE*, such as Ellie Greenberg's "Community as a Learning Resource Model". Summarizing her own theory, Greenberg (1978) wrote:

. . . If an educational program provides a theory of learning and defines specific competencies to be gained — and,

. . . If the community sub-systems are understood and used in cooperation with the academic disciplines — and,

. . . If persons, events, experiences, media, courses, and other learning resources are identified and catalogued — then

. . . The Community can function as a total Learning Resource for persons — helping them to become independent, responsible, and creative life-long learners (p. 25).<sup>3</sup>

Greenberg's model is notable for two reasons: first, it was introduced at a time when the field did not have many models to work from; and second, it spoke to the sense of interconnection learning can create between individuals, groups, and entire communities.

In the early 1980s, Laura Joplin created a three-dimensional spiral-like model designed with teachers in mind, whereby five stages were repeated over any length of time, such as a school year or a single discussion. She wrote, “every time a person ‘learns’ these five stages (focus, action, challenging [*sic*], debrief, feedback, and support) are involved in one way or another” (Joplin, 1981, p. 17). Joplin's introduction of this model created a new distinction in the definition of the practice. For her, “learning by doing” was incomplete; instead, she emphasized the importance of learning by doing with reflection. This was a significant step forward in the movement. Beyond her five stages, Joplin also articulated nine characteristics that were necessary for an experience to be experiential education, including learning must be experience-based, highly personalized, student-centric, covering content broadly and specifically, and measuring both the outputs and progress by engaging the learner and the facilitator in the learning and the evaluation of the learning (pp.19-20).

Joplin's model and characteristics augmented the discussion about what experiential education is in the following ways. First, her emphasis on the debrief and reflection part of the overall process was new to the published discussions on the topic; previous definitions did not give that level of priority to that part of the method. Second, similar to Dewey, her views about the learner's role in the process were very prominent; all nine characteristics revolved around the

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<sup>3</sup> The formatting of this quote including the ellipses, mirrors what Greenberg had published.

learner. We can see this idea echoed in another article published in the same issue of the *JEE*, in which April Crosby (1981) wrote: “Learning will happen more effectively if the learner is as involved as possible, using as many of his faculties as possible...; and that this involvement is maximized if the student has something that matters to him at stake” (p. 14).

Shortly after Joplin’s model was introduced, Kolb published his book *Experiential Learning: Experience as the Source of Learning and Development* in 1984, in which he introduced his Experiential Learning Model, including the four-stage cycle of learning and the four separate learning styles. In some ways, Kolb’s work simplified Joplin’s model and further clarified the role of the learner.

In the early 1990s, the *JEE* published a series of essays regarding the meaning of experiential education from a group of new voices in the field (Chapman et al., 1992, p. 16). One of those voices was Bill Proudman, who put forth a new idea based on his understanding of the concept by identifying “emotions” as a critical component of the experiential learning experience. Proudman suggested that it should be called “emotionally engaged learning” (Chapman et al., 1992, p. 20). This was a new element in the experiential education conversation.

In 1994, Jackson and MacIsaac proposed a new model: “Experiential Learning Model for Teaching and Assessment”. It was a multi-staged process blueprint comprised of five levels that incorporated “trends in experiential learning and authentic assessment practices” (Jackson & MacIsaac, 1994, p. 27). Jackson and MacIsaac’s model allowed for an educator to focus on a particular piece of the model or to flow through all of the levels when selecting their most effective experiential learning strategy. It was also the first model to introduce the concept of assessment, including authentic assessment, which takes place during and after the experience.

This took what Joplin had said a decade prior and re-introduced it to the experiential learning conversation.

The next significant contribution to the discussion of experiential learning didn't happen until the new millennium. Dr. Jay Roberts, an associate professor of education and environmental studies, and the former associate editor for the *JEE*, published a book in 2016 exploring academic themes related to experiential learning at the college level ("Jay W. Roberts", n.d.). He proposed four comprehensive terms to unify different types of experiential learning: "active learning, integrated learning, project-based learning, and community-based learning, a way to organize the "ecosystem" of methodologies within experiential education" (Roberts, 2016, p. xii).

From Joe Nold in 1977 to Jay Roberts in 2016, these authors all contributed to and helped shape this multi-decade conversation surrounding experiential education, evolving from "you have to experience it to get it" to refined terminologies and multi-level models exploring the distinctions of teaching, learning, and assessment in experiential education. The AEE took these ideas to forge their own definition and principles. They defined experiential education as "a philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities" (Association for Experiential Education, n.d.-b, para.1). The AEE's Principles of Practice, presented in Appendix D, are specific enough to set the direction of an experiential education experience, clear enough to understand what is included, but open-ended enough for interpretation from each practitioner who chooses to implement them. The AEE's definition and

principles, and the work of all of these authors, were instrumental in detailing the classification, context, type, and subtype of the 3P model I propose at the end of this chapter.

### ***Co-operative Education and Work-Integrated Learning Canada***

As this study's focus is on the Canadian context of experiential learning, and as AEE is founded in the United States, I felt it was important to examine the comparable, but distinct, Canadian organization: Co-operative Education and Work-Integrated Learning (CEWIL) Canada. Its mission is to "[build] the capacity to develop future-ready students through quality work-integrated learning" (Co-operative Education and Work-Integrated Learning Canada [CEWIL], n.d.-b, para.1). Originally started in 1973 as the Canadian Association for Co-operative Education with a mandate to serve co-operative education programs exclusively, the organization grew, expanded its mandate, and now represents hundreds of members at 109 post-secondary institutions across Canada (CEWIL, n.d.-a, para.1).

In 2017, when the organization changed its name and expanded its mandate, it also provided a new set of definitions for a variety of terms that qualify under the umbrella of Work-Integrated Learning (WIL). WIL is defined as follows:

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

Listed in Appendix E, CEWIL Canada's terminology and definitions for these nine types of WIL provide numerous distinctions. The introduction of this terminology helps practitioners embrace

and appreciate the nuances of each type. It also helps others at the periphery understand WIL in a simplified way.

Beyond providing terms and definitions, and advocating at the national level, CEWIL Canada also provides its members with an accreditation framework for co-operative education programs and has started a national database to track student participation in co-op and other WIL initiatives. For example, as of 2018 there are 17,000 more post-secondary students participating in co-operative education programs; that is a 25% increase over a 12 year period (Canadian Association for Co-operative Education, 2013; House of Commons of Canada, 2018).

Although these numbers have been put forward by a credible organization, and they do sound impressive, there are a few things to keep in mind. First, co-operative education is only one type of work-integrated learning, and WIL is only one type of experiential learning; therefore, this number is only one piece of a very elaborate puzzle. Second, as of 2016/2017, Statistics Canada (n.d.) reported that there are over 2 million students attending college or university in Canada. Therefore, the 3.5% (70,000) involved in Co-op makes up only a select few. In essence, these numbers do not capture all of the progress that is happening in the field, especially considering that there have been no common definitions or national frameworks established to date.

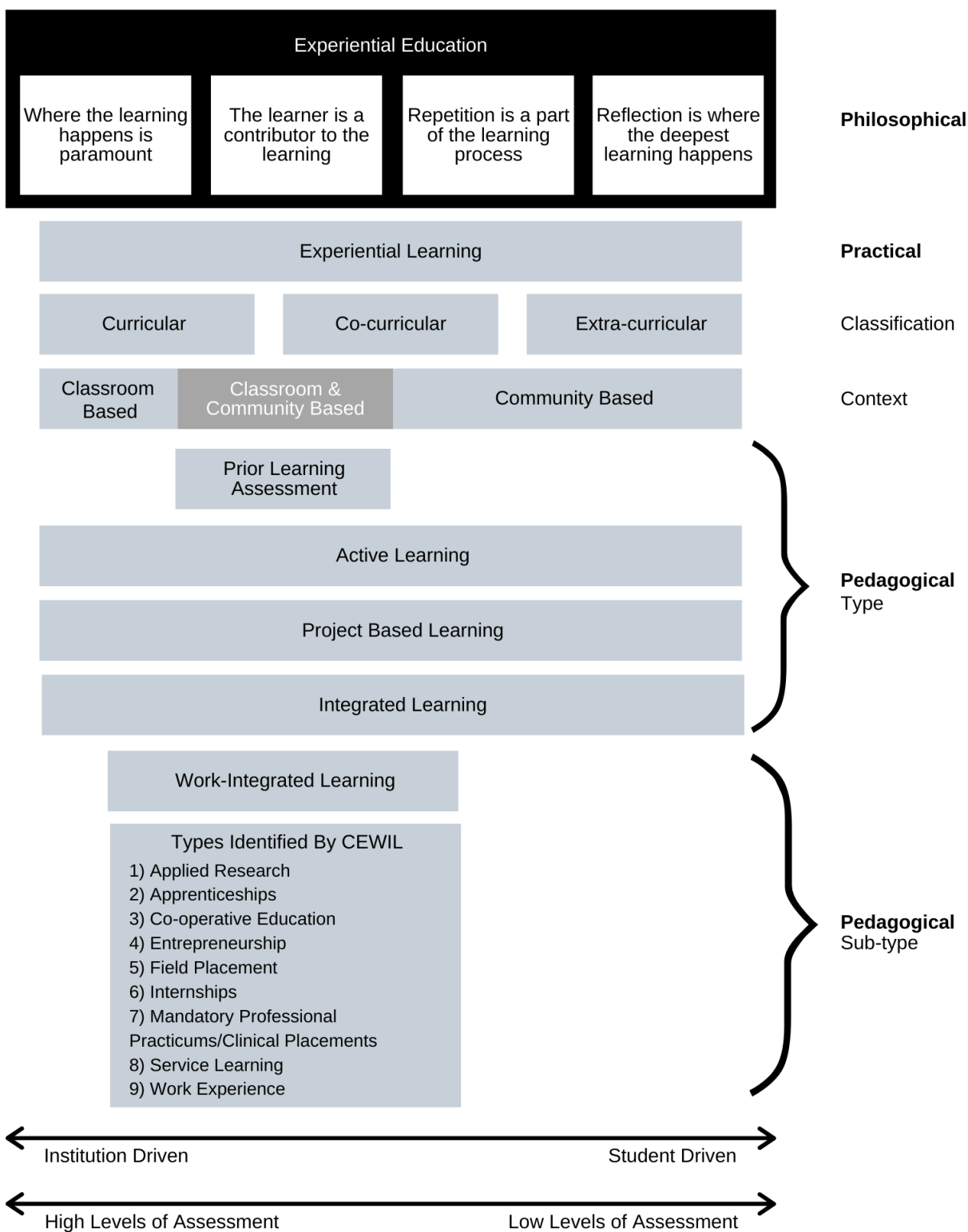
In fact, the results by the 2015 Canadian University Survey Consortium, published by Prairie Research Associates, puts forth different data. They have identified that “current estimates indicate that just over half of Canadian graduating students have participated in a co-operative education, internship and/or service-learning program at some point in their degree” (Graduating University Student Survey Master Report, 2015). Acknowledging some of the shortcomings of survey data, these numbers and commonly heralded statistics indicate that

measurement of experiential education participation is more complex than what is immediately apparent. This undeniable reality makes the premise of this thesis even more important. As participation numbers present but one side, assessment results based on existing research present another.

### **Bringing It all Together with the 3P Model**

In an effort to understand the relationships between the philosophical, practical, and pedagogical theories discussed in this chapter, I created the Experiential Education 3P Model (Figure 2.1) to visually represent the interconnectedness of the ideas presented in this literature review.



**Figure 2.1***The Experiential Education 3P Model*

***Philosophical***

At the top level of the model, in the black rectangle titled Experiential Education, is a summary of the key philosophical underpinnings of the field. Based heavily on Dewey's ideas, this serves as a starting point for anyone interested in understanding experiential education at an introductory level. The black rectangle also serves as an umbrella, and under it is the practice of Experiential Learning.

***Practical***

Beneath the grey Experiential Learning rectangle are more boxes that showcase the classifications and contexts; or, in other words, the *how* and the *where* experiential learning can happen at the post-secondary level.

The Classification category includes the terms Curricular, Co-Curricular, and Extra-Curricular, which identify how an experiential learning activity is recognized in a post-secondary setting. It is not related to the quality of the experience or the quantity of the learning, but simply to how the post-secondary institution chooses to recognize the endeavour. Each term is explored in more detail here:

- Curricular experiential learning activities are recognized as a required part of a course content or recognized with course credit. A common example of this would be a mandatory placement or professional practicum for student teachers seeking a Bachelor of Education degree. Such an experience would be noted on the transcript or be required to complete the degree.
- Co-curricular experiential learning may be an optional part of a course or available in addition to curricular content. For example, a voluntary field trip as part of a course could be considered co-curricular, or an institutional student

leadership program which happens over and above curricular expectations could be considered co-curricular. The voluntary field trip may be awarded additional marks in a course, and the student leadership program could be noted on the student co-curricular record. It is usually up to the discretion of the institution as to how they recognize, or don't recognize co-curricular learning.

- Extra-curricular experiential learning happens outside a school setting and is not formally recognized by the post-secondary institution. A student volunteering with a children's program in the community would be one such example. Volunteering, while a significantly beneficial learning experience, is not formally recognized by the post-secondary institution – which is why it is labeled “extra”.

The Context category (Classroom, Community and Classroom, and Community) located beneath the Classification category is connected to where the learning happens. Once again, each of these contexts are aligned evenly, as there is no one location of learning superior to another; rather, it depends on the intended outcome to find the best fit.

### ***Pedagogical***

Beneath the Context category are the four Pedagogical Types, which consist of Prior Learning Assessment, Active Learning, Project Based Learning and Integrated Learning. With the exception of Prior Learning Assessment, these terms come from Jay Roberts' experiential learning “ecosystem” (Roberts, 2016, p. xii). Each one of these terms are placed strategically. For example, Prior Learning Assessment sits directly beneath the Classroom and Community contexts as Prior Learning Assessment is usually in recognition of a student's prior experience as equivalent to formal education. That “prior learning” experience is usually gained in community places but could also be recognizing formal learning that took place at another institution (hence

its straddled position in the model). The other three types, however, are stretched across all three of the contexts and classifications, recognizing that they can all happen in any of these places and be recognized (or not recognized) accordingly.

