The Investigation and Development of Experiential Learning Theory in Primary and

Secondary Education

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Abstract

Aim: This study has three key objectives: first, to establish a base of understanding of experiential learning practices in K-12 education. Second, understand what is required to effectively facilitate experiential learning and assessment in K-12 education. Lastly, to develop a framework to enable and support experiential learning theory in K-12 education.

Background: Experiential learning is a widely used methodology across disciplines. However, research quantifying its effectiveness at the primary and secondary levels is not available. Existing models and frameworks do not adequately facilitate experiential learning for K-12 educators.

Methods: This research study utilized a mixed-methods approach and focused on applying established teaching and assessment practices. Instructors from primary and secondary education were invited to participate after implementing a project or unit of study focusing on experiential learning. Twenty-two participants contributed to the initial survey representing thirty-three percent of those identified as potential participants. A follow-up focus group was conducted with eight of the twenty-two survey participants.

Results: This research resulted in three manuscripts: The first manuscript reviews Experiential Learning Theory outlining the need for academic research specifically in K-12 education. The second manuscript is the main research study that establishes a basis of understanding among current practitioners and identifies areas that need to be addressed to facilitate and support experiential learning. The third manuscript outlines a new framework for facilitating experiential learning within K-12 education, including a collection of working principles and characteristics of its successful implementation through an analysis of the literature and research.

Conclusion: The analysis of the literature, survey, and focus group revealed several themes supporting the impact of experiential learning methods. Themes included significant positive contributions to teachers and students, improved student engagement, deeper understanding, and authentic learning. Additionally, the findings of this study were consistent with other studies conducted at post-secondary levels in establishing experiential learning methods as having a significant positive impact on students. The findings of this study however, emphasized the role of the facilitator of experiences and the positive impact of experiential learning methods have on the instructor as well as the students. Survey and focus group participants provided insight into topics that best support their expanded use of experiential learning. Furthermore, the available literature focuses on only one experiential learning theory model which is insufficient for supporting K-12 educators. Research conducted in this study has directly resulted in the development of a new framework with a set of working principles and characteristics of effective implementation. Future studies should include empirical testing of the new framework in the context of K-12 education, identifying any necessary revisions and additions.

Preface

This thesis is the original work of Marc Gobeil. Ethical approval to conduct this study has been obtained from the University of Saskatchewan Research Ethics Board, Project Name "Investigation of Experiential Learning Assessment Practices in K-12 Education" and re-approved December 9, 2020 Application ID: 1623. See Appendix A. Organizational approval was granted by the host School Division's research committee on November 1, 2019.

Chapter 3 of this dissertation has been submitted to *International Review of Education – Journal of Lifelong Learning.* It is currently under review as "Gobeil, M., Wilson, J., Yates, T., Aitken, A., & Lewis, K. Investigation of Experiential Learning Practices in K-12 Education." As primary author, I was responsible for the literature search and review, identifying themes, writing the main article, and integrating the feedback of co-authors. Wilson, J. reviewed the manuscript and provided extensive and detailed feedback. All co-authors reviewed manuscript drafts and provided feedback. The copyright notice is not available, as the manuscript has yet to be accepted for publication.

Chapter 4 of this dissertation has been prepared for submission to the *Journal of Experiential Education*. It is currently prepared to be submitted as "Gobeil, M., Wilson, J., Yates, T., Aitken, A., & Lewis, K. Investigation of Experiential Learning Practices in K-12 Education: Survey and Focus group." As primary author, I was responsible for conceptualization, design, data collection, analysis, and manuscript writing. Wilson, J. supported the facilitation of the focus group by providing an introduction and support for the process. He also provided extensive feedback and support of the findings and writing of the manuscript. All co-authors reviewed manuscript drafts and provided feedback.

Chapter 5 of this dissertation has been prepared and is currently awaiting submission as "Gobeil, M., Wilson, J., Yates, T., Aitken, A., & Lewis, K. A Framework for the Facilitation of Experiential Learning in K-12 Education" As primary author, I was responsible for the development of the theory, framework, and writing of the manuscript. Wilson, J. supported in providing extensive feedback of the manuscript. All co-authors reviewed manuscript drafts and provided feedback.

Dedication

"Learning is an experience, everything else is just information" - Albert Einstein

Foremost, this work is dedicated to my family. My late father, Randy Gobeil, for always providing me with the means to explore every avenue of learning. My mother, Karen Gobeil, from whom I have been gifted a relentless pursuit of adventure. My wife, Mikaela, for allowing me to constantly chase those adventures. My children, Piper and Winston, you are and will always will be my greatest accomplishment. Lastly, Penny for getting me away from my computer for several kilometers a day.

This work is also dedicated to my family and friends, who have supported me during this process. The many years of work to get to this point were not without their challenges and I am eternally grateful for the love and support.

Acknowledgements

"If I have seen further, it is by standing on the shoulders of Giants" Isaac Newton, 1675

First, I must sincerely thank and acknowledge my supervisor, Dr. Jay Wilson, for his support and guidance throughout this process and credit to him for my connection to the College of Education and my focus in academia. Many hours have been spent in his various offices as well as global travel. Watching your success over the past fifteen years has taught me what it means to be a leader and mentor. I look forward to many more pizzas and travel in the future.

I would also like to acknowledge Dr. Tom Yates, Dr. Alec Aitken, and Dr. Kevin Lewis. Thank you all so much for your support and guidance throughout this process. Your invitations to participate, collaborate and learn from you have been very much appreciated. To be invited into other colleges on campus and welcomed as a collaborator in research has been a tremendously exciting opportunity. I appreciate your feedback and guidance, along with the rich discussions and displays of passionate leadership. You are all exceptional leaders, and the University is lucky to have you all.

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Chapter 1: Introduction

Experiential learning is a process in which students are actively engaged and learn by doing (Kolb & Fry, 1975). Learning from experience is a fundamental and natural means from which learning is derived. Experiential learning is also an "underused pedagogical technique" (Scarce, 1997, p. 219). What is known about experiential learning is that students experience superior learning outcomes when experiential learning methods are used (Burch et al., 2019). Which methods and what assessments are essential factors in understanding how experiential methodology contributes to student learning? The most widely used model, Kolb's experiential learning model (1984), was explicitly designed to promote his work of the Learning Style Inventory yet falls short when addressing feedback and reflection when applied to K-12 education (Matsuo, 2015; Miettinen, 2000). In Kolb's model, the design is centred on student passing through four stages of development: concrete experience, reflective observation, abstract conceptualization, and active experimentation. However, for a model to support K-12 education, the framework must address and emphasize the role of the educator in designing experiences. Specifically, a designed experience where students can actively participate and apply meaning to those experiences through reflection. Consequently, a considerable gap remains in the literature regarding suitable frameworks and supporting resources for teachers facilitating experiential learning opportunities in primary and secondary education.

To better understand experiential learning, various definitions were analyzed and although similar, the explanation offered by Keeton and Tate (1978) stands out by identifying both what experiential learning is and is not. "Experiential learning is learning in which 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 with them as part of the learning process" (p. 2). In Keeton and Tate's definition,

experience is the catalyst of learning. Central to all experiential learning definitions is the

influence and contributions of John Dewey. Dewey wrote numerous books and articles

identifying and outlining the value of applying experience to theory. Dewey (1938) stated, "Give

the pupils something to do, not something to learn; and the doing is of such a nature as to

demand thinking; learning results naturally" (p. 45). In Dewey's simplified example of

experiential learning theory, he outlines a general understanding that students will naturally

develop meaning through experience should that experience be designed to require and inspire

thinking. Dewey emphasizes the role of the instructor as facilitator and challenges educators not

to be afraid to give, as development occurs through reciprocal give-and-take. Dewey also

critically challenges instructors to develop educational programs that are not isolated from real-

life experience. Education instead is valuable when it is "available under the actual conditions of

life" (Dewey, 1938, p. 48) reaffirming the need for practical real-world experiences.

　　　While Dewey is credited with establishing the theoretical foundation of experiential

learning, he did not produce a framework to facilitate it. David Kolb's four-stage experiential

learning model (1984) is generally accepted and synonymous with experiential learning,

although Kolb's model is specific to adult education (Matsuo, 2015; Miettinen, 2000; Ng et al.,

2009). Kolb's model is also criticized for being overly simplistic (Greenaway, 2008; Ord &

Leather, 2011) and epistemologically problematic (Garner, 2000; Miettinen, 2000). Miettinen

(2000) argued that Kolb's model oversimplified Dewey's original idea of experiential learning as

a lived experience, particularly addressing how participants make meaning out of their own

experiences. Miettinen criticized Kolb's work classifying it as "consultancy literature" (p. 55)

based heavily on justifying his work on the Learning Style Inventory (Kolb, 1971). Kolb himself stated that the main application of the model was to manage and gain control of individual learning by inventing one's learning style (Kolb, 1976). The need to develop a framework to support the specific facilitation of experiential learning in primary and secondary education is abundantly clear. Kolb's model does not account for the role of the instructor in providing feedback and facilitating reflection. This makes the model insufficient when applied to the K-12 education.

There are currently no empirical studies in K-12 education specifically investigating experiential learning that contain both a treatment and control group. Additionally, analysis of K-12 experiential learning assessment methods does not exist. In a 2019 meta-analysis conducted by Burch et al., only 89 of 13,626 studies contained both a treatment and control group. This discovery represents a significant gap in available research. Furthermore, none of the 89 studies identified by Burch et al. were specifically conducted in K-12 education.

This study addresses gaps in the literature by establishing an understanding of experiential learning methods in K-12 education. First, an extensive examination of the theoretical foundation through comprehensive literature review was undertaken to determine what is needed to support K-12 education. Second, a survey was conducted to better understand and address the gaps uncovered in the literature review. The survey was critical in developing an initial understanding of the specific uses of experiential and land-based educational practices among K-12 educators. The insights and feedback from teachers were analyzed to produce more specific questions to guide and direct a follow-up focus group designed to examine key elements in the development of a new framework. Lastly, this research builds upon the focus group results to present a new framework and a set working principles to facilitate an experiential learning

model for K-12 education. This new framework directly emphasizes the role of the instructor as a designer and facilitators of experiences, which addresses shortcomings of other models.

Guiding Questions

The following primary and secondary questions were used to guide this study:

1. Primary: What is needed to effectively facilitate experiential learning and assessment in K-12 education.

2. Primary: What is the understanding of experiential learning in K-12 education?

3. Secondary: What are the critical components of an effective experiential learning strategy for K-12 education?

4. Secondary: What are the common questions educators want to answer using experiential learning as a teaching and assessment strategy?

5. Demographic questions included: What is the age range, years of experience, gender, and levels taught of the instructors participating in the research

Assumptions

Assumptions were made prior to the start of this research. Foremost, it was assumed that the group of potential participants would possess a comprehensive understanding experiential learning. It was determined that identifying and including only educators known to apply experiential learning methods would be preferable to a general e-mail inviting all teachers to participate. The sponsoring school division generated the participant list and may not have included every teacher who has used experiential learning. The University of Saskatchewan Research Ethics Board and the School Division's research committee approved identifying specific educators to engage in a voluntary survey. Using a targeted approach was intended to avoid contributions from those wanting to participate without understanding the research topic.

Conducting research during the Covid-19 global pandemic provided additional considerations that factored into the assumptions. It was critical to understand that teachers were operating in circumstances beyond their control during this time due to the global pandemic. Additional assumptions were made as to how many contributions to the survey would be sufficient as no research was available for participation rates during times of global pandemics. Research from Ilieva et al. (2002) suggested an appropriate time frame, and Dillman et al. (2011) suggested strategies to increase response rates. Upon closing the survey, 22 contributions were received which was above average, according to Kittleson (1997).

Dissertation Papers

This dissertation encompasses three manuscripts that seek to gain answers to the questions set forth. The first manuscript, An *Investigation of Experiential Learning Practices in K-12 Education*, reviews relevant theories and establishes the need for research from an extensive literature review. The lack of empirical studies quantifying the effectiveness of experiential learning methods in K-12 education combined with the absence of resources for the facilitation of the methodology were identified as areas of focus that required further investigation and directly identified as gaps in understanding. A timeline of educational leaders beginning with John Dewey in the early 1900's outlines the development of current theories, and specifically, Kolb's framework of experiential learning theory is reviewed as applied to primary and secondary education. Direction for future areas of study for framework development specific to K-12 education is identified.

The second manuscript, *An Investigation of Experiential Learning Practices in K-12 Education: Survey and Focus Group*, investigates and establishes an understanding of experiential learning in K-12, addressing the lack of research on the topic. A survey was

designed from the identified gaps in research to establish a base of understanding of experiential learning methods from the first manuscript. No empirical evidence of the effectiveness of experiential learning practices in K-12 was available, outlining the need to establish a base of understanding. Sixty-seven educators were identified by the school division and were invited to participate in the voluntary research through e-mail. The selection process operated with the following criteria: a project or unit of study focusing on experiential learning, teaching, and assessment methods within a course offering in either the current or the previous academic year. Twenty-two educators contributed to the survey and eight educators from the survey contributed further in a follow-up focus group which led to a deeper understanding of the survey's results. The focus group provided rich insights and powerful supporting testimonials about the significant impact experiential learning has on teachers and students. Central themes including increased engagement, deeper understanding, improved achievement, meaningful relationships, and reduced need for behaviour management emerged from the survey and focus group. Collected data substantiated the need for, and the direction of, a framework specifically developed to support teachers in designing and facilitating experiential learning in K-12 education.

The final manuscript, *A Framework for the Facilitation of Experiential Learning in K-12,* directly addresses areas outlined in the literature review and contributions from the teacher survey and focus group. The framework is a significant contribution to the field of experiential learning as it is the only framework developed specifically for K-12 education. The framework returns to the roots of the theoretical and practical considerations presented by John Dewey's (1938) *Experience in Education.* Through returning to the theoretical foundation of experiential learning, the focus shifted to educators as designers and facilitators of experiences. This shift

ultimately guided the development of the framework with elements that specifically support the facilitation of experiential methods and emphasizing the role of the instructor. The framework is intended to support teachers using experiential learning methods through six working principles and seven characteristics of effective implementation. The framework will enable and empower the widespread adoption of experiential methodology across K-12 education.

Definitions:

1. **Experiential Learning:** Experiential learning is a process in which students are actively engaged and learn by doing (Kolb & Fry, 1975).

2. **Land-based Learning:** Land-based Learning typically uses an indigenized and environmentally-focused approach to education by first recognizing the deep, physical, mental, and spiritual connection to the land that is a part of Indigenous cultures. (Cherpako, 2019)

3. **Service Learning**: The term "Service Learning" has been used to characterize a wide array of experiential education endeavors, from volunteering and community service project to field studies and internship programs. (Furco, 1996)

4. **Authentic Learning:** Authentic Learning involves aligning student's learning experiences with the world for which they are being prepared. Where learning situations, environments, and skills represent the complexities of the real world. (McKenzie et al., 2002)

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Chapter 2: Literature Review

Nearly every mention of experiential learning in research literature refers to John Dewey as the founder of experiential learning theory, and his 1938 book *Experience and Education* as the fundamental text from which all other theories are derived. David Kolb, however, is known for the most prevalent experiential learning model dating back to 1984. Kolb credits his model to the work of Dewey's learning development theory and the Lewinian Model of Action Research and Laboratory Training (Kolb, 1984). Kolb's model, although synonymous with experiential learning is not without its controversy and is the source of much debate. Additional educational frameworks presented by George Kuh (2008) provide an alternative model with the introduction of High-Impact Practices and offers a possible avenue for the development of a new model of experiential learning specific to K-12 education. Additionally, authentic learning emerges as a developed philosophy with a strong connection to experiential learning, and offers another alternative to traditional models previously used to facilitate experiential learning. The intention of this literature review is to provide an overview and more in-depth understanding of the key concepts, theories, models, studies, debates and gaps associated with experiential learning.

Key Concepts, Theories and Studies

The modern interpretation of experiential learning in its current form is derived from the foundational work of John Dewey. He proclaimed that learning through experiences is valued as an essential foundation in a formal educational setting. Dewey stated that "no experience having a meaning is possible without having some element of thought" (1916, p. 107). Dewey critically challenged educators to develop educational programs that would not be isolated from real-life experience. Dewey's impact on education makes him the most critical educational thinker of the 20th Century (Theobald, 2015; Williams, 2017). Dewey is also regarded as one of the founding

fathers of functional psychology. In the '60s and '70s, there was a surge of new theories and pedagogies supporting experiential learning practices from many psychologists, sociologists, and educators who believed in the value of the experience as an addition to theory and lecture, most notably, John Piaget, Benjamin Bloom, and Kurt Lewin.

