

EXPLORING THE AFFORDANCES OF OUTDOOR LEARNING:
HOW TEACHERS UTILIZED THEM TO ENHANCE THE LEARNING EXPERIENCE

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ABSTRACT

Outdoor learning refers to all forms of learning that take place outside the classroom. This can include specific outdoor education curriculum or other subject areas taught through outdoor experiences. There are many different theories and approaches to outdoor learning, including experiential, environmental, adventure, place or community based, and land-based learning. These approaches may have some differences in goals and methods, but they share similar theoretical foundations and practices. The concept of affordances, which describes the possibilities and opportunities for behavior that objects in the environment offer, is an important theoretical foundation for outdoor learning. The study examined the lived experiences of outdoor learning teachers in relation to how they made use of the affordances available in the outdoor environment using phenomenological methods. Semi-structured interviews were conducted one-on-one with fourteen teachers from Saskatchewan who use the outdoor environment in their teaching practice. Mind-mapping, the hermeneutic circle, and interpretative phenomenological analysis were used to analyse the data. Six themes were identified including: relationships, engagement, flexibility, risk and autonomy, freedom, and health. Out of these themes, six affordances were highlighted including: expansive spaces, distractions, freedom, real, or found, objects, dynamic changeability, and challenge and risk. Teachers utilized these affordances through walks, supporting freedom of expression, camping trips, embracing a student-centered approach, allowing and supporting student interaction with objects, and engaging in challenging or risky activities with proper risk assessment and management. This utilization of the affordances yielded numerous positive benefits including: the development and strengthening of relationships, increased student engagement, student creativity and autonomy, supporting individual learning needs and life skills, and improved student health.

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1. INTRODUCTION

1.1 Personal Foundation in the Outdoors

For as far back as I can remember, I have been camping and spending time outdoors. When I was young, our family would spend weeks during summer holidays camping at parks all across Canada. I spent countless days on my grandparents' farm and being outside. I have always loved being outside and I hold my parents completely responsible as they instilled in me at a very young age the joy in being outdoors. There are pictures of me being in a playpen made out of a cardboard moving box in my parent's giant orange canvas tent as a toddler. Starting as a teenager and continuing into adulthood, I was heavily involved in residential outdoor camps as a camper, counsellor and leader. To this day, I still roll down my window when I am driving across the northern Saskatchewan forest tree line so I can breathe in the evergreen smell and fresh air. It makes me feel good being outside and in natural green spaces.

1.2 Personal Foundation in Constructivism

I have been some type of swim, lifeguard, coach, or camp counsellor and instructor since I was 15 and these initial and continuing experiences form the foundation of my constructivist framework. It was during my first experience as a lifeguard instructor that I realized that practical, hands-on instruction is one of the most effective learning pedagogies. I had spent most of the course lecturing the students instead of giving them sufficient time for actual practice. When it came time for the exam, they all failed, and I realized that it was due to a lack of hands-on practice. After providing them with sufficient practice time with the skills and the knowledge, they all completed the course without difficulty.

From that moment on, I have been a strong proponent of talk less and do more in all of my pedagogical approaches and in my advice to other teachers. I have always referred to this moment as the beginning of my constructivist journey. From the very first moment of teaching and coaching swimming to my latest teaching assignment, I have been a proponent of the constructivist learning approach where the learner draws on their own past experience, utilizes hands on learning, and where learning is often framed as a problem (Mezirow, 1997). I came to understand and agree with what Bada and Olusegun (2015) point out about constructivism: students are not an empty container. They always start with some level of knowledge. Their prior experiences tend to influence how new information is being taken in and learned and when

something challenges what they know, they either modify their understanding or they toss out the new information.

1.3 Outdoor Learning

I have been a teacher since 1994, primarily in the middle years but with experience in teaching primary grades, high school, and some university courses. In 1995, in my first full-time teacher job, I created an outdoor leadership club at the school that operated all year and incorporated many different outdoor experiences including canoeing and hiking. In the second year, I started my fall tradition of taking my students, along with other classes from the school on a three to four-day camping trip to build our relationship and teamwork skills with each other.

I continued to create and facilitate an outdoor leadership club at whichever school I was at including my three years as a high school math teacher in the United States and my years at a Saskatoon inner city school. While all of the students who were involved in the clubs enjoyed them and received the health and leadership skill benefits of participating, I consistently witnessed the greatest benefits being received by those students who were typically unsuccessful in school due to academic, focusing, and engagement challenges. These students thrived in the outdoor experiences and often indicated that it was their participation in the outdoor club that kept them coming and striving in the regular academic environment.

As I progressed through my teaching career, it became more and more evident to me that because the few outdoor experiences and practical teamwork development that we did through an extracurricular club was leading to student success, we should be engaging in outdoor learning as much as possible as part of ‘regular’ pedagogical approaches. This led to development of the Let’s Lead - Nikanetan program (described below) and my present teaching philosophy: be relevant, practical, and outdoors as much as possible. I believe that many things combine to create learning and that it is situated within a relevant activity, context, and culture (Schunk, 2012). This is another element in the constructivist approach as the situation or environment has an effect on the creation of knowledge (Bada & Olusegun, 2015).

1.4 Collaborative Learning

Within the first couple of years of my teaching career, I came across Karl Rohnke’s (1991) book, *Bottomless Baggy*, which was a collection of games, initiative tasks and other assorted writings. The focus of the activities was on developing problem solving, creative thinking, and effective collaboration and teamwork skills. This led me further down my

constructivist path as I began to consider “the learner as an active agent in the process of knowledge acquisition” (Bada & Olusegun, 2015, p. 66). My pedagogical lens became focused on active problem solving through student collaboration as I incorporated social interaction into my teaching approach. The use of social collaboration in learning is supported by Vygotsky’s Social Development Theory that identifies the “social environment as a facilitator of development and learning” (Schunk, 2012, p. 240) and is identified as learning contexts in which students play an active role in learning and social interaction plays a fundamental role in the process of cognitive development (Powell & Kalina, 2009). In 2000, I wrote a book about teamwork and leadership activities for teachers that outlined hundreds of activities that can be used to facilitate and develop teamwork and leadership skills. I continue to use and revise it to this day.

It is difficult to participate in outdoor learning activities without being physically active and, similarly, it is challenging to participate in outdoor learning activities without constant and successful social interaction. This gives plenty of opportunities for the development and practice of the many skills necessary for successful relational work including communication, mediation, and compromise. Dewey (1938) felt that the social aspect of experiential education was crucial to the quality of the experience, and he spoke about the effect of common experience and the interconnectedness of the participants in the experience. Constructivist theory holds that students form new ideas by doing things and take action within a collaborative environment (Bada & Olusegun, 2015; Hendry, 1996). This collaborative and social lens that strongly influences my teaching practices, also strongly influences my research approach.

1.5 Let’s Lead - Nikanetan

I was the co-creator and teacher of Let’s Lead - Nikanetan program with the Saskatoon Public School Division that was for grade 8 students and specifically designed to re-engage youth who were disengaged and potentially at-risk for dropping out of school. The program focused on relationships, experiential projects, assessment for learning, and out-of-classroom and outdoor learning. I taught in this program for 9 years. In this program, we would spend most of our school days outside of the school and classroom. As much as possible, this time was spent outdoors and in as naturally green an environment as we could find. We experienced the difference this made for our students who were often struggling in school due to the life

challenges they faced. They made those nine years some of my most memorable and enjoyable years in my career and life.

In a typical school year, we would go on at least seven to eight outdoor overnight excursions lasting anywhere from two to five days. These trips provided many of our students a respite from their daily lives and a chance to let down their guards and enjoy life. We could tell when we had not gone on a trip in a while. The relationships between our students and with us would begin to fray. These trips would restore the balance. These trips provided a great opportunity for relationship building, teamwork skills improvement, and many real-life experiential tasks and projects. Our students learned how to plan, budget, and prepare, and clean up their own meals. It was during the creation and beginning years of the Let's Lead – Nikanetan program that I completed my Master of Education with a thesis that explored the factors that have a positive impact on student engagement and the barriers teachers experience in utilizing them.

1.6 Engagement

It has been my increasing belief over the course of my teaching career that outdoor learning and student engagement are intertwined. My interest in engagement and flow theory is another theoretical lens that I view my teaching practice through. While facilitating outdoor learning experiences, I have observed students attain an optimal psychological state, or flow, that can occur when someone is engaged in an activity that is both appropriately challenging to their skill level but still achievable, which often results in immersion and concentrated focus on a task (Csikszentmihalyi, 2014). These students often derived deep learning and high levels of personal and work satisfaction as a result of their flow experiences.

In addition to an emphasis on utilizing the outdoors, we strove to teach everything to our students from a practical, experiential, relevant, and hands-on or active standpoint as possible. Our pedagogical approach was shaped by a constructivist lens that involved hands-on or experiential learning that engaged the learner in an activity that provokes new ideas (Bada & Olusegun, 2015; Hendry, 1996; Kintsch, 2009). Therefore, it is important that learning experiences following a constructivist approach provide opportunities for active learning which is reflected in my research approach.