As Roberts (2016) points out, none of these three terms are conclusively defined, but there are some commonly held distinctions that sets each one apart from the others.

The distinctions are as follows:

- Active Learning refers to any number of teaching strategies which involves learners in managing their own learning by using more engaging methods such as game-based activities, role-plays, or case studies (Roberts, 2016, p.47).
- Project Based Learning (which can also go by many other names) is an educative approach that can start with an ill-defined problem or question, and how the students go about finding the solution or answer is a significant part of the learning experience (Roberts, 2016, pp. 55-62). Other types of project based learning can include the production of work that is shared with an authentic audience such as a business plan written and presented by students to a panel of entrepreneurs (Bell, 2010).
- Integrated Learning is multidimensional and multifaceted, “connecting skills and knowledge from multiple sources and experiences, applying theory to practice in various settings; utilizing diverse and even contradictory points of view; and understanding issues and positions contextually” (Huber & Hutchings, 2004, p.13). Though it can appear in many different forms at the post-secondary level, crossing boundaries from classrooms to communities, one of the more common forms of Integrate Learning includes WIL (Roberts, 2016, p.55).

I placed work-integrated learning as the only pedagogical subtype featured in this model beneath the category of Integrate Learning. There could be other subtypes, but this exercise was an effort to illustrate the relationships between the most commonly used terminologies in this national conversation; and therefore, I only included this one subtype. Within the work-integrated learning sub-type are CEWIL Canada's nine forms.

### ***Drivers and Assessments***

The final two aspects of this 3P Model include two scales, one to capture who drives experiential education efforts and the other to represent the levels of assessment. On the far left of the scale are the curricular, classroom-based activities, which are typically institutionally driven and have higher levels of assessment; whereas on the far right is extra-curricular and community-based learning, which are student or individually driven and have lower levels of assessment.

I created the 3P Model as a way to visually represent the interconnectedness of ideas that have been put forth throughout the years, from Dewey in 1938 all the way to Jay Roberts' work in 2016. This model is intended as a way for those who are unfamiliar with the particularities of the terminology surrounding experiential education to quickly and efficiently understand some key distinctions between one level to the next. Furthermore, as other voices continue to join the experiential education discussion, this model can be used as a tool for others to orient their ideas and potentially integrate them into this larger framework.

### **In Summary**

This chapter demonstrated the in-depth approach I took to understanding experiential education by comprehensively examining the foundational philosophers, searching its historical and contemporary definitions and terminologies, and exploring common practices occurring in

the Canadian post-secondary context. This chapter laid a strong foundation about the purpose of experiential education, and now it is time to answer the guiding questions of this thesis through the review of peer-reviewed, published research.

One last thought before transitioning to the next chapter. It should be emphasized that women as educators, practitioners and facilitators have made, and continue to make, immeasurable contributions to the field of experiential education. I acknowledge the traditional research methods pursued in this literature review did not fully provide the opportunity to highlight the significant number of women involved in this field.

### Chapter Three – Methods

To understand where the field of experiential education is now and where it is going, it is important to first take stock of where it has been. For the last fifty years, Pascarella and Terenzini, along with a few others, have done this stocktaking systematically and cumulatively for the field of post-secondary student affairs, recorded in four volumes of *The Impact of College on Students* (Feldman & Newcomb, 1969; Pascarella & Terenzini, 1991, 2005; Mayhew et al., 2016). By accumulating and evaluating the research produced by others, these authors were able to draw dozens of conclusions related to the effects of post-secondary education on students. Inspired by their words and works, I chose to conduct a narrative review in order to do a similar stocktaking of the effects of experiential education on Canadian post-secondary student employability skills.<sup>4</sup> This chapter outlines the methods behind this research review project.

#### Study Format

According to Green et al., narrative reviews are synthesized collections of previously published works, and these works serve as the primary data for the narrative review (2006, p.103). This synthesis is accomplished by undertaking several steps, as described by Templier and Paré (2015), starting with formulating the research question(s) and objective(s), and then searching the applicable literature, proceeded by screening for inclusion, assessing the quality of studies, extracting data, and finally analyzing the data (p.116). Narrative reviews are done to “identify what has been accomplished previously, allowing for consolidation, for building on previous work, for summation, for avoiding duplication, and for identifying omissions or gaps” (Grant & Booth (2009) p. 97). For this narrative review, I gathered a multitude of published, primary studies based on a specific list of criteria, so that, as established by Green et al. (2006),

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<sup>4</sup> Thank you to Dr. Robert Renaud for suggesting the idea of modeling this thesis after the Pascarella and Terenzini’s narrative explanatory synthesis approach.

issues and trends could be identified, notable themes explored, and inferences made based on the bigger picture that emerged (p. 101). The narrative review approach is praised for its readability and its condensed nature (Green et al., 2006, p. 102). It is for these reasons that I decided to adopt a narrative review approach for this project.

### ***Shortfalls of this Format***

Though a narrative review brings many benefits, there are some notable shortcomings. First, a narrative review only collects published research; therefore, some argue it is only a part of the story (Sterne et al., 2011). Unpublished research may offer alternative or contrary perspectives, which could be the reason why it is yet to be, or perhaps will never be, published (Sterne et al., 2011). Therefore, in an attempt to amass a “bigger picture” through a research review, there may inherently be a piece, or pieces, missing because a narrative review does not include unpublished work. The only way to remedy this shortcoming is to seek out unpublished work and perform a systematic review. Since the goal of this master’s thesis was to look at 20 years of published research, a systematic review approach was not pursued. However, in an effort to have a sound research design and amass a breadth of works, I adopted two strategies: opting for peer-reviewed research exclusively and using a variety of databases.

Peer-reviewed research is a type of quality assurance for scholarly publications (Sage Publishing, 2018). Through a review and feedback process, submitted manuscripts are rigorously critiqued by subject matter experts, and only the works that meet the standards are accepted and published (Sage Publishing, 2018). Using only peer-reviewed articles as the data set for this narrative review lends credibility to this project. Furthermore, to solidify the research design and get the best possible output of results, I decided to use four distinctly different databases



covering education, science, social sciences, business, technology, and arts and humanities to curate a broader variety of peer-reviewed, published results.

Another notable shortcoming of narrative reviews is that they are usually also affected by the predisposition(s) of the author, which can impact the integrity and usability of the work (Green et al., 2006, p. 103). As I shared in Chapter One, I am a former co-op student and a vocal supporter of increasing access to post-secondary experiential learning opportunities. Though this is my first written piece of research about experiential education and employability skills, it is important to acknowledge that I have been working in this field for the last two decades. As such, my stance as a practitioner is bound up in this research, just as my stance as a researcher is bound to my practice. My biases can be mitigated, though, through sound research design (Green et al., 2006), and chapters three and four detail the specific decisions I made throughout this project to fortify the soundness of this work. Despite the discussed shortcomings of a narrative review, it is still an appropriate and powerful approach to a research topic such as this one, provided it is undertaken with logic, intentionality, and transparency.

### **The Research Design**

When outlining this research project, I designed the followings nine steps:

1. Crafted research questions
2. Identified the search terms
3. Set the criteria for inclusion
4. Sourced the articles
5. Critically evaluated the articles based on the criteria for inclusion
6. Collected the data
7. Analyzed the data

8. Interpreted the findings

9. Reported the results

Please note that though, these steps are listed in a linear fashion, my experience was more iterative, especially for steps 4, 5 6 and 7. Sourcing, evaluating, collecting, and analyzing data were activities that at times happened independently, and other times simultaneously, and both independent and simultaneous work happened multiple times. This tangled process is well documented among narrative review methodologies (Finfgeld-Connett and Johnson, 2013; Kitchenham and Charters, 2007).

I explain steps 1-7 in the remainder of this chapter.

### ***Crafted Research Questions***

According to Farrugia et al. (2010), a well-developed research question is principal to the quality of the research. As such, it must contain terms specific to the participant group studied, the activity involved, and the desired outcome (Farrugia et al., 2010). In this project, the research questions were: how much do experiential education opportunities develop Canadian post-secondary student employability skills? What are the findings, and what are the gaps and opportunities for future research? The formulation of these questions identifies the key terms involved. The participants under examination are Canadian post-secondary students, the new activity introduced is experiential education opportunities, and the desired outcome is the effect on Canadian post-secondary students' employability skills. All of this matters because, as laid out in Chapter One, there is a national conversation underway about experiential education and its impact on employability skills. I designed these two guiding questions so that I could contribute to this national conversation by collecting peer-reviewed, published research about the

experiences of Canadian post-secondary students as they related to experiential education participation and employability skills.

I decided to structure these research questions in this way, instead of a binary way, to lessen my aforementioned biases. By acknowledging that experiential education has an impact, and by trying to measure the degree of that impact there is more room for curiosity and understanding than an uncompromising “yes” or “no” answer would provide to a closed-ended question.

### ***Identified the Search Terms***

Beyond the research questions, a second foundational aspect was the logical selection of search terms. To do this, I consulted a variety of sources, including the Business Higher Education Roundtable (2018) and the Conference Board of Canada (n.d.-b). I looked for terms that expanded a single term into multiple ones (e.g., the search term “Canada” extended into “Canadian”, “Canadians”, and “in Canada”), and I also looked for terms that narrowed down broader concepts. Table 2 includes all the search terms I selected for this project; they are organized based on their respective categories: Country, Institutional Terminology, Type of Experiential Education, and Skills.

**Table 2**

*List of Search Terms Used to Conduct the Search*

<b>Country</b>	<b>Institutional Terminology</b>	<b>Type of Experiential Education</b>	<b>Skills</b>
Canada	Postsecondary	Experiential Education or Experiential Learning	Communication
Canadian	Post secondary	Work-Integrated Learning or WIL	Critical Thinking
Canadians	Post-secondary	Co-operative Education or Co-op	Problem Solving

Country	Institutional Terminology	Type of Experiential Education	Skills
in Canada	Higher Education  University	Apprenticeship or Apprenticeships	Teamwork
		Internship or Internships	Adaptability
		Field Experience or Field Experiences	
		Undergraduate Research	
		Service Learning or Service-Learning	
		Bootcamp or Bootcamps	
		Hackathon or Hackathons	
		Accelerator or Accelerators	
		Incubator or Incubators	

**Shortcomings of Search Terms.** Though there are similarities in the post-secondary system across Canada, there is also a distinct vocabulary unique to each institution. For example, what may be labelled as “experiential education” by one institution may be called “work-integrated learning” by another. This creates two notable shortcomings in this project. First, because the search terms were compiled from different sources, they were still ultimately selected by me using my Ontarian/Manitoban vocabulary; therefore, some research studies might have been unintentionally excluded because I did not have the necessary familiarity with related terms used elsewhere in the country. Second, similar terminology may exist in two or more provinces; however, it may have a slightly or significantly different meaning. For example, there is a movement to create a national framework for co-operative education and work-integrated learning (Business Higher Education Roundtable, 2018), but until a national framework is

adopted, a post-secondary institution may be practicing work experience but calling it co-operative education. Despite the difference in meanings, the underlying essence related to experiential education remains the same.

Even with these shortcomings, clearly articulated search terms are essential to a project such as a narrative review, as the specificity of the search terms dictate the results that can be procured from the databases. That is why each one of the terms on this list was pragmatically selected, with an ultimate goal to capture the greatest number of results while simultaneously also limiting the scope to suit the size of this project.

### ***Set the Criteria for Inclusion***

Setting the criteria for inclusion was an important step in defining the boundaries of this study and enabling an accessible and manageable search. I limited my search to peer-reviewed journal articles, written in English, and published between January 1997 and December 2017. These articles also needed to be focused on post-secondary student participation in experiential education programs or courses at college or university institutions located in Canada. Furthermore, to be included, the study also needed to emphasize the development of specific employability skills as a result of participation in post-secondary experiential education programs.

**Notable Considerations for Inclusion: Time and Country.** I selected a 20-year timeframe for two reasons: first, the benefits of experiential education is a contemporary topic being discussed among governments, post-secondary institutions, and special interest groups; and second, the concept of employability skills, as articulated by the Conference Board of Canada, has only emerged in the last 25 years. Therefore, using a search criterion based on a 20-year interval addresses the timeliness of both of these notions.

As a Canadian researcher and practitioner who has been listening to the collection of voices discussed in Chapter One for quite some time, I was keen on knowing what research had been conducted on Canadian campuses, which would highlight the successes and shortcomings of Canadian experiential education for students and the development of their employability skills. That said, there was a legitimate concern that by selecting only Canada my search would not yield enough results to warrant this project. However, such a result could be a clear indication of a gap in the research, thus making the project a worthwhile endeavour either way.

### ***Sourced the Articles***

With the use of the University of Manitoba Library's online search tools, I used my identified keywords in specific combinations to search for related published journal articles in carefully chosen databases: Academic Search Complete (powered by EBSCOhost), ERIC (Educational Resources Information Center), Sage Journals, and Scopus. I selected these four databases because of the breadth of peer-reviewed, published resources they feature from across academic disciplines. Academic Search Complete provides access to almost 6,000 scholarly articles from arts and science disciplines (EBSCO, n.d.-a, para.5); ERIC (Educational Resources Information Center) is a well-regarded repository of articles sponsored by the U.S. Department of Education (EBSCO, n.d.-b, para.4); Sage Journals is an independent publisher delivering innovative academic and professional content from across half a dozen disciplines (Sage Publishing, 2019, para.3); and Scopus is proclaimed to be the most comprehensive database, with a focus on "science, technology, medicine, social sciences, and arts and humanities" (Elsevier Scopus, n.d., para.2). Each one of these four databases highlights a variety of disciplines and features peer-reviewed journals, which were the core focus and integral to the research design of this project.

**Search Techniques.** I used several different techniques to search these databases, including quotation marks to keep multiple search terms together; Boolean searching; and unique search functions available within each search engine (e.g., date of publication). Also, for maximum effectiveness, I used multiple word or term derivatives for every type of experiential education search term, such as “Bootcamp” and “Bootcamps”, or “Service Learning” and “Service-Learning”. Using the singular and plural versions of each word (or other variations) increased the likelihood of achieving a positive search result. Sourcing the articles in this way made use of the U of M library databases to which I had access and allowed me to be more efficient in my search. In addition to efficiency, the decision to opt for multiple search techniques also created a more sound research design and in turn reduced the possible impact my biases could have on this project.