Dewey proposed that learning from experience involves observation of an event, making a connection to a previous similar experience, and evaluations of the significance of the experience. Furthermore, Dewey differentiated between "activity and intelligent activity… intelligent activity or education, is characterized by a postponement of action until observation and judgment have occurred" (Roberts, 2006, p. 19). Additional contributions to what would later become known as experiential learning theory were presented in Dewey's earlier *How we think* (1910), where he offers insights on how individuals make sense of the world around them and focusing on "reflective thought" as the mechanism in which individuals contextualize their learning. The manner in which Dewey describes the process of constructing knowledge from reflective thought is analogous to the scientific method according to Hedin (2010). Chronologically, the timeline of experiential models can be confusing as Dewey never actually created a model but rather laid the framework from which current models were derived. The next model of experiential learning was the Lewinian Experiential Learning Model, however just like Dewey, Lewin never actually presented a model but rather had his theoretical framework interpreted by Kolb and included in *Experiential learning. Experience as the source of learning and development* (1984, p. 21). Lewin's framework is particularly interesting in that it contains a "here-and-now" experience and feedback process (Lewin, 1951). The "here-and-now" experience and feedback process from Lewin's model is noticeably absent in Kolb's model and would be highly valued in a model designed specifically for K-12 educators. Lewin's model shown below

in figure 2.1 is circular and emphasizes feedback as the basis for the continuous process of goal-directed action and evaluating the consequences of that action. Adding to possible confusion, The Lewinian Experiential Learning Model as presented by Kolb (1984) is now generally known as Kolb's Model, and Kolb developed his current theory with this model as his starting point (Hedin, 2010).

Figure 2.1

The Lewinian Experiential Learning Model (Kolb, 1984).
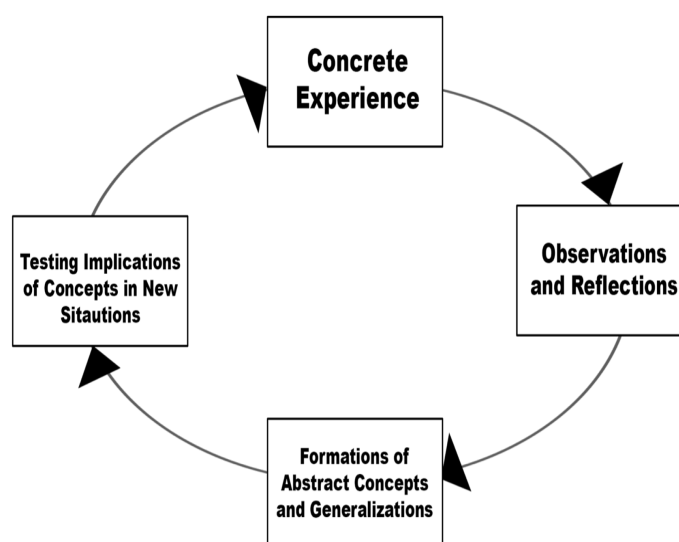
Having presented the "Lewinian Model", Kolb also presents his interpretation of John Dewey's model of experiential learning theory. As with the Lewinian Model of experiential learning, Dewey's model was never actually presented by Dewey himself but rather materialized as an interpretation from Kolb to support the development of Kolb's theory of experiential learning. Dewey's model, as interpreted by Kolb is identified below in figure 2.2.

Figure 2.2

John Dewey's concept of experiential learning according to Kolb (1984, p. 23).

$$\text{Impulse}_1 \quad I_2 \quad I_3 \quad \text{Purpose}$$

$$\text{Judgment}_1 \quad J_2 \quad \text{Observation}_1 \quad J_3 \quad O_2 \quad O_3$$

$$\text{Knowledge}_1 \quad K_2 \quad K_3$$
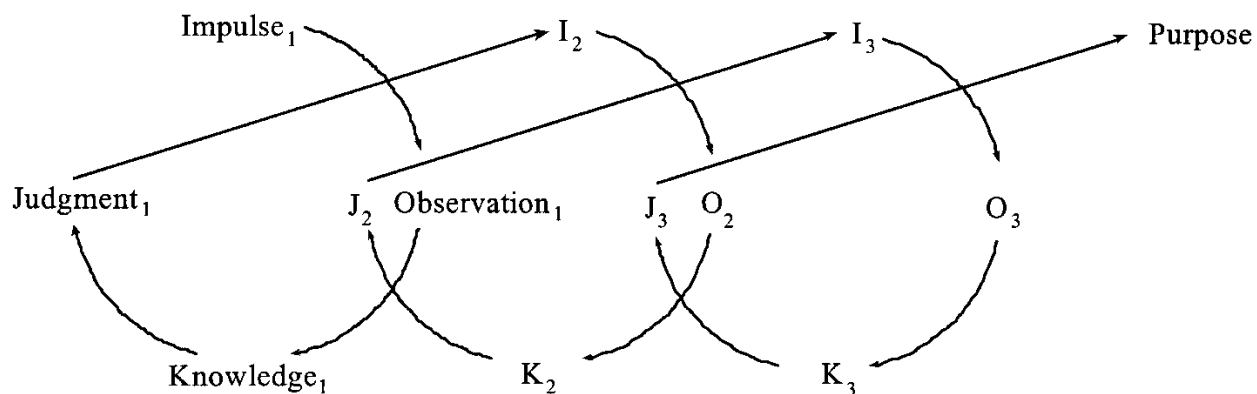
Kolb's interpretation of Dewey's work is problematic according to Miettinen (2000) who dissects Kolb's analysis of the excerpt from which Kolb developed this particular visual model. Miettinen noted that the excerpt was only selected because it supported Kolb's agenda and that Kolb's interpretation gives a "unilateral and erroneous picture of Dewey's theory on experience and reflection" (p. 65). Throughout Miettinen's detailed review and analysis on Kolb's 1984 publication, he identifies the significant challenges and controversies surrounding Kolb's model. Miettinen's analysis is reminiscent of similar critical analysis and criticisms presented by Strumpf and Freedman (1980, 1981) identifying Kolb's previous work of the Learning Styles Inventory as problematic.

An additional model suited for the potential development of an experiential learning model is found in the three-dimensional model presented as the *Spiral Curriculum* by Brunner (1966). This model allows for the opportunity to expand on a series of experiential activities, or as Dewey (1916, 1938) emphasizes, experiential learning operates within a continuum of living from the past, through the present, and into the future. In Figure 2.3 you can see how the Bruner Spiral Curriculum is applied to the central training of an Air Traffic Controller and consists of a cone of skill competencies. The continuous cyclical model presented by Bruner has the potential to expand

the students learning past a single event and would be better suited for K-12 education in that an entire series of skills and concepts could be scaffolded in a constructivist approach with better alignment towards the original theory of experiential learning as presented by Dewey in 1938.

Figure 2.3

The Bruner Spiral Curriculum Model (Palen and Lemay, 1991, as cited by Dowding, 1993).
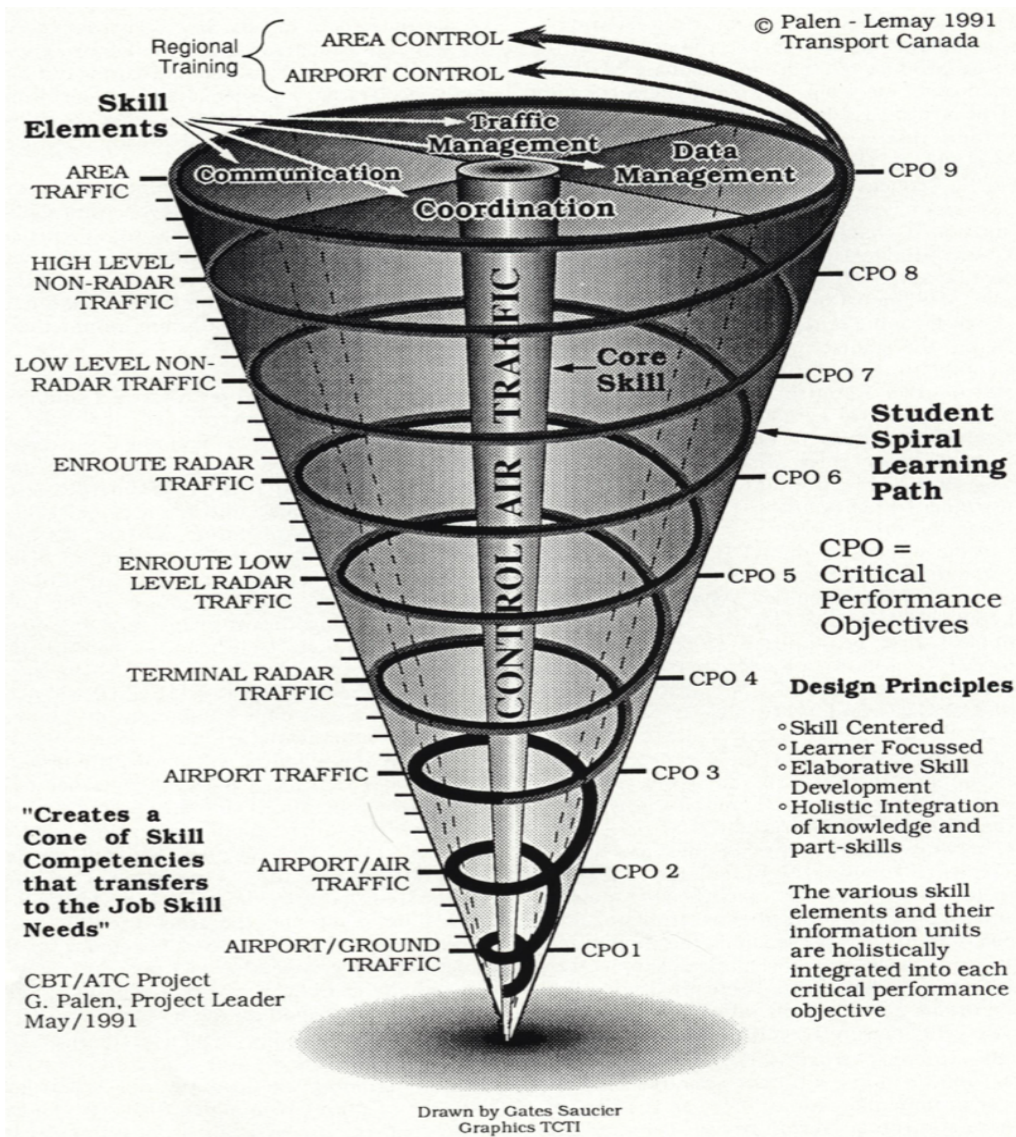
Kolb's Experiential Learning Model

Certainly, the most prevalent and widely accessed example of Dewey's influence is Kolb's experiential learning model. Kolb notes outlines experiential learning is critical in knowledge construction, transfer, and acquisition. In Kolb's model, learning occurs when someone creates knowledge for themselves through experiential transformations concerning their contexts (Kolb, 1984). It is important to note that Kolb's model is based on his prior work on the Learning Style Inventory (1971), which is also a source of significant controversy surrounding his work.

Kolb's model categorizes effective learning within four distinct stages:

Concrete experience: The learner encounters a new experience or engages in a reinterpretation process of an existing experience.

Reflective observation: The learner reviews and reflects on the new experience and identifies any inconsistencies between experience and understanding.

Abstract conceptualization: Through the reflective process, the learner creates a new idea/concept or modifies an existing abstract concept – analyzing the concepts and forming conclusions and generalizations.

Active experimentation: The learner plans and tries out what was learned and can apply the new knowledge to other situations – conclusions and generalizations are used to test hypotheses; thus, the learner engages in new experiences.

Figure 2.4.

The Experiential Learning Cycle Adapted from (Kolb & Kolb, 2018).
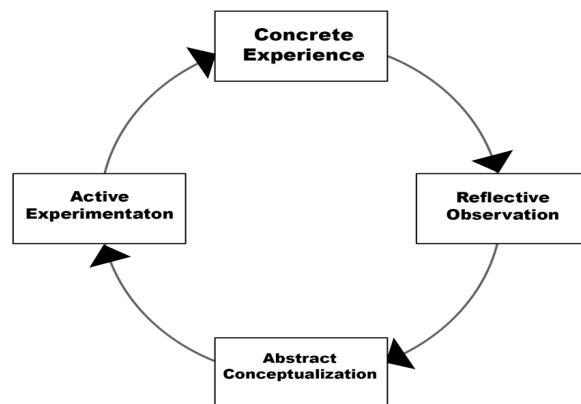
In Kolb's model, the learner can enter one of the four stages listed above and follow through with their sequence to acquire new knowledge. For effective learning to occur, the learner should complete all four stages of the model, and no one stage can stand alone as a learning procedure. One significant challenge of actualizing Kolb's model is the time commitment required for a concept to be understood given the requirement to complete all four stages. The amount of time with the same instructor is a critical difference between educators in K-12 and post-secondary institutions that requires further study, this difference may have implications for post-secondary research but ultimately has to potential to improve course design and development. Further research examining the amount of time in which a teacher and student interact is potentially a contributing factor for overall student achievement. The amount of time is a critical difference between the various levels of education and supported by a specific K-12 framework could allow for the actualization of all four stages of Kolb's Model**.**

Criticism of Kolb's Model

As previously mentioned, there are extensive criticisms of Kolb's model, explicitly being simplistic (Ord & Leather, 2011; Greenaway, 2008) and epistemologically problematic (Garner, 2000; Miettenin, 2000). While Kolb's model can help simplify and reduce complex and variable processes into a regular and standard pattern, it is important to caution that models can simplify

reality (Greenaway, 2008). Miettenin (2000) argued that Kolb's model was an oversimplification of Dewey's original idea of experiential learning as a lived experience, particularly addressing how participants make meaning out of their own experiences. Miettinen criticized Kolb's work classifying it as "consultancy literature" (p. 55) based heavily on justifying his work in the 1960s on the Learning Style Inventory (LSI). The Experiential Learning Model was first created and used to manage and gain control of the individual's learning by identifying one's learning style (Kolb, 1976a, 1976b). Miettinen also dismisses the book *Experiential Learning* (1984), stating that because the author is the developer of this theory, the book "should be seen as a marketing promotion" (p. 55). Miettinen (2000) argues that Kolb's model may not have been motivated by critical evaluation and that his model substantiated and promoted his Learning Style Inventory. According to Garner (2000) Kolb's work appears not to be able to reliably describe an individual's learning style, and Kolb's psychological explanations remain seriously flawed (p. 47). Garner (2000) further elaborated that Kolb's theory is not necessarily wrong but rather lacks any coherent foundation and clear links to psychology and should be used with caution. Kolb did not give an adequate interpretation of Dewey's theory of experience and reflective thought (Miettenin, 2000). Criticism of Kolb's work has been extensive. Strumpf and Freedman (1980, 1981) specifically identify the Learning Style Inventory as problematic, stating that its use as an instrument will result in excessive unreliable and invalid inferences on the part of the user in determining their individual learning styles.

<div align="center">**Additional Educational Frameworks**</div>

High-Impact Practices

The term "high-impact practice," or HIPs was first added to the educational lexicon by George Kuh when he used the phrase "high-impact practices" in his essay introducing the 2006

National Survey of Student Engagement (NSSE) annual report (Kuh et al., 2017). This term's date is often attributed to 2008 when Kuh published *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter.* The Association of American Colleges and Universities (AACU) is also often referred to as coining the term, although incorrectly, as Kuh published his book through the AACU. To their credit, The AACU was the first organization to promote high-impact practices as outlined by Kuh. Most major universities and colleges in North America list eleven practices identified as high-impact. However, an accurate measure of high-impact practices' authenticity is the inclusion and recognition that they are fundamentally linked to eight characteristics that make these practices effective. High-impact practices should not be considered without the inclusion or reference to the eight characteristics of effective implementation. The list is presented and organized in a logical linear progression that represents a post-secondary program from beginning to end.

George Kuh's 11 High-Impact Practises (2006):

1. First-Year Experiences

2. Common Intellectual Experiences

3. Learning Communities

4. Writing-Intensive Courses

5. Collaborative Assignments and Projects

6. Undergraduate Research

7. Diversity/Global Learning

8. Service Learning, Community-Based Learning

9. Internships

10. Capstone Courses and Projects

11. Portfolios

As previously alluded to, there are possible dangers in categorizing these activities as high-impact. On the surface, these appear to be engaging activities, and listing them as associated with a particular course may promote their use. Kuh noted in his 2008 book, they are only high-impact if they are intentionally designed experiences that incorporate the characteristics of high quality, high impact practices that they would engage students and have a significant impact on their learning. These practices must not be considered without the characteristics which make them successful. Kuh outlines the eight characteristics that make high-impact practice effective:

1. Set performance expectations at appropriately high levels, and effectively communicate these expectations to students

2. Encourage students to invest significant and meaningful time and effort into authentic, complex tasks over an extended period.

3. Add meaningful interactions amongst students and between faculty and students about substantive matters.

4. Challenge students' ways of thinking, increase interactions with individuals with experiences, and life experiences different from their own experiences with diversity.

5. Provide frequent, timely and constructive feedback

6. Increase periodic, structured opportunities to reflect and integrate learning

7. Provide opportunities to discover the relevance of learning through real-world applications, or add a real-world/authentic experience

8. Add a public demonstration of competence

More important than the list of high impact practices are the eight contributing factors or characteristics that, when included in any instructional strategy, can highly-impact student and, more importantly, be considered highly effective practices. Although experiential learning is not listed, it certainly relates to each of the activities when you consider the opportunities to reflect on the experiences and, when used effectively, contains most if not all the eight characteristics of effective high-impact practices. For example, service-learning, internships, capstone courses and portfolios are opportunities designed to reflect on how the experiences have constructed meaning for those students, additionally, there are also opportunities for reflection in each of the remaining HIPs, although not as obvious as the examples specifically mentioned.