1.7 Qualitative Framework

Denzin and Lincoln (2011) pointed out that a "constructivist paradigm assumes a relativist ontology (there are multiple realities), a subjectivist epistemology (knower and respondent co-create understandings), and a naturalistic (in the natural world) set of methodological procedures" (p. 13). One of my goals of conducting research is to improve student learning by offering practical approaches for other teachers to use in a variety of contexts in their endeavor to provide quality learning experiences for their students. I feel that qualitative methodologies are more descriptive and explanatory about what is taking place, how it is taking place, and potentially why it is taking place. Denzin and Lincoln (2011) observed that qualitative researchers recognize that everything is contextual and situated amongst many different factors and that what might be true for one person, might not be true for another, even in the same set of circumstances. Different people may interpret things differently and thus create different ideas about the same thing (Bada & Olusegun, 2015; Hendry, 1996). It is important that any work, research or teaching that I undertake be constructivist and experiential in nature as I believe that "people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences" (Bada & Olusegun, 2015, p. 67). The tenants of constructivist learning theory have been a consistent theme throughout my teaching career and will continue to guide me in my research efforts.

1.8 Other Areas of Concern

During the course of my doctoral research project, which included the covid pandemic, three areas have garnered significant attention in contemporary educational discourse: Truth and Reconciliation, Climate Change Education, and Mental Health. Each of these topics holds immense importance but considering the research questions I originally proposed to address, and for a variety of other reasons, they were not included as foci in the scope of this particular project. Firstly, Truth and Reconciliation is a profound and complex subject that delves into historical injustices, colonialism, and the process of healing and reconciliation. Similarly, Climate Change Education encompasses a wide range of interdisciplinary aspects, including science, policy, and societal implications, necessitating comprehensive exploration. Lastly, mental health, an increasingly prevalent concern, merits in-depth examination due to its multi-faceted nature and the need for specialized attention. Although these areas are important and are connected to the topic of outdoor learning, each of these priorities warrant a dedicated study to

fully explore and grapple with their complexities. To avoid tokenistic treatment, I have chosen to concentrate on addressing the research questions I had proposed, which led to an investigation of other specific aspects of outdoor learning.

1.9 Question and Purpose

This phenomenological study sought to answer the question: *What affordances for learning have teachers observed in the natural outdoor environment and how have they utilized them to enhance the learning experience?*

The outdoor environment has been shown to provide opportunities to naturally do and experience things that may not be available in an indoor classroom environment. These affordances of the outdoor environment provide a multitude of benefits and positive impacts for students (Fiskim & Jacobsen, 2013; Torquati & Ernst, 2013). In my research I asked teachers who have experience in taking students outdoors as part of their pedagogical practice, what affordances they have observed in their teaching practice and how did they utilize the available affordances. By analyzing the responses to these questions, I intended to identify a broad scope of possibilities that could be shared with other teachers and administration so as to invite and encourage others to take advantage of the opportunities for learning that exist in the natural outdoor environment.

1.10 Summary

In this chapter, I described my personal foundation in outdoor learning and constructivism. I explained my beliefs in collaborative learning and the importance of student engagement. I outlined the purpose of the study and my research questions.

In the next chapter, I will review the literature on outdoor learning will be presented. The focus will be on exploring theories, definitions, and the conceptual framework of outdoor learning. Additionally, the chapter will delve into the benefits it offers to students and teachers across different educational aspects. The concept of affordances in outdoor environments will also be examined, along with a summary of relevant studies investigating these affordances.

2. LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to review the literature around outdoor learning. First, theories and definitions of outdoor learning are examined. Second, the various benefits of outdoor learning for students and teachers are discussed and summarized. Finally, the concept of affordances is explored and several studies that looked at affordances for learning in outdoor environments are summarized.

2.2 Outdoor Learning

Outdoor learning is a broad term that encompasses a variety of theories and pedagogical approaches. It involves engaging with the outdoor natural world and taking advantage of the unique educational opportunities it offers. Beames et al. (2012) specified the term outdoor learning to mean all learning that takes place outside of the classroom. Ford (1986) described outdoor education as that which can take place in any place that is outdoors, urban, rural, or natural space. It could either be a specific curriculum about the outdoors or about other subject areas and taught in and through the outdoors (Ford, 1986). Potter and Dymont (2016) declared that if outdoor and out-of-classroom learning “is seen as a methodology, then it is about process, pedagogy and approaches to outdoor learning that transcend subject areas” (p. 148). There are many different theories and approaches to out-of-classroom and outdoor learning including: experiential (Ord & Leather, 2018), environmental (Strife, 2010), adventure (Brown & Beames, 2017), place or community based (Gruenewald, 2003a), and land-based (Simpson, 2014). While these outdoor approaches may have some differences in goals and methods, they have similar theoretical foundations and practices. By combining these different approaches to outdoor learning, we can create a meshwork in which they are interconnected, and each approach has a role within the others, while still being able to be applied individually as a pedagogy.

2.2.1 Environmental Education

Cole (2007) identified a commonly accepted definition of environmental education as, “fostering an awareness of environmental issues and problems, developing the skills to solve those problems, and inspiring a willingness to make effective decisions as action-orientated citizens” (p. 37). A commonly accepted goal is to create awareness of and concern for the environment (Cole, 2007; Fraser et al., 2015; Monroe et al., 2008). Gilbertson et al. (2006) suggested that environmental education is a natural offshoot of outdoor learning and is

concerned with gaining knowledge about environmental problems. Environmental education (EE) is about going beyond learning about environmental concerns and taking action to address those concerns (Monroe et al., 2008; Strife, 2010). Cole (2007) stated that lots of EE programs focus on understanding and planning and taking action to improve the physical environment. Wals et al. (2008) argued that environmental education's main objective is to foster changes in behaviour that will lead to acting in a more sustainable way. Environmental education is focused on creating awareness and concern for environmental issues, developing the skills to solve those problems, and inspiring a willingness to make effective decisions as action-orientated citizens.

According to Strife (2010), there is a need to question why EE is not more central to environmental priorities and to broaden the focus beyond environmentalism to include all the benefits that EE can provide for students. Cole (2007) emphasized the importance of incorporating social justice, politics, and culture into EE, recognizing that it must address the complex political and social aspects inherent in different locations. The critique pointed out that EE has traditionally focused on ecology and sustainability while neglecting culture and diverse perspectives. The potential for EE to perpetuate dominant ideologies and exclude Indigenous knowledge is a concern raised by several authors. Fraser, Gupta, and Krasny (2015) highlighted disagreements about the purpose of EE, whether it is about supporting an environmental agenda, finding practical solutions, providing scientific education, or critically challenging social structures. Root (2010) addresses the colonial connections to environmental problems and education, criticizing the Eurocentric nature of EE and the lack of inclusion of Indigenous perspectives in literature and approaches.

2.2.2 Adventure-Based Education

Adventure education has traditionally focused on personal development including social skills and problem-solving through adventure activities such as canoe excursions, rope courses, and camping trips (Brown, 2009; Quay & Seaman, 2013). Loynes (2018) felt that that activity choice and facilitation decisions are crucial to successful adventure education programming and need to be geared to the specific group that is being worked with. Adventure-based education typically takes place outside in the natural environment. Challenge does not have to mean a risk of injury. Adventure education leverages perceived and actual risk to create uncertainty or a problem to solve (Brown & Beames, 2017). Useful and educative risk or challenges are not about physical danger or the possibility of personal harm but more about “creating an

environment where students feel able to move beyond what they know, to question and to speculate without fear or risk of being wrong, is the educational challenge” (Brown & Fraser, 2009, p. 68). Dewey himself supported the idea that “the unknown and presence of risk are important elements to any process of inquiry” (Ord & Leather, 2018, p. 50). Adventure-based education is focused on personal development including social skills and problem-solving through adventure activities.

However, according to Brown (2009), typical adventure education overlooked the social, historical, cultural, and emotional factors that influence individuals. Questions are raised about the transferability of skills and the control over knowledge creation in adventure education, as well as conflicts regarding identity, student-teacher roles, and the potential for forceful and controlling methods. Brown (2009) pointed out that some critics argue that the emphasis on personal interpretation and meaning making in experiential learning can weaken cultural traditions and community bonds. Brown (2009) also criticizes the oversimplification of reflection and the disconnection of learning from specific contexts. Bell (2017) highlighted the romantic notions associated with adventure that may perpetuate exploitative practices. Brown and Beames (2017) raised concerns about the appropriateness and educational value of incorporating risk, the potential for turning people away from outdoor learning, and the commodification of adventure activities.

2.2.3 Place-based Education

Place-based education is a way of discovering and highlighting the links and relationships that exist between ourselves and the social and physical environments in which we are situated (Harrison, 2011). By using a place-based lens, we will hopefully live better in our places (Harrison, 2011). Place-based education is a pedagogical approach that emphasizes the importance of the local environment and community as the foundation for learning with the focus being on connecting students to their immediate surroundings, such as the local ecosystem, geography, history, culture, and social dynamics. (Gruenewald, 2008; Sobel, 2013). Place-based education is not limited to outdoor spaces, as it can also occur indoors in various settings, however, it is crucial to analyze both natural and human-made surroundings in place-based education (Sobel, 2013; Somerville & Green, 2011). Place-based education is “a way to develop a more locally responsive education that acknowledges natural locales and their associated ecosystems” (Somerville & Green, 2011, p. 19). Gruenewald (2003a) urged that place-based

education “must identify and confront the ways that power works through places to limit the possibilities for human and non-human others” (p. 7) and he calls for a critical pedagogy of place which includes understanding how a place and its definitions and organization can be a method of control. Place-based education is focused on uncovering connections, revealing and strengthening the ways in which we are placed in the social as well as physical landscape.