### ***Collected the Data***

In February 2019, I conducted 240 methodical searches in the four databases, crossing each of the 12 types of experiential education derivatives with each of the five skills. I then captured the results of each of those respective searches in an Excel workbook. I wanted to create records I could easily refer to if asked and that I could use for different projects in the future; therefore, I needed to devise a strategy to collect the data in a way that achieved these two outcomes. Excel workbooks allowed me to simultaneously collect multiple key pieces of data for each search and entry. This record keeping and data collection strategy also provided me with the certainty that I was not going to miss an important detail and have to go back to try to find it later. Furthermore, as library collections are dynamic, I needed to safeguard against finding a record and not being able to find it again down the road. It is for all of these reasons that I designed my master Excel workbook in this way. In anticipation for the type of analysis I wanted

to conduct, I opted to separate the master Excel workbook into two sections: one spreadsheet for numeric collections and the other for individual records.

**Numeric Data Collection.** In the first worksheet, I captured the specific number of records yielded from each database in a Total Results page, based on the particular combination of search terms. Meticulous recording of numeric search yields was important in a project like this for one key reason: the search yield results are in themselves a significant part of the research. By recording the yield results, I had the opportunity to identify themes, trends, and gaps in the research. Knowing which combination of search terms yielded the most results (or no results at all) was a valuable part of this narrative review. The screenshot shown in Figure 3.1 demonstrates the thoroughness of the records kept for each search.

**Figure 3.1**

*A Screenshot of the Master Excel Workbook for this Project*

The screenshot shows an Excel spreadsheet titled '2 - February 2019 Search Effortsv16 - Excel'. The spreadsheet is organized into columns for different search terms and databases. The first column (A) lists search terms, and the subsequent columns (B-I) show the number of results for each term across different databases (ASC, ERIC, Sage, Scopus, and Work-Integrated Learning or WIL). The spreadsheet is divided into two sections: 'communication skills' and 'critical thinking skills'.

	ASC	ERIC	Sage	Scopus	Work-Integrated Learning or WIL	ASC	ERIC	Sage
1 communication skills	5	3	13	68	0	0	0	0
3 critical thinking skills	3	0	3	14	0	0	0	0

The search terms are detailed in the first column (A) and include filters such as 'postsecondary', 'higher education', 'university', 'college', 'experiential education', 'experiential learning', 'communication skills', and 'critical thinking skills'. The results are displayed in the subsequent columns (B-I) for each database.



To explore an example illustrated in Figure 3.1, a search I conducted combining “communication skills” and “experiential education or experiential learning” (along with other parameters) yielded five articles in Academic Search Complete, three in ERIC, 13 in Sage Publications, and 68 in Scopus; whereas the search which combined “critical thinking skills” and “experiential education or experiential learning” produced three articles in Academic Search Complete, zero in ERIC, three in Sage Publications, and 13 in Scopus. After this collection stage, I was then able to compare and contrast the numerical data, examining it from various perspectives. Without this level of thorough record-keeping, it would have been virtually impossible to substantiate or accurately report these results.

**Individual Journal Article Data Collection.** After I captured all the numeric results, I catalogued each individual journal entry, along with the database it came from, in the Findings Tab of the Excel workbook, as shown in Figure 3.2.

**Figure 3.2**

*Journal Article Results Documented and Catalogued from the Search*

A	B	C	D	E	F	G	H	I	J	K	L
		Search Terms 1: Study Country of Origin	Search Term 2: Institution Term	Search Term 3: EE Term	Search Term 4: Employability Skills Term	Database	Title	Author	Journal	Date of Publication	Link
1	1	"Canada" or "Canadian" or "Canadians" or "in Canada"	"postsecondary" or "post secondary" or "post-secondary" or "higher education" or "university" or "college"	"experiential education" or "experiential learning"	"communication skills"	Academic Search Complete	Experiential Learning in Primary Care: Impact on Veterinary Students' Communication Confidence.	Barron, Daniella Khosa, Deep Jones-Bitton, Andria	Journal of Experiential Education.	Dec-17	<a href="http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=126234717&amp;site=ehost-live">http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=126234717&amp;site=ehost-live</a>
2	2	"Canada" or "Canadian" or "Canadians" or "in Canada"	"postsecondary" or "post secondary" or "post-secondary" or "higher education" or "university" or "college"	"experiential education" or "experiential learning"	"communication skills"	Academic Search Complete	Transmedia dynamics in education: the case of Robot Heart Stories.	Gambarato, Renira Rampazzo Dabagian, Lilit	Educational Media International	Dec-16	<a href="http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=119571816&amp;site=ehost-live">http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=119571816&amp;site=ehost-live</a>
3	3	"Canada" or "Canadian" or "Canadians" or "in Canada"	"postsecondary" or "post secondary" or "post-secondary" or "higher education" or "university" or "college"	"experiential education" or "experiential learning"	"communication skills"	Academic Search Complete	An Interprofessional communication skills lab: A pilot project.	Salvatori, Penny Mahoney, Patricia Delottinville, Carl	Education for Health: Change in Learning & Practice (Taylor & Francis Ltd).	Nov-06	<a href="http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=23463324&amp;site=ehost-live">http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=23463324&amp;site=ehost-live</a>
4	4	"Canada" or "Canadian" or "Canadians" or "in Canada"	"postsecondary" or "post secondary" or "post-secondary" or "higher education" or "university" or "college"	"experiential education" or "experiential learning"	"communication skills"	Academic Search Complete	Using an objective structured clinical examination to assess medical students' communication skills.	Medical Teachers	Medical Teachers	Apr-12	<a href="http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=119571816&amp;site=ehost-live">http://um1.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&amp;db=9h&amp;AN=119571816&amp;site=ehost-live</a>

I also documented the article's title, author, journal of publication, date of publication, a permalink to the article, and a few other particulars. The decision to thoroughly catalogue each individual entry was important because not only did it become the data set on which I was able to analyze possible themes, trends, and gaps in the peer-reviewed, published literature, it also minimized any possible effect of my personal or professional leanings on this project.

### ***Critically Evaluated the Articles Based on the Criteria for Inclusion***

A strategic way to ensure sound research practices are in place, and to reduce the influence of researcher bias, is to have a set of criteria to determine if an article should be included in the study (Green et al., 2006). That criteria needed to be equally applied to all the articles I collected as part of this search. In this study, I conducted a total of 240 searches, which generated 453 peer-reviewed, published articles. After I inputted all of the data into the Excel workbook, I determined that 108 of the articles were duplicates, leaving a total of 345 unique articles that needed to be critically evaluated. As part of my goal to have good research design, I used the following critical evaluation process to determine eligibility: I read the title and abstract of each article; answered questions that assessed if the study met the multiple criteria of inclusion; and decided if the article should be included in the study or not. Moreover, the decision to have a documented set of criteria to follow also supports sound research design.

The criteria for inclusion questions were as follows:

- Criteria 1: Was the study published between January 1997 and December 2017?
- Criteria 2: Did the study focus on a type of experiential learning as part of a post-secondary program or course?
- Criteria 3: Was the study conducted at a Canadian post-secondary institution?

- Criteria 4: Were one (or more) of the following skills assessed in participating students: communication, critical thinking, problem solving, teamwork, or adaptability?

I analyzed all of the 345 unique articles based on these four criteria of inclusion. The first question was the only straightforward one. In fact, all of the 345 articles met that criteria; the database filters were effective at limiting results to articles that were published in the timeframe I designated. However, the second, third, and fourth criteria questions were more complex to answer. To answer the remaining criteria questions, I used “yes”, “no”, and “maybe” responses. If an article had three “yes” answers, it was included in the study; if it had three “no” answers, it was not included; and if it had a combination of “yes”, “no”, or “maybe”, then it needed to be reviewed in greater detail.

In general, only a quarter of the articles were easily assessed based on their title and abstract (i.e., they garnered three “yes” or three “no” answers). The other three quarters required a thorough read-through before I could answer all of the criteria for inclusion questions with a “yes” or “no”. For example, the title and abstract did not always state where the study took place (a criteria of the third question), so I then had to refer to the authors and their institutional affiliations to find out if the study came from a Canadian institution. This strategy provided preliminary insight, but I still sought additional confirmation in the methods section or elsewhere in the article. This additional step was taken because an author’s institutional affiliation is not always an indication of where the study took place, and some articles had multiple authors with multiple institutional affiliations, which made deciphering the institution-specific student population that was studied a more involved task that required additional analysis.

Questions two and four were also complex to answer based on the article's title and abstract alone, and I needed to spend more time and effort reading the entire article to get the clarity necessary to determine if it should be included in my research review or not. As an additional step to ensure an article's eligibility for inclusion, I conducted keyword searches using the "CTRL F" function to find the experiential learning or employability skills terms in articles that did not provide that key information in the title and abstract. This strategy was effective in speeding up the process while also ensuring accuracy.

### *Analyzed the Data*

Once I had gathered all the relevant peer-reviewed research pertaining to experiential education and employability skills, I needed to analyze the data at two stages in the project in order to answer my research questions and discover themes, trends, gaps, and opportunities: before the criteria for inclusion was applied (the macro-level) and after (the micro-level).

**The Macro-Level: Before the Criteria for Inclusion Was Applied.** The macro-level data allowed me to best address the gaps and opportunities question of this research project. I examined the results yielded by each series of search terms, the number of articles that were found for each employability skill and type of experiential education activity, and which of the four databases produced these results. By doing so, I was able to identify gaps in the research and understand the opportunities for addressing them. For example, "communication skills" yielded the largest number of peer-reviewed published articles (313), while on the opposite end of the spectrum, there were no articles yielded for the search term "adaptability skills" in any of the four databases. This suggests that there is a gap in the research, as communication skills have garnered more attention from researchers compared to any of the other searched skill terms. An opportunity exists for researchers to pursue more studies around the impact of experiential

education on critical thinking, problem solving, and teamwork, but especially adaptability.

Analyzing the data at this macro-level allowed me to draw these kinds of conclusions.

In addition to looking at search terms that yielded the most results, or the least results, this macro-level analysis also allowed me to consider the search terms that yielded unintended results. For example, searching the terms “accelerator” and “incubator”, pulled from the Business Higher Education Roundtable’s 2018 Letter, yielded results related to medical practices and medical devices, not experiential education activities; therefore, those few studies were not included in this research. Terms that have multiple meanings or are used differently within different fields are one of the previously articulated shortcomings of this type of research methodology. By analyzing the 345 articles at the macro-level, I was able to uncover an early picture of the gaps and opportunities in the research, which I will explore fully in the next chapter.

**The Micro-Level: After the Criteria for Inclusion Was Applied.** At the micro-level, I assessed 42 of the 345 articles as meeting the criteria of inclusion; the list is featured in Appendix F, sorted in chronological order by publication date. There were two ways that I wanted to analyze the data that came from these 42 articles. First, I wanted to understand what the article had to say about the impact of specific types of experiential education had on Canadian post-secondary student employability skills. This information was gathered through an in-depth read-through of the 42 articles in their entirety. Through this work, I classified each article into one of four categories, identified common themes, and highlighted similarities and differences. In this process, I also scrutinized any of the articles that did not actually meet the criteria of inclusion and removed them from the study.

At a second stage of analysis, I wanted to know more about the articles themselves: which journals published these articles and when, who were the authors, which institutions were involved, which academic disciplines were represented, and where did the funding that supported this work come from? Recognizing the gaps in the literature, I wanted to understand more about the existing recent published research. In particular, how did this recent research come to be? I believe by studying these conditions that created the research, insights can be gained. Once identified, some or all of those conditions could be duplicated to create more research on post-secondary experiential education and employability skills development. This micro-level analysis was important to the methodology of this project because it answered key questions about the findings as they relate to experiential education and employability skills, and how they point to possibilities for future research. I decided to analyze the data by counting, contrasting, and comparing the results I found regarding the authors, academic disciplines, affiliated institutions, journals, publication dates, and funding sources into figures and tables that are shown in Chapter Four. For the sets of micro-level data, findings *from* the articles, *behind* the articles and *about* the articles informed the conclusions of this narrative review.

### **In Summary**

With access to select University of Manitoba's Libraries databases, I conducted a comprehensive search compiling peer-reviewed journal articles, written in English, and published over a twenty-year period that focused on post-secondary student participation in experiential education programs at college or university institutions located in Canada. By following a well-articulated research design, I was able to explore how those experiences developed specific employability skills, such as communication, critical thinking, problem solving, teamwork, and adaptability. In order to conduct this research review, I crafted research

questions, identified the search terms, set the criteria for inclusion, sourced the articles, critically evaluated the articles based on the criteria for inclusion, collected the data, analyzed the data; and in Chapter Four, I interpret the findings and report the results.

## Chapter Four – Results

In this chapter, I followed the last two steps of the nine-step research design I created: interpreted the findings and reported the results. By counting, comparing, and contrasting the 42 articles, featured in Appendix F, on a number of different dimensions, I identified themes and patterns related to the research questions. The first dimension I looked at, and foremost to this thesis, was the results of the studies that answered the question *how does experiential education develop to post-secondary student employability skills?* And beyond those top-level findings, as a second dimension, I wanted to understand more of the intricacies behind the study results. Therefore, I discerned and differentiated the duration of the experiential learning activity; the student demographic involved in the study (e.g., domestic/international, gender); the size of the participant group; the type of study; the data collection; and the method of learning assessment. I also examined the journals that published these articles, the dates of publication, the scholars and institutions that have invested in this type of research, and the research support or funding, all of which I discuss at the end of this chapter. All of this was done to create a better understanding of the current state, gaps and opportunities in the field of Canadian experiential education research.