Post-secondary institutions that claim to engage with Kuh's eleven high impact practices must also emphasize that they contribute little unless followed directly by the importance of Kuh's outlines of the eight characteristics that make high-impact practices effective. One list simply cannot be considered without the other. There are likely organizations that have only reviewed Kuh's list of eleven HIPs and labelled themselves as using these high impact practices. However, when evaluated by the outline of eight characteristics, their practices may not be deemed valid. Any program that does not consider the characteristics of the practices' effectiveness is prone to encounter negative experiences. Programs that have not effectively implemented the practices may deem them to be insignificant to the impact on students' learning experience. For organizations that implement HIPs without the eight characteristics are also doing so without authentically engaging in the process and are considered invalid.

The power of the eleven high-impact practices and the accompanying eight characteristics that lead to their effectiveness is that they are student-centred activities that focus on learning by doing. High-impact practices are all carefully designed learning experiences that

have been chosen and scaffolded by instructors to build on prior experiences and have real-world connections that the students value (Anderson et al., 2019). The use of high-impact practices connects to the founding theories of John Dewey's original interpretation of experiential learning (1938).

The literature indicates high-impact practice significantly impacts student learning (Anderson et al., 2019; Brownell, & Swaner, 2009; Bureau et al., 2014; Roach et al., 2018). However, as suggested by Brownell and Swaner (2009), "Popular definitions of many high-impact practices are very broad, making it difficult to determine what specific factors within each practice are critical for positive outcomes" (p. 3). Service-learning was one particular high-impact practice that emerged as having a significant impact on students' learning experience. As described by Anderson et al. (2019), it could serve as a template in designing experiences over an entire program. Designing or redesigning entire programs to include various high-impact practices yields favourable results across disciplines. Roach et al. (2018) conducted a major study at the University College London and redesigned their entire engineering program to focus on authentic learning. However, the primary forms of practice were, in fact, high-impact practices that were shown to have favourable results among students. Although this specific example is from post-secondary education there could be parallels to K-12 education where further study is required.

Authentic Learning

The concept of authentic learning is more of a philosophy, useful as a model for curriculum design rather than as learning theory (Herrington, 2015). The authentic learning philosophy grew out of a body of work intended to understand learning in workplace

apprenticeships. Brown, Collings, and Duguid (1989) described "situated cognition" in an attempt to bridge the gap between the learning and the use of the knowledge that one acquires. Developmental psychologist Jerome Bruner reminds us that there is a tremendous difference between learning "about" physics and the learning "to be" a physicist. Isolated facts and formulae do not take on meaning and relevance until learners discover what those tools can do for them (Lombardi & Oblinger, 2007). Authentic learning is considered a powerful learning approach, particularly in problem-based learning (Savery, 2006, as cited in Wilson & Schwier, 2009). Herington and Oliver (2000) stated that portions of a student's learning have to be situated in an authentic environment to have an authentic learning experience. Authentic learning must be personally relevant and connected to the real world (Stein, et al., 2004); the connection to personal relevance and real-world application from Stein et al. reflects a foundation in Dewey's original work as the basis of all high-impact practice, experiential-learning, and authentic learning. Tochon (2000) synthesized many of the views of authentic learning into the following statement: "Authentic classroom practice... reflects, for the students, a combination of personal meaning and purposefulness within an appropriate social and disciplinary framework" (p. 332). Creating or designing a successful authentic learning experience requires a mix of theoretical and practical learning environments. Wilson and Schwier (2013) provide such a framework with a functional approach using five authentic learning constructs:

1. Problem-based Learning

2. Authentic assessment

3. Project management,

4. Scaffolding

5. Social Agency

These constructs combine to give the course a strong educational foundation and inform the design of student experiences in ways classified as "authentic learning." Lombardi and Oblinger (2007) provides us with their white paper that outlines what researchers believe represent the essence of authentic learning; these ten elements are at the heart of Wilson and Schwier's constructs:

1. Real-life relevance: activities and tasks that represent those of an industry professional as closely as authentically as possible.

2. An ill-defined problem: challenges or problems that are not easily or answered, there may be layers of deconstruction tasks to complete or solve the problem.

3. Sustained investigation: projects and learning targets that require a significant investment of time and cannot be solved easily and quickly.

4. Multiple sources and perspectives: resources may be practical or theoretical and may require learners to determine which information is relevant to the specific problem.

5. Collaboration: individuals cannot achieve success alone; projects and tasks will require social connections to others.

6. Reflection: learners must reflect on their learning

7. An interdisciplinary perspective: problems or projects are not limited to a single subject or stream of knowledge, but will rely on knowledge and skill from various subjects.

8. Integrated assessment: formative assessment is seamlessly included in tasks and activities and used by instructors and students alike.

9. Polished products: activities and tasks will conclude with a final product or artifact of learning.

10. Multiple interpretations and outcomes: there are many possible solutions and answers to the proposed problem.

While this list of elements may seem extensive, not every component is required in order for an activity to be categorized as authentic learning. However, Lombardi and Oblinger's list of ten characteristics of effectiveness would undoubtedly serve as a valuable tool for educators. Authentic learning exercises expose real-life decision-making messiness, where there may not be a right or a wrong answer per se. However, one solution may be better or worse than others, depending on the context. Such a nuanced understanding involves considerable reflective judgment, a valuable lifelong skill beyond memorization (Lombardi & Oblinger, 2007)

The literature and research on authentic learning indicate a strong, positive impact on student learning. In a 2015 study, Valtonen concluded that statistically significant changes were found in pre-service teachers' self-efficacy and subjective norms when using authentic learning. Similarly, Wilson (2013) found that based on the data collected throughout the course and the observations of the instructor, the design of the course had a positive impact on the student learning experience by fostering concentrated learning in both the face-to-face and online design studios when using an authentic learning model. Many studies on specific areas of studies have been conducted and the research indicates support for authentic learning has a high effect size when meaningfully incorporated. One study in Physics revealed that the impact on girls' views of

the relevance and interest of physics was dramatic, as was the increase in their learning (Murphy et al., 2006). Murphy's research into reviewing the change of the delivery of physics to an authentic learning approach uncovered additional benefits such as teachers appreciated the real-life situations covered in the program, teachers described the advantage that authentic learning provided by allowing students to make connections to different locations for learning science. Similar benefits of authentic learning were noted by the students, specifically, they enjoyed science more because they had seen the practical applications in settings outside of a classroom. The achievement gap of students was also evident in that boys had a distinctly higher level of achievement than girls and "after the implementation, the increase in understanding was largely attributable to a very significant increase in girls answering the questions correctly" (p. 238). Murphy et al. (2006) noted that the achievement gap between boys and girls disappeared after changing to an authentic learning model. This research was conducted at the post-secondary level but may offer parallels into similar outcomes for K-12 education.

The Lack of Empirical Relationships

The effectiveness of experiential methodology as a teaching strategy is controversial as there were no established and confirmed empirical relationships between experiential learning activities and learning outcomes (Anderson & Lawton, 1997). A meta-analysis of experiential learning focused on the relationship between experiential learning theories and outcomes completed in 2016 and later revised in 2019 by Burch et al. is the only meta-analysis conducted on the effectiveness of experiential learning. Conversely, there have been several meta-analytic studies of service-learning, a subset of experiential learning (Andrews, 2007; Celio, Durelak, & Dymnicki, 2011; Conway, et al., 2009; Steward & Wubbena, 2015, and Yorio & Ye, 2012; as cited in Burch et al., 2019).

Service-learning is based on Dewey's (1938) argument that learning is the interaction of knowledge and skills with experience (Stewart & Wubbena, 2015). Several important factors have come from the empirical studies of service learning that also reflect on experiential learning. Conway et al. (2009) concluded that socially responsible knowledge involves experienced-based education. A significant endorsement was offered by Yorio and Ye (2012),

> "service-learning provides students with a type of reality and reciprocity experience, allowing them to develop a deeper understanding of social issues. The entire experiential learning field is much larger than just service learning. It encompasses both in class and out of class learning opportunities that focus on cognitive, social and personal outcomes" (p. 11).

Service-learning is of particular interest in K-12 education in that it promotes social responsibility and engages students in their development as a whole person and aligns closely with Indigenous epistemologies which regularly exemplify experiential and land-based practices.

Land-based learning from the Indigenous perspective predates any known model or theories. Cree ways of knowing specifically "include diverse streams of knowledge, traditional values, ethics, protocols, language concepts, stories, and experiences by which Cree people come to know and live within a particular place (Michell, 2012, p. 22). Land-based experiential learning should be viewed as ceremony (Kovach, 2010). Ceremonies reinforce Cree worldview of interdependence and relatedness and a unique opportunity to recognize experiential learning as an objective of an authentic response to the calls to action from the Truth and Reconciliation Commission (2015). Incorporating Cree ways of knowing in school is about "fostering a Spiritual orientation to the natural world" (Michell, 2012, p. 22). Land-based learning programs align with the epistemological beliefs and ways of knowing of Indigenous people (Kovach, 2010). While

Kovach identifies in general terms an Indigenous way of knowing or epistemologies, it is other Indigenous scholars such as Herman Michell who provide specific regional context to these concepts. Michell identified in the specific context of Woodland Cree the importance of reflection and the connection of Indigenous ways of knowing and Western education stating students must be given avenues where they can reflect on their own cultural experiences and find ways to connect traditional knowledge to Western science. This concept of interconnectedness aligns with Dewey's later works connecting culture and anthropology to the importance of artifacts and the mutual interaction of humans. According to Michell (2012), Cree Elders consider themselves as custodians of knowledge and this concept should serve as a fundamental base from which instructors facilitate experiences in new models of experiential learning. Indigenous land-based and service-learning concepts may provide a suitable framework or lens for K-12 educators to engage in experiential learning while engaging students meta-cognitively to pursue social responsibility and, ultimately, the completion of learning outcomes, or according to Cree epistemology, "causing one to *become*" (Michell, 2012, p. 29).

Gaps in Existing Knowledge

The meta-analysis of Burch et al. (2019) identified only 89 studies that included empirical data with both a treatment and control group. Considering the 13,626 articles included in the literary search, 89 studies (which represents 0.0065% of the results) is incredibly low and warrants further research. Burch et al. (2019) noted that this statistic is in fact very low, however, they found that it is due to the gap in the research literature on the topic. Empirical studies do not often lend themselves well to the education setting despite their obvious benefit in promoting experiential learning's importance. Burch et al. (2019) identified with suggested future research in two areas. The first, assessment methods, as the analysis only defined the studies assessment

practices as either subjective or objective. Secondly, education level. There was no indication that any of the studies were conducted in any area other than post-secondary, which leaves a tremendous research gap specific to K-12 education. Furthermore, the meta-analysis data set focusing only on assessments conducted as either objective or subjective is limited in its use as a tool to identify assessment methodology most appropriate for experiential learning. Additional research is needed to determine which assessment methods effectively engage students in K-12 education. Dylan William (2006) noted that "teacher quality is the single most important variable in student progress (p. 2)." William's research of teacher impact on student learning further supports Dewey's claims to the responsibilities of educators and highlights a missing detail of Kolb's model of experiential learning specifically the role of facilitation.

Discussion

Based on the current evidence, the only readily available experiential learning model is presented by Kolb and is not suitable for application in K-12 education. The model does not adequately account for either the facilitation of experiences and the instructor's role in the process. Additionally, Kolb's model does not consider the role of feedback or relationship as outlined by Miettenin (2000), two essential factors for widespread adoption in K-12 education. Moreover, consideration of regionally specific Indigenous epistemologies and ways of knowing should be considered for the future development of a new model of experiential learning.

In the current literature review, a major limitation discovered was the need for a new model of experiential learning to be developed from the ground up based on Dewey's Experience in education and supported by the more modern and education specific theories of High-Impact Practices of Kuh (2008) and emphasize the importance of a philosophy of authentic learning.

Conclusion

The research literature dating back to Dewey's original work in 1938 show positive contributions to deepening the students' understanding of concepts through experiential learning (Dewey, 1938; Kolb, 1984; Kuh, 2008; Burch et al., 2019). A significant research gap was recently addressed in 2019 by Burch et al. that reported experiential learning methodology's effectiveness. Their study outlined the superior achievement of learning outcomes using experiential learning methods, and being "unable to identify a single context across the empirical studies where experiential learning did not produce a positive effect on learning" (p. 260).

The goal of this literature review was to gain a better understanding of the current and available models of experiential learning and determine their suitability for application in K-12 education. The findings of the review indicated that available models were insufficient, specifically when considering the role of the instructor as well as the relationship between the instructor and students as well as feedback to guide the students throughout the process. No available model addressed the specific needs of K-12 education. The conclusion of the literature and available research on experiential learning suggests a new model be developed specifically for K-12 educators that purposefully includes the role of the instructor in the process of facilitation of experiences and recognizes the importance of feedback and relationship between instructors and students.

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Chapter Three:

Investigation of Experiential Learning Practices in K-12 Education

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Abstract

Experiential learning is a teaching strategy and theory that emphasizes the individual student's experience "... there is one permanent frame of reference: namely, the organic connection between education and personal experience" (Dewey, 1938, p. 25). What is known about experiential learning methodology conclusively is that students experience superior learning outcomes when experiential learning methods are used (Burch et al., 2019). What requires further investigation are the factors of assessing experiential education to determine what procedures contribute to the achievement of student outcomes. There is a lack of formal research in K-12 experiential learning and available experiential frameworks are insufficient when applied to K-12 education. Experiential resources focus primarily on the student's progress through a set of defined procedures when supporting material for the facilitation of learning by educators are noticeably absent. This paper establishes the need for a base of instructors' understanding in K-12 experiential methods assessment. This research identifies areas for further exploration of concepts and future studies to develop relevant supports to facilitate meaningful experiential education in K-12 education.

Keywords: experiential learning, land-based education, assessment, K-12, critical reflection, Dewey, Kolb, experiential learning model

Investigation of Experiential Learning Practices in K-12 Education

Experiential learning is a broad category that includes inquiry learning, problem-based learning, land-based teaching, and many other subsets that actively place students in an environment where knowledge can be directly applied. Although experiential learning models exist (Kolb, 1984), there is no direct EL connection to K-12 education that demonstrates the specific use or the ability to gauge the effectiveness of EL methods on student learning. According to Burch et al. (2019) experiential learning methods have a significant impact on student learning. Their meta-analysis of journal articles, dissertations, thesis articles, and conference proceedings concluded that students experience superior learning outcomes when experiential learning methods are used by measuring their effectiveness using Cohen's *d* (Cohen, 1988). Of the 13,626 studies they examined, K-12 education was not explicitly mentioned. Therefore, further investigation specific to the context of K-12 education and the development of theories about learning from experience are required (Matsuo, 2015). There is little published research on the assessment methods associated with experiential learning. However, some authors reported empirical findings related to learning from experience, specifically that experience can teach a broad spectrum of competencies raising questions about the experiences through which lessons can be taught (Spreitzer et al., 1997). No systematic K-12 education model for the facilitators of experiential learning exists.

To better understand EL, the factors that activate the experiential learning process must be specified. This research provides the insight of K-12 educators into their facilitation of experiential learning. Additionally, it generated possible assessments best suited to EL. This research will help future researchers develop a framework specifically suitable for K-12 education and the facilitation of authentic experiential education.

The most prevalent experiential learning framework, Kolb's model (1984), was developed for adult learning and fails to consider social relationships, critical reflection, and goals (Matsuo, 2015; Miettinen, 2000). John Dewey, the father of experiential learning, is widely regarded as the source from which all experiential learning frameworks and models originated, beginning with his 1938 book *Experience and Education*. This research establishes a base of understanding of the relationships between students and teachers and emphasizes the critical reflection of the students' learning experience. Research in K-12 experiential learning that includes both a treatment and control group is non-existent. Furthermore, analysis of the assessment methods within the K-12 range of experiential assessment does not exist. In contrast, post-secondary focused research has identified 89 studies (Burch et al., 2019) of experiential learning that included a treatment and control group. Additionally, not a single study mentions specific assessment methods. The single meta-analysis only classified these 89 studies as either objective or subjective concerning assessment, thus re-affirming the need for additional research.

This paper provides educators with an understanding of the impact on student learning that experiential and land-based experiences provide and describes specific assessment methods appropriate for those experiences. This research aims to support the future development of a new framework of EL and an experiential learning model for K-12 education, specifically, holistic characteristics such as social relationships, critical reflection, and goals. Kolb's model (1984) has been synonymous with experiential learning across multiple fields. His model is controversial as it was initially created to complement the development of the Learning Styles Inventory for the business community (Miettinen, 2000) and may not be suitable for K-12 education. This research will inform teachers' methodology and result in a more complete understanding of practical, experiential learning qualities that teachers may wish to incorporate into their courses.

Problem Statement

What is known about experiential learning is its profound impact on student learning. From John Dewey to David Kolb there is no question that experiential learning positively contributes to the students 'learning experience. EL assessment methods of K-12 educators may be examined using quantitative research to gain a better understanding of their specific experiences. There are multiple measurement scales used to quantify data variables in qualitative research. Two scales were reviewed during this study: Cohen's *d* (Cohen, 1988), and John Hattie's scale of effectiveness (Hattie, 2012). Cohen's *d* was prevalent in peer-reviewed academic journals where Hattie's scale was popular among K-12 educators. Recent studies using Cohen's *d* (Cohen, 1988) to estimate and describe the effect of experiential learning on learning outcomes found that EL methods resulted in nearly a half standard deviation higher in their effectiveness (d = .43) when experiential learning pedagogies were deployed (Burch, 2019; Kolb, 2014; Kuh, 2008). Burch et al. (2019) employed Cohen's *d* (Cohen, 1988) to estimate and describe the effect of experiential learning exercises on learning outcomes. This metric allows for reporting the standardized mean difference (Cohen, 1988), and Cohen's *d* is a standard metric used in meta-analysis (Borenstein et al., 2021).