The critiques of place-based education (PBE) include the idealization of certain locations, neglect of challenging places, failure to address community biases and inequitable practices, oversimplification of local challenges, and a celebratory view that overlooks critical perspectives (McInerney et al., 2011, Yemini et al, 2023). PBE is criticized for lacking global connections, disregarding community diversity and fluidity, separating rural and urban spaces, and marginalizing non-dominant knowledge systems (Corbett, 2020, Yemini et al., 2023). Corbett (2020) calls for a more comprehensive and critical approach that respects cultural particularities and engages with complex realities. Additionally, PBE needs to consider the interconnectedness of different places, recognize the dynamics and politics of space, address rural challenges, include diverse knowledge systems, and acknowledge the influence of power on the significance of different places (Corbett, 2020).

2.2.4 Land-based Education

Land-based education underlines how all living and non-living things are connected and is the foundation of learning and all relationships and is viewed by many Indigenous peoples as the original teacher (Haig-Brown & Hodson, 2009; Tuck et al., 2016). As land-based education emphasizes the connections between people and the land, it is commonly practiced in natural outdoor environments. The land is much more than just a place to live on and use and land-based education should reflect this and "uphold land as our relative" (Band et al., 2016, p. 26). From this view of the land as a relative, a land-based pedagogy has a distinct focus on relationships between people and people and the land (Simpson, 2014). Land refers to the physical realm including the earth, water, and air, to all the physical things that are on the land like the animals and plants, and it also refers to the spiritual connection and relationships that exist between all of these things with humans as part of that relationship (Tuck et al., 2016). Education on the land is the best practice for learning (Whitehouse et al., 2016). Land-based education is also considered to be an essential and effective approach to decolonizing education as land-based education is about identifying Indigenous connections to land to interrupt colonial

settler ways of knowing that have dominated and refused entry to other viewpoints in environmental education (Whitehouse et al., 2016). Simpson (2014) went further and stated that decolonization could not take place if members of the Indigenous community and students are not connected to the land and their community and are instead co-opted into the current Eurocentric system of schooling. "The land must once again become the pedagogy" (Simpson, 2014, p. 14). Land-based education places an emphasis on the connections and interrelationships that exist between humans and the land.

Concerns about land-based education have been raised that include the need for a hands-on approach to learning on the land, rather than just discussing it (Simpson, 2014). Simpson (2014) and Cluderay et al. (2022) also share a criticism of false narratives in supposed Indigenizing curricula that co-opt Indigenous knowledge into the colonial system. Proving the benefits of land-based learning using Western methodologies can be challenging as Indigenous land-based education differs from Western place-based education in their perspectives on the interconnectedness of land, animals, and humans (McDonald, 2023). McDonald (2023) pointed out that assessing the effectiveness of land-based programs can be difficult because Indigenous stories and knowledge are often undervalued and that Western evaluation methods may undermine Indigenous knowledge and limit access to resources which is why it is crucial to adopt a broader examination that considers social, cultural, spiritual, and historical contexts. Land-based education actively opposes colonialism and recognizes the land's active role as a teacher and healer. However, there is a risk of superficiality and appropriation when non-Indigenous people lead land-based initiatives without centering Indigenous knowledge holders, which can perpetuate colonialism and uphold white supremacy (Cluderay et al., 2022).

2.2.5 Experiential Education

Experiential education, as outlined by Dewey (Ord & Leather, 2018; Quay & Seaman, 2013) and by Kolb and Kolb (2009), is considered to be one of the foundational educational theories of many outdoor education and learning paradigms (Ord & Leather, 2018; Potter & Dymont, 2016; Quay & Seaman, 2013). Beames et al. (2012) asserted that experiential education is a big part of the theory of all forms of outdoor learning. They use the analogy of trying to describe what a banana tastes like to someone who has never eaten a banana. A person

has to eat (experience) that banana to know what it tastes like. In the same way, students need to experience the curriculum to truly understand it.

Teachers and students often view experiential education through the lens of hands-on learning. According to Ord and Leather (2018), Dewey viewed true experiential education as a transaction where the environment had an impact on the students, while they also had an effect on the environment. In experiential education, we are not passive bystanders. We act, and our actions have consequences for ourselves, those around us, and for the environment that we are in (Ord & Leather, 2018). As part of the transactional view of the experience, Dewey felt that learning should make the learner aware of and act on the issues of the community which would result in a better future (Ord & Leather, 2018). If students are going to mature into democratic citizens, they need to be learning to live democratically now. Dewey emphasized that the appropriateness of experiential education activities can be judged based on two criteria: the occurrence of a transaction and its impact on the personal growth and development of the participant (Ord & Leather, 2018). Experiential education is about actively engaging with the curriculum and learning through hands-on experience.

2.2.6 Situatedness

Situated learning is unintentional and situated within an meaningful activity, context, and culture where many things combine to create learning (Brown, 2009; Schunk, 2012). Varied contexts and communities are locations and subjects of learning which means looking at the community for learning opportunities (Gruenewald, 2008). Schools and classrooms by themselves are so separated from their communities that the problems that exist cannot be addressed in the school. There is a need to get outside into the community and search for the varied and contextual experiences that cannot happen at school (Gruenewald, 2008).

In all forms of outdoor learning, due to its situatedness, there is no prescribed script which means that what one group of people in a particular place and time might view as a social or ecological problem can be completely different from what a different group in that same place or in a different place might view as a problem (Gruenewald, 2003a). Context matters. Outdoor learning calls on classes of students and teachers to experience and question the actual places that are part of their context and not just talk about them in class.

The reality and the challenge for all forms of outdoor learning is that there can be no prescribed script or set of places and assignments for teachers as it is locally dependent in both

geography, context, and time (Gruenewald, 2003b). Outdoor learning is very location dependent, as defined by geography, participants, and time. It resists being homogenized by its very nature and definition (Smith & Sobel, 2010; Theobald & Siskar, 2008)

2.2.7 Outdoor Learning Definition

I believe that out-of-classroom and outdoor learning is a multi-faceted meshwork of opportunities for learners and educators. Each of the individual theories of outdoor learning has different strengths to offer to students: environmental education with its focus on sustainability and environmental protection; land-based education with its focus on reconnecting with and learning from and on the land; place-based education with its focus on connecting with the community and challenging the dominant views of our places; adventure education with its focus on team building and providing autonomous experiences; and experiential education with its focus on hands-on experiences and consequences for the learner and community. The weakness of one approach is the strength of another. Students stand to gain the most from these pedagogies when educators utilize a holistic approach that incorporates most or all of the out-of-classroom and outdoor learning theories. This complex web of interrelated components illustrates my perspective and definition of outdoor learning. It can occur in the natural outdoor environment (ie. park or natural forested space) or at an indoor different location (ie. museum, library, or mall), but what defines outdoor learning for me is that it takes place outside of the confines of the typical indoor classroom and school.

2.3 Benefits

Outdoor learning, which takes place in natural environments such as parks, school playgrounds, gardens, and forests, has been consistently shown to have numerous benefits for students, their communities, and the environment. Not only does it improve students' behavior and attitude, leading to better academic performance and engagement in school, but it also increases self-confidence, self-worth, and group cohesion (Dyment, 2005a; Holland et al., 2018; White, 2012). Outdoor learning can also reduce anxiety and increase resilience and perseverance, leading to increased attendance and participation, especially among students who are at risk of dropping out (Ruiz-Gallardo et al., 2013). The natural environment also has multiple beneficial impacts on physical, intellectual, and emotional health, and can lead to a healthier and more enjoyable work environment for teachers (Dyment, 2005a; Strife, 2010). Overall, outdoor

learning has the potential to enhance students' relationships with their community and promote a sense of connection to the natural world (Sobel, 2013).

2.3.1 Attitude

Outdoor learning has a direct positive impact on the behavior and attitude of students (Dillon & Dickie, 2012; Dymment, 2005a; Sobel, 2013). The improvements in students' behavior often continue well after the experience and reduced discipline problems in the regular classroom (Dymment, 2005a). Scott et al. (2013) illustrated that concerns about student behavior and a potential loss of control by the teacher due to the outdoor learning were unfounded. In most cases, the student's behavior involved in the study improved as a result of participating in outdoor learning. They also found that the behavior improvements from outdoor learning led to deeper learning and improved cognition. Marginalized and previously difficult students experience significant gains due to outdoor learning (Pretty et al., 2009; Ruiz-Gallardo et al., 2013). Fox and Avramidis (2003) found that the more troubled students participated in outdoor learning activities, the more their behavior improved. Chawla (2015) noticed that the poorer the behavior of the students, the greater the benefit of exposure to natural green places. She also asserted that exposure to natural settings is even more valuable in preventing them and can be a protective and proactive measure.