### First Dimension: Findings Related to Experiential Education & Skills Development

In connection to outcomes related to skill development of participating students, I asked the question: Is the experiential education activity deemed favourable to achieving the development of one (or more) of the highlighted employability skills including communication, critical thinking, problem solving, teamwork and adaptability? To quantify the answers to that question, I classified each study with one of these four labels: positive effect, no effect, unknown/unidentified effect, and mixed effect. They are described as follows:



- **Positive Effect:** The impact of the experiential learning had a positive effect on the students' employability skill.
- **No Effect:** The impact of the experiential learning had no effect on the student's employability skill; or, the change in the employability skill was not measurable.
- **Unknown/Unidentified Effect:** The end result of the experiential learning is unknown or unidentified.
- **Mixed Effect:** The authors were studying multiple outcomes, and some had a positive outcome whereas others did not; hence, the results were mixed.

In the sections ahead, I examine each employability skill based on search results and the assessed outcome, and I discuss the findings for each one.

### ***Communication Skills Development***

Out of the 42 articles, 29 studies focused on assessing communication skill development. Of those, 17 studies (59%) confirmed that there was a positive change in skills as a result of the experience. There were four studies that indicated that there was no change, six studies' effects were unknown/unidentified, and two studies had mixed effect outcomes. See Table 3 for the list of these 29 studies and their assessed outcomes.

**Table 3**

*List of Studies Focused on Communication Skills Development and Its Assessed Outcome*

<b>No.</b>	<b>Article Title</b>	<b>Description of Experiential Learning Outcome</b>	<b>Outcome</b>
1	Communication Pedagogy: What's Typical across Canada and Unique at the University College of Cape Breton	"Rolls (the author) concluded that the <b>outcome of the lab was positive</b> "* (Rolls, 1998, p. 297).	Positive Effect
6	Relationship of Resident	"Our study reveals that residents who underwent prior communication skill	Positive Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
	Characteristics, Attitudes, Prior Training, and Clinical Knowledge to Communication Skills Performance	training <b>significantly outperformed</b> those who did not” (Suzuki Laidlaw et al., 2006, p. 24).	
7	An Interprofessional Communication Skills Lab: A Pilot Project	“The interprofessional skills lab during this initial pilot phase was a <b>positive experience for all</b> participants and was effective in providing student exposure to collaborating with other health professional students” (Salvatori et al., 2006, p. 383).	Positive Effect
9	Teaching Communication Skills Using the Integrated Procedural Performance Instrument (IPPI): A Randomized Controlled Trial	“The IPPI is an <b>effective tool for teaching communication skills</b> in residents and medical students and should be considered for incorporation into undergraduate and surgical curricula” (Moulton et al., 2009, p. 113).	Positive Effect
12	Resident Preparedness in Discussing Prognosis in Patients with Advanced Lung Cancer	“Therefore, while apprenticeship training is valued highly by the residents in this study, it should not, however, be concluded that <b>the formal teaching tools, therefore, lack merit, as clearly they are important components of a communication skills training</b> ” (Wheatley-Price et al., 2009, p. 495).	Positive Effect
13	Interprofessional Education Internships in Schools: Jump Starting Change	“Findings suggest that this IPE practicum provided a forum for students to <b>develop sophisticated communication skills</b> and more fully respect the scope and breadth of each other’s practice while working towards improving the quality of care for children through interprofessional	Positive Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
		collaboration” (Salm et al., 2010, p. 251).	
15	Assessing Residents' Communication Skills: Disclosure of an Adverse Event to a Standardized Patient	<b>“Residents’ performance in disclosure improves after formal teaching</b> and the OSCE is an effective technique for testing communication skills” (Posner & Nakajima, 2011, p. 262).	Positive Effect
16	Quantifying Surgeon's Contribution to Team Effectiveness on a Mixed Team with a Junior Surgeon	“For example, an analysis of verbal communication during tasks performed by Mixed teams, we observed <b>verbal communications between team members that consisted of short and direct instructions, instant correction of errors, positive encouragement, and constructive feedback</b> ” (Zheng et al., 2011, p. 764).	Positive Effect
23	Hybrid Simulation for Knee Arthrocentesis: Improving Fidelity in Procedures Training	<b>“HS facilitates the simultaneous acquisition of technical and communication skills.</b> Future research should examine whether HS improves transfer of skills to the clinical setting” (Stroud & Cavalcanti, 2013, p. 723).	Positive Effect
28	Dynamic and Routine Interprofessional Simulations: Expanding the Use of Simulation to Enhance Interprofessional Competencies	“Placing students in teams that are relevant for practice, rather than grouping them by academic credentials, is necessary and <b>can provide positive learning experiences for all participants, as demonstrated by these results</b> ” (King et al., 2014, p. 169).  “Following a single simulation-based education experience that was either dynamic or routine, <b>students reported a significant enhancement in IP competencies of</b>	Positive Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
		<b>communication and teamwork”</b> (King et al., 2014, p. 174).	
29	Evaluation of the Impact of a Simulation-Enhanced Breaking Bad News Workshop in Pediatrics	“This novel simulation-based pediatric BBN workshop has provided pediatric trainees with a needs-based, experiential learning curriculum in an area where residents lack clinical opportunities for practice and yet may have a life-altering impact on a family. <b>Although the overwhelmingly positive impact that learners felt this workshop had on their skills is gratifying, the improvement in performance seen by the experts and, more importantly, the parents provide objective evidence of the real impact of this program”</b> (Tobler et al., 2014, p. 219).	Positive Effect
31	Assessing Vertical Development in Experiential Learning Curriculum	“The findings support our contention that <b>experiential learning (EL) curricula developed with both lateral and vertical development components are powerful aids in preparing students to address complex work-related challenges”</b> (Spence & McDonald, 2015, p. 296).	Positive Effect
32	Enhanced Patient-Centred Care: Physiotherapists’ Perspectives on the Impact of International Clinical Internships on Canadian Practice	“ <b>The 13 practicing Canadian physiotherapists interviewed described three enhanced capacities:</b> (1) critical reflection on culture, values and practice; (2) <b>communication skills</b> ; and (3) creativity and resourcefulness. These capacities were perceived to transfer to Canadian practice by enhancing participants’ ability to deliver patient-centred care, specifically through an enhanced understanding of patients’ values and social determinants of health, regardless of the Canadian	Positive Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
		setting or patient population” (Mesaroli et al., 2015, p. 385)	
35	The “Kobayashi Maru” Meeting: High-Fidelity Experiential Learning (note: cross-listed with critical thinking skills)	“Results from multisource, multimethod data suggest that <b>the simulation enhanced students’ decision making, critical thinking, and communication skills</b> , as well as their ability to deal with their own and others’ reactions in intense circumstances. Beyond board governance, the simulation creates an authentic learning experience that can be adapted to multiple learning contexts including leadership, ethics, decision making, and communication” (Bruni-Bossio & Willness, 2016, p. 619).	Positive Effect
39	Development and Implementation of a Longitudinal Students as Teachers Program: Participant Satisfaction and Implications for Medical Student Teaching and Learning	“Teaching is a skill that requires ongoing practice. <b>Our results suggest that a longitudinal program consisting of theoretical modules, practical teaching sessions, feedback, and reflective exercises for medical students may improve teaching and communication skills</b> , and equip them with improved learning strategies” (Yeung et al., 2017, p. 1).	Positive Effect
40	Standardized Patient Simulation Versus Didactic Teaching Alone for Improving Residents' Communication Skills when Discussing Goals of Care and Resuscitation: A Randomized Controlled Trial	“ <b>Simulation training may improve communication skill and comfort more than didactic training alone</b> , but there were important confounders in this study and further studies are needed to determine whether simulation is better than didactic training for this purpose” (Downar et al., 2016, p. 130).	Positive Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
42	Experiential Learning in Primary Care: Impact on Veterinary Students' Communication Confidence	<b>"Students' self-confidence ratings in all but one of the 28 pre- and post-rotation clinical communication statements assessed improved significantly after the experiential learning activities"</b> (Barron et al., 2017, p. 356).	Positive Effect
17	Communicating Wisely: Teaching Residents to Communicate Effectively with Patients and Caregivers about Unnecessary Tests	<b>"An interactive workshop can improve knowledge of resource stewardship, but improving communication skills with patients/caregivers about unnecessary testing may require additional training or reinforcement in the clinical learning environment"</b> (Mukerji et al., 2017, p. 1).	No Effect
18	Assessing Residents' Disclosure of Adverse Events: Traditional Objective Structured Clinical Examinations Versus Mixed Reality	<b>"The assessment of adverse event disclosure was not enhanced by the addition of a simulated experience"</b> (Posner et al., 2012, p. 367).	No Effect
26	Does Teaching of Documentation of Shoulder Dystocia Delivery through Simulation Result in Improved Documentation in Real Life?	<b>"The teaching of shoulder dystocia documentation through simulation did not result in a measurable improvement in the quality of documentation of should dystocia in actual clinical situations"</b> (Comeau & Craig, 2014, p. 258).	No Effect
34	The OSCE Progress Test: Measuring Clinical Skill Development over Residency Training	The IM-OSCE can be used to demonstrate profession of clinical skills throughout residency training. Although most of the clinical skills assessed improved as residents professed through their training, <b>communication skills did not appear to change</b> " (Pugh et al., 2015, p. 168).	No Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
8	Evaluation of Residents' Documentation Skills after a Simulated Operative Vaginal Delivery	<b>"Simulation can be used as a form of standardized formative evaluation to assess trainees' written communication skills and to identify deficiencies"</b> (Posner et al., 2009, p. 1064).	Unknown/Unidentified Effect
10	Psychometric Properties of an Integrated Assessment of Technical and Communication Skills	<b>"An IPPI examination discriminated between students' and residents' technical skills and coherence in communication skills.</b> It also highlighted a potential gap in the training of residents' communication skills" (LeBlanc et al., 2009, p. 96).	Unknown/Unidentified Effect
11	Skills of Internal Medicine Residents in Disclosing Medical Errors: A study Using Standardized Patients	<b>"Experience with medical error begins early in training, and preparing trainees to discuss these errors is essential. Areas exist for improvement in residents' disclosure abilities, particularly regarding the prevention of future errors. Curricula to increase residents' skills and comfort in disclosure need to be implemented.</b> Most residents would welcome further training" (Stroud et al., 2009, p. 1803).	Unknown/Unidentified Effect
22	How We Teach Ethics and Communication during a Canadian Neonatal Perinatal Medicine Residency: An Interactive Experience	<b>"A dedicated interactive competency-based neonatal ethics teaching program is vital to support NPM trainees in learning how to integrate ethical thinking with competencies in communication"</b> (Daboval et al., 2012, p. 199).	Unknown/Unidentified Effect
33	An Objective Structured Clinical Exam to Measure Intrinsic CanMEDS Roles	<b>"We have shown that an OSCE measuring intrinsic CanMEDS roles is feasible;</b> however further development of our cases and checklists will be required to ensure that we can establish evidence for construct validity. We provide a model of how to develop an OSCE to	Unknown/Unidentified Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
		measure intrinsic CanMEDS roles that educators may adopt as residency programs move into the CBME format” (Kassam et al., 2016, p. 8).	
38	Immersive Learning: Using a Web-Based Learning Tool in a Ph.D. Course to Enhance the Learning Experience	<p>“This study investigated different ways to measure students’ collaboration, constructivism through their peer evaluation scores and performance in an immersive learning environment by taking the roles of teacher, evaluator, and learner” (Ly et al., 2017, p. 227).</p> <p><b>“Our contribution in this paper sheds light on a collaborative learning tool tested at a doctoral level classroom,</b> which is indicative of future professors’ proficiency in creating quality questions. In addition, this tool incorporates and acknowledges past research on experiential, constructivism and collaborative learning as well as immersive features. This study takes the field of innovative technologies in learning one step forward in understanding useful technologies in education that serve knowledge acquisition” (Ly et al., 2017, p. 242).</p>	Unknown/Unidentified Effect
20	Using an Objective Structured Video Exam to Identify Differential Understanding of Aspects of Communication Skills	<p><b>“Communication skills training resulted in improved recognition of some but not all types of communication skills.</b> Educators in the field of clinical communication may find it useful to evaluate knowledge acquisition of specific communication skill sub-types using OSVEs to enable tailoring of feedback and further curriculum development to the specific deficiencies observed” (Baribeau et al., 2012, p. 249).</p>	Mixed Effect



No.	Article Title	Description of Experiential Learning Outcome	Outcome
30	Student Learning through Service Learning: Effects on Academic Development, Civic Responsibility, Interpersonal Skills, and Practical Skills	“Although students who participated in <b>service learning self-reported greater improvement in civic responsibility, interpersonal skills, and academic development they only demonstrated more academic development in terms of concrete course concepts, showing no differences in final examination marks or generation of detailed examples.</b> These findings suggest that academic improvement through service learning may not be adequately assessed by typical methods used to evaluate academic development at universities” (Hébert & Hauf, 2015, p. 37).	Mixed Effect

*Note.* \*The use of bold above is my own to emphasize the outcomes.

**Positive Effect.** In this search for studies that examined a type of experiential education activity and the development of communication skills, I found 17 studies with favourable results. Albeit positive, there was a range in how each of those outcomes were described. For example, Rolls’ 1998 article “Communication Pedagogy: What’s Typical Across Canada and Unique at the University College of Cape Breton” referenced “the outcome of the lab was positive” (p. 297); whereas the article “Experiential Learning in Primary Care: Impact on Veterinary Students’ Communication Confidence” states “Students’ self-confidence ratings... improved significantly” (Barron et al., 2017, p. 356). Although both of these were classified as having a positive effect, it is difficult to discern how positive the effect was based on how these authors shared their conclusions. Rolls declares an overall outcome, whereas Barron et al. speaks to the favourable impact of the experiential education on the individual student’s communication skills. Though categorized together, they are pointing to different degrees of results. Also, these are simply two

of the 17 that fit into this category, signifying a range of results that fall under the “positive effect” classification.

**No Effect.** Within the search, there were four articles that disclosed that there was no effect on the development of the students’ communication skills. Please note, this does not mean that there was a negative impact (i.e., students’ communication skills did not worsen); it just means that the experiential education activity did not yield a change in results, or based on the way the results were measured, no change was noted.