Figure 3.1

Cohen's d (Héroux, 2017)
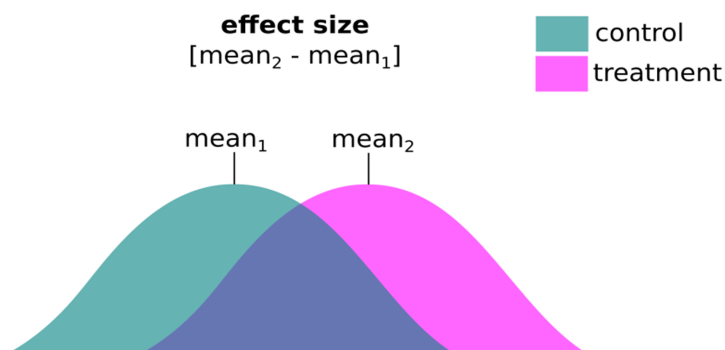
Figure 3.2

Cohen's d equation (Héroux, 2017)

$$\frac{\text{mean difference}}{\text{standard deviation}}$$

$$\text{or} \quad \frac{M_2 - M_1}{\text{pooled standard deviation}}$$

According to Borenstein et al. (2021), Cohen's *d* is a commonly used metric in research but may

confuse K-12 educators who are more familiar with John Hattie's scale of effectiveness from his

2012 book *Visible Learning for Teachers: Maximizing Impact on Learning.* Using Hattie's

barometer of effectiveness, the effect size is determined by a meta-analysis of specific factors

such as the factor of Constructivist teaching resulting in an effect size of 0.64 (Hattie, 2021), or

Feedback (reinforcement and cues) with an effect size of 0.92 (Hattie, 2021) which means

teachers who utilize these factors within EL would have the potential to considerably accelerate

student learning. Teachers in K-12 are familiar with the language of effect size, and the most

prevalent scale K-12 educators 'reference is John Hattie's visible learning scale (2012). Although

the two scales of effectiveness are similar, the measurement of experiential methodologies with

the effect size of ($d = .43$) results in a medium impact on student learning or "superior" as

described by Burch et al. (2019). This analysis achieves a higher rating on Hattie's (2012) scale of effectiveness when deconstructed into the factors identified in the survey and focus group, specifically constructivist teaching and feedback. Understanding which of these two scales may be most beneficial for K-12 educators and how Burch et al. (2019) effect size rates on Hattie's visual learning scale requires further investigation.

Figure 3.3

Adapted from *Hattie's barometer of effectiveness* (Hattie, 2012)
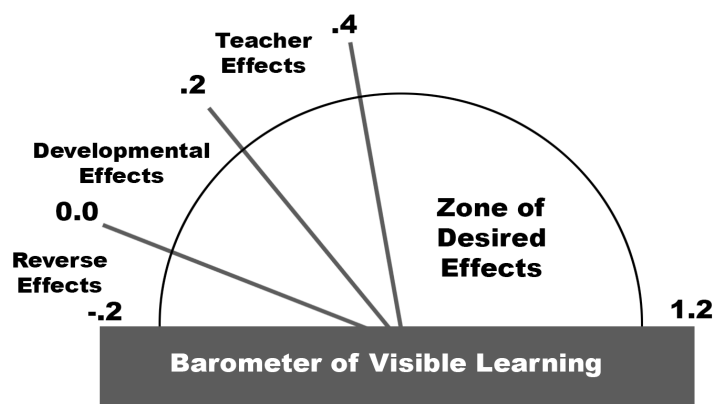
What remains unknown is which specific methodologies contribute to the overall effectiveness of experiential learning, more so, the context of K-12 education. When K-12 educators have a greater understanding of why these experiences are successful, they will ultimately impact future courses and program designs. Many programs operate under the direction of experiential methodology or a subset of those methodologies. Service-learning, land and environment-based education, practical education, and inquiry learning are just a few of the more common forms of education that have a strong connection to John Dewey, constructivism, and experiential learning. Experiential learning is active learning where the learner is physically engaged in the process of learning and reflection as described by Dewey (1938) "Give the pupils something to

do, not something to learn; and the doing is of such a nature as to demand thinking; learning results naturally (p. 45)." Defining experiential learning as a single theory has led to debate in the literature as there are many ways that scholars interpret how students learn. Kolb stated that learning is "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 41). Dewey argues that learning comes from the transformation from reflecting on the experience (Dewey, 1938). Therefore, it is essential to reframe the experiential learning debate to focus on learning outcomes.

Research Questions

The field of research regarding assessment methods of experiential learning in K-12 education is a blank slate and a thorough examination is necessary to support educators and students. This study's challenge is to establish a base of understanding of experiential learning from the educator's perspective. What are the experiences of educators when choosing experiential learning as a teaching strategy? Do teachers rely on traditional assessment methods when undertaking new teaching methods? The need for answers is essential to clarify and examine educators' understanding of experiential learning and assessment in K-12 education. A survey is paramount in developing a baseline understanding of both experiential learning and assessment practices. Additional demographic information is required to truly represent a mixed-methods study and determine if any of the coded responses or patterns can be attribute to factors such as age, gender, years of experience teaching, or levels of instruction. The initial research insights may lead to a follow-up focus group to dive deeper into their answers. A focus group setting fosters the conversation to organically adapt to the educators' needs and better understand their current practice. The participants 'input may inform the researchers insight into what is essential when developing a structure or framework for facilitating widespread adoption of

experiential learning with appropriate assessment methods. A focus group is an opportunity to share practices that educators feel has made positive student learning contributions. This research will directly address the question: **What is needed to effectively facilitate experiential learning and assessment in K-12 education?**

A survey established an understanding of current practice and knowledge gaps. The follow-up focus group developed a deeper understanding of those practices and highlighted required supports.

Sub-Questions explored in this study:

1. What are the critical components of an effective experiential learning strategy in K-12 education?

2. What is the understanding of experiential learning in the context of K-12 education?

3. What assessment methods and practices are commonly used with experiential learning activities?

4. What are the common questions educators want to answer using experiential learning as a teaching and assessment strategy?

5. In what ways does experiential learning assessment support or facilitate students' understanding of learning outcomes?

6. What supports related explicitly to experiential learning facilitation would be most valuable for primary and secondary teachers?

7. Are there any patterns that emerge when considering the age range, gender, years of experience teaching, or levels taught?

Supporting Literature

Experiential learning literature frequently identifies John Dewey as its founder, and his 1938 book, *Experience and Education* as the fundamental text from which all subsequent theories are derived. It was David Kolb who came up with the first experiential learning theories dating back to 1984. Kolb's work combined Dewey's theory of learning development with the Lewinian Model of Action research and Laboratory Training (Kolb, 1984). Despite the lack of evidence of suitable studies in K-12 education, Burch et al. (2019) provide the basis of research conducted at the post-secondary level in the form of meta-analysis. Presented below is an overview of the relevant theories, studies, and gaps associated with experiential learning literature.

The contemporary conception of experiential learning is based on the work of John Dewey who proclaimed that experiential learning is an essential element of formal education. Dewey stated that "no experience having a meaning is possible without having some element of thought" (1916, p. 107). His impact on education makes him one of the most influential educational thinkers of the 20th century. (Theobald, 2015; Williams, 2017). In the literature and research that date back to Dewey's 1938 work, experiential learning has been shown to contribute positively to students' understanding of concepts (Dewey, 1938; Kolb, 1984; Kuh, 2008; Burch et al., 2019).

Kolb's experiential learning theory proposed that we are capable of learning naturally, providing an example of how an experiential learning activity contributes to knowledge construction, transfer, and acquisition. The Kolb model views learning as the internalization of knowledge resulting from personal experiences in particular contexts (Kolb, 1984). It is

important to note that Kolb's model is based on his prior work on the Learning Style Inventory (1971). Kolb describes effective learning occurs in four stages:

Concrete experience: The learner encounters a new experience or engages in a reinterpretation process of an existing experience.

Reflective observation: The learner reviews and reflects on the new experience and identifies any inconsistencies between experience and understanding.

Abstract conceptualization: Through the reflective process, the learner creates a new idea/concept or modifies an existing abstract concept – analyzing the concepts and forming conclusions and generalizations.

Active experimentation: The learner plans and tries out what was learned and can apply the new knowledge to other situations – conclusions and generalizations are used to test hypotheses; thus, the learner engages in new experiences.

Figure 3.4

The Experiential Learning Cycle Adapted from (Kolb & Kolb, 2018)
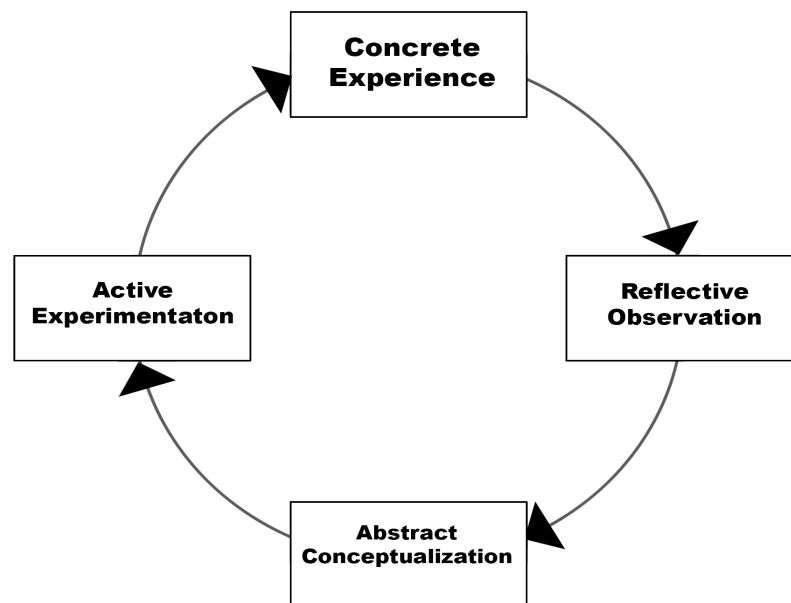
Throughout the four stages of this model, the learner can take any step and repeat the process to acquire new knowledge. For effective learning to occur, the learner should complete each stage of the model, and no single stage can serve as a learning procedure.

Kolb's model is not without its criticism centered mainly on his interpretation of Dewey's original theory of experiential learning. Kolb's model, according to Miettenin (2000), oversimplifies Dewey's original perspective of experiential learning as a lived experience, particularly in regard to how the participant makes meaning of their own experiences. The criticism that surrounds Kolb's work on the experiential learning cycle is a continuation of his prior development of the Learning Styles Inventory. The experiential learning model was first created to manage and gain control over one's own learning through the identification of one's learning style (Kolb, 1976a, 1976b). The controversy associated with Kolb's work is also intrinsically linked to his work. Kolb's model was identified as being simplistic and epistemologically problematic (Garner, 2000: Greenaway, 2008; Miettenin 2000). Perhaps the most significant critique comes from Garner (2000) who elaborates that Kolb's theory isn't necessarily wrong but rather lacks any coherent foundation and clear links to psychology and should be used with caution.

Gaps in Existing Knowledge

Only 89 studies included both empirical treatment and control data in the meta-analysis of Burch et al. (2019). Considering the 13,626 articles included in the literary search, 89 studies is incredibly low and identifies a tremendous gap in research concerning experiential learning. The study by Burch et al. noted the gap in the literature and lack of research on the topic, noting empirical studies do not often lend themselves well to educational settings despite their obvious importance in promoting experiential learning. This meta-analysis of experiential learning

effectiveness indicated no research had been conducted in K-12. Moreover, a meta-analysis data set that only includes assessments conducted objectively or subjectively is limited in its application. To determine which assessment methods, in particular, engage K-12 students effectively, additional research is needed.

Considerations

Notably absent from teacher training are practical guides and tools in K-12 education for the facilitation of experiential learning, and more specifically, assessments of methods that might be most appropriate for achieving student outcomes.

This paper establishes a base of methods and strategies used in K-12 educational assessment specific to experiential learning. An essential first step is understanding assessment methods currently used and providing educators resources and support to select appropriate and effective methods for assessing students' abilities and achievements concerning experiential education. Further research is needed not only to identify which assessment methods may be most supportive of student learning but to promote the use of experiential learning in K-12 education. This research demonstrated a significant passion for teaching and learning from the participating teachers that requires further exploration in order to promote and facilitate student learning.

Future research in K-12 experiential learning education, including a treatment and control group, will contribute to understanding this area as there are no known studies suitable for meta-analysis. Feedback is mentioned explicitly in the educator's role by Dewey (1938) and was noticeably absent from the research reviewed for this study. Burch et al. (2019) noted that instructor feedback becomes an essential factor for learner motivation but was noticeably absent in how the studies were conducted. When to provide feedback is a concern for educators as it can

be formal or informal; formative and/or summative. Feedback can be applied at different points during experiential learning and for different purposes. The meta-analysis of Burch et al. (2019) relied on Bruner's 1970 definition: "Learning depends on knowledge of results, at a time when, and at a place where, the knowledge can be used for correction" (p. 120). Burch et al. concluded that any feedback received either during the experiential exercise or immediately after will increase students' learning since people seldom learn from their experience unless the meaning is applied. Feedback is an important area related to assessment that is not evident in any experiential learning study in K-12 education.

Conclusion

Students experience superior learning outcomes when experiential learning methods are used (Burch et al., 2019). A significant challenge in confirming these results in primary and secondary education is the lack of empirical evidence of studies in those areas. Of the 89 studies that were identified by Burch et al. as including a treatment and control group used for the single meta-analysis of experiential and land-based learning, not one was conducted in K-12 education. Current research, although very promising, was limited in its analysis of specific experiential assessment methodology only categorizing it as either objective or subjective, leaving an incredible opportunity for future research focused on specific methods best suited for the opportunities. Another optimistic finding of the research was the overall positive effects for students: "we were unable to identify a single context across the empirical studies where experiential learning did not produce a positive effect on learning" (p. 260).

A review of experiential learning models identified Kolb's model (1984). Although designed specifically to promote his work of the Learning Style Inventory, it is insufficient in the areas of feedback and reflection when applied to the context of K-12 education. In Kolb's model,

the emphasis is placed on the student passing through all four stages. However, for a model to sufficiently support K-12 education the support should emphasize the role of the teacher in designing experiences where students have the ability to actively participate and apply meaning to their experiences through reflection. Assessment methods of these experiences should emphasize personal connections and exploration of concepts through frequent and personal feedback from the instructor. Successful application of experiential learning methods by K-12 educators could potentially benefit post-secondary instructors, particularly students 'ability to reflect and make meaning of experiences. Proper facilitation and resource development to support K-12 educators are paramount in the continued success in K-12 which when developed will certainly enhance the opportunities of post-secondary experiences.

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Chapter Four:

Investigation of Experiential Learning Practices in K-12 Education: Survey and Focus Group

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Abstract

Students experience superior learning outcomes when experiential learning methods are used (Burch et al., 2019). The choice of which methods and assessments are important factors in understanding how this contributes to student learning. This study established a base of instructors' understanding of experiential methods assessment in primary and secondary education. A survey and a follow-up focus group of instructors utilizing experiential and land-based methods was utilized. Throughout the research, many themes emerged including higher engagement, deeper understanding, improved achievement, meaningful relationships, and reduced need for behaviour management, highlighting the importance and the impact of experiential and land-based education for students in K-12 education. This study substantiates methods that promote students' deeper understanding and engagement of course material. Prior assessment methods specific to these experiences were heavily qualitative and significantly impacted the students' understanding at a level not easily acquired with traditional quantitative assessments. This mixed-methods study provides researchers with a better understanding of experiential learning practices in K-12 education while addressing the lack of research in experiential learning assessment.

Keywords: experiential learning, land-based education, assessment, K-12, critical reflection, Dewey, Kolb, experiential learning model

Investigation of Experiential Learning Practices in K-12 Education: Survey and Focus

Group

Experiential learning is a broad category with many subsets that emphasize intentionally placing students in an environment where knowledge can be directly applied. Students' active participation in experiences designed and facilitated by instructors is central to the philosophy of experiential learning (EL). This research establishes an understanding of experiential learning assessment methods specific to K-12 education through an analysis of a survey and follow-up focus group. The intent of the research is to addresses the lack of formal research specific to primary and secondary education in the area of experiential and land-based assessments by engaging teachers who have been using EL methods to transform their teaching. The only meta-data analysis on EL (Burch et al., 2019) analyzed 13,626 journal articles, dissertations, thesis articles, and conference proceedings and concluded that students experience superior learning outcomes when experiential learning methods are used. Of the 13,626 studies they examined, K-12 education was not explicitly mentioned. Further investigations specific to the context of K-12 education are required. Additionally, there is little research published on the assessment methods of experiential learning and no research available specific to assessment methods of experiential learning in K-12 education.

The most common model of experiential learning (Kolb 1984) was not designed for or intended to be used in primary or secondary education and is insufficient in providing educators with a framework to design and facilitate meaningful EL experiences. Kolb's model is even less helpful when applied as a tool to support assessments of experiential and land-based learning. As there is no research specific to the context of experiential and land-based learning and the

assessment methods in K-12 education, it is crucial to establish an understanding of experiential learning specific to this environment.