The natural environment provides multiple opportunities for students to be self-reliant (Loynes, 2018) which results in increased self-confidence and self-worth (Dillon & Dickie, 2012; Smith & Sobel, 2010). Students participating in outdoor learning experience increased freedom to be open with peers and teachers which contributes to improved self-confidence (Breunig et al., 2015). Richmond et al. (2018) established that outdoor learning has a positive impact on many of the non-cognitive or soft skills including the willingness to persevere, belonging, confidence, and the belief that one can succeed which in turn improves engagement and academic achievement. Many researchers agreed that outdoor experiences improved group cohesion, lessened anxiety, and increased resilience and perseverance (Fox & Avramidis, 2003; Holland et al., 2018). White (2012) asserted that when done correctly, outdoor learning results in increased self-concept which results in a positive change in behavior and can lead to an increase in academic performance and school engagement.

2.3.2 Student Engagement

Ballantyne et al. (2010) expressed that “the experience of learning in the environment provided a sense of immediacy, relevance and emotive engagement that captured the students’ attention and imagination” (p. 59). Lieberman and Hoody (1998) indicated that outdoor learning students experienced an increase in their engagement and attendance as they were more involved in making decisions about their learning and could more readily see the connections between subjects. They went on to say that the increase in engagement led to an increased interest in classwork as outdoor learning naturally created opportunities for differentiation which allowed students to use their learning styles. Fägerstam (2014) found that outdoor learning created a more positive and enjoyable attitude and emotional response to learning which meant that students enjoyed it. Goralnik and Nelson (2017) identified that the increased relationships and trust that resulted from outdoor learning led to increased engagement beyond what was expected.

McInerney et al. (2011) shared that community based outdoor learning meant that students were more likely to come to school and take part and experienced higher academic performance, even more among students who were considered likely to drop out. Outdoor learning has been shown to improve attendance and participation by students, especially from those who did not usually participate (Fägerstam, 2014; Sobel, 2013). In a study conducted by Ruiz-Gallardo et al. (2013), students increased their participation which resulted in higher academic success and a decrease in dropout rates. In this study, the at-risk students increased their willingness to go to school as a consequence of outdoor learning. Participation in outdoor learning has been shown to increase student engagement, participation, satisfaction, and learning enthusiasm (Anuik et al., 2010; Holland et al., 2018; Mannion et al., 2015; OFSTED, 2008; Smith & Sobel, 2010)

2.3.3. Academic Achievement

As a result of participation in outdoor learning, Dillon and Dickie (2012) illustrated that students performed better academically in specific subjects like language arts, math, science. Breunig et al. (2015) suggested that outdoor learning improves subject learning by being experiential, improving social skills, and providing holistic learning opportunities. Outdoor learning has been shown to improve general academic performance and specific student achievement (Beames et al., 2012; Powers, 2004; Skoutajan, 2012; Theobald & Siskar, 2008)

and assisting students in demonstrating a “mastery of curriculum standards” (Dyment, 2005a, p. 23).

Lieberman and Hoody (1998) found that outdoor learning resulted in positive improvements in several different subject areas. In math, it helped students to gain a deeper understanding and be able to remember more of the skills as they used them to accomplish relevant tasks which increased the likelihood that they would value math. In science, they found that outdoor learning allowed students to apply their science knowledge and learning and gain a better understanding of how science is useful. In language arts, they showed that outdoor learning resulted in students reading and writing more often and with more complexity and speaking with more confidence and more effectively. Sobel (2013) also shared that outdoor learning students are more competent in language arts than their peers that were not. Donovan (2016) described school and classroom work as disconnected from reality to make everything the same and ‘equal’ whereas, through place-based practices, students use what they know, and the work becomes more complex and structurally better due to the relevance and purpose.

Outdoor learning leads to enrichment and a more complex understandings and ideas of concepts and places (Ballantyne et al., 2010; Mannion et al., 2015; Zimmerman & Weible, 2017) in addition to supporting ““deep learning - learning at the level of understanding” (Theobald & Siskar, 2008, p. 216). Yamauchi and Purcell (2009) indicated that when learning is rooted in the community and relevance, it is augmented and made more meaningful. Outdoor learning led to improved feelings of academic competence, “self-directed learning” (Holland et al., 2018, p. 208), and an increased ability to apply what is learned in other circumstances. Dillon and Dickie (2012) shared that it helps students to learn and improve a wide range of location and activity specific academic and technical skills like preparing meals. The positive impacts of the outdoor environment on learning and achievement are particularly evident in students who were previously disengaged, marginalized and struggling, and were considered likely to drop out (Dillon & Dickie, 2012; McInerney et al., 2011; Sobel, 2013).

2.3.4 Community Engagement and Improvement

Outdoor learning improves the students’ sense of community through the development and increase of relationships between them and the community (Goralnik & Nelson, 2017; Mannion et al., 2015). It helps students to see their place and community from a different perspective and gain new understandings (Zimmerman & Weible, 2017). It improves students’

connections to the community, their respect for the natural world and increases their desire to play a constructive role in society (Sobel, 2013). Gallay et al. (2016) expressed that outdoor learning creates a sense of belonging to the community and thus a sense of responsibility for the community and places whereby the more students contribute to the community, the more they feel connected and identify with the community. This contribution strengthened the involvement of the students in the community and the importance of learning.

There is evidence to suggest that it is crucial that students form a connection and a relationship with the natural environment before being asked to take on more substantial climate change and environmental issues (Gallay et al., 2016; Sobel, 2007). Humberstone and Stan (2012) shared that relationships between people involve trust and sincerity and when the relationships are reciprocal and respectful, it will aid in the holistic development of the learner and that the same holds for our relationship with the land and the natural environment. They found that developing these connected relationships with the land as soon as possible was more likely to lead to sustainable decisions later. Gray and Martin (2012) emphasized the importance of developing a connection to the natural environment by spending time in it and asserted that

- the human race and our children are spending less and less time outdoors and in natural settings;
- merely knowing about environmental problems does not seem to be enough to do something about them;
- it is necessary to develop a life-long connection to the natural environment by regularly spending time in the natural outdoors; and
- it needs to start as young and as soon as possible to develop a caring attitude towards the natural environment.

“People will protect what they come to know and value. Belonging to, having a voice in, and taking actions on behalf of a local community are the ways in which we become citizens of a place” (Gallay et al., 2016, p. 171).

Holland et al. (2018) shared that participation in outdoor learning leads to an increase in the concern and care for the natural environment on the part of students. Personal experience in the outdoors results in students being more interested in environmental care and involving themselves in local matters (Smith & Sobel, 2010). Extended contact with the natural world through outdoor learning results in improved awareness of and respect for the environment

(Scott et al., 2013; Torquati & Ernst, 2013). Beliefs, attitudes, and actions towards the environment change for the better (Breunig et al., 2015; Potter & Dymont, 2016).

Outdoor learning has a positive impact on a community's health as the members of the community develop a connection to the school as the school becomes more involved in the community in a type of feedback loop (Sobel, 2013). These improvements to the community can be environmental, social, and economic (Powers, 2004). Place-based education allows student learning to have an impact on the environmental and social health of the locales that students live in (Gruenewald, 2003).

McInerney et al. (2011) found that students who participated in community-based OL grew their social and community connections which in turn improved their chances of getting a job. Yamauchi and Purcell (2009) reported that it increased a student's "circle of caring adults" (p. 173) who helped and supported the students. When consistent opportunities for outdoor learning were provided to students in the community, there were improvements in how the students viewed adults and in how the adults of the community viewed the students (Powers, 2004). Community-based learning pedagogies like outdoor learning encourages members of the community to become more engaged in the school and with students and provide supports and resources that may not otherwise be available to a school by itself including personnel and facilities (Powers, 2004).

2.3.5 Relationships

Quay et al. (2002) stressed that caring and peer relationships are essential to the development of the whole person and provide support for individual students' need for belonging. They pointed out that social relationships, of which caring plays a large role, are important to a student's higher and deeper learning and holistic development. Quay et al. (2002) observed that outdoor learning provides an opportunity to care for others and the environment and further develop relationships with peers and teachers. They understood that the outdoor learning experience provided more opportunities to care than were available in the regular classroom environment which led to close friendships forming.

Outdoor learning increases collaboration, group cohesion and helps to develop positive relationships between the students and each other (Fox & Avramidis, 2003; Gilbertson et al., 2006; White, 2012). Outdoor learning can also lead to improved learning, and a more flexible and open relationship between staff and students (Maynard et al., 2013a; Scott et al., 2013).

Fägerstam (2014) found that participation in outdoor learning activities promotes an improvement in students' relationships with both peers and staff.

Taking part in outdoor learning improves feelings of belonging and being part of a group (Breunig et al., 2015). It can lead to an increased "sense of companionship, belonging, and shared respect" (Conlon et al., 2018, p. 360). Richmond et al. (2018) found that outdoor learning had a significant positive impact on "social connectedness" (p. 41). They observed increased belonging and connections between students as a result of the shared outdoor learning experience. The support that participants in their study received from their fellows made the challenge a cooperative one and being away from all the distractions of their usual context and family allowed the new social connections to develop. Richmond et al. (2018) identified that the relationships and connections developed during the outdoor learning experience transferred over and continued at school.