**Unknown/Unidentified Effect.** There was another subset of six articles that were classified as unknown or unidentified. The results from this group of studies were not as clear as the positive effect or no effect results. In fact, these articles provided no specific comment on the effect that the experiential education had on the intended student population. Instead, they mostly commented on the use or success of the tool that was used to measure the activity.

**Mixed Effect.** There are two articles that fall within this category and are especially intriguing, and therefore will be considered more closely. One of the two studies with mixed results was a study published in the *Medical Teacher* in 2012: “Using an Objective Structured Video Exam to Identify Differential Understanding of Aspects of Communication Skills” (Baribeau et al., 2012). This study was conducted in a communications course at McMaster University with a sample size of 79 students. With the use of “an experiential approach to communication skills training with SP (standardized patients)”, students participated in interactions that lasted multiple hours each week for one semester. Students received “immediate tutor feedback” and an opportunity to observe their own interactions on video afterwards (Baribeau et al., 2012, p. 246). Furthermore, throughout the term, students submitted multiple written assignments that centred on their self-reported communication skills development. It is

interesting that the authors concluded that “[communication] skill training resulted in improved recognition of some but not all types of communication skills” (Baribeau et al., 2012, p. 249). Unfortunately, this particular study did not elaborate on how the data were ultimately assessed to come to this conclusion. That said, its end result placed it in the mixed effects category.

The other study with mixed effects is an interesting case for a few reasons. Published in 2015, “Student Learning Through Service Learning: Effects on Academic Development, Civic Responsibility, Interpersonal Skills and Practical Skills” (Hébert & Hauf, 2015) is one of the more recent articles reviewed in this study. Secondly, it is from a second-year developmental psychology course, with a sample size of 130 students at St. Francis Xavier, and it is one of the only studies that focused on Service-Learning. The most interesting part is that this study was conducted with a mixed-methods approach using multiple data sources including academic- and self-assessment (Hébert & Hauf, 2015, p. 37). The authors reported that students perceived an increase in their communication skills, but that did not translate to their academic performance (Hébert & Hauf, 2015, p. 37).

Therefore, with both of these studies with mixed outcomes, it is not to say the increase in communication skills did not happen, it just means that the measurement tool did not capture it. These two mixed results studies also point to another complexity in this research: the self-perceived shift in skills development versus a shift in skills development measured by an external observer or instrument—which one is more “real”? This philosophical dilemma will be explored more fully in Chapter Five. Though the studies related to communication skills collected for this project are by far the largest dataset for this work, and the majority of them suggest a positive effect between experiential education and communication skill development, there is an opportunity to do more research in this area.

### *Critical Thinking Skills Development*

Out of the 42 articles, five studies focused on assessing critical thinking skills development. Of those, two confirmed that there was a positive change in critical thinking skills (cross-listed with communication skills) as a result of the experiential education experience. There were two studies that indicated that there was an unknown/unidentified effect, and one study with no effect. See Table 4 for the list of these five studies and their assessed outcomes.

**Table 4**

*List of Studies Focused on Critical Thinking Skills Development and Its Assessed Outcome*

No.	Article Title	Description of Experiential Learning Outcome	Outcome
4	Critical Thinking and Learning Styles of Students in a Problem-Based Master's Entry-Level Physical Therapy Program	"Master's entry-level physical therapy students <b>did not have major changes in their critical thinking ability</b> or disposition during the program" (Wessel & Williams, 2004, p. 79).	No Effect
14	Research Is a Verb: Exploring a New Information Literacy—Embedded Undergraduate Research Methods Course	"This paper highlights findings which include student perception of information literacy.... information-skills resumes, the relationship between skills and confidence, and the students' normative understanding of a "typical" undergraduate learning experience" (Polkinghorne & Wilton, 2010, p. 458).	Unknown/Unidentified Effect
19	The Development and Implementation of a Problem-Based Learning Format in a Fourth-Year Undergraduate Synthetic Organic and Medicine; Chemistry Laboratory Course	"Most notably <b>the students improved their abilities</b> to learn independently and to <b>think critically</b> , as evidenced by the proposals submitted before each experiment, by their work in the laboratory and by their ability to analyze their results. <b>Research skills, critical thinking abilities, and independence in the</b>	Positive Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
		laboratory which were required for solving the problems, were newly acquired in this course by the vast majority of students and are essential abilities needed for future independent learning whether in graduate school or in their future careers (Flynn & Biggs, 2011, p. 57).	
35	The “Kobayashi Maru” Meeting: High-Fidelity Experiential Learning (note: cross-listed with communication skills)	“Results from multi-source, multimethod data suggest that <b>the simulation enhanced students’ decision making, critical thinking, and communication skills, as well as their ability to deal with their own and others’ reactions in intense circumstances</b> ” (Bruni-Bossio & Willness, 2016, p. 619).	Positive Effect
37	Optimizing Learner Assessment in a Respiratory Therapy Clinical Simulation	“ <b>Evaluation in the clinical simulation course appears to be objective and fair as perceived by the majority of the project participants</b> (Drasovean, 2017, p. 21).	Unknown/Unidentified Effect

The studies related to critical thinking that were gathered as a part of this project do not provide a definitive answer as to the impact of experiential education and the development of critical thinking skills. Based on the extremely limited number of collected studies that have been conducted to measure the impact of experiential education on this skill, and with only two demonstrating a positive effect, a significant amount of further study is needed.

### ***Problem Solving Skills Development***

Out of the 42 articles, only one study focused on assessing the development of problem solving skills. That study reported an unknown or unidentified effect of experiential learning on problem solving skills, as shown in Table 5.

**Table 5**

*List of Studies Focused on Problem Solving Skills Development and Its Assessed Outcome*

<b>No.</b>	<b>Article Title</b>	<b>Description of Experiential Learning Outcome</b>	<b>Outcome</b>
25	Incorporating Topics that Aren't Distance-Friendly into an Online Program: One Development Team's Experience	"Feedback from students was very positive. <b>In the replies to the course surveys they almost all rated the courses as 'excellent' for providing relevant skills and information and offering an effective learning experience.</b> Metrics for clarity of requirements and content and the relevance and value of assignments were rated by at least 50% of the students as 'excellent' and above average by the rest" (Schaefer et al., 2013, p. 9).	Unknown/Unidentified Effect

This particular article, "Incorporating Topics that Aren't Distance-Friendly into an Online Program: One Development Team's Experience" (Schaefer et al., 2013), is an interesting demonstration of experiential learning in a non-traditional application. The University of Victoria's certificate program in Natural Species and Natural Processes in Ecology Restoration is delivered online and intended for a practicing professional, but the course developers knew they wanted students to have an experiential learning component. The program's objectives "focused on making unusual connections that required (1) specific knowledge and lateral thinking skills, (2) difficult projects with conflicting priorities requiring problem solving skills" (Schaefer et al.,

2013, p. 4). Therefore, students in the program were required to complete a capstone project in their home community, and with the use of photographs and video, demonstrate the before, during, and after of the ecological restoration process. Self-assessment was mentioned but not explored as a part of the article. Instead, the authors chose to focus on the outcomes of the course evaluation, which is captured in the quote featured in Table 5. Put another way, problem solving was an outcome of the course but not measured in the assessment of this course, which is why I classified it as an unknown/unidentified effect. With only a single study related to problem solving, it is an area that requires significantly more research before a conclusion can be drawn about the effect of experiential education in relation to problem solving skill development.

### ***Teamwork Skills Development***

Out of the 42 articles, nine studies focused on assessing the development of teamwork skills. Of those nine, five studies confirmed that there was a positive change in skills as a result of the experience (cross-listed with communication skills). There was one study (#27) that indicated that there was no change (the study focused on graduated students); two studies (#24 and #33) which had unknown/unidentified outcomes, and one study (#30) with mixed effects (cross-listed with communication skills). See Table 6 for the list of studies connected to teamwork skill development and the assessed outcome.

**Table 6**

*List of Studies Focused on Teamwork Skills Development and Its Assessed Outcome*

No.	Article Title	Description of Experiential Learning Outcome	Outcome
3	Interprofessional Infection Control Education Using Standardized Patients for	“Results from the evaluation of this IPE infection control module demonstrate <b>the combination of IP exposure, infection control skills practice and the SP simulation mode were effective</b>	Positive Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
	Nursing, Medical, and Physiotherapy Students	<b>in improving students' knowledge and confidence using proper infection control technique and increasing comfort in IP teamwork"</b> (Luctkar-Flude et al., 2016, p. 30).	
5	Influence of an Interprofessional HIV/AIDS Education Program on Role Perception, Attitudes and Teamwork Skills of Undergraduate Health Sciences Students	"A problem based learning approach combined with standardized patients <b>was effective in enhancing HIV/AIDS interprofessional role perception, enhancing attitudes towards collaboration and interprofessional approaches to HIV/AIDS care and fostering confidence in teamwork skills among pre-licensure health sciences students"</b> (Curran et al., 2005, p. 32).	Positive Effect
7	An Interprofessional Communication Skills Lab: A Pilot Project	"The interprofessional skills lab during this initial pilot phase was <b>a positive experience for all</b> participants and was effective in providing student exposure to collaborating with other health professional students" (Salvatori et al., 2006, p. 383).	Positive Effect
24	Students' Experience of Prison Health Education during Medical School	"Our findings demonstrated the pre-clinical exposure to incarcerated individuals and prison health education <b>provided a unique setting for medical students</b> to develop an increased sense of social responsibility and methods were used to inductively derive thematic findings to describe students' experiences" (Filek et al., 2013, p. 938).	Unknown/Unidentified Effect



No.	Article Title	Description of Experiential Learning Outcome	Outcome
27	Implications of Early Workplace Experiences on Continuing Interprofessional Education for Physicians and Nurses	<b>“The impact of undergraduate professional education on teamwork was found to be diluted</b> by internal contradictions and overshadowed by the demands and contingencies of the workplace reported here” (Veerapen & Purkis, 2014, p. 218).	No Effect
28	Dynamic and Routine Interprofessional Simulations: Expanding the Use of Simulation to Enhance Interprofessional Competencies (note: cross-listed with communication skills)	<p>“Placing students in teams that are relevant for practice, rather than grouping them by academic credentials, is necessary and <b>can provide positive learning experiences for all participants, as demonstrated by these results</b>” (King et al., 2014, p. 169).</p> <p>“Following a single simulation-based education experience that was either dynamic or routine, <b>students reported a significant enhancement in IP competencies of communication and teamwork</b>” (King et al., 2014, p. 174).</p>	Positive Effect
30	Student Learning through Service Learning: Effects on Academic Development, Civic Responsibility, Interpersonal Skills and Practical Skills (note: cross-listed with communication skills)	“Although students who participated in service learning <b>self-reported greater improvements in civic responsibility, interpersonal skills, and academic development, they only demonstrated more academic development in terms of concrete course concepts, showing no differences in final examination marks or generation of detailed examples. These findings suggest that academic improvement through service learning may not be</b>	Mixed Effect

No.	Article Title	Description of Experiential Learning Outcome	Outcome
		adequately assessed by typical methods used to evaluate academic development at universities” (Hébert & Hauf, 2015, p. 37).	
33	An Objective Structured Clinical Exam to Measure Intrinsic CanMEDS Roles	<p><b>“We have shown that an OSCE measuring intrinsic CanMEDS roles is feasible; however further development of our cases and checklists will be required</b> to ensure that we can establish evidence for construct validity. We provide a model of how to develop an OSCE to measure intrinsic CanMEDS roles that educators may adopt as residency programs move into the CBME format” (Kassam et al., 2016, p. 8).</p>	Unknown/Unidentified Effect
41	Constructive Controversy and Reflexivity Training Promoted Effective Conflict Profiles and Team Functioning in Student Learning Teams	<p>“We used 517 student teams (1,659 students) organized into a no-training comparison condition, a classroom-only training condition (partial training), and a classroom-plus-booster training condition involving conflict reflections (full training). <b>We found that teams in the full training outperformed those in both the partial-training and no-training conditions in generating the most productive pattern of conflict (referred to as conflict profiles), and that patterns of conflict had implications for effective conflict management and team efficacy for innovation</b>” (O’Neill et al., 2017, p. 257).</p>	Positive Effect

With nine studies connected to teamwork, this is the second largest grouping I found, next to communication skills. Five (56%) of these studies pointed to a positive effect on the development of teamwork skills through participation in experiential education activities, whereas two (22%) had unknown/unidentified effects, one (11%) study had no effect, and one (11%) study had a mixed effect. There were considerably more studies regarding teamwork than critical thinking and problem solving skills, and since half of the teamwork studies suggested that experiential education does have a positive effect on teamwork skill development, there is a promising opportunity to do more studies and critically analyze more evidence to have a more conclusive result.

### ***Adaptability Skills Development***

As previously mentioned, I was unable to find any studies that focused on measuring adaptability. In one regard, this is surprising because adaptability is a prized employability skill; however, on the other hand, how is someone's level of adaptability measured, or how could a change over time be measured? Therefore, if it cannot be measured, it would indeed be difficult to study. This idea of measurability is explored more fully in Chapter Five. Regardless, the result of zero studies does definitively suggest that there needs to be research done in this area.

### ***Some Studies Considered Multiple Skills Development***

There are a handful of studies featured in Table 7 that considered skills development in multiple areas. Specifically, each of these four studies assessed the development of multiple skills through experiential education.

**Table 7***List of Studies Focused on Multiple Skills Development and Its Assessed Outcome*

<b>No.</b>	<b>Article Title</b>	<b>Involved Skills</b>	<b>Outcome</b>
28	Dynamic and Routine Interprofessional Simulations: Expanding the Use of Simulation to Enhance Interprofessional Competencies	Teamwork and Communication	Positive Effect
30	Student Learning through Service Learning; Effects on Academic Development, Civic Responsibility, Interpersonal Skills and Practical Skills	Teamwork, Communication, and Critical Thinking	Mixed Effect
33	An Objective Structured Clinical Exam to Measure Intrinsic CanMEDS Roles	Teamwork and Communication	Unknown/Unidentified Effect
35	The “Kobayashi Maru” Meeting: High-Fidelity Experiential Learning	Communication and Critical Thinking	Positive Effect

This grouping of studies with multiple skills development is an excellent example of a shortcoming in this project. Each author selected their own definitions and made their own distinctions in the terms and vocabulary they chose to use. For example, the authors who wrote “Student Learning through Service Learning: Effects on Academic Development, Civic Responsibility, Interpersonal Skills, and Practical Skills” combined verbal communication and teamwork into “interpersonal skills”, whereas “practical skills” included critical thinking and written communication (Hébert & Hauf, 2015). This one study included three of the employability skills I was searching for, but the authors’ distinctions and combinations were self-selected, and their selection affected my ability to determine if the experiential education actually had an impact on the development of each skill. In addition to a national framework of

experiential education activities, a common set of skill outcomes would be a significant step forward in helping to measure skill development in this field going forward.