This research addresses the lack of formal research in the experiential learning assessment of K-12 education. With no empirical research specific to the context of experiential learning assessment in either primary or secondary education, a base of understanding is an essential first step. The mixed-methods approach of survey, focus groups, and open-coding using Nvivo (software for statistical analysis in social science) is suitable as there is a need to understand the attitudes, beliefs, motives, or behaviours of people (Wong, 2008) more thoroughly alongside the quantitative data produced of the survey results from the educators involved. This research centred on a single school division of a medium-sized city in western Canada with roughly twenty thousand students. The research consisted of a data collection and analysis phase, whereby the participants from an initial e-mail request complete a survey designed in a "discovery-oriented" approach (Chenail, 2011, p. 255). The pool of potential survey respondents was identified by the division's research committee and the First Nations and Metis Education team as having worked directly with these teachers or have facilitated their use of division operated land-based sites. The division e-mailed these instructors directly to encourage their participation in this research. Thematic analysis was conducted to develop a base understanding of the knowledge of assessment practices related to the participants' experiential learning methods and strategies. Themes that emerged from the initial survey were confirmed after participants had an opportunity to contribute to a follow-up focus group.

Research tools utilized in this study consisted of the Canadian survey tool Voxco and the qualitative research tool Nvivo, researcher's personal journals, field notes, and interviewing the researcher to identify researcher bias (Chenail, 2011). In the process of working to address bias,

as suggested by Chenail the investigators 'supervisor participated as interviewer in developing and triangulating the initial research questions as well as observer in the overall interview practice. The virtual focus group was conducted using Cisco Webex, where all participants could participate with audio and video.

Research Design

This research study employed a mixed-methods approach and focused on the application of established teaching and assessment practices. Instructors were invited to participate based on the following criteria: a project or unit of study focusing on experiential learning, teaching and assessment methods within a course offering in the current or previous academic year. Instructors from various grades, programs, and schools were invited to participate in order to generate an experiential learning assessment analysis. During data collection, the participant sample consisted of 22 instructors in various locations throughout the division, representing a significant response from the 67 individuals identified as potential participants actively engaged in experiential learning. A variety of experiential learning educators was engaged to offer a sufficiently large population of experiential learning and assessment methods from which to examine perceptions of effectiveness as well as address transferability. Methods of experiential learning assessment utilized in the courses by instructors and students' preferences were also examined. The participants had the option to contribute to a focus group to generate perceptions about the method's effectiveness to which they were exposed. Nvivo was used to analyze both the quantitative and qualitative data generated by the single online survey. The quantitative analysis examined fundamental frequencies and correlations to determine if there are differences in gender, age, years of teaching experience, or levels taught. NVivo (software for qualitative

data analysis) analyzed qualitative data from the instructor follow-up focus group that was contributed.

As a part of the research process, administrative approval was requested and granted by the school division's research committee. The school division recognizes the importance and potential benefit that the results of the research may provide. The results of the research study will impact teachers' ability to implement experiential learning and land-based programming to students while focusing on assessment methods that have been identified what as most appropriate.

The invitation to participate in the online survey outlined the voluntary nature of the process. Consent was implied for participants of the Online Survey. The participants had an opportunity to elaborate by indicating their willingness to join a follow-up focus group, of which 17 participants offered and eight participated. The focus group was held in week 50 of the Covid-19 global pandemic, and the date and time did not work for everyone. The indication of the participant's preference to contribute was not revealed in their survey response, protecting their identity. Participants provided their e-mail and received an invitation from the supervisor who explained confidentiality, their right to withdraw, and the potential risks and benefits. Participants in the focus group provided their informed consent in writing before the meeting. There were no group e-mails to ensure the privacy of the individual identified and those who took part in the research. Participants were permitted to withdraw at any time without penalty before the information was aggregated and analyzed. As online information was anonymous once submitted the participants submission could not be identified and removed. The information regarding the right to withdraw was included in the initial contact email, on the first page of the online survey, and in the focus group's release form. Digital data (survey data and focus group

recordings) are stored on a password-protected laptop in the secured office of the supervisor, in the College of Education. No physical data was obtained, only electronic copies were used. After the five-year storage, all electronic files will be erased beyond recovery.

Survey

The initial survey was sent directly from the school division to 67 staff and was available from January 25 to February 5, 2021, 10 working days. Ilieva et al. (2002) showed that the typical number of days to answer a web-based study was 5-6 days. The survey was sent to participants in the 47th week of the Covid-19 global pandemic, no information was available for appropriate response wait times for pandemic-era research. A reminder email was also sent after five days to encourage participation, as Dillman et al. (2011) suggested, to increase responses. After ten working days of availability, the principal researcher recognized that additional contributions after that point were unlikely. Twenty-two contributions were received from those 67 individuals identified (n=22, 33%), which was, according to Kittleson (1997), higher than the typical response rate to email surveys of between 25% and 30%. The global pandemic and the shift to and from online learning were undoubtedly a concern regarding response rates. However, this significant number of detailed and thoughtful contributions represents a comprehensive cross-section of those who were eligible to participate in the survey. The survey's initial goal was achieved in developing themes and questions.

Focus Group

The survey aimed to clarify teachers' facilitation and assessment practises of experiential and land-based teaching strategies. Themes identified from the online survey provided a basis for a focus group to gain clarity regarding any conclusions or assumptions drawn from the results of the survey. Of the 22 participants in the initial survey, 17 indicated they were willing to engage

in a follow-up focus group. The focus group allowed an opportunity for the survey participants to elaborate on their answers while offering their personal experiences into their practices' success and limitations. The focus group was initially intended to be conducted in one of the school division meeting rooms. However, due to restrictions from Covid-19, the focus group was conducted online using the Cisco WebEx software. Considerations shifted to include access to technology and to the WebEx software. All prospective participants had division-issued devices capable of participating in online synchronous discussions.

The WebEx platform allows for the recording of meetings and the recording feature was used as a replacement for a physical recording device that would have been present for an in-person focus group. The design of the focus group intended to use only audio recording for purposes of transcription but due to the changes required from Covid-19 health and safety recommendations the group met virtually and video was also recorded with the permission of the participants. The recording was only available to the supervisor and the student researcher for transcription. The visual cues from the participants may have been overlooked upon reviewing only the audio and should be noted as something that should be included in future research. As the recording contained both audio and video it was excellent in confirming the visual cues, interaction, and confirmation of the participant's feelings for experiential learning and teaching. The recorded video was helpful in making sure that emphasis was placed on topics and ideas that participants noted as important.

The supervisor began the process by explaining the consent form before a focus group and received written confirmation of consent, and participants provided consent by completing and submitting the questionnaire. Consent was obtained in writing from all participants before

participating in the focus group. Participants retained a copy of their consent form before participating in the focus group.

Analysis

This mixed-methods study used a parallel design where the qualitative and quantitative data were analyzed simultaneously using Nvivo. Nvivo is a tool that mechanizes the coding process as well as the search and retrieval of data. Both types of data were compared and contrasted during interpretation (Creswell et al., 2007). The analysis plan for the survey compared the participants' experiences and conducted a thematic analysis using an open-coding technique (Glaser, 2016). The responses were coded by content and thematic analysis and are summarized in this section. Several themes emerged and became the basis of the focus group questions to develop insights to confirm the survey's initial findings. Qualitative data is often subjective and consists of in-depth information presented in the form of words. Analyzing the qualitative data entails reading many transcripts looking for similarities or differences, and subsequently finding themes and developing categories. The use of Nvivo as a tool for qualitative analysis allows for better organization and tracking of themes that emerge.

The mixed-methods approach was chosen in this study as a guard against inaccuracies resulting from the failure of quantitative methods to provide insight into in-depth information about people's attitudes, beliefs, motives, or behaviours (Wong, 2008). Through the qualitative data analysis (QDA) approach, the researcher can determine the participant's knowledge, skills, and attitudes. Qualitative research "provides information about the "human" side of an issue, that is, the often-contradictory behaviours, beliefs, opinions, emotions and relationships of individuals" (Mack, 2005, p. 1). Quantitative information gathered in the online survey included gender, age range, years of teaching experience, and grade range taught. The researcher used the

statistical analytical tools built into the Voxco Survey platform to compare these variables when identifying patterns. The Canadian Hub for Applied Social Research at the University of Saskatchewan recommends the use of this tool because it allows for additional quantitative analysis within the platform and greater security from a Canadian company.

Findings

Twenty-two participants completed the survey and shared their experiences and understanding of experiential learning, the critical differences in experiential learning versus transitional classroom settings, their questions, concerns, and advice on experiential learning assessment. Experiential and land-based learning experiences had a considerable impact on both students and teachers. All participants commented that their "students were far more engaged" with their learning than what they had observed in traditional classroom settings. All responses were coded and the frequency of the top 10 response are displayed in Table 3.1

Table 3.1

Top 10 Response Word Frequency

Word	Length	Count	Weighted Percentage (%)	Similar Words
Learning	8	324	5.69	experiential
Students	8	229	4.02	assess, assessable, assessed, assessing, assessment, 'assessment', assessments
Experiential	12	108	1.90	experience, experiences, experiment, experimented, experimenting, experiments
Assessments	11	107	1.88	engage, engaged, engagement, engaging
Experiences	11	91	1.60	learn, learned, learning, learnings, learns
Activity	8	66	1.16	student, students, students', students'
Teaching	8	44	0.77	active, actively, activities, activity
Based	5	43	0.75	teach, teaches, teaching, teachings
Engagement	10	42	0.74	outcome, outcomes
Outcomes	8	41	0.72	base, based, based'

The most common themes that emerged were;

1) Improved student engagement (58 responses)

2) Deeper understanding (67 responses) and greater student achievement (65 responses)

3) Real-life (85 responses), practical and student preferred (64 responses)

4) Authentic learning (81 responses)

Demographics

Three of the eleven questions were introduced to create a basic understanding of the participant's gender, age range, and years of experience teaching. This quantitative information was used to compare responses within Nvivo in order to test for or uncover differences between participants. All quantitative questions were optional and resulted in the confirmation of similar experiences as described at various grade levels in the K-12 system and similar results by both males and females at various levels of their careers.

No patterns emerged in relation to the demographic information and confirmed that similar experiences and needs were uncovered by all participants and were not limited to any one specific demographic. The main themes were nearly identical across these identifiers and were specifically tested using a comparative analysis in the Nvivo Software tool. The majority of the participants were male (n=12, 55%). All participants were 25 and older; 5 (23%) were aged 26-34, while 17 (77%) were 35 to 54. The level of teaching experience expressed in years of teaching identified 6 (27%) participants with five years or less teaching experience, 5 (23%) in the 5-10 years of experience, 7 (32%) in the 10–20-year range, and 4 (22%) that had 20 or more years of teaching experience. The majority of participants 10 (45%) taught at the secondary level (grades 9-12), 8 (36%) taught in the middle years (grades 5-8), and 4 (18%) taught at the primary level (K-4). Given the relatively small number of participants identified in a unique teaching

category, the researchers were pleased to have representation in all of the demographics identified. Representation of each demographic was consistent with the number of instructors in each demographic invited to participate as illustrated in Table 3.2.

Table 3.2

Potential vs. Actual Participant Categories.

Potential Participants	Primary	Middle Years	Secondary
67	9 (13%)	27 (40%)	31 (46%)
Survey Participants			
22	4 (18%)	8 (36%)	10 (45%)

Prior Experience with Experiential Learning

The majority of participants (n=14) specifically mentioned participating in experiential learning. "Prior to using experiential learning as an instructional method as a teacher, it was my preferred method for learning as a student" (Educator 3). Participants noted that many of their experiential learning opportunities were ones they would remember forever. They felt their prior experiences with EL made a positive impact on their understanding of course content and promoted life-long learning. "I believe lessons that you remember years later are the ones that make a difference in your life" (Educator 10). Many participants (n=7) noted that their experiential learning opportunities as a student made a significant impact on their learning compared to traditional methods. "When I reflect on my own learning experiences, far and away the most meaningful, rewarding, engaging, and profound experiences have been when I have been immersed in experiential learning" (Educator 16).

Key Differences

All participants reflected on the benefits to students that they have observed in their experiential and land-based learning courses. They saw differences compared to traditional courses and methods, citing significantly higher engagement, deeper understanding, improved achievement, meaningful relationships, and opportunities for students 'preference in demonstrating understanding. Student "engagement" was mentioned explicitly by most (n=16) participants, "I noticed that students were far more engaged in these learning activities than they were learning similar content in the classroom setting" (Educator 2). Every participant noted that experiential learning had a positive impact on students in academic performance areas and in developing as a "whole" student, including mental health and behavioural benefits. "I find that through teaching in an experiential form that I do a lot less behaviour management," (Educator 19) and "less behaviour management needed" (Educator 11). Another notable difference was the role of the instructor becoming more of a facilitator of learning instead of engaging in direct instruction, "The biggest difference in instruction is much less direct teaching with experiential learning" (Educator 3). Subsequently, students' roles shifted as well, "Students become participatory learners instead of passive receptacles of content" (Educator 4). Applying "context" or how the content fits into the bigger picture of society or worldview was a recurring difference in which participants felt it was instrumental in helping students connect theory and practice. "context" was further investigated during the focus group. One participant passionately described it as: "The way to get to their understanding is allowing them to immerse themselves in something experiential and giving them a context to and giving them the freedom to discover a little bit on their own and that's seems to be what makes a difference with more challenging concepts and you can only get so far when they're sitting in their seat" (Educator 4). Other

participants supported this sentiment and offered further evidence: "progress through the learning that's how they achieve deeper understanding than what they can do just sitting in their desks. So yeah, it's all about context. I 100% agree with (Educator 4)" (Educator 5).

Questions/Concerns about Experiential Learning as a Teaching Strategy

The most prevalent responses (n=11) that emerged with teachers in the study was connected to how best to assess experiential learning and precisely what is being done by other teachers who have engaged in these activities. Four participants brought up challenges with subjectivity and objectivity in EL assessments as being "qualitative" and potentially not being recognized or quickly converted into a report card "yes, families and students need to know that they are learning and improving in their knowledge, but the formal report card is very rigid and does not encourage intrinsic, lifelong learning" (Educator 3). Another participant noted that other institutions such as secondary schools should be more accommodating of qualitative assessments over traditional subjective measures of student success.

According to the experiences of the participants, there is a significant desire for resources. Some said it was an obligation: "If you could teach and assess using strategies that students found more engaging, enjoyable, authentic, and where their learning was comparatively greater and deeper versus other strategies, why wouldn't you make an effort to use them?" (Educator 16). Some participants noted that it took more time and effort but that ultimately the impact on student learning was evident. " When you circulate and ask questions, you get the most authentic feedback about where the kids are at, and you can give them immediate feedback or point out exactly what they're missing in the moment, to shorten the time that they might be "derailed" with a wrong concept" (Educator 11). During experiential learning opportunities students receive feedback sooner than with traditional summative assessments, and as a result are

able to apply those concepts with the reassurance they are heading in the right direction. When using experiential methods, the time between introducing and learning concepts and feedback is short. This approach of EL emphasizes active participation from all participants.

In what ways does experiential learning assessment support student learning?

All participants acknowledged improved student outcomes, on tests and general comprehension of course content through experiential learning. During the focus group, participants shared stories of connections students made to the curriculum and shared the deep and meaningful impact those experiences had on those students. Participants recognized that a lived experience would be something they would never forget, just as they shared stories of experiences that had affected them as students. The survey responses and the conversations from the focus group outlined reflection as a critical element of experiential learning assessment. The theme of students' ability to reflect on a particular experience and demonstrate their understanding in various mediums was often combined with an opportunity to engage directly with the instructor or peers to receive immediate feedback to refine their ideas further. Teachers noted that they felt that the assessments they chose to demonstrate a student's understanding such as presentation or portfolio "really show me the student's true level of understanding" (Educator 2). Participants also emphasized that EL assessments "created opportunities for deeper relationships and therefore connections to the school and learning. A deeper understanding of the material and how it is applicable" (Educator 6). The type of assessment and how students shared their experiences emerged as a potential opportunity to create relationships among students and between instructors and students. It was noted that the instructor's descriptions of their assessments in many instances were created directly with students, emphasizing the student's role and the balance of power with teachers facilitating learning instead of dictating it,

"shared assessments that include both student and teacher arriving at a consensus on what has been achieved" (Educator 14). Several instructors (n=8) mention specifically the "co-construction of criteria" and individual freedoms and flexibility afforded to students who have a choice to demonstrate their learning in ways that are meaningful to them. The assessments were designed to be student-centred and authentic, "each individual should be able to show what they have learned, it becomes more of an internal growth rather than a competition between the students much more authentic in knowledge/concepts gained" (Educator 9). Differentiation, the process of adapting course content to students 'individual needs was noted as being more natural in experiential learning, the immediacy of the feedback for students is evident, noting that is not the case in typical objective assessments.

What Should Other Instructors Know About Experiential Learning?

Finally, participants were asked if they had any advice for instructors considering an experiential learning approach. Seven participants strongly advocated that anyone considering this approach should " DO IT!" and "Don't be afraid." Many suggested starting small and do not expect perfection the first time. The theme of teacher as learner and facilitator of learning resonated among many responses, "take the opportunity to truly become a lifelong learner by continually being a student" (Educator 4). Teacher as co-learner was an essential distinction in the differences that experiential learning experiences present, "Be open to the ideas of your students and don't be afraid to engage in the mess that is inquiry" (Educator 15) and "demonstrate a growth mindset as a co-learner" (Educator 18). There was considerable focus on the amount of time and effort on the part of the teacher to design and facilitate these experiences. However, every participant noted the value not only for the students but also for the instructors'

growth. Participants were passionate" (experiential learning) is the best way to promote deeper, authentic learning which students find engaging" (Educator 16).