Outdoor learning activities can foster increased trust among participants (Conlon et al., 2018). White (2012) shared that mediated outdoor learning lead to improved trust between participants and an increase in social skills which resulted in improved social-emotional learning, engagement, and school performance. He defined mediated outdoor learning as occurring when a facilitator guides and assists the learners in reflecting on the experience and unpacking the learnings.

Outdoor learning, in nature, improves social skills and relationships and reduces or even eliminates bullying (Strife, 2010). Students work more effectively together and experience positive social growth as a result of outdoor learning (Mannion et al., 2015; Smith & Sobel, 2010; Potter & Dymment, 2016). Harun and Salamuddin (2013) indicated that outdoor learning experiences created improvements in many "soft skills" (p. 20) that are typically difficult to teach and measure and included teamwork, confidence, leadership ability, and time management skills. Gains in caring, tolerance, group awareness, communication skills, caring, and self-control have all been attributed to participation in outdoor learning experiences (Dillon & Dickie, 2012; Holland et al., (2018)

2.3.6 Health

Exposure to natural environments and learning in the outdoors has multiple beneficial health impacts (Strife, 2010). Areas of human health that are affected include physical, intellectual, and emotional health. Outdoor learning allows students to explore the real natural

world and move around which contributes to improved physical development and health (Maynard et al., 2013b). Contact with nature has been shown to have a significant positive effect on a person's cognitive ability (Berman et al., 2008; Berman et al., 2012). Passmore and Howell (2014) found that long-term involvement with nature positively impacted multiple aspects of emotional well-being including happiness, mood, sense of control, competence and belonging. Human health is connected holistically to the natural environment.

There is lots of support for the belief that being outdoors is naturally physical (Fromel et al., 2017; Godbey, 2009; Vries et al., 2011). Vries et al. (2011) pointed out that since physical activity is necessary to experience or utilize many aspects of a natural environment, the natural environment ends up encouraging physical activity in a kind of feedback loop. Since natural environments are more appealing than non-natural environments, there is a large body of research that supports the relationship between increased physical activity and fitness to the availability of natural parks and outdoor areas. (Coombes et al., 2010; Dustin et al., 2009; Vries et al., 2011). Fromel et al. (2017) highlighted that physical activity in the outdoors makes it easier for children to be involved in a healthy lifestyle, can have a positive impact on the benefits of physical activity, and can readily be done by schools. Children are far more likely to be active when outdoors in a natural setting and physical activity is a big factor in reducing obesity and therefore, outdoor recreation acts as a preventive measure for many health ills since it is natural to be active when outdoors (Godbey, 2009).

There are many positive effects on physical activity in the natural outdoors (Beams et al., 2012). Thompson Coon et al. (2011) indicated that physical activity in natural outdoor spaces leads to multiple other benefits like positive mood, relaxation, and social connectedness which potentially could lead to the activities being more likely to continue as compared to other forms of physical activities that may be less enjoyable and more onerous. Dustin et al. (2009) agreed that being outside makes it more likely that someone will be physically active and point out that the health benefit is reciprocal in that the more time we spend outside being active, the less time we are engaged in activities that perhaps damage the natural world like driving a car. Nielsen and Hansen (2007) demonstrated a link between natural spaces in neighborhoods as a way of counteracting inactivity which implied that the greener the neighborhood, the more active and less obese the residents. Since physical activity in an outdoor natural environment is more

pleasurable, it is more likely to be sustained and repeated making the cumulative health benefit greater than physical activity indoors (Dustin et al., 2009).

Outdoor learning in natural environments leads to better attention and focus and an improvement in cognitive functioning (Strife, 2010, Torquati & Ernst, 2013). Berman et al. (2008) found that there was a statistically significant improvement in cognition for groups that experienced nature and groups that viewed nature as compared to groups that did not and concluded that exposure to nature is reasonably consistent in its positive effect on cognition. Quibell et al. (2017) found in their study that students who received the six days of outdoor learning experienced a significant improvement in reading, writing, and math achievement than the group that received the regular education experience. Learning in nature has lots of different things that can be utilized in learning and encourages students to make more complex and broader decisions that positively impact their intellectual health (Quibell et al., 2017).

Research has shown that exposure to and contact with natural surrounding can have a positive effect on a person's mood (Fugen & Breitenbecher, 2017, Zelenski & Nisbet, 2014, Passmore & Howell, 2014). Fügen and Breitenbecher (2017) share evidence that supports the idea that being active in the natural outdoors positively affects mood, energy levels, and a person's ability to focus. In their research, Fügen and Breitenbecher (2017) found that those who were active or rested in an outdoor natural environment experienced higher energy levels, less tiredness, and a small increase in mood as compared to those who did so in an indoor environment. Zelenski and Nisbet (2014) indicated that being exposed to nature increases a person's pleasant mood and their research found that being connected to nature was a "significant predictor of most happiness indicators" (p. 10) and that it continued to be an independent predictor even when taking into account other strong predictors of happiness. Outdoor learning lead to increased "mental restoration" (Holland et al., 2018, p. 210) including less stress, personal satisfaction, autonomy, and enjoyment.

2.3.7 Teacher Revitalization

There is also evidence to support the notion that outdoor learning activities and projects have a positive impact on teachers (Smith & Sobel, 2010). Dymont (2005a) found that OL resulted in teachers who were happier and more motivated and "found renewed enthusiasm" (p. 24) for teaching, developed "more rich and positive relationships with their students" (p. 24) and were more willing "to use innovative teaching strategies" (p. 24). A kind of feedback loop is

created with teachers becoming more enthusiastic and engaged leading to better teacher-student relationships and increased student engagement which results in increased teacher engagement and so on (Lieberman & Hoody, 1998). Maynard et al. (2013a) found that teachers were happier and more relaxed due to outdoor learning as compared to classroom teaching. A healthier and more enjoyable work environment and an increase in teacher fulfillment all occurred as a result of outdoor learning (Powers, 2004; Ruiz-Gallardo et al., 2013).

2.4 Affordances

Affordances provide possibilities and opportunities for doing something; they invite behavior instead of limiting behavior (Stoffregen, 2003; Rietveld & Kiverstein, 2014). The concept of affordances was created by James Gibson, one of the pioneers of ecological psychology, as he sought to understand how animals perceived the potential attributes of the environment they find themselves in (Jones, 2003). According to Gibson (1986), when we are looking at objects in the environment, what we are really looking at and caring about is what an object will let or help us do (Gibson, 1986). While we may look at specific qualities like height or colour, we do not really pay attention unless it is a characteristic that we can make use of. When we notice our environment and the objects in it, what we attending to, first and foremost, is what affordances or possibilities those objects offer to us (Gibson, 1986). Since Gibson, other ecological psychologists have expanded on the idea of affordances.

Stoffregen (2003) described an affordance as a characteristic of an object in an animal's environment that allows and even encourages certain behaviors of the animal to occur. However, there is no guarantee that a certain behavior encouraged or supported by an affordance will take place. As Stoffregen (2003) puts it, "affordances are what one can do, not what one must do" (p. 119). Stoffregen (2003) points out that affordances do not exist in the environment without the existence of the animal that will make use of them – that is, what may be an affordance for one animal due to its relationship with the environment, might not be an affordance for another animal that does not exist in the same way. Nevertheless, Stoffregen (2003) also argues that there are often more affordances available to a person than will be or can be utilized. According to Michaels (2003), affordances exist in any environment, whether or not an individual is aware of them or takes notice of them. Even if a person is unaware of the potential possibilities within their surroundings, these possibilities still exist and are not negated

by their lack of awareness. Thus, the affordances for learning exist in the outdoor environment regardless of whether the students or teacher recognize them or make use of them.

Chemero (2003) defined affordances as the possibilities for action that are available to an organism in its environment. Unlike Gibson (1986), who emphasized the importance of perception and sensory-motor abilities in shaping the perception and utilization of affordances, Chemero (2003) emphasizes the relational and context-dependent nature of affordances. Affordances are not objective properties of the environment or the organism but are relational and dependent on the organism's needs and goals and these possibilities are not just limited to physical objects or surfaces, but can also include events, situations, and other organisms in the environment (Chemero, 2003).

According to Rietveld and Kiverstein (2014), affordances are not intrinsic properties of the environment or the organism but are relational properties that are dependent on the organism's goals, intentions, and skills. These affordances can include physical objects, social and cultural practices, and the organism's own bodily skills and capacities. In their view, the perception of affordances is shaped by the organism's sensory-motor skills and perceptual abilities (Rietveld & Kiverstein, 2014). In other words, affordances are the possibilities for action that emerge from the interaction between an organism and its environment.

2.4.1 Outdoor Affordances

Outdoor affordances refer to the opportunities and possibilities that the outdoor environment offers to children, which can facilitate their growth, development, and learning (Fiskum & Jacobsen, 2013; Torquati & Ernst (2013). Outdoor environments are rich sources of affordances that support learning, play, and physical activity for children (Kernan, 2010; Sando & Sandseter, 2020). These opportunities are often not present in more structured, indoor settings like classrooms or schools. Outdoor learning environments provide a range of affordances that support and encourage the positive impacts identified in research on the topic. While much research has been conducted on the benefits of outdoor learning, there is still much to be explored in terms of the specific affordances and opportunities offered by these environments and how teachers can utilize them in their teaching pedagogy.