### ***Studies that Did Not Yield Results***

There were three studies (#2, #21, and #36) which, upon closer examination as part of the final phase of my review process, were eventually excluded from this study. These three articles were more focused on measuring the effectiveness of the assessment than the outcomes of the experiential learning experience. More thoughts about how these three studies were included when they should not have been are explored in Chapter Five.

## **Second Dimension: Findings behind the Experiential Education & Skills Development Studies**

In an effort to understand more about the 42 studies that were collected for this project, I also examined the following: the student demographics of the study; the size of the participant group in the study; the type of study; the data collection; and the method of learning assessment. This analysis also was intended to identify gaps and opportunities in the research. My findings related to each of these areas are outlined in the subsequent sections.

### ***Student Demographics***

Details about the student demographics in the study were not as readily available as I expected. For example, only three studies (#11, #12, and #21) differentiated domestic and international students. When it came to gender, 12 studies identified participants' gender in the study, but no studies examined experiential education and skills development outcomes based on gender. In terms of academic performance, there were a handful of studies which used academic performance as a metric to measure the effects of experiential education; for example, #30, "Student Learning through Service Learning: Effects on Academic Performance, Civic

Responsibility, Interpersonal Skills and Practical Skills” (Hébert & Hauf, 2015). However, no studies openly shared the academic achievement makeup of their samples; for example, 10% of participants were or self-identified as “A” students. There may be a belief or bias that students in a group or course are an inherent cross-section of the student population, but when courses are elective or when programs (such as medicine) are competitive, that may not be the case. But without specific data related to academic achievement, it is problematic and precarious to explore the connection between academic performance with experiential education and employability skills.

There was one study (#24), “Students’ Experience of Prison Health Education during Medical School” (Filek et al., 2013), which highlighted a variety of aspects about participants’ demographics, including the participants’ parent(s)’ highest level of education, the location of their birth and upbringing (e.g., rural/urban), and previous experience working with marginalized populations. There were no studies that identified participant’s self-declaration of Indigenous status or any mention of students who are living with disabilities. Please note this does not imply that Indigenous students or students living with disabilities were not included in this work, but rather, they were not identified as such in this work.

In considering all of the possible ways in which student demographics could be studied in relation to experiential education and employability skills (and the previously mentioned descriptors are not an exhaustive listing), it is surprising to me how little emphasis was placed on student demographics in studies captured in this review. In the future, conducting new studies around the impact of experiential education on employability skills in relation to student traits is an area I would like to explore. I believe there is an opportunity here to capture and understand

the attributes of successful experiential education programs that build employability skills for the greatest number of students in the most effective ways.

### ***Number of Students***

Based on the numbers that were published, 4,739 students made up the sample included in this thesis. (There were three studies where no participation data was available: #2, #22, and #25). Delving deeper, 31 of the 42 studies (74%) had a sample size of under 100 participants, and 18 (out of those 31) had sample sizes under 35 participants. This means there were a few studies with participation of over 1,000, but the majority of studies in this sample were less than 35 participants. This is another indication that there are greater opportunities to do more research in this field so that greater sample sizes can yield more results, which could lead to more definitive conclusions.

### ***The Types of Study***

Within the 42 studies, there were 15 that used self-assessment as the primary means to assess skill development. It is important to note that self-assessment appeared in a number of different ways: surveys, interviews, focus groups, written reflections and journals. In addition, there were 11 studies that used self-assessment in conjunction with a secondary method, such as a comprehension test, effectively making it a mixed-methods approach of assessing a change in skills. There was a third group of studies (14) that relied solely on external evaluators to measure progress; this was done through live or videotaped observations.

Beyond assessment methods, another piece I observed in the research was the presence of a select number of control groups. Control group studies, such as #15 and #9, were atypical in this review. When control groups were used in a study, the control group and the tested group were conducted at the same time in a few instances; whereas other times, the control group and

the experiential education group were conducted over a number of years, such as in the case of #41, “Constructive Controversy and Reflexivity Training Promotes Effective Conflict Profiles and Team Functioning in Student Learning Teams” (O’Neill et al., 2017). The multi-year application of an experiential education experience with a control group baseline is an interesting approach and one that could likely be practiced more widely, especially as refinements to the experiential education experiences are applied year over year on a new group of participants. Though control groups, of all kinds, have their own shortcomings, it could be a promising approach for the future study of experiential education and employability skills.

All of the examples mentioned above, including self-assessment, mixed methods, and external evaluators, as well as single sample and control group evaluations, illustrate that the variety of ways skills development is measured makes it complex to compare and contrast. Moving forward, if another project such as this one were attempted in the future, putting parameters on searching for particular type of studies (e.g. mixed methods) would allow for better comparison. Alternatively, all studies could be collected and only studies with similar research methods could be compared and contrasted to produce more telling results.

### **Third Dimension: Findings about the Experiential Education & Skills Development Studies**

In the third dimension explored in this chapter, I also examined the journals that published these articles; the dates of publication; the scholars and institutions that have invested in this type of research; and the research supports available to fund these kinds of research projects. The purpose of this third dimension was to better understand when and how current Canadian experiential education research connected to employability skills is conducted so that similar conditions could be pursued to do more of this kind of research in the future.

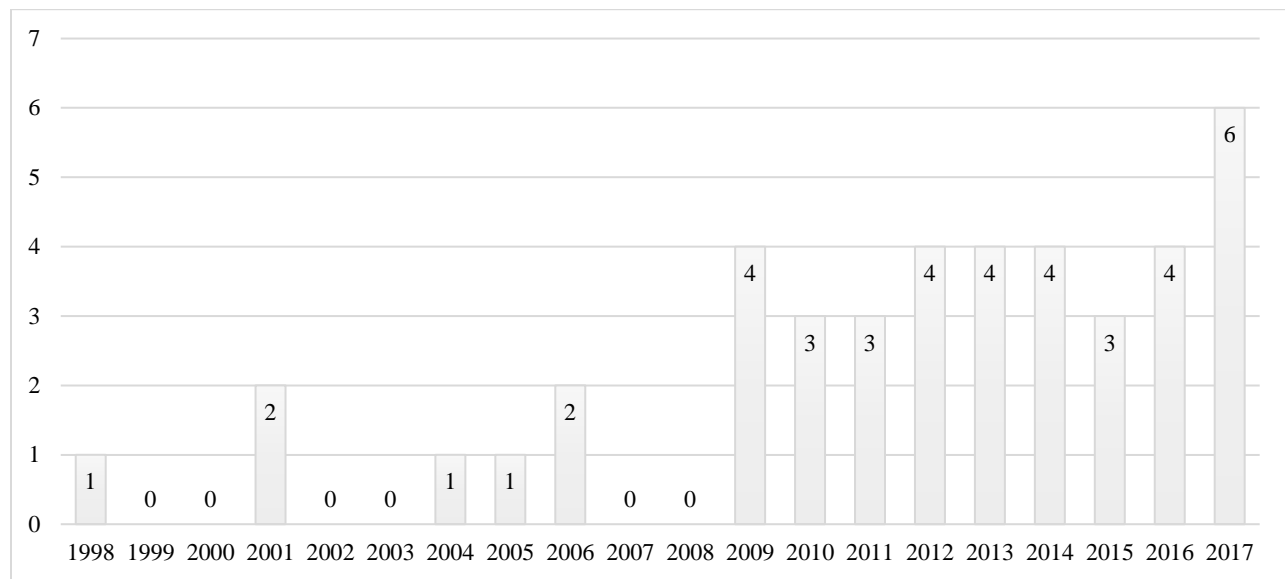


***About the Journals***

The collection of 42 articles came from an array of journals focused on a variety of fields, including management, psychology, education, and library sciences; however, the greatest number of articles (32) came from medical or health care education focused journals such as *Medical Teacher* (4), *Journal of Obstetrics and Gynaecology Canada* (4) and the *American Journal of Surgery* (3). Perhaps most surprising is that the *Journal of Experiential Education*, “an international, peer-reviewed journal publishing refereed articles on experiential education in diverse contexts” (Association for Experiential Education, n.d.-a), only had two articles which were included in this research. This suggests one of two things, or perhaps a combination of both: first, perhaps the way in which I conducted my search did not capture all of the relevant articles; or second, the *JEE* does not publish articles related to experiential education and employability skills. It is likely a combination of the two factors, together. More research would need to be conducted for clarification.

***Date of Publication***

Of the 42 articles included in this research review, 35 of them were written between 2009 and 2017. And of those 35, six were written in 2017 alone. This increasing frequency of published articles related to experiential learning is demonstrated in Figure 4.1.

**Figure 4.1***Number of Articles Published in Each Year Included in this Study*

This graph demonstrates that there is a noticeable upswing in the number of articles being published related to this topic.

### ***About the Authors***

There were 167 unique authors affiliated with these 42 articles. The majority of these articles were written by groups of authors; in fact, almost 70% of these articles (29) were published with three or more authors, and one of those studies was published with 13 authors (Downar et al., 2016). Only three of these articles were written by solo authors: Kevin W. Eva (“Assessing Tutorial-Based Assessment”, 2001); Yvonne Drasovean, (“Optimizing Learner Assessment in a Respiratory Therapy Clinical Simulation Course”, 2017), and Judith A. Rolls (“Communication Pedagogy: What's Typical across Canada and Unique at the University College of Cape Breton”, 1998). Based on this review, it seems much more common for groups of three or more researchers to collaborate on projects such as these and publish their findings

about experiential education and employability skills. That said, I have no frame of reference for how that compares to any other research topic.

### *About the Institutions*

A total of 32 different entities were involved in this research. I use the term entities because not all were post-secondary institutions. The breakdown includes: 23 universities, three colleges, four hospitals or medical centres, one company, and one professional association. It should be noted that though multiple entities were involved in the research, all of these articles were focused on an experiential education experience connected to a Canadian post-secondary institution, which was a criteria for inclusion. The vast majority (84.3%) were Canadian entities who undertook this research, but there were a few studies that leveraged relationships with universities in Britain, Australia, Saudi Arabia, and the United States. That said, those specific studies were verified to ensure that they met the criteria of this study; that is, they focused on the experiences of students participating in experiential education opportunities at Canadian institutions and the employability skills associated with said participation.

These studies were part of a notable trend of collaborations, similar to that evident with the number of studies published by co-authors. In fact, over half (24) of the studies which were part of this analysis were collaborative efforts between two or more entities. Within those 24, four were inter-departmental partnerships within the same institution, whereas twenty studies were published by authors from multiple, distinct entities. These entities (mostly post-secondary institutions) came from a wide array of provinces, including Alberta, British Columbia, Newfoundland, Nova Scotia, Ontario, Quebec, Saskatchewan.

**U15 Institutions.** Given the high number of medical or health care education studies which were part of this research, it is not surprising that 33 (78.5%) of these studies came from

nine of the U15 medical/doctoral institutions, including the University of Alberta, University of British Columbia, University of Calgary, Dalhousie University, McMaster University, University of Ottawa, Queen's University, University of Toronto, and Western University.

**Non-U15 Institutions.** The 12 non-U15 institutions that were represented in this research were Brock University, Concordia University, Fanshawe College, MacEwan University, Memorial University of Newfoundland, NorQuest, Northern Alberta Institute of Technology (NAIT), St. Francis Xavier University, University College of Cape Breton, University of Guelph, University of Regina, and University of Victoria. It is interesting to note that nearly every one of these articles, from authors at non-U15 institutions, were published without collaborators. The only exception was article #28, "Dynamic and Routine Interprofessional Simulations: Expanding the Use of Simulation to Enhance Interprofessional Competencies"; MacEwan University, NorQuest, and NAIT, which are all not part of the U15, collaborated on one article with the University of Alberta, which is a U15 institution. Therefore, the majority of non-U15 articles collected as a part of this research came from small to mid-size institutions, and the majority of these articles (except for one) came from a single institution.

### ***About Financial Support***

What I found was that out of the 42 articles that comprise this study, 18 had some financial support. In analyzing the articles included in the study, financial support for the research of experiential education came in one of three forms: an external organization, usually a professional association such as the Royal College of Physicians and Surgeons; or an internal organization, such as a university teaching and learning centre; or financial support came from a combination of internal and external sources. Nine studies were supported by internal funding, either from a department or the centre for teaching and learning; whereas six were supported by

external organizational funding, and three were funded by a combination of both. What stands out in this analysis is only one non-U15 institution had funding, St. Francis Xavier University, which had funding from the Faculty Development and Research Support Fund and the Canada Research Chair Program (“Student Learning through Service Learning: Effects on Academic Development, Civic Responsibility, Interpersonal Skills and Practical Skills” [Hébert & Hauf, 2015]).

All of these disparate pieces of information together—the authors, the institutional affiliations, and the financial support—identifies that the majority of the research currently published in the Canadian field of experiential education and employability skills is written by teams of three or more researchers, from mostly U15 institutions, and some are leveraging internal or external dollars, or a combination of both. This speaks to several gaps and opportunities. First, experiential education and employability skill development is happening at the college level but none of these studies were strictly college focused, thus there is an opportunity to do more research at the Canadian college level. Second, I believe there is an opportunity for more non-U15 institutions to participate in this research. For both the college and the non-U15 researchers, more dollars need to be made available to support this kind of work.

### **In Summary**

This chapter explored the results that were gathered as part of this study to primarily answer the question of this thesis: According to peer-reviewed, published research, how much do experiential education opportunities develop post-secondary student employability skills, in particular, their communication skills, critical thinking skills, teamwork skills, problem solving skills, or adaptability skills?