Assessment Methods

Methods that allow the students to reflect on their experience and represent the learning in a medium in which they have some preference or control was identified as having significant value by the participants. The focus group participants' responses and experiences identified subjective measures of assessment as more appropriate for this type of learning. Objective assessments were predominantly found in performance tasks but rarely led to a deeper understanding of course content. Participants' comments on specific assessments that led to deeper understanding in their view were generally subjective interpretations in various mediums in which the primary goal was the students' reflection and relation of the event to their understanding. Opportunities in which students exercised some degree of choice when representing their learning were also noted to impact student learning positively. Additionally, student learning past the specific objectives of the course content was mentioned with the cross-curricular nature of the activities, instructors noted the development of the "whole student" with mention to [the development of] socially and environmentally conscious students. Benefits of experiential and land-based learning were also evident outside of the experience and participants noted benefits in the form of transferrable skills to traditional academic settings as well as an overall positive results in achievement.

The focus group took place in week 50 of the Covid-19 Global Pandemic, and some of the participants at the secondary level were teaching in a blended format where half of their students were in class in person every other day. Teachers were all experiencing an unprecedented year of instruction. Their willingness to contribute to this survey and focus group

represents the calibre and quality of the teacher's and their continued commitment to their craft. Given the nature of the research and the connection to land-based learning the focus group also included a land-acknowledgement as being conducted on Treaty Six Territory and the traditional homeland of the Métis.

Conclusion

Experiential and land-based learning improves student outcomes. When we ask, "What is needed to facilitate experiential learning and assessment in K-12 education effectively?" the answer is, as described by participants is "messy." Although no formula or framework defines the process for K-12 educators, this research outlines common traits that concluded with similar outcomes. All of the initial survey participants and the focus group members noted benefits, including engagement, deeper understanding, behavioural, relational, and overall satisfaction. The research identified common traits among participants and experiences that align with Dewey's original publication of *Experience and Education*, including reflection, feedback, and the instructor's role.

The focus group narrowed the research to further understand the process of the experiential and land-based activities. The findings of this research uncovered and emphasized the role of instructors in the planning and facilitation of these events were similar among all participants. The literature and research available focused almost exclusively on the students when the success of the experience is vastly dependent on the facilitation of the event. The results support the role of the teacher as not a passive facilitator or transmitter of static information but as a principal designer orchestrating knowledge. The instructor is actively involved in designing the experience, participating in getting their hands dirty with the messiness of practical knowledge and the feedback and reflection of these experiences. Participants

recognized that the delivery was different when engaging in experiential learning and suggested shifting their roles from lecturer to conversationalist, whose goal was to facilitate experience but not dictate them. Immediate and frequent feedback throughout the process was also indicative of a change of practice from traditional methods. Many of the research participants had taken experiential and land-based experiences as students suggesting it had significant and long-lasting impressions on them. These themes surfaced in both the survey and the focus group, suggesting potential longevity in the benefits of such experiences. There is no doubt that EL has a direct impact not only on student learning but on participation and a noticeable impact on the instructors themselves. Further investigation on the role of the instructor and the factors in which they could be successful are areas that should be explored. Participants in this study specifically requested resources currently being used by practitioners of EL as well as a framework for the facilitation of EL. This research identified and established a basis of understanding of EL of teachers and areas for future research along with tools required to support those teachers in the facilitation of EL methods. Additional research in the area of EL assessment methods should be a focus of future research with the inclusion of a treatment and control group to align findings from K-12 education with those of post-secondary. Instructors in K-12 would also benefit from a specific model of facilitating experiential and land-based education and should also be a focus of future research. Overall, the findings of this study support and align to those in post-secondary in their contribution to the significant impact of experiential methods on student learning. Additional resources and support for the facilitation of experiential learning methodologies have the potential to significantly impact all subject areas across K-12 education and ultimately student achievement and engagement.

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Chapter Five:

A Framework for the Facilitation of Experiential Learning in K-12 Education

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Abstract

Although experiential learning is recognized as a fundamental strategy through which K-12 students learn, there is no model available to support teachers in designing and facilitating these methods. This article proposes an experiential learning framework for K-12 education that directly addresses research conducted with teachers utilizing experiential methodologies in chapter four. The framework and supporting model rely on six working principles and seven characteristics of effective experiential learning implementation. Drawing on literature, the development of this framework returns to the roots of learning and facilitation initially presented in John Dewey's (1938) *Experience in Education* and, more recently, in the theory of *High Impact Practices* of Kuh (2008). According to a recent survey and focus group of K-12 educators, learning and the facilitation of memorable experiences center on students 'deeper understanding and connection to subject matter as a lived experience and dismisses low-level memorization strategies for standardization. This framework integrates factors supporting creativity, teacher professionalism, and fundamental student learning. The framework is proposed as a replacement for current models available to address requests and gaps identified in experiential learning research in the K-12 sector. Although this framework may have applications outside of K-12 education, the intention is that it is specific in its scope of support.

Keywords

experiential learning, facilitation, student learning, assessment, K-12, theoretical framework

A Framework for the Facilitation of Experiential Learning in K-12 Education

When developing a framework to support and facilitate experiential learning, it is necessary first to define experiential learning. In the words of Keeton and Tate (1978), "experiential learning is learning in which the learner is directly in touch with the realities being studied; it is contrasted with the learners who only reads about, hears about, talks about, or writes about these realities but never comes into contact with them as part of the learning process" (p. 2). In Keeton and Tate's definition, the "experience" takes center stage, and it is fundamentally the catalyst and the foundation for learning. John Dewey (1938) is credited with the development of experiential learning and offers this advice "Give the pupils something to do, not something to learn; and the doing is of such a nature as to demand thinking; learning naturally results" (p. 45). Moon (2004) stated: "As indicated several times…. All learning is based on experience" (p. 119). When education shifts from students 'passive absorption of information to active participation, student learning improves. Students coached into excelling at lower-level strategies may demonstrate facts and figures for standardized testing. Still, lower-level methods have little success in developing students 'deeper understanding of course content. Dewey (1916) stated that "no experience having meaning is possible without having some element of thought" (p. 107). Experiential learning methods promote authentic and intrinsic learning in students and various other benefits such as increased motivation (Weinberg et al., 2015), empathy and respect for others, and expansion and consolidation of their own identities (Gilin & Young, 2009). Further support for the expanded use of experiential learning comes from Burch et al. (2019). Their meta-data analysis concludes that students experience superior learning outcomes when experiential learning methods are used.

John Dewey developed the first theories of experiential learning, and most literature refers to his 1938 publication *Experience in Education* as the origin of the theory. Interestingly, Dewey never referred to his work or this theory as experiential learning, nor did he produce any models for its facilitation. Dewey vehemently argued for direct student experiences and against theory without the application of experience, which had been commonplace in education. The introduction of the Carnegie Unit around the early 1900's dictated that no major subject could be accomplished in less than *120 sixty-minute hours.* The CU was developed explicitly to standardize admissions processes for post-secondary institutions (Silva et al., 2015). Such standards promote the transfer of knowledge in the most efficient manner to maximize time requirements, and experiential learning is not as "efficient" in this regard (Bergin et al., 2004).

This manuscript presents a new framework and set of best practices for the facilitation of an experiential learning model for K-12 education using an approach that supports social relationships, critical reflection, and feedback. Current frameworks are predominantly student-centred, where learning occurs when someone creates knowledge for themselves through experiential transformations concerning their contexts (Kolb, 1984). In current models, there is little emphasis on the facilitation of learning or the relationship between students and teachers. Various benefits from the interactions between students and teachers were identified directly in chapter four when surveying EL teachers in K-12 education, most notably the reduced need for behavioural management when using EL methodologies. Teacher feedback and relationships with their students are noticeably absent in any framework found in the area of experiential education and are one of the main shortcomings of Kolb's experiential learning cycle, as outlined by Matsuo (2015).

This article begins with a review of literature surrounding theories, and relevant empirical studies, a framework for supporting the use and the facilitation of experiential learning in K-12 education is proposed based on research established in chapter four. Finally, practical applications and areas for future research are outlined and discussed.

Literature

The application of experiential learning is growing across many subjects and sectors. An early comprehensive bibliography of Experiential Learning Theory assembled by Kolb et al. (2001) contained 1,004 entries across many disciplines: management (207); education (430); information science (104); psychology (101); medicine (72); nursing (63); accounting (22); and law (5). The bibliography was updated, and the original figure expanded to 2,453 entries with contributions from every region of the world (Kolb & Kolb, 2009). With extensive application across disciplines, it is essential to clarify the concepts of experience and experiential learning specific to education and develop a framework explicitly focused on K-12 education. One important distinction is that Experiential Learning Theory, developed by Kolb (1984), is specifically an adult learning theory (Ng et al., 2009). The development of Kolb's (1984) framework was used extensively to promote his previous work on the Learning Styles Inventory (Miettinen, 2000) and was never intended to be used in K-12 education. Additionally, Kolb's model explains how individuals learn from experience, but it does not specify the factors facilitating experiential learning, missing an essential component required for a new framework.

Figure 5.1.

The Experiential Learning Cycle adapted from (Kolb & Kolb, 2018)

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                    ┌──────────────┐
                    │   Concrete   │
                    │  Experience  │
                    └──────────────┘

  ┌──────────────┐                    ┌──────────────┐
  │    Active    │                    │  Reflective  │
  │Experimentaton│                    │ Observation  │
  └──────────────┘                    └──────────────┘