Fiskum and Jacobsen (2013) conducted a study in Norway that interviewed nine students in grade five who had regular outdoor education classes. They found that outdoor education provides children with a more diverse range of affordances, including physical challenges,

opportunities for social interaction, and the possibility to explore and engage with the natural environment, which positively impacts their development (Fiskum & Jacobsen, 2013). Torquati and Ernst (2013) conducted a study at the University of Minnesota with one hundred and ten students that were enrolled in an early childhood education program. They described natural environments as "third educators" for children (Torquati & Ernst, 2013, p. 192). They argued that outdoor environments offer unique affordances that complement traditional classroom education, such as opportunities for exploration, problem-solving, and risk-taking, and that outdoor environments promote a sense of belonging, emotional well-being, and social competence in children (Torquati & Ernst, 2013). The authors felt that it was important to provide children with opportunities to explore their surroundings, interact with natural elements, and develop a connection to nature, which fosters curiosity, problem-solving skills, and environmental awareness (Fiskum & Jacobsen, 2013; Torquati & Ernst, 2013). In addition, Fiskum and Jacobsen (2013) and Torquati and Ernst (2013) emphasized the need for educators to incorporate outdoor experiences into their teaching practices, as they can significantly contribute to children's overall development and well-being.

Herrington and Brussoni (2015) conducted a review of studies in Canadian early childhood education, including their own research, that found that outdoor environments that promote play and engagement with nature offered numerous affordances, such as opportunities for exploration, creativity, and risk-taking and that these affordances contributed to the development of cognitive, social, and emotional skills in children. Maynard et al. (2013) conducted their study with eight early years teachers in South Wales (England) and took place over one school year. They found that outdoor environments offered various affordances that encourage child-initiated learning, such as opportunities for exploration, creativity, and engagement with nature and that these affordances helped underachieving children improve their cognitive, social, and emotional skills (Maynard et al., 2013). By providing an environment that fosters child-initiated learning, outdoor settings can contribute to the overall development and well-being of all children, including those who may struggle in traditional classroom settings (Maynard et al., 2013). The authors share a similar view on the potential of outdoor environments to provide children with a range of affordances that contribute to their development and learning (Herrington & Brussoni, 2015; Maynard et al., 2013). Nature based play spaces offer affordances for social interaction and exploration, which can contribute to

children's overall development, and which encourage children to explore and discover new things for themselves and they both recognized that the outdoor environment provides unique affordances that cannot be easily replicated in indoor environments. (Herrington & Brussoni, 2015; Maynard et al., 2013).

Bjørger (2016) conducted her observational study with twenty-four kindergarten (ages three to five) students in Norway. She found that outdoor environments offer a variety of affordances that encourage physical activity, including natural elements, challenging play structures, and open spaces for movement (Bjørger, 2016). Sando and Sandseter (2020) undertook their research in Norway over the course of three years and focused on three- and four-year-olds. They found that outdoor environments provide numerous affordances for physical activity, social interaction, and emotional well-being including challenging play equipment, natural elements like trees and rocks, and open spaces for running and playing (Sando & Sandseter, 2020). These activities were beneficial for children's physical development, coordination, and balance and the outdoor environment also provided affordances for social interaction, which enhanced children's emotional and social development (Sando & Sandseter, 2020). Kernan (2010) carried out her investigation in Ireland with three- to five-year-olds and the adults who led them. She found that outdoor environments offer a variety of affordances that support learning, creativity, and social interaction including opportunities for exploration, sensory experiences, and imaginative play (Kernan, 2010). Her study emphasized the importance of understanding and considering both adults' and children's perspectives when designing and implementing outdoor environments in early childhood education settings (Kernan, 2010). These studies emphasize the affordances of outdoor environments in promoting physical activity and motor skill development through activities such as running, jumping, climbing, and balancing and that by engaging in these activities, children can develop their gross motor skills, coordination, and balance, leading to improvements in their overall physical health. (Bjørger, 2016; Sando & Sandseter, 2020).

Kyttä (2004) conducted her study with Finnish and Belarushian students aged eight to nine years old and their parents. Kyttä (2004), exploring children's self-directed movement and connections to affordances, determined that outdoor environments that support children's independent mobility, such as safe and accessible streets, parks, and playgrounds, provide more opportunities for actualizing affordances. These environments encourage children to explore,

engage in social interactions, and develop their cognitive, physical, and emotional skills (Kyttä, 2004). Barrable and Barrable (2022) undertook their research with primary teachers from Scotland that worked with students ranging in age from four years old to twelve years old. They identified a range of affordances that coastal environments offer, including opportunities for exploration, sensory experiences, and engagement with nature and emphasized the cultural, historical, and environmental significance of these environments, highlighting their potential for enhancing children's learning and development (Barrable & Barrable, 2022). Barrable and Barrable (2022) and Kyttä (2004) emphasized the importance of the physical characteristics of outdoor environments in promoting children's development and well-being and highlighted the need for educators and policymakers to consider the physical affordances of outdoor environments when designing and managing outdoor spaces. Recognizing the potential of outdoor environments to provide children with opportunities for exploration, imagination, and social interaction, they emphasized the importance of creating inclusive outdoor environments that meet the diverse needs and interests of all children (Barrable & Barrable, 2022; Kyttä, 2004).

Aradi et al. (2016) investigated how the urban landscape provided affordances for physical activity among adolescents (fourteen-year-olds) in Norway and they found that the urban landscape provided multiple affordances for physical activity, such as natural elements, buildings, and public spaces that could be used for different physical activities. They highlighted the importance of the urban landscape as a facilitator for physical activity among adolescents, especially for those who may not have access to other forms of physical activity such as organized sports and they argued that urban planners and policymakers should consider the affordances of the urban landscape when designing public spaces to promote physical activity among adolescents (Aradi et al., 2016). Clark and Uzzell (2006) reviewed research that focused on the socio-environmental affordances of adolescents' environments, particularly shopping malls and urban environments. They concluded that outdoor environments afford opportunities for social interaction, identity formation, and personal development and that adolescents benefit from spaces that offer a sense of belonging, safety, and opportunities for self-expression (Clark & Uzzell, 2006). Clark and Uzzell (2006) argued that an understanding of the socio-environmental affordances of outdoor environments can lead to more effective use of outdoor spaces and better outcomes for children and adolescents' development and well-being. Aradi et

al. 2016) and Clark and Uzzell (2006) recognized that outdoor environments can play an essential role in adolescents' physical, social, and emotional development and well-being and they highlighted the importance of designing outdoor spaces that offer diverse and flexible affordances for adolescents to engage in physical activity and social interaction. In doing so, outdoor environments can be a valuable tool in promoting adolescents' well-being and physical activity, contributing to positive health outcomes and improving overall quality of life.

Outdoor environments offer numerous affordances that can facilitate children's growth, development, and learning. These affordances include physical challenges, opportunities for social interaction, exploration, creativity, problem-solving, risk-taking, and engagement with nature (Fiskum & Jacobsen, 2013; Torquati & Ernst, 2013). Outdoor learning environments provide a range of opportunities that support and encourage positive impacts, such as improvements in cognitive, social, emotional, and physical skills, which are often not present in more structured indoor settings like classrooms or schools (Herrington & Brussoni, 2015; Maynard et al., 2013). These opportunities are particularly beneficial for underachieving children who may struggle in traditional classroom settings (Maynard et al., 2013). Research has identified several specific affordances offered by outdoor environments, including those that support physical activity, motor skill development, and independent mobility (Bjørgen, 2016; Sando & Sandseter, 2020). Outdoor environments can also promote adolescent identity formation, self-expression, and social interaction (Clark & Uzzell, 2006). However, it is essential to recognize the role of the physical environment in shaping adolescents' experiences and behaviors and seek to create inclusive and engaging environments that meet the diverse needs and interests of adolescents (Aradi et al., 2016). Educators and policymakers need to incorporate outdoor experiences into their teaching practices to promote children's overall development and well-being (Barrable & Barrable, 2022). Inclusive outdoor environments that meet the diverse needs and interests of all children are critical for providing opportunities for exploration, imagination, and social interaction (Kytä, 2004). Outdoor environments provide unique affordances that complement traditional classroom education, offering opportunities for exploration, problem-solving, and risk-taking, promoting a sense of belonging, emotional well-being, and social competence in children.

2.5 Barriers and Challenges

Outdoor learning, as an educational approach, encounters various barriers and challenges that hinder its widespread implementation. These obstacles can be classified into different categories, including institutional and structural factors, curriculum constraints, teacher-related barriers, risk and behavior management challenges, and resource limitations. Understanding these barriers is crucial in addressing the challenges and promoting the integration of outdoor learning approaches in educational settings.