By analyzing the 42 articles, I found that:

- There were no peer-reviewed, published studies found as a part of this research that related to adaptability skills.
- The results for the studies which focused on critical thinking and problem solving were more mixed, with no clear indication of benefit from the experiential education experience.
- From the studies which focused on communication skills development, 59% had positive results.
- Teamwork skills development was the second largest area of research, and 56% of those studies indicated a positive result from the experiential education experience.

Beyond this, the work in this chapter also demonstrated that the study of Canadian experiential education and employability skills is developing. There is some research, but it seems to be coming from select sources, and this research only scratches the surface to understanding the components that make experiential education successful and which populations of students are being served by these types of experiential education experiences. This work clearly articulated that there are opportunities and a need for more research in this field.

## Chapter Five – Conclusions

This thesis was about two things. First, I asked and explored the question: According to peer-reviewed, published research, how much do experiential education opportunities develop post-secondary student employability skills? At the same time, unintended but inherently, I also asked: *is there* peer-reviewed, published research about Canadian experiential education at the post-secondary level that considers employability skills development? To answer the last question first, yes, there is. And to briefly answer the first question: yes, but... This research review also explored: What are the findings based on research collected, and as such, what are the gaps and opportunities for future research? For me, this last question was the most interesting part of this review.

As highlighted in Chapter One, there has been an upsurge in public attention on the issue of a skills crisis. Dozens of strong advocates are calling for more experiential education in an effort to address our skills gap. Industry leaders, such as David McKay; special interest groups, such as the Business Higher Education Roundtable; various levels of government from federal to provincial; and post-secondary institutions have all come out uniting these two concepts: experiential education and employability skills development. I wanted to know: what does peer-reviewed, published research say about the connection between experiential education and employability skills development in the Canadian post-secondary context? In Chapter One, I also shared my positionality as a researcher and practitioner in the field of experiential education. As mentioned, my vast and varied experience is a significant strength in this project, but also a limitation. As such, I made several intentional decisions to fortify the research design while also managing my biases in the process. Those decisions are noted throughout this work.

In Chapter Two I explored the experiential education's philosophical, practical, and pedagogical concepts more fully by sharing a historical overview of the practitioners, scholars, and groups involved in conceptualizing, developing, and researching experiential education, and its evolution into post-secondary institutions and beyond. As a contribution to the field of experiential education, I introduced a new model at the end of Chapter Two: the Experiential Education 3P Model which combines previously explored ideas and theories by visually representing the evolution of the terminology and the interconnected relationships between the philosophical, practical, and pedagogical.

Chapter Three described the methodology of this work. In an attempt to follow the same path chartered by the four volumes of *The Impact of College on Students* (Feldman & Newcomb, 1969; Pascarella & Terenzini, 1991, 2005; Mayhew et al., 2016), I created a nine-step process to perform this narrative review. I crafted research questions; identified the search terms; set the criteria for inclusion; sourced the articles; critically evaluated the articles based on the criteria for inclusion; collected the data; analyzed the data; interpreted the data; and reported the data. In the data collection phase, there were two kinds of data I recorded: the numerical data and individual article data. I pursued this level of detail because I wanted to analyze possible themes, trends, and gaps in the peer-reviewed, published literature. When it came to the analysis of the data collected, I looked at it from a macro-level (before the criteria for inclusion was applied) and at a micro-level (after the criteria was applied). Again, I took this approach in order to get a better understanding of the research landscape and to provide insights into creating the conditions for more research on experiential education and employability skills. Findings three dimensions: *from*, *behind* and *about* the articles were helpful in informing the conclusions of this narrative review. In Chapter Four, I interpreted the findings and reported the results.



**According to this Thesis Research**

Published, peer-reviewed research on the topic of experiential learning and employability skills at the post-secondary level in Canada is on the rise, as indicated in this thesis. Between 1997 and 2017, there were 42 articles published (that met the criteria for inclusion), 35 of which were written in the last nine years of that timeframe, and six in the last year (2017) alone. These numbers suggest that there is a growing increase in research related to experiential learning and employability skills.

***Communication and Teamwork***

Based on the parameters of this review, the employability skills of communication and teamwork were the only two of the five skills I had identified that were positively affected by experiential education, as reported in the peer-reviewed studies included in this review. Fifty-nine percent (59%) of communication studies demonstrated a positive effect, and 56% of teamwork skills studies demonstrated a positive effect. This is an emerging indication that experiential education may be best suited to develop post-secondary student communication and teamwork skills. More research is required, but it is a promising start.

***Problem Solving, Critical Thinking, and Adaptability***

Studies in this review that looked at problem solving and critical thinking skill development in relation to experiential education in Canadian post-secondary contexts were too few to adequately measure an effect. And as discussed in Chapter Four, there were no studies found for adaptability. Certainly, this suggests that there is a need for more research in these skill development areas; however, it may also be an indication that measuring skill development is more complex than I had originally anticipated.

### ***Measuring Skills Development***

As touched upon in Chapter Four, studies that were classified with a mixed effect create an interesting predicament. As defined, a study was labelled as “mixed” when it was looking at multiple skill outcomes, and one skill had a positive effect while another skill examined in the study did not.

Coming to this conclusion of a “mixed” classification could mean one of two things, or a bit of both things simultaneously. First, a mixed effect could mean that a change in one of the skills did not happen; or second, it could mean that the measurement tool did not capture it.

Another related challenge when it comes to measuring skills development is a self-perceived change in skills development versus a change in skills development measured by an external observer: which one is “real”? For example, if a teacher believes that a student’s skill has progressed, but the student does not believe or perceive it, did it really happen? Or, on the opposite side, if a student believes or perceives her skill has progressed but the teacher does not, is it less real?

### **The Complexities and Limitations of this Review Project**

Within the nature of a narrative review, my “cast a wide net” approach meant that a number of things appeared that I did not expect to find. These complexities that warrant exploration include terminology and language, time on experiential education activity, skill development assessment, unexpected results, and reliance on search engines.

### ***Terminology and Language***

Despite using a clearly defined group of search terms, I discovered that each educational discipline has its own terminology. For example, what might be called an Interprofessional Education (IPE) simulation in health care studies is similar to a case study in business.

Correspondingly, on the skills side, in health care studies a technical skill refers to a person's ability to conduct a procedure, whereas communication may be considered a technical skill in another discipline. An example of this can be found in the article "Student Learning through Service Learning: Effects on Academic Development, Civic Responsibility, Interpersonal Skills and Practical Skills" (Hébert & Hauf, 2015). This article included verbal communication and teamwork into "interpersonal skills", whereas "practical skills" included critical thinking and written communication. This is an excellent example of how each author selects their own definitions and makes their own distinctions.

Furthermore, there are some educational disciplines where an experiential education experience is well articulated by a professional body (e.g., Interprofessional Education in healthcare as described by the College of Physician and Surgeons); whereas other authors, in other disciplines, may not have that clarity, and therefore, they selected terminology such as "experiential education" for an in-classroom activity. An example of this is the first study included in this review. Rolls (1998) referred to her weekly tutorial as experiential because students delivered speeches in small groups. Based on a more rigorous definition of experiential education, that specific experience would not qualify, but Rolls' study is included in this research because she explicitly referred to it as experiential education in the abstract.

Therefore, the variety of terms and the prerogative of the author to refer to their activity as experiential (or any of the other terms that were in my search) makes this type of research complex. Unexpectedly, I was making judgements related to which experiential education activities were similar enough to be compared, and which ones should not have been. At the start of this project, I had assumed that there would be more similarity among terms used across academic disciplines when it comes to experiential education. In the future, when I attempt this

type of research again, having a broader list of terms, or a narrower scope of disciplines, may be a better approach. It may also suggest that a 20-year review is too long in scope, given how quickly words and meanings evolve.

### ***Time on the Experiential Education Activity***

Another complexity in this review is the lack of data regarding how much time each student spent on the experiential education activity, how time was measured, or a combination of both. There were 18 studies that quantified the time on task in hours; there were two studies that mentioned minutes, five studies that used weeks, six studies that used months, and two studies that used years; there were also nine studies that did not provide a specific timeframe. Given the variety of ways time was measured, it is nearly impossible to provide an average. I can report that the least amount of time reported was 30 minutes (Stroud et al., 2009) and the most amount of time was three years (Pugh et al., 2015).

Another consideration to take into account was whether the time on the experiential task was immersive or intermittent. For example, a three-hour workshop held one time (e.g., Bruni-Bossio & Willness, 2016) is different from a three-week placement (e.g., Barron et al., 2017). A one hour a week tutorial spread over 12 weeks (e.g., Rolls, 1998) is different from an eight-month placement (e.g., Spence & McDonald, 2015). It is both the time on the experiential education task and the time on task *over time* that needs to be considered. Questions that I am interested in pursuing further include: Is there an ideal combination of time on task, and time on task over time to create favourable results? For the studies which resulted in no effect, unknown/unidentified effect, or mixed outcomes, was time a factor?

When looking at all of the studies (positive effect, no effect, unknown/unidentified effect, or mixed effect), there was no noticeable pattern with respect to time on task or time on task over time. This is yet another area that warrants further exploration in this field.

### ***The Measurement of Skill Development***

In the section where I talked about types of studies in Chapter Four, I had identified that the majority of the studies in this review used self-assessment data to measure skill development. It should be noted that there are two inherent limitations of the use of self-assessed data in studies. Study participants may report what they think is the desired outcome, which would skew the final results. There are also the complexities of a person's ability to accurately self-assess their skillset, for better or worse. Known as the Dunning-Kruger paradox effect, self-assessment "can potentially lead both to inflated judgments about one's competency and to a lack of appreciation of one's true skill, the latter of which...can, in turn, lead to overly critical self-assessments" (Kruger & Dunning, 1999, p. 1121).

Keeping the Dunning-Kruger paradox in mind, I cross-referenced the number of studies with positive assessment outcomes and the number of self-assessed studies. As it turns out, that number was 61%, which could be an indication that the Dunning-Kruger paradox was in effect. Certainly a worthy starting point for future research about self-assessed skill development and experiential education.

All of the examples above illustrated that the variety of ways skills development is measured makes it complex to analyze and draw conclusions. Future research should have more stringent criteria so that *similar* studies can be compared and contrasted, instead of *any* study.

### *Unexpected Results*

My development as a new researcher could be considered another limitation. I had done some test searches and was excited about what I had found, but it was not until I was immersed in the data that I realized some new distinctions about the research I was doing. For example, I did not anticipate the overwhelming number of medical and health care studies in this sample; in fact, I did not expect any. Medicine and health studies are not part of my experience as an experiential education practitioner; therefore, I was surprised to find so many. I was also surprised to find such a variety of studies included in this work.

That said, experiential education programming from faculties of medicine and health studies could be useful to model for other experiential education practitioners, especially given how well-established experiential education is in these academic disciplines, and its proclivity for external evaluators and validated evaluation tools. These two assessment measures provide legitimacy to the results, a level of legitimacy from which experiential education in other domains could benefit.

Another complexity of my nascent research experience was including three studies (#2, #21, and #36) that, in retrospect, should not have been included in this sample. My initial decision to include them was to ensure that I had studies to review; as such, I may have been more flexible in the application of the limitation criteria. But fortunately, I had a process in place to review all 42 articles in detail and removed those that did not qualify. This need for elimination was only recognized at the end, and in retrospect should have happened before the analysis had begun. That does mean when data is measured out of 42 articles, it should truly be out of 39 articles. This realization dovetails into the next complexity of this type of research.

I have noticed that other narrative reviews with inclusion/exclusion criteria are often conducted by two or more people. This allows for shared debate around articles for inclusion. One of my limitations is that this research was done by me and only me. Because of the independent nature of a thesis, it did not occur to me to consult a trusted friend or colleague to help me with this step. I now recognize that had I been working with one other person, or a group of people, perhaps there may have been some discussion or debate around the articles that should, or should not have, been included.

Another aspect to consider is the amount of time it took me to evaluate the 453 articles that initially were procured from the four search databases. As a sole researcher with a high volume of results, I had to stretch my analysis over a number of weeks. It is possible that my perspective changed over the days, weeks, and months it took to review all of that content. Yet again, this points to the importance of conducting this type of research with increased levels of rigour and safeguards, such as multi-person teams or a multi-step review process.

Another unexpected outcome of this research project was the quality of the research articles; and though it is difficult to quantify, I do believe that the quality and sophistication of the studies published in this field continue to rise over time. The very first study in this sample from 1998 lacked a fulsome explanation of the researchers' methodological approach, whereas the last study in this sample, from 2017, had a mixed-methods approach with pre-test and re-test methods for self-reporting, and external assessments from instructors and clients alike. I consider this a positive outcome from the cumulative contributions of those working in this field leading to higher quality work. The implication of this realization is perhaps a 20-year timeframe was too long given the drastic change in research methods. As a counterpoint, I would not have realized this unless I had looked back 20 years.

### ***Reliance on Search Engines***

The final limitation I identified from this work is my reliance on search engines. The quality of the results was only as good as the capabilities of the search engines. It is possible that studies that should have been included were overlooked. One way to mitigate that shortcoming in the future would be to perform a hand-review of specific journals, such as the *Journal of Experiential Education*, which only appeared twice in my study. A hand review of a select number of journals would provide a certainty that technology did not miss a study and a greater confidence could be placed in the results.

This section explored the complexities and limitations that appeared through this thesis, including terminology and language, lack of consistency with respect to time on experiential education activity, the spectrum of skill development assessment methods, some unexpected outputs, and the shortcomings of my reliance on search engines. And though some could think that these limitations diminish the value of this work, I think instead this awareness strengthens the value of my *next* work.

### **What Are the Gaps and Opportunities for Future Research?**

Based on the results from the databases searched within the scope of my review, there are only a small number of studies that included a focus on Canadian experiential education and employability skills. An identified gap previously articulated are studies focused upon the skill development of critical thinking, problem solving, and adaptability. There was not enough data or clear evidence to suggest the impact of experiential education on any of these specific employability skills.