                   ┌──────────────┐
                   │   Abstract   │
                   │Conceptualization│
                   └──────────────┘
```
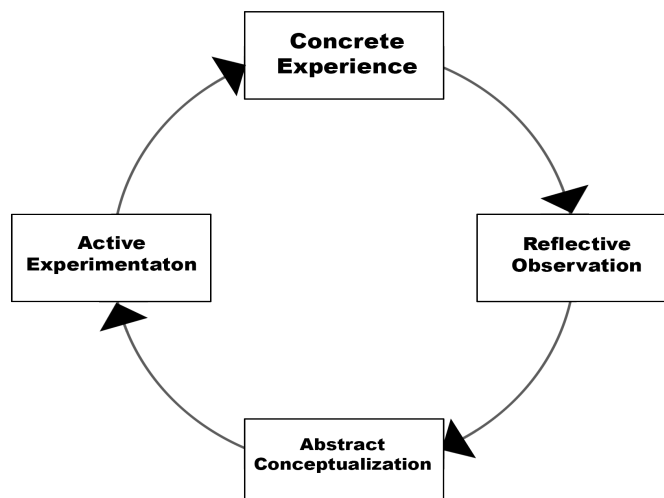
It should be noted that direct instruction is not absent from experiential learning but instead balances theory and practice. As Wurdinger and Carlson (2009) explained, direct instruction is necessary, and its effectiveness may be limited, questioning how much learning can take place when educators don't provide opportunities for students to apply the information. However, students become quickly disengaged when teachers do all the talking and do not allow active participation in the classroom. In their research, Wurdinger and Carlson specifically examined students 'experiences, and when asked *how* they were taught, the answer was usually through passive learning methods. Learners listened most of the time, and when they were allowed to speak, it was to answer a question. Also, when students were asked about how they felt about these experiences, they used terms such as bored, oppressed, and devalued. However, not all students experienced solely passive instruction. Others mentioned that they felt most engaged when included in fieldwork outside the classroom, interacting with instructors and peers, challenging each other's ideas and practices, and doing meaningful work that could be applied to real-world settings. Wurdinger and Carlson's research provided anecdotal evidence emphatically supporting the notion that students are most excited about learning when they are

actively involved in the process. There is a significant gap between how students like to learn and how teachers prefer to teach (Wurdinger & Bezon, 2009). Direct instruction is necessary but should never be the only weapon in the arsenal of a teacher. In experiential learning, direct instruction is often used to front-load a concept to aid in the understanding and practical application of a theory or to guide in the process of directing students through learning experiences. Information may lose validity if students are not allowed to apply or experience it in a way that engages them.

Wurdinger and Carlson (2009) found that high school was a significant transition point when students received more passive learning methods in the classroom. Elementary and middle years included more active methods because students are in developmental stages where they need to be active participants involved in the learning process. In contrast, high school teachers rely on lecture format because of its efficiency in helping students do well on tests, reminiscent of the Carnegie Units 'theories of delivering content "efficiently" for standardization. Wurdinger and Carlson's theory is supported by Martin (2005). Martin researched students 'cognitive strategies used in high school social studies and found that lower-level strategies such as repeating information are used frequently by high school teachers supporting lower-level thinking strategies. Martin noted that these strategies do little to motivate or engage students in their learning. These attributes are directly related to the efficiencies sought when introducing the Carnegie Unit and are further compounded when standardized testing is present. Traditional systems of lecture followed by repeated assessments stymie creativity and innovation. When standardized assessments are present, students are too busy following procedures and policies, which affect the process of mentally applying lessons and theory to practical knowledge that may be useful in areas other than standardized tests. Teachers need to be granted the freedom to

promote experiential learning and think differently about how they teach. Teachers must also be challenged and supported in refining their practice to incorporate new styles of teaching that promote deeper student understanding of concepts.

Models Best Suited for Framework Development

The definition of what experiential learning is can be further defined by what it is not. Schwarts (2012) developed an extensive website of best practices in experiential learning for Ryerson University and presented this insight from Chapman, McPhee, and Proudman (1992), "simple participation in a prescribed set of learning experiences does not make something experiential. The experiential methodology is not linear, cyclical, or even patterned. It is a series of working principles, all of which are equally important or must be present to varying degrees at some time during experiential learning. These principles are required no matter what activity the student is engaged in or where the learning takes place." (p. 243)

In this expanded definition, Chapman et al. move away from Kolb's cycle of experiential learning theory to a set of working principles. Any new experiential learning theory should remove itself from Kolb's original four-stage cycle and introduce a set of working principles with accompanying characteristics of effective implementation. This epistemology is best suited for the development of a new model of experiential learning in K-12 education. Teachers will be supported through a set of working principles and accompanying characteristics of effective implementation. A model which presents actionable items to facilitate the instructor's role directly acknowledges the most common request from practicing EL educators surveyed in K-12 education. Throughout chapter four the teachers who participated in the survey and focus group specifically identified wanting to know more about the delivery of experiential learning and noted resources as being highly valued. A suitable example of such a framework is presented in

Kuh's High Impact Practices (2008), supported by the eight effectiveness characteristics.

Although Kuh's list is presented and organized logically, with linear progression representing a post-secondary program from beginning to end, a similar format could be applied to primary and secondary education. High-Impact Practices should not be considered without the inclusion of the referenced eight characteristics of effective implementation.

George Kuh's 11 High-Impact Practises (2008):

1. First-Year Experiences

2. Common Intellectual Experiences

3. Learning Communities

4. Writing-Intensive Courses

5. Collaborative Assignments and Projects

6. Undergraduate Research

7. Diversity/Global Learning

8. Service Learning, Community-Based Learning

9. Internships

10. Capstone Courses and Projects

11. ePortfolios

Kuh (2008) stated that these practises are only high-impact if they are intentionally designed experiences that incorporate the characteristics of high quality, high-impact practices that engage students and significantly impact their learning. These practices must not be considered without the characteristics which make them successful. He outlines the eight characteristics that make high-impact practice effective:

1. Set performance expectations at appropriately high levels and effectively communicate these expectations to students

2. Encourage students to invest significant and meaningful time and effort into authentic, complex tasks over an extended period.

3. Add meaningful interactions amongst students and between faculty and students about substantive matters.

4. Challenge students 'ways of thinking, increase interactions with individuals with experiences and life experiences different from their own experiences with diversity.

5. Provide frequent, timely and constructive feedback

6. Increase periodic, structured opportunities to reflect and integrate learning

7. Provide opportunities to discover the relevance of learning through real-world applications or add a real-world/authentic experience

8. Add a public demonstration of competence.

For any practice to be considered *high impact* they must include the practices as well as their accompanying characteristics of effective implementation.

Chapman et al. (1992) provided this list of characteristics to define an activity or method as experiential. They include:

1. A mixture of content and process:

2. Absence of excessive judgment:

3. Engagement in purposeful endeavours:

4. Encouraging the big picture perspective:

5. The role of reflection:

6. Creating emotional investment:

7. The re-examination of values:

8. The presence of meaningful relationships:

9. Learning outside one's perceived comfort zones:

(p. 24)

A New Framework of Experiential Learning Theory for K-12 Education

This new framework emphasizes teachers as designers of experiences. "The teacher is responsible for presenting opportunities for experiences, helping students utilize these experiences, establishing the learning environment, placing boundaries on the learning objectives, sharing necessary information and facilitating learning" (Iting, 1999, p. 93). In this new theory of experiential education, the learner actively engages in a more direct approach, co-constructing with the teacher the learning process. This power dynamic is supported by Dewey's progressive movement in education as presented in his seminal work *Democracy and Education* (Dewey, 1916) and strongly supports the examination of the student-teacher power dynamic and working more collaboratively as active participants of learning. Dewey recognized that education as a process could not be separated from the opportunity to create profound change. "If the teacher carries out the role properly, students will accomplish more than they ever could on their own. However, if the approach is student-centred, they may not be aware the teacher had a role at all" (Chapman et al., 1992, p. 17). The survey and focus group on experiential methodology with K-12 educators identified the relational benefits of experiential methodology. Specifically, teachers noted the reduced need for behavioural management in addition to participants also

emphasized that EL assessments "created opportunities for deeper relationships and therefore connections to the school and learning. A deeper understanding of the material and how it is applicable" (Educator 6).

Advancing the development of a new theory of experiential education is also guided by Dewey's pattern of inquiry, where reflection occurs throughout the process as the learner attempts to solve a problem. The process consists of the following steps:

1. Explaining a relevant problem

2. Causes perplexity and desire to find an answer, followed by creating a plan and testing the plan against reality

3. Reflecting on its worth

4. Planning and testing phases are what make learning active

5. Responding to the designed experience and allowing students to talk. Learning becomes experiential when creating plans to solve problems and test them against reality.

Dewey requires doing something with the subject matter aside from reciting and memorizing information, an essential distinction of experiential learning. As described by Dewey (1929), when there is no direct application of subject matter, "concepts become aloof - what is called 'abstract 'when that word is used in a bad sense to designate something which exclusively occupies a realm of its own without contact with things of ordinary experience" (p. 6.) Memorizing a process or method is very different from applying the method in real-world applications. Dewey's theory of experience in education fell behind a theory of information assimilation where intelligence was measured by how much a student could remember as opposed to Dewey's theory of how much knowledge could be applied. In K-12 education,

particularly in high school, assessments are often designed to "efficiently" test students '

understanding of concepts but fundamentally fail when addressing students 'application and

deeper understanding of concepts and learning. Moving away from the Carnegie Unit and

summative evaluations to support the standardization of entrance requirements of post-secondary

institutions is critically important. Partnership and collaboration to facilitate understanding the

demonstration of experience are needed between primary, secondary, and post-secondary

institutions.

Six Working Principles of Experiential Learning Theory for K-12 Education

Chapman et al. (1992) described that simple participation in a prescribed set of learning

experiences does not make something experiential. The experiential methodology is not linear,

cyclical, or patterned. It is a set of working principles, each of which must be included in various

degrees at some point during experiential practices. These working principles are required

regardless of the activities in which the students are engaged. Specifically for the context of K-12

education, instructors should emphasize using these principles and disregard cyclical learning

theory models and apply practices guided by research to engage and enhance the student

experience for deeper understanding and learning. A theory is only useful if it can be translated

into action (Itin, 1999). Survey respondents and focus group participants further elaborated on

the need for and the development of resources noting "a significant desire for resources." The

focus group also suggested that additional resources in the form of a facilitation model as they

recognized the potential to significantly impact areas of student achievement and engagement

with the widespread adoption of EL methods.

The six working principles of experiential learning for K-12 education as a methodology

1. *A Balance of Theory and Experience*: Experiential educators often lack theory when experiences are emphasized. Theory is the underlying tenet of any experience and needs to be outlined as the purpose of the experience. The theory is the glue that holds powerful learning experiences together (Chapman et al., 1992). Real-life, practical, and authentic were three of the five of the most frequently coded themes when surveying educators on what students' value in experiential learning. This distinction represents the fundamental importance of experiential learning in K-12 education and must be predominantly featured in the six working principles included in this list.

2. *Explicitly Outlining Learning Objectives*: Learning objectives and outcomes and their indicators of success are essential in developing students 'understanding of the tasks and goals of any experience and the opportunities they have to demonstrate the understanding of any particular theory.

3. *Meaningful Experiences*: Learning should be personally relevant for students. Students should have the opportunity to engage in experiences designed in a student-centred approach that incorporates personal learning. Students have direct access to mentoring and coaching from others participating along with the teacher for direct feedback. Meaningful experiences were noted by focus group participants in having a profound impact on the instructor as well as students. "When I reflect on my own learning experiences, far and away the most meaningful, rewarding, engaging, and profound experiences have been when I have been immersed in experiential learning" (Educator 16).

4. *Promotion of cross-curricular learning*: Experiential learning is an exercise in constructing knowledge through a facilitated experience that emphasizes solutions to

problems that are not limited to any particular subject. Cross-curricular learning surfaced

during a focus group of EL practitioners, noting student learning past the specific

objectives of the course content due to the nature of the activities. Consideration for the

development of the whole person with particular mention to socially and environmentally

conscious students should routinely emphasize and promote learning regardless of

categorized learning subjects. This concept radicalizes learning, particularly at the

secondary level, while creating a unique opportunity for collaborative learning across

specialty areas.

5. *Feedback*: is, as described in Bruner's 1970 definition: "depends on knowledge of results,

   at a time when, and at a place where, the knowledge can be used for correction" (p. 120.)

   Burch et al. (2019) concluded that any feedback received during the experiential exercise

   or immediately after will increase students 'learning since people seldom learn from their

   experience unless the meaning is applied. According to educators from the survey and

   focus group, immediate and frequent feedback throughout the process was also indicative

   of a change of practice from traditional methods. Feedback must be explicitly built into

   experiential learning opportunities whereby students can immediately identify and use

   any potential misinformation or processes to develop their construction of knowledge.

   Feedback and support should be collaborative and removed entirely from the assessment

   process in the context of a numerical value. Feedback is collaborative and may be

   provided by an instructor or peers. One educator identified that "when you circulate and

   ask questions, you get the most authentic feedback about where the kids are at, and you

   can give them immediate feedback or point out exactly what they're missing in the

moment, to shorten the time that they might be "derailed" with a wrong concept"

(Educator 11)

6. *Reflection*: Chapman et al. (1992) state that simply piling one experience on top of another is no different from the worst childhood nightmare of rote learning. Students must be allowed to apply theory and experience in a manner of reflection. Reflection may take the form of summative performances whereby students are given the freedom to express their learning using tools and formats they feel most appropriate. Teachers should not feel as though they are trying to organize chaos but simply expand on a limited perspective on learning and how it can be demonstrated. Instead of relying on summative lower-level thinking operations, offering various and diverse options is an effective strategy, especially when demonstrated by the teacher. Educators surveyed responded, and the conversations from the focus group confirmed reflection as a critical element of experiential learning assessment. The theme of students 'ability to reflect on a particular experience and demonstrate their understanding in various mediums was often combined with an opportunity to engage directly with the instructor or peers to receive immediate feedback to refine their ideas further. Teachers noted that reflection emphasized in assessments "really show me the student's true level of understanding" (Educator 2).

These six guiding principles are the basis of experiential learning theory in K-12 education. Along with these principles are seven characteristics of effective implementation. Just as Kuh (2008) implored that High-Impact Practices should not be considered without including the eight characteristics of effective implementation, neither should these principles be used without their accompanying characteristics.

K-12 Experiential Learning Theory Characteristics of Effective Implementation

1. *Establish the expectations of the experience for students*. Clearly articulate the intended purpose of the experience for students and the curricular objectives and success criteria that may help students identify key success targets. Students may be encouraged to view and achieve these objectives and be encouraged to find new ways to surpass them: collaborative consultation and co-construction of criteria and objectives. Students should be welcomed as valuable contributors in this process and share their creativity. The role of the teacher as facilitator and instructional designer of experiences is established. Outline all aspects of the experience for the students to be aware and make connections throughout the experience. One particularly critical task for students is assessments. What form of assessment may be most appropriate for this experience? Students should be encouraged to formulate and advocate for methods they feel best suit the experience. Facilitation of assessments and evaluation must be clearly outlined before students have initiated the experience.

2. *Make relevant connections*. Students engaging in low-level repetitive tasks are often rewarded in previous classes for doing what the teacher has asked. Students who can connect with the experiences will have a significant opportunity for transformative learning provided by the experience. Students will experience superior learning when experiential methods are used. Therefore, students who actively participate in a meaningful way and are encouraged to explore the experience for a purpose other than summative assessments will be better positioned to benefit from an experience.

3. *Emphasize and build relationships*. Experiential learning in this context challenges traditional teacher/student dynamics. The instructor is the principal designer and

facilitator of these experiences and, as a result, has the primary responsibility of encouraging students to take full advantage of their freedom for creativity and collaboration. The role of the instructor is not to ensure individual students conform to a list of standards but to adapt and capitalize on opportunities based on professional judgement as to how to create a memorable experience of learning.

4. *Teach and facilitate reflection*. Reflection is often viewed as a summative exercise and often without structure. Think of reflection in the context of facilitating an experience where students are encouraged to not rush through an experience to mark it as complete but rather to benefit and realize the experience itself is the center of learning. Opportunities for reflection must be incorporated into the design of these experiences to create the optimal environment from which to create a memorable experience. Changing terminology and thinking differently about the experience in new ways may be helpful for educators who have preconceived notions of what an experience should or could be. The phrase "Design Memorable Experiences" is a motto that could be used to emphasize something out of the ordinary that can have a profound impact on students.

5. *Feedback and opportunities for leadership*. Student feedback is essential, specifically in a manner that is supportive and constructive. Teachers as facilitators and designers of experiences are fundamentally central to feedback concepts, but peer feedback should also be encouraged and guided. The instances in which students could seek or receive feedback should increase significantly with experiential learning opportunities. Facilitating learning can appear to be organized chaos as the teacher is often floating and mixing into groups and providing guidance wherever possible. It is important to specifically recognize each student and "check-in" as some students have developed skills

that allow them to blend in. Students should be encouraged by the shift in the dynamic of power and through the building of relationships to approach teachers and recognize the leadership of peers to elicit support or collaborative feedback.

6. *Authenticity*. Designing an experience to check off a curricular requirement that students value or without any real-world application or impact should be avoided. Creativity is a fundamental necessity of the experiential educator. Students often struggle with understanding how a learning objective may support them in learning and may also struggle with connecting written objectives to real-world applications. Teachers should make every effort to place these experiences within a larger context whereby students can transition abstract concepts to real-world applications. This step is often left to the students to discover later on but can significantly impact when intentionally included explicitly and early in the process.

7. *Artifacts of learning*. In Kuh's (2006) list, he outlines the importance of adding a public demonstration of competence, and similarly, students need to be able to complete the experience with a particular event. For K-12 education, consideration includes a physical artifact of learning, a memento or icon that personalizes and connects the student to the experience in a physical form. Students should take something physical away from every experience. Something proudly displayed as an accomplishment that excited and encouraged students to yet again reflect on an event of their learning. One such example of an artifact of learning described by Wilson and Gobeil (2017), where Indigenous students learned industry-level drafting and design software to create a physical guitar that they were given after the course had been completed. The final artifact was, in this case, the center and purpose of the experience but also transformed students 'experiences

in school and had a significant positive impact on many additional areas of their lives. A

guitar is excessive when considering the scope of some experiences but can certainly use

the idea of a takeaway as a central driver of experiential learning. Something like a guitar

or something on that scale may not necessarily be out of the question when a passionate

and resourceful facilitator is involved. In the Wilson and Gobeil (2017) example, the

guitars were of no cost to the students and minimal cost to the school because of the

willingness of community members and generous sponsors who value students '

memorable experiences.

Practical Implications

Literature review, surveys, focus groups, and first-hand experience suggest K-12

educators have not been adequately supported in their pursuit of experiential education. This list

of six working principles and accompanying seven characteristics of effective implementation

can be used as a tool to identify and support current practice. The resources presented as a

framework for experiential learning theory in K-12 education have been specifically designed to

facilitate student learning and focus on the teachers as facilitators and designers of experiential

learning opportunities.

Figure 5.2.

The Experiential Learning Framework for K-12 Education

Experiential Learning Framework for K-12 Education

Working Principles		Characteristics of Implementation
A Balance of Theory and Experience	1	Establish Expectations
Explicitly Outlined Learning Objectives	2	Make Relevant Connections
Meaningful Experiences	3	Emphasize and Build Relationships
Promotion of Cross-Curricular Learning	4	Teach and Facilitate Reflection
Feedback	5	Feedback and Opportunities for leadership
Reflection	6	Authenticity
	7	Artifacts of Learning

This framework should be used to develop new programming supported by research, ensuring teachers are supported in a transferable and applicable format across courses and subjects. Teachers surveyed noted those who attempted experiential learning identified isolation and wanted to know what others had used to support experiential learning, especially in assessment areas. K-12 educators have been left out of conversations when using Kolb's framework as it had been uniquely adopted by nearly every sector for adult education. K-12 educators are better served using a model of guiding principles with characteristics of effective implementation for their teaching contexts rather than trying to adapt a model developed for adult learning. Modelling appropriate instructional practices for educators provides additional support of designed experiences and facilitated and collaborative learning. With this new framework of Experiential Learning Theory, teachers emphasize the importance of deeper understanding over the most efficient transfer of memorized information for standardization. The Carnegie Unit is still predominant well over a century after its introduction, and delivery methods have also remained somewhat static, especially in secondary education. Creativity in

programming and delivery must be encouraged if experiential learning is to be supported. Simply allowing teachers to explore the opportunity without providing the tools and supports will result in negative experiences. Teachers may regress to methods that are more "efficient" but less effective when considering student learning and more profound understanding of the ultimate goal of education. Additionally, every surveyed participant in the research study noted the value not only for the students but also for the instructors' growth. Survey participants were passionate, "(experiential learning) is the best way to promote deeper, authentic learning which students find engaging" (Educator 16).

Conclusion

Although current research reported empirical findings regarding the impact and effect of experiential learning methods, no framework explicitly supports the K-12 education sector. Additional research is needed, research specifically identifying the use of this framework and characteristics of effective implementation. Research that includes a control group should be encouraged to study students 'experiences and perceptions of their learning and expand best practices. The central contribution of this article is to acknowledge that current frameworks and models, although prevalent, are insufficient in supporting teachers as facilitators of experiential learning opportunities and equally inadequate when supporting educators wanting to design memorable experiences that impact student learning. The framework proposed in this study is meant to replace D. A. Kolb's (1984) Experiential Learning Theory. This article provides a new direction regarding a framework that supports practice and challenges previous concepts of delivery, one that emphasizes the skills of teachers as creative designers facilitating learning rather than professionals transferring information. The intentions of learning within the more extensive system of education should be evaluated, including more meaningful collaboration