Outdoor learning faces institutional and structural barriers in education given that schools are typically structured with tightly scheduled routines that leave little room for outdoor learning while prioritizing other activities (van Dijk-Wesselius et al., 2020). The focus on subject specialization in middle and high schools poses a challenge as outdoor learning is more holistic and challenges the traditional subject-based approach (Beames et al., 2009). Moreover, integrating outdoor learning into existing schedules requires flexibility from teachers, students, parents, and administration (Barfod & Mygind, 2022).

Curriculum constraints also hinder outdoor learning. The absence of formalized outdoor learning in the curriculum and the dominance of indoor teaching activities limit its promotion and facilitation (van Dijk-Wesselius et al., 2020). Teachers face pressure to adhere strictly to the curriculum, leaving little room for outdoor learning (Dillon & Dickie, 2012). Limited explicit connections between the curriculum and outdoor settings and concerns about alignment make it challenging for teachers to integrate outdoor learning effectively (Coe, 2016; Dymont, 2005b). Teachers struggle to connect curricular outcomes to outdoor learning due to time constraints, lack of understanding, limited resources, resistance to change, and inadequate awareness (Beames et al., 2009; Mann et al., 2022; Waite, 2022).

Teacher-related barriers and professional development challenges pose significant obstacles to the implementation of outdoor learning. Many teachers struggle to initiate outdoor learning due to their lack of experience and unfamiliarity with the concept (Torquati & Ernst, 2013; van Dijk-Wesselius et al., 2020). Some teachers prefer to observe their colleagues' initiatives before taking the first step themselves, while others feel disconnected from outdoor learning, hindering their engagement as outdoor teachers. The limited familiarity with outdoor teaching and perceived inadequate instructional skills contribute to low confidence among teachers (van Dijk-Wesselius et al., 2020). Dillon & Dickie (2012) and Waite (2022) highlighted

a lack of pre-service and in-service training opportunities for teachers in the area of outdoor learning.

This lack of experience and training is connected to a lack of confidence on the part of educators. They may lack confidence in working outside, in delivering effective outdoor learning, and in utilizing the outdoor environment as a classroom (Waite, 2022; Dillon & Dickie, 2012; Dymont, 2005b). Insufficient training and professional development opportunities in outdoor education further contribute to teachers' lack of confidence and expertise (Dillon & Dickie, 2012; Rickinson et al., 2004). Teachers may feel scared or hesitant to leave the familiar indoor classroom environment and venture outside (Torquati & Ernst, 2013).

Outdoor learning can demand additional preparation time and resources, leading to heavier workloads for teachers (Barfod & Mygind, 2022; Mann et al., 2022). Limited time, inadequate funding, and transportation challenges further hinder teachers' ability to incorporate outdoor learning (Rickinson et al., 2004). In addition, broader challenges in education, such as larger class sizes, restricted timetables, and emphasis on traditional teaching methods, impede outdoor learning implementation (Rickinson et al., 2004). Work pressure, overwhelming responsibilities, and fatigue from educational changes also hinder outdoor learning implementation among teachers (van Dijk-Wesselius et al., 2020). Teachers often lack the necessary support and collaboration, leaving them to implement outdoor learning alone in their schools (Barfod & Mygind, 2022). Moreover, outdoor learning is not easily accessible for many young students, as teacher education programs in Canada often prioritize indoor teaching, reinforcing indoor learning approaches. The limited availability of outdoor-focused teacher education programs and the absence in every teacher's education further hampers the integration of outdoor learning (Coe, 2016).

Another barrier to implementation of outdoor teaching and learning is the attitude and assumptions of teachers regarding this pedagogical approach. Teachers with a traditional mindset face challenges when considering how to manage children outdoors, uncertainty in how to incorporate outdoor learning environments into their practice, and they perceive that the approach involves complex planning with less significant results as compared to traditional classroom teaching (van Dijk-Wesselius et al., 2020). The assumptions of school leaders can also act as barriers when they do not provide support for utilizing the outdoors for learning, and

confusion persists regarding whether outdoor learning is a separate subject or a pedagogical method for teaching other subjects (Dillon & Dickie, 2012; Dymont, 2005b; Mann et al., 2022).

Outdoor learning poses specific challenges in terms of risk and behavior management. Teachers often grapple with issues of safety and risk, trying to strike a balance between warning and protecting children while also allowing them the freedom to explore and take risks (van Dijk-Wesselius et al., 2020). Concerns about accidents, injuries, and children's health and safety, including liability issues, further contribute to the apprehension (Dillon & Dickie, 2012; Rickinson et al., 2004). Both parents and schools are cautious about risk, leading to increased planning workload for staff (Coe, 2016; Mann et al., 2022). While many teachers acknowledged the potential for better learning opportunities, some still perceived greater risks than benefits for students in natural settings (Torquati & Ernst, 2013).

Behavior management is another perceived challenge in outdoor learning. Teachers often feel insecure about their expertise in managing children's behavior during outdoor activities, fearing loss of control, and struggling with the less structured nature of the outdoor learning environment (van Dijk-Wesselius et al., 2020). Real and assumed difficulties in supervision and control of student conduct in an outdoor setting further exacerbated these concerns (Torquati & Ernst, 2013). The perceived need to constantly monitor children's behavior becomes challenging in the expansive schoolyard, making it harder to ensure their safety and manage their behavior effectively and the contrast between the structured rules of the indoor setting and the open nature of outdoor learning can be overwhelming for teachers, leading to a preference for teacher-directed lessons (van Dijk-Wesselius et al., 2020).

Additionally, weather conditions present physical obstacles to outdoor learning. Teachers occasionally have to cancel outdoor activities due to rain, storms, or challenging seasons like winter (van Dijk-Wesselius et al., 2020; Dymont, 2005b). The unpredictability of weather and the uncertainties it brings, along with other unexpected occurrences outside the controlled indoor environment, further contribute to the need for flexibility given the complexity of outdoor learning (Barfod & Mygind, 2022).

Resource constraints pose significant challenges to the implementation of outdoor learning. One key constraint is the financial aspect, where perceived costs associated with outdoor learning activities can hinder their implementation (Dillon & Dickie, 2012). Lack of funding becomes particularly relevant when outdoor learning is viewed as an activity conducted

far away from the school and dependent on outside agencies (Waite, 2022). Access to outdoor learning for all students is also a barrier due to cost implications and the need for additional staff (Mann et al., 2022). The need for additional resources and personnel support is another resource constraint. Lack of volunteers for outdoor learning activities, coupled with concerns over risk and safety expectations, exacerbates this constraint (Waite, 2022). Furthermore, extra training for staff, equipment needs, costs, and the requirement for more staffing and adult volunteers contribute to the resource constraints (Beames et al., 2009). The availability of suitable outdoor spaces as a resource also presents a challenge. Teachers express frustration with the upkeep and rapid deterioration of green spaces, perceiving them as unsuitable for outdoor learning (van Dijk-Wesselius et al., 2020).

Outdoor learning faces numerous barriers and challenges that can interfere with its utilization in education. These obstacles include institutional and structural factors, curriculum constraints, teacher-related issues, risk and behavior management concerns, and resource limitations. Overcoming these challenges requires addressing scheduling and structural limitations, revising the curriculum to incorporate outdoor learning, providing training and support for both in-service and pre-service teachers, managing safety risks, and allocating resources effectively.

2.6 Summary

Outdoor learning is a broad term that refers to learning that takes place outside of the traditional classroom (Beames et al., 2012). This can include learning in urban, rural, or natural spaces, and can be focused on a specific curriculum about the outdoors or on other subject areas taught through outdoor experiences. There are many different theories and approaches to outdoor learning, including experiential, environmental, adventure, place- or community-based, and land-based education. These approaches may have different goals and methods, but they share similar theoretical foundations and practices (Gilbertson et al., 2006; Ord & Leather, 2018). That being said, for the purpose of this study, I defined outdoor learning as any educational activity that occurred beyond the boundaries of the traditional indoor classroom, encompassing settings that range from natural outdoor environments such as parks or forests to alternative indoor locations like museums, libraries, or malls.

An affordance is a characteristic of an object or environment that allows and encourages certain behaviors (Stoffregen, 2003). These characteristics do not exist without a person or

animal to perceive and possibly make use of them, and they are not guarantees of specific behaviors (Stoffregen, 2003). The relationship between affordances and a person's intentions can motivate them to seek out environments with the right affordances or learn new skills to use existing ones. The natural environment has many affordances for learning, including flexibility, enjoyment, relevance, collaboration, and physical challenge (Fägerstam, 2014; Torquati & Ernst, 2013). These affordances can encourage positive impacts in outdoor learning.

Benefits of outdoor learning are the positive outcomes or impacts of engaging in learning experiences in the natural environment. These may include improved physical and mental health, increased environmental awareness and stewardship, and enhanced social and emotional skills (Dyment, 2005a; Strife, 2010). Outdoor learning affordances and benefits are connected, as the affordances of the environment can lead to the realization of the benefits of outdoor learning. However, the existence of affordances in the outdoor environment does not guarantee the realization of specific benefits, as individual experiences and goals may vary.