Another gap previously explored includes the reality that all of these studies originated from universities. There were a select few that had college students included in the participant



sample and some studies came from non-U15 institutions, but the vast majority represent but one type of experiential education programming provider. For a more fulsome analysis of the connection between experiential education and employability skills, more effort needs to be made to find students that originate from colleges and non-U15 institutions. It is possible that they are not pursuing experiential education in these institutions, but what is more likely is that they are not publishing their results.

A third gap is the majority of the studies in this research measured skill development through the collection of self-assessed data, which creates other challenges, particularly around the Dunning-Kruger paradox effect. Therefore, another identifiable gap in the research about experiential education and employability skills are assessment tools to measure skill development. Within some of the studies captured in this review, there were a few identified validated tools (e.g., California Critical Thinking Skills Test [CCTST] and the University of West England, Bristol Entry Level Interprofessional Questionnaire). Though validated tools would provide new insight, they also would come with their own set of challenges and shortcomings.

These gaps lend themselves to opportunities for new and better research. For example, this narrative review shows that there is some Canadian research exploring experiential education and employability skills; however, there is definitely opportunities for more. There is also an opportunity to look at the time on experiential education task and time on experiential education task over time, and its connection to skills development. Understanding what makes a particular type of experiential education effective could be connected to the amount of time on that task, but without more research on this topic, we cannot know for sure.

Akin to the idea of time is gaining a better understanding of student demographics. Is there any particular “type of student” or a particular characteristic of a learner that would lend

themselves to experiential education over traditional learning? I am not naïve enough to think that current experiential education is well suited for everyone, but by understanding who thrives in a given pedagogical approach, we can make changes to the pedagogy to support other learners. And, finally, another opportunity exists in validated skills assessment tools that would again support our understanding of the impact of experiential learning.

### **In Closing**

From the beginning of this thesis, I established that the connection between experiential education and employability skills is an important and emerging topic. Canadian governments, industry leaders, special interest groups, think tanks, and post-secondary institutions are all actively using their platforms to call for more experiential education at the post-secondary level.

As I also shared earlier in this work, this is a topic I was excited to explore because I bring lived experience as an experiential education participant, a practicing professional, and now as a researcher. I believe in the power of experiential education, and I wanted to learn from leaders in the field who are doing it well. This thesis research and writing experience has been an eye-opening one, and I have a number of key findings that I am integrating into my current and future work.

First, I have demonstrated that there is Canadian peer-reviewed, published research that examines experiential learning and employability skills at the post-secondary level. But ultimately, we need more research, research that goes beyond my original questions to find the most effective ways to deliver *a variety* of experiential education programs to the greatest number of students in the most inclusive and accessible ways possible. Such research would address the gaps I have uncovered and seize the new opportunities to which I pointed, and ultimately will make that “audacious national goal of 100% of Canadian undergrad students

exposed to some form of meaningful experiential learning before graduation” a reality (McKay, 2016a, p. 8). I am extremely interested in pursuing research focused on understanding the impact of experiential education and employability skill development on specific student populations. This could be in the form of original research, narrative review or a systematic review. This research direction will allow me to continue along the same pathway that initially influenced me: Pascarella and Terenzini’s *The Impact of College on Students*.

Secondly, through the work I conducted in this narrative review, I can confidently state that experiential education experiences had the most promising impact on the development of communication and teamwork skills out of the five employability skills examined in this thesis.

Finally, I also proposed a new model, the Experiential Education 3P Model, which illustrates the interconnections between the philosophical, practical, and pedagogical levels of this transformative way of learning. Moving forward, I am extremely excited about developing the Experiential Education 3P Model as a tool to ground our national conversations so that together we can make Canada a world-class leader in experiential education.

## Appendix A

### Post-Secondary Institutional Strategic Plans

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## **Appendix B**

### **The Canadian Federal Government's Nine Essential Skills**

Reading: “refers to reading the material in the form of sentences or paragraphs”;

Writing: “writing texts and writing in documents (for example, filling in forms); and non-paper-based writing (for example, typing on a computer)”;

Document Use: “involved a variety of information displays in which words, numbers, icons and other visual characteristics (e.g., line, colour, shape) are given meaning by their spatial arrangement. For example, graphs, lists, tables, blueprints, schematics, drawings, signs and labels are documents used in the world of work”;

Numeracy: “refers to the workers' use of numbers and their capability to think in quantitative terms”;

Computer Use/Digital Skills: “computer use indicates the variety and complexity of computer use within the occupational group”;

Thinking: “thinking differentiates between six different types of interconnected cognitive functions: problem-solving, decision making, critical thinking, job task planning and organizing, significant use of memory, and finding information”;

Oral Communication: “oral communication pertains primarily to the use of speech to give and exchange thoughts and information by workers in an occupational group”;

Working with Others: “working with others examines the extent to which employees work with others to carry out their tasks”;

Continuous Learning: “examines the requirement for workers in an occupational group to participate in an ongoing process of acquiring skills and knowledge”. (Employment and Social Development Canada, 2015, para.2)

## Appendix C

### Business Higher Education Roundtable (BHER)

Terms and Definitions from the Letter to Minister Morneau sent September 4, 2018

1. Apprenticeships: A combination of on-the-job (80-85%) and technical training (15-20%) delivered at a college, vocational school, or union training centre.
2. Co-op: Periods of study alternated with work placements, offering students a structured approach that integrates their studies with related work experience.
3. Internships: Work experiences, typically lasting a year or more, at or near the end of a study program.
4. Mandatory professional practice: Work arrangements required for a professional license or designation.
5. Field experience: Placements and work-related experiences that prepare students for professional or occupational fields but are not required for a professional license.
6. Applied research projects: Students taking on real-world projects, often with industry partners as clients and the students as service providers.
7. Service learning: A range of activities intended to provide equal benefit to the student and the community while maintaining a focus on learning.
8. Incubators and accelerators: Intended primarily to promote entrepreneurship, but the scope of services has expanded in recent years to include social initiatives. Qualified applicants may receive funding, supervision, and mentorship from experienced practitioners.
9. Bootcamps and hackathons: Popular venues for computer programmers and app designers to develop and showcase their skills. These programs and events have a short duration and are



typically focused on developing a particular set of skills or deliverables. (Business Higher Education Roundtable, 2018)

## **Appendix D**

### Association for Experiential Education (AEE) Principles of Practice

From the AEE Website: The Principles of Practice are:

- Experiential learning occurs when carefully chosen experiences are supported by reflection, critical analysis, and synthesis;
- Experiences are structured to require the learner to take initiative, make decisions, and be accountable for results;
- Throughout the experiential learning process, the learner is actively engaged in posing questions, investigating, experimenting, being curious, solving problems, assuming responsibility, being creative, and constructing meaning;
- Learners are engaged intellectually, emotionally, socially, soulfully, and/or physically. This involvement produces a perception that the learning task is authentic;
- The results of the learning are personal and form the basis for future experience and learning;
- Relationships are developed and nurtured: learner to self, learner to others, and learner to the world at large;
- The educator and learner may experience success, failure, adventure, risk-taking, and uncertainty because the outcomes of experience cannot totally be predicted;
- Opportunities are nurtured for learners and educators to explore and examine their own values;

- The educator's primary roles include setting suitable experiences, posing problems, setting boundaries, supporting learners, insuring physical and emotional safety, and facilitating the learning process;
- The educator recognizes and encourages spontaneous opportunities for learning;
- Educators strive to be aware of their biases, judgments and pre-conceptions, and how these influence the learner;
- The design of the learning experience includes the possibility to learn from natural consequences, mistakes, and successes. (Association for Experiential Education, n.d., para. 4)

## Appendix E

### CEWIL Canada's Nine Definitions of Work-Integrated Learning (WIL)

The nine different types of WIL are described as follows:

1. **Applied Research Projects:** Students are engaged in research that occurs primarily in workplaces, including consulting projects, design projects, and community-based research projects.
2. **Apprenticeship:** Apprenticeship is an agreement between a person (an apprentice) who wants to learn a skill and an employer who needs a skilled worker, and who is willing to sponsor the apprentice and provide paid related practical experience under the direction of a certified journeyperson in a work environment conducive to learning the tasks, activities, and functions of a skilled worker. Apprenticeship combines about 80% at-the-workplace experience with 20% technical classroom training, and depending on the trade takes about 2-5 years to complete. Both the workplace experience and the technical training are essential components of the learning experience.
3. **Co-operative Education (co-op alternating and co-op internship models):** Co-op alternating consists of alternating academic terms and paid work terms. Co-op internship consists of several co-op work terms back-to-back. In both models, work terms provide experience in a workplace setting related to the student's field of study. The number of required work terms varies by program; however, the time spent in work terms must be at least 30% of the time spent in academic study for programs over 2 years in length and 25% of time for programs 2 years and shorter in length.

4. Entrepreneurship: Allows a student to leverage resources, space, mentorship, and/or funding to engage in the early-stage development of business start-ups and/or to advance external ideas that address real-world needs for academic credit.
5. Field Placement: Provides students with an intensive part-time/short-term intensive hands-on practical experience in a setting relevant to their subject of study. Field placements may not require the supervision of a registered or licensed professional and the completed work experience hours are not required for professional certification. Field placements account for work-integrated educational experiences not encompassed by other forms, such as co-op, clinic, practicum, and internship.
6. Internships: Offers usually one discipline-specific, supervised, structured paid or unpaid, and for academic credit work experience or practice placement.  
  
Internships may occur in the middle of an academic program or after all academic coursework has been completed and prior to graduation. Internships can be of any length but are typically 12 to 16 months long.
7. Mandatory Professional Practicum/Clinical Placement: Involves work experience under the supervision of an experienced registered or licensed professional (e.g., preceptor) in any discipline that requires practice-based work experience for professional licensure or certification. Practica are generally unpaid and as the work is done in a supervised setting, typically students do not have their own workload/caseload.

8. Service Learning: Community Service Learning (CSL) integrates meaningful community service with classroom instruction and critical reflection to enrich the learning experience and strengthen communities. In practice, students work in partnership with a community-based organization to apply their disciplinary knowledge to a challenge identified by the community.
9. Work Experience: Intersperses one or two work terms (typically full-time) into an academic program, where work terms provide experience in a workplace setting related to the student's field of study and/or career goals. (Co-operative Education and Work-Integrated Learning Canada, n.d.-c, para. 2-10)

## Appendix F

### The 42 Articles Included in this Narrative Review

This is a list of the 42 articles which were included in the study. They are sorted by chronological order of publication and were assigned an identification number (#1-42) for the purposes of this research. These identifier numbers are used to reference the articles throughout this thesis.

No.	Article Title
1	Communication pedagogy: What's typical across Canada and unique at the University College of Cape Breton.
2	Assessing tutorial-based assessment.
3	Interprofessional infection control education using standardized patients for nursing, medical, and physiotherapy students.
4	Critical thinking and learning styles of students in a problem-based, master's entry-level physical therapy program.
5	Influence of an interprofessional HIV/AIDS education program on role perception, attitudes, and teamwork skills of undergraduate health sciences students.
6	Relationship of resident characteristics, attitudes, prior training, and clinical knowledge to communication skills performance.
7	An interprofessional communication skills lab: A pilot project.
8	Evaluation of residents' documentation skills after a simulated operative vaginal delivery.
9	Psychometric properties of an integrated assessment of technical and communication skills.
10	Teaching communication skills using the integrated procedural performance instrument (IPPI): A randomized controlled trial.
11	Skills of internal medicine residents in disclosing medical errors: A study using standardized patients.
12	Resident preparedness in discussing prognosis in patients with advanced lung cancer.

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No.	Article Title
13	Interprofessional education internships in schools: Jump starting change.
14	Research is a verb: Exploring a new information literacy—Embedded undergraduate research methods course.
15	Assessing residents' communication skills: Disclosure of an adverse event to a standardized patient.
16	Quantifying surgeon's contribution to team effectiveness on a mixed team with a junior surgeon.
17	Communicating wisely: Teaching residents to communicate effectively with patients and caregivers about unnecessary tests.
18	Assessing residents' disclosure of adverse events: traditional objective structured clinical examinations versus mixed reality.
19	The development and implementation of a problem-based learning format in a fourth-year undergraduate synthetic organic and medicinal chemistry laboratory course.
20	Using an objective structured video exam to identify differential understanding of aspects of communication skills.
21	Validation of a large-scale clinical examination for international medical graduates.
22	How we teach ethics and communication during a Canadian neonatal perinatal medicine residency: An interactive experience.
23	Hybrid simulation for knee arthrocentesis: Improving fidelity in procedures training.
24	Students' experience of prison health education during medical school.
25	Incorporating topics that aren't distance-friendly into an online program: One development team's experience.
26	Does teaching of documentation of shoulder dystocia delivery through simulation result in improved documentation in real life?
27	Implications of early workplace experiences on continuing interprofessional education for physicians and nurses.
28	Dynamic and routine interprofessional simulations: Expanding the use of simulation to enhance interprofessional competencies.

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No.	Article Title
29	Evaluation of the impact of a simulation-enhanced breaking bad news workshop in pediatrics.
30	Student learning through service learning: Effects on academic development, civic responsibility, interpersonal skills, and practical skills.
31	Assessing vertical development in experiential learning curriculum.
32	Enhanced patient-centred care: Physiotherapists' perspectives on the impact of international clinical internships on Canadian practice.
33	An objective structured clinical exam to measure intrinsic CanMEDS roles.
34	The OSCE progress test – Measuring clinical skill development over residency training.
35	The “Kobayashi Maru” meeting: High-fidelity experiential learning.
36	Assessment of technical and nontechnical skills in surgical residents.
37	Immersive learning: Using a web-based learning tool in a Ph.D. course to enhance the learning experience.
38	Optimizing learner assessment in a respiratory therapy clinical simulation course.
39	Development and implementation of a longitudinal students as teachers program: Participant satisfaction and implications for medical student teaching and learning.
40	Standardized patient simulation versus didactic teaching alone for improving residents' communication skills when discussing goals of care and resuscitation: A randomized controlled trial.
41	Constructive controversy and reflexivity training promotes effective conflict profiles and team functioning in student learning teams.
42	Experiential learning in primary care: Impact on veterinary students' communication confidence.

*Note.* The identification numbers 1-42 have been assigned based on their chronological date of publication.

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