between sectors of primary, secondary and post-secondary institutions, from which the original standards are derived. Additional research is needed, research specifically identifying the use of this framework and characteristics of effective implementation. Research that includes a control group should be encourages to student students 'experiences and perceptions of their learning and expand best practices.

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Chapter 6: Summary and Next Steps

By examining theoretical foundations and models developed to support experiential

learning, along with the history and supporting frameworks, this study develops a deeper

understanding of experiential learning in K-12 education. Through input from the study of K-12

educators and the experiential learning methodology they employ, a theoretical framework for

K-12 education was developed. Based on the literature review, theories, and frameworks,

significant gaps have been identified, and research conducted has led to solutions to those gaps.

By analyzing the literature, conducting a survey, and facilitating a focus group, critical

understandings about the operation and typical characteristics of experiential learning were

compared with the original theory of experiential learning, leading to the creation of a

framework for facilitating experiential learning in K-12. Results from this study were analyzed

and compared with findings from postsecondary research. Similar results were observed, and a

conclusion was reached that experiential learning is positive and valuable for students and

teachers alike. Survey results were used to refine research questions and presented to a focus

group that had contributed to the survey to facilitate further analysis. The results of the survey

and focus group revealed three main findings. One, knowledge of curricular outcomes was

deepened. Two, student engagement was improved. Three, real-life authentic learning

experiences were encountered. Results and findings showed that experiential methods are highly

effective in enhancing student learning. The findings of the survey and focus group represented

what the participants believed to be true given their extensive teaching experience. In order to

confirm the effectiveness of specific experiential learning methods an empirical study should be conducted to substantiate the findings of this study.

Discussion, Implications, and Significance to the Education Profession

Although this study did not include a treatment and a control group, the results are in line with similar studies conducted at the post-secondary level. An important contribution of this study is that it established a foundation for future research. The results of the survey and focus group highlighted and emphasized the importance of the role of the instructor as a facilitator of the learning experience and provides a practical guide. The survey identified areas of need for the facilitation of experiential learning in K-12 education and resulted in a purposeful framework that was developed that emphasizes the role of the instructor. The framework's six working principles and seven characteristics of implementation directly support the suggested areas identified by the focus group participants as practical steps to facilitated experiences. Experiential learning and the focus group allowed for the research to design a guide and emphasize the requests identified as gaps to the successful and widespread adoption of experiential learning in K-12 education. The findings of the survey and focus group of this study agreed with those identified in the meta-analysis of Burch et al. (2019). Specifically, concluding that students experience superior learning outcomes when experiential methods are used and are unable to "identify a single context across the empirical studies where experiential learning did not produce a positive effect on learning" (p. 260). The most significant gap in the literature was specific to primary and secondary education. As Burch et al. state, "It is likely that many studies were conducted out of convenient access to data rather than part of a proactive research program" (p. 259). There was no available research on the effectiveness of experiential learning

methods in K-12 education, and this study establishes a foundation upon which other studies could be conducted.

The first manuscript reviews models and frameworks used in K-12 education that led to one of the main findings of this study. Despite Kolb's (1984) extensive use of experiential learning as a basis for teaching, it has not been adopted widely in K-12 education. Upon further analysis of the Kolb model, it was determined that it did not adequately emphasize the role of the educator as the principal architect and designer of experiences. There is a need for a framework that places an emphasis on educators and supports the delivery of their methods with a special focus on experiences and reflections, while considering appropriate assessments. Proper facilitation and resource development to help educators are essential in the continued success in K-12. The outcomes of this research will no doubt impact and emphasize the role of experiential learning in post-secondary institutions. The need to better understand how educators in primary and secondary utilize experiential methods was paramount. A survey and focus group were designed to identify where teachers experienced success and where further research and resources development are needed.

The second manuscript involved educators in a survey and focus group based on the outcomes of the literature review and the theoretical foundation of experiential learning. Findings in this manuscript established that teachers were also impacted when using experiential learning methods. In surveys of teachers, significant benefits for students were observed, including 1) improved student engagement; 2) deeper understanding of course content; and 3) authentic learning experiences in real-life situations. Teachers emphasized their initial responses in the focus group and provided context, which provided rich qualitative data that supported the spread of experiential methods in K-12 education. The educators cited that much of what they

used was based on their experience at university in courses that used experiential methods or how they reflected on previous experiences that impacted them as students. The long-lasting effects of experiential methodology were identified as an area for future research that could potentially support this approach. Teachers provided insights into resources to develop a framework for facilitating experiential learning in K-12 education, which isn't adapted to their environment but designed specifically to engage it.

Lastly, the final manuscript offers the first framework for facilitating experiential learning in K-12 education. Despite the fact that this framework may have applications outside of K-12 education, its scope is intended to be specific in nature. The third article reviews the literature from the first manuscript as well as the study conducted through the survey and focus group described in the second manuscript and develops a new framework for education in K-12. A set of six principles and seven characteristics of effective implementation were identified as useful when supporting trained professionals in the delivery of experiential learning opportunities and emphasizes the role of instructors as designers and facilitators of experiences. The manuscript begins with a review of the literature surrounding theories, and relevant empirical studies are reviewed. A framework for supporting the use and the facilitation of experiential learning in K-12 education is proposed based on research. As a result of this research, an empirical study involving both a treatment and control group is now possible in order to quantify the model's impact and additionally the impact of experiential teaching methods.

Next Steps: Future Research

There are two significant areas identified during this study suitable for future research. Foremost, the framework for facilitating experiential learning in K-12 was designed to address a

known gap, and use and possible impacts should be studied. The framework developed within this research should be explicitly provided to those educators for their valuable contribution that led to creating the supporting framework. As only those who participated in the focus group had their identity disclosed to the researchers, it is impossible to know which of the sixty-seven contributed to the survey. However, the framework could provide a tool from which to continue and build experiential learning methodologies and thus should be offered directly to all educators in the initial survey group. Those who participated in the survey (n=22) and in the focus group (n=8) with a possibility of extending focused research to all willing to take part in the focus group (n=19) would be ideal candidates in future studies. Educators in the survey and focus group indicated that while they found experiential learning overwhelmingly beneficial to their students' achievement, they wanted to know more about what others were doing and specifically around assessment methods of these practices. It would be interesting to understand how these specific individuals might use this framework, would it would be sufficient, or could it become a catalyst to create a community of experiential learning educators within the division. Further research and possible revisions and refinements to the framework could benefit those who choose to use it.

Second, the limitations identified in the first manuscript highlight the necessity of researching the primary and secondary levels of education specific to the context of the effectiveness of experiential learning methodology. Two additional empirical studies were identified during the literature review. They were not included in the meta-analysis of Burch et al. (2019): *Surveying Assessment in Experiential Learning: a Single Campus Study* (Yates et al., 2015) and *Performance, Preference, and Perception in Experiential learning Assessment* (Wilson et al., 2018). These two studies specifically identifying assessment methods of

experiential learning should be considered for future research in primary and secondary education as identified as an area of interest of teachers in this study. The meta-analysis was instrumental in its confirmation of the effectiveness of superior learning outcomes when experiential methods are used but did not adequately identify which assessments may be most appropriate when engaging experiential methodology. Researchers Yates et al. (2015) and Wilson et al. (2018) have conducted reproducible studies that would be beneficial to this research if it were conducted at both the primary and secondary levels. The students engaging in experiential learning methodologies and assessment in primary, secondary, and post-secondary levels should be encouraged to collaborate in the future, and possible long-term research should be evaluated.

Limitations

Along with the limitations of the manuscripts, there have been a variety of challenges throughout this dissertation that have provided opportunities for growth and development as well as problem-solving and adaptability. Foremost, the Global Pandemic of Covid-19 was declared by the World Health Organization on March 11, 2020 (Lazurus et al., 2020), presenting logistical challenges and severely impacting those educators whom the study was directly identifying. During the data collection process, teachers were teaching in every conceivable delivery method during this time from conducting learning solely online to in-person socially distanced including various health measures to teaching half-sized classes every other day while simultaneously teaching online to those who could not attend. Not receiving a single contribution to the survey or the focus group would have been perfectly understandable and was absolutely an initial fear during this research. However, the response rate of 33% for the survey and the willingness to participate and volunteer their time during a weekday evening of 77% of those respondents was

an incredible testament to the profound professionalism of the entire teaching profession. Teachers are certainly among the many heroes of the Covid-19 Global Pandemic, and their participation and contributions are evidence of their impact on the benefit of student learning and achievement.

Conclusion

The use of experiential learning can profoundly impact student learning, as well as have significant positive implications for the teachers who employ such methods. The meta-analysis of Burch et al. (2019) outlined that in the 13,626 journal articles, dissertations, thesis articles, and conference proceedings reviewed, they were "unable to identify a single context across the empirical studies where experiential learning did not produce a positive effect on learning" (p. 260). While numerous gaps and areas of future research are identified, this research draws the same conclusion. Contributions of this study provide a base for understanding current practices in K-12 education and identifying the many forms of experiential learning. A new framework for facilitating experiential learning was developed from literature, research, and teachers' valuable contributions that will serve as a foundation for developing future programs and best practices. There were significant gaps in the research and literature on experiential learning, and these were greatly exacerbated when explicitly applied to primary and secondary education. In order for this superior pedagogical technique to become widely used and adopted, future research in this area will be vital.

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Appendix A: Behavioural Research Ethics

UNIVERSITY OF SASKATCHEWAN	Behavioural Research Ethics Board (Beh-REB) 09-Dec-2020
	Certificate of Re-Approval

Application ID: 1623

Principal Investigator: Jay Wilson   Department: Department of Curriculum Studies

Locations Where Research
Activities are Conducted: Greater Saskatoon Catholic Schools Board Office, Saskatoon, Canada

Student(s): Marc Gobeil

Funder(s): Office of the Provost and Vice-President Academic

Sponsor:

Title: INVESTIGATION OF EXPERIENTIAL LEARNING ASSESSMENT PRACTICES IN K-12 EDUCATION

Approval Effective Date: 16/01/2021

Expiry Date: 16/01/2022

Acknowledgment Of: N/A

Review Type: Delegated Review

* This study, inclusive of all previously approved documents, has been re-approved until the expiry date noted above

CERTIFICATION

The University of Saskatchewan Behavioural Research Ethics Board (Beh-REB) is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2 2014). The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this project, and for ensuring that the authorized project is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

ONGOING REVIEW REQUIREMENTS

In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month prior to the current expiry date each year the project remains open, and upon project completion. Please refer to the following website for further instructions: https://vpresearch.usask.ca/researchers/forms.php.

Digitally Approved by Diane Martz
Chair, Behavioural Research Ethics Board
University of Saskatchewan

Appendix B: Online Survey Invitation and Participant Consent Form

UNIVERSITY OF SASKATCHEWAN
College of Education

Department of Curriculum Studies
28 Campus Drive, Rm 3020   Saskatoon SK   S7N 0X1
Telephone: 306-966-7601   Fax: 306-966-7658
Email: ecur.office@usask.ca

ONLINE SURVEY PARTICIPANT CONSENT FORM

You are invited to participate in a research study entitled: INVESTIGATION OF EXPERIENTIAL LEARNING - ASSESSMENT PRACTICES IN K-12 EDUCATION

Researcher(s): Dr. Jay Wilson, Curriculum Studies, College of Education, 306-966-7617, jay.wilson@usask.ca

Marc Gobeil, Graduate student, Curriculum Studies, College of Education, marc.Gobeil@usask.ca

Purpose(s) and Objective(s) of the Research:

The objective of this research is to investigate the range and effectiveness of experiential assessment methodologies currently in use in Greater Saskatoon Catholic Schools from the instructor perspectives. The main research question is: "What assessment methods promote student success in experiential learning?"

This research study will employ mixed methods and will focus on the application of teaching and assessment methods. Instructors will be recruited purposively based on several criteria: a major project or unit of study focusing on the use of experiential learning teaching and assessment methods, within a course offering in the 2019–20 academic year.

Procedures:

- You are being asked to participate in an online survey using the **VOXCO Survey Platform** to share your involvement with your experiential learning. The survey will ask you questions about your understanding of experiential learning, ask you to compare your experience in a range of courses you have instructed, ask you to describe your assessment experiences and ask you to provide advice for other instructors. The survey will have 10 questions. Involvement in the survey will take approximately 30 minutes.
- As part of the research you will also have the opportunity to volunteer to participate in a face to face focus group. You may indicate on the survey if you are interested.
- Please feel free to email any questions regarding the procedures and goals of the study or your role to the researcher through the information listed above.

Potential Risks:

- There are no known or anticipated risks to you by participating in this research.

Potential Benefits:

- The benefits to participating in the research are developing a deeper understanding of experiential learning and increased knowledge of assessment.

Confidentiality:

- All survey responses will be anonymous and there will be no way to connect responses to individuals. Please note that there is no need to include any identifying information in the survey, and doing so will compromise anonymity.
- You will have opportunity to provide your email to indicate an interest in participating in a focus group, the email address will not be linked to your survey responses in order to ensure anonymity of your responses.
- The following Link will provide information on Voxco Survey Platform Privacy Policy: https://www.voxco.com/privacy-policy/

Right to Withdraw:

Your participation is voluntary and you can answer only those questions that you are comfortable with. You may withdraw from the research project for any reason, before submitting your survey results without explanation or penalty of any sort.

- Whether you choose to participate or not will have no effect on your position, specifically employment, access to services or how you will be treated.
- Should you wish to withdraw simply close your browser **before** submitting your survey results.
- Your right to withdraw data from the study will apply until you choose to submit your results. Once you submit the results are anonymous and it will be impossible to determine your data from the rest of the data pool.

Follow up:

- Results from the study will be shared in a general Letter sent directly to the school division's Communication Consultant. You may also contact the researcher directly for a copy of the final summary of the results.

Questions or Concerns:

- Please contact the researcher(s) using the information at the top of page 1;
- This research project has been approved on ethical grounds by the University of Saskatchewan Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office ethics.office@usask.ca (306) 966-2975. Out of town participants may call toll free (888) 966-2975.

Consent

College of Education – University of Saskatchewan

By completing and submitting the questionnaire, **YOUR FREE AND INFORMED CONSENT IS IMPLIED** and indicates that you understand the above conditions of participation in this study. Please save of a copy of this consent form for your records.

Appendix C: Online Survey Questions

Survey Questions – Teachers (n~20)

What is known about the methodology of experiential and land-based learning conclusively is that students experience superior learning outcomes when experiential learning methods are used (Burch et al., 2019). What requires further investigation are the factors of assessing experiential education to determine what procedures contribute to the achievement of student outcomes. This study will develop a base of understanding and contribute resources to support teachers in the future.

Survey Questions
1. Please describe your understanding of experiential land-based learning.
2. What were the key differences you noticed or experienced in experiential land-based learning opportunities in your course(s) compared to others you have taught? (for example, student engagement/reactions, instructional differences, learning outcomes, etc.).
3. What has been your experience with experiential or land-based learning prior using it as an instructional method?
4. Describe your use of the different types of assessment in your experiential land-based learning course(s).
5. What questions or concerns do you have about how experiential land-based learning is used as a teaching strategy?
6. What questions or concerns do you have about how experiential land-based learning is used as an assessment strategy?
7. In what ways have you noticed that experiential land-based learning assessment supports the learning of your students?
8. What advice would you have for people who might be considering using an experiential land-based learning approach?
9. What is your gender?
     Male
     Female
     Prefer not to respond
10. What is your age?
     Under 25
     26-34
     35-54
     55 and older
     Prefer not to respond
11. How long have you been a Teacher?
     0-5 years
     6-10 years
     10-20 years
     More than 20 years
12. In what grade range do you teach?
     Primary
     Middle years

     Secondary
     Multiple

13. We will be conducting some follow-up focus groups on this topic. Would you be willing to be contacted to participate (if you select yes now, you may opt out later).
     Yes
     No thank you.

     [If yes, direct to separate page not linked to survey]:

Please leave your email address and someone will follow-up with you. Please note that your email address will only be used for the purposes of focus group recruitment and will in no way be linked to the responses in the survey you provided to day.

Appendix D: Focus Group Invitation and Participant Consent Form

UNIVERSITY OF SASKATCHEWAN
College of Education

Department of Curriculum Studies
28 Campus Drive, Rm 3020   Saskatoon SK   S7N 0X1
Telephone: 306-966-7601   Fax: 306-966-7658
Email: ecur.office@usask.ca

Research Team Contact Information
Dr. Jay Wilson
College of Education, University of Saskatchewan
Phone: 1-306-966-7617 Email: jay.wilson@usask.ca

Marc Gobeil, Graduate Student
College of Education, University of Saskatchewan
Email: Marc.gobeil@usask.ca

Consent for Adult Participants in **:** INVESTIGATION OF EXPERIENTIAL LEARNING ASSESSMENT PRACTICES IN K-12 EDUCATION

CONSENT TO PARTICIPATE IN

Experiential Learning Focus Group

The objective of this research is to investigate the range and effectiveness of experiential assessment methodologies currently in use within Greater Saskatoon Catholic Schools from the instructor's perspective. The main research question is: "What assessment methods promote student success in experiential learning?"

This research project has been designed to gather data regarding Experiential Learning Assessment and in particular the experiences of those individuals who are providing assessment in EL courses. The goal of the research activity is to document the experiences of instructors in GSCS EL courses and inform a positive path forward for those who will participate in future years.

This focus group will be facilitated by the research team. The focus group will be audio recorded for accuracy and to create a transcript of the meeting. The audio recordings will be transcribed by the researchers only. Questions will be asked and participants will be able to choose if they want to offer a response or not. The focus group will be approximately 60 minutes in length. The focus group will take place at Board office of Greater Saskatoon Catholic Schools. Data collected from the focus group will be securely stored at the University of Saskatchewan in the office of the Principal Investigator on a password protected computer and in a locked storage cabinet until five years after the the completion or publication of the study and then it will be destroyed beyond recognition.

Confidentiality

The researcher will undertake to safeguard the confidentiality of the discussion, but cannot guarantee that other members of the group will do so. Please respect the confidentiality of the other members of the group by not disclosing the contents of this discussion outside the group, and be aware that others may not respect your confidentiality. All consent forms will be stored separately from the focus group data.

Right to Withdraw:

- Your participation is voluntary and you need answer only those questions that you are comfortable with.
- You will not have the option of turning off the recording device during the focus group due to the contextual and conversational nature of the discussion.
- Should you wish to withdraw, you will wait until the focus group has finished and contact the researcher. No explanation is necessary for your withdrawal.
- Your right to withdraw data from the study will apply until the audio recorded data has been transcribed.

Potential Risks:

- There are no known or anticipated risks to you by participating in this research.

Potential Benefits:

- The benefits to participating in the research are developing a deeper understanding of experiential learning and increased knowledge of assessment.

Adult's Name: _____

          (Please print)

The researcher is gathering EL assessment methods data. By giving your consent you are showing you understand the following:

- I understand that **I am consenting to take part in a focus group.**

- I understand that **my name will not be released or otherwise personally identify me.**

- I understand that my participation is voluntary and I have the right to answer only those questions that I am comfortable with. **I may withdraw from the research project for any reason, after completion of the focus group without explanation or penalty of any sort.**

- I understand that behavior by me deemed inappropriate during the focus group meeting will result in removal from the focus group and my involvement in this portion of the research will be terminated.

- **My participation is voluntary.**

- Your signature below indicates that you have read and understand the description provided;

If you have any questions or concerns about the research please contact:

Dr. Jay Wilson, Curriculum Studies,
College of Education, 306-966-7617, jay.wilson@usask.ca

This research project has been approved on ethical grounds by the University of Saskatchewan Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office ethics.office@usask.ca (306) 966-2975. Out of town participants may call toll free (888) 966-2975.

I have had an opportunity to ask questions and my/our questions have been answered.

I consent to participate in the research project.

A copy of this Consent Form has been given to me for my records

_____   _____

Signature of Participant   Date

_____   _____

Researcher's Name   Date

Appendix E: Focus Group Questions

1. The Survey identified many themes identifying indigenous content in the connection to the land that I thought was really interesting including a lot of really insightful comments.
Many of the comments revolve around student reflection on their connection to the land. What I was hoping to start discussing was what role do you think reflection has in this assessment process?
So specifically, the role of reflection in the assessment process for you when experiencing or engaging in an experiential or land based?

2. What differences do you see in students in regards to their learning, specifically when engaged in land-based or experiential learning?

3. The stories you shared about student success and the value of these experiences for your students were absolutely inspiring to read and that came through in your responses overwhelmingly, what I want to know is, what have you noticed about their understanding? What do you feel about the methodology of land-based experiential learning when it comes to students understanding their true understanding of the content?

4. Lastly, what benefits do you see that come naturally to in these land-based or experiential environments in relation to the differentiation of assessment or students being able to represent their learning?