While the field of outdoor learning has seen some research on the affordances and learning possibilities offered by the natural environment, it is important to note that much of this research has primarily focused on early childhood education in European and Scandinavian countries. However, there is little research involving adolescents, particularly in Canada, specifically in Saskatchewan. Therefore, there is a need for further exploration into what affordances for learning exist outside of the classroom exists in Saskatchewan for students of all ages and deeper understanding in order to encourage teachers to incorporate outdoor learning experiences for their students. Recognizing this need, the present study aims to contribute to the ongoing discourse by examining the observed affordances of outdoor environments in Saskatchewan, how teachers effectively integrated them into their instructional practices and what positive impacts they observed as a result.

To reinforce the premise for seeking more insight into the nature of outdoor learning, it is necessary to consider the experiences of successful teachers and their students in Saskatchewan. The positive outcomes observed in these cases highlight the potential value of examining their practices. By analyzing and learning from the experiences of these teachers, valuable lessons can be extracted and applied in other educational settings.

By building upon existing research and expanding the growing body of knowledge on outdoor learning and affordances, this study seeks to enhance our understanding of the specific

opportunities and possibilities provided by the natural environment and contribute to the professional development of teachers and advance educational policies related to outdoor learning. By exploring the specific affordances across various subject areas and age groups, this research endeavor strives to provide valuable insights that can inform and support educators in effectively utilizing outdoor learning to optimize student engagement and enhance learning outcomes. Ultimately, this study aims to shed light on effective practices, offer practical recommendations, and promote the broader integration of outdoor learning into educational settings, benefiting both teachers and students alike. In essence, it is my goal to ‘open the door to the outside’ for teachers and their students.

In this chapter, a review of the literature on outdoor learning was provided. The initial focus was on examining theories and definitions related to outdoor learning, establishing a foundation for understanding its conceptual framework. Subsequently, the numerous benefits associated with outdoor learning for both students and teachers were discussed, highlighting the positive impacts it can have on various aspects of education. Finally, the concept of affordances was explored, shedding light on the potential and opportunities offered by outdoor environments for facilitating effective learning experiences and several studies investigating affordances in outdoor settings were summarized.

In the next chapter, I will describe the methodology that I used for this study including why I choose phenomenology and IPA and how I analyzed the data using a qualitative approach and mind mapping.

3. RESEARCH METHODOLOGIES

3.1 Introduction

In this chapter, I describe why I choose a qualitative approach for my research. An explanation of how phenomenology and IPA was the appropriate choice as my research methodology and how I used it is given. The process of how the participants were recruited is discussed. I explain how I gathered my data, including the interview process and my role in the data collection. Finally, I explain how I used IPA, the hermeneutic circle, and mind mapping to analyze the data.

3.2 Qualitative Approach

When I look back over my teaching career, I can see that my philosophy and approach to both learning and research has grown more constructivist and experiential with every passing year. My continuing interest in qualitative methodologies most likely stems from this stance. My research journey has always been guided by a personal desire to reach for the practical. I believe that it is through people's personal stories and experiences that we can learn what is happening, how, and perhaps even why, which makes it vital that I am not disconnected from the participants in my research (Cresswell & Poth, 2018). I want to get to know them, so my research data is deeper and richer. I have my own understandings about education and outdoor and out-of-classroom learning, and I do not want to separate myself from the process of my research (Cresswell & Poth, 2018; Hesse-Biber & Leavy, 2011).

As I agree that different perceptions of reality are affected by context and an individual's personal experience, I am drawn to qualitative research methodologies that support my constructivist and experiential framework. This has led me to phenomenology and interpretative phenomenological analysis (IPA). The qualitative methodology that fits my research objective the best is hermeneutic phenomenology and interpretative phenomenological analysis (IPA) because it includes a focus on participant experience (Lopez & Willis, 2004), situatedness (Laverty, 2003), subjectivity (Eatough & Smith, 2017), and recognizes that the researcher's background plays a role in the interpretation of the data (Neubauer et al., 2019).

3.3 Affordance Theory

Affordance Theory has significantly shaped my thinking and the research I wanted to pursue. The concept of affordances provides a meaningful explanation for something I always sensed about the outdoor environment but lacked a clear definition or theory to explain it.

Affordances refer to the possibilities and opportunities for action that the environment offers us, inviting behavior rather than limiting it (Stoffregen, 2003; Rietveld & Kiverstein, 2014). James Gibson, a pioneer of ecological psychology, introduced the idea of affordances to understand how animals perceive the potential attributes of their surroundings (Jones, 2003). Gibson emphasized that when we observe objects in our environment, we focus on what they allow us to do (Gibson, 1986). Our attention is primarily directed towards the affordances and possibilities that objects offer us. Since Gibson's work, other ecological psychologists have expanded on the concept of affordances.

Affordances, as defined by Stoffregen (2003), enable and encourage certain behaviors but don't guarantee their occurrence. They exist in relation to the animals that can utilize them and are not diminished by our lack of awareness (Michaels, 2003). Chemero (2003) emphasizes that affordances depend on the organism's needs, goals, and context, extending beyond physical objects. Rietveld and Kiverstein (2014) describe affordances as relational properties influenced by the organism's goals, skills, and perception. They encompass physical objects, social practices, and the organism's abilities, highlighting the dynamic interaction with the environment.

In short, Affordance Theory was sort of an eureka moment for me. It has given meaning and a theoretical framework to my understanding of the outdoor environment's potential for learning and shaped the research questions I wanted to pursue. The concept of affordances emphasizes the possibilities and opportunities for action, inviting engagement and exploration in the outdoor learning environment.

3.4 Phenomenology And IPA

Hermeneutic phenomenology is primarily concerned with the lived experience of the research participants and how that lived experience can illuminate the phenomena being studied (Smith et al., 2009, Lopez & Willis, 2004). It is the study of what “makes a thing what it is” (Kafle, 2011, p. 189). I am looking to reveal affordances so that other teachers can understand them and their significance so that they, as outdoor learning teachers, can make use of them for students and their learning.

My research focuses on the lived experience of participants in relation to the phenomenon of affordances in outdoor learning. The goal is to understand the meaning and significance of affordances in the context of the real world (Eatough & Smith, 2017).

Phenomenology and interpretive phenomenological analysis are used to study the subjectivity and experience of the participants (Neubauer et al., 2019). The research is based on the study of life experiences from the perspective of the subject and aims to uncover the meaning of these experiences that cannot be measured (Fuster Guillen, 2019). My background in experiential learning theory supports the use of this qualitative methodology.

Heidegger believed that it was our situatedness and our personal history that influenced our understanding of our experiences (Heidegger, 1927/1962, as cited in Lavery, 2003). As the concept of affordances is contextual and dependent on a person's environment, this makes phenomenology a suitable approach (Jones, 2003; Stoffregen, 2003). Connected to situatedness, another key understanding in phenomenological research is that of a participant's lifeworld (Neubauer et al., 2019; Eatough & Smith, 2017). Indeed, the main goal of hermeneutic phenomenology is to get a clearer picture of the lifeworld of the participants to reveal the different aspects of the phenomena. According to Eatough and Smith (2017), the lifeworld - which is shaped by an individual's experiences and perception of the world they live in - serves as the foundation for all knowledge. As a result, an individual's understanding of a phenomenon is always influenced by their background and personal experiences, and it is impossible for them to fully step outside of their lifeworld when experiencing something new (Neubauer et al., 2019). Human experience needs to be uncovered through qualitative research processes not through quantitative measurement (Lavery, 2003). It is within the lifeworld's of my participants that they have experienced the various affordances of outdoor learning, hence studying their lifeworld's can unearth different aspects of the phenomena of affordances.

I am using Interpretative Phenomenological Analysis (IPA) and hermeneutic phenomenology to examine the affordances of outdoor learning as perceived by teachers. This approach, according to Smith and Osborn (2003), is appropriate for understanding and interpreting the subject's personal experiences and perspectives of the world. Kafle (2011) emphasized the essence of a phenomenon cannot be fully grasped through objective analysis or empirical data alone but must be understood in terms of how it is experienced and interpreted by individuals in their everyday lives. van Manen (2016) stated, "a universal or essence may only be intuited or grasped through a study of the particulars or instances as they are encountered in lived experience" (p. 10). It is important to consider the subjectivity of human behavior and learning, as people's experiences and perceptions of phenomena vary. van Manen's (2016)

approach to phenomenology emphasizes the importance of understanding how teachers experience and interpret the affordances of the outdoor environment in their teaching practice. Lavery (2003) emphasizes that such experiences are ultimately in the eye of the beholder, and researchers must take this subjectivity into account when striving to understand a variety of different experiences. By exploring the teacher's lived experience and interpretation of the affordances of the natural outdoor environment, I can gain a deeper understanding of the complex interplay between teachers, students, and the physical and social contexts in which they interact.

Qualitative researchers accept that lived experiences are subjective, impacting everything about the research, so the researchers should make their subjectivity explicit (Lavery, 2003). I am researching this topic because I am passionate about outdoor learning and well versed in it. I have my own lifeworld that encompasses the topic of outdoor learning and affordances. Neubauer et al. (2019) argued that hermeneutic phenomenology acknowledges that the researcher cannot be free of their own experiences and background. In fact, the researcher's past experiences and knowledge can be valuable in guiding the research.

I have my own experiences with outdoor learning and for the longest time, have understood that there were affordances although I did not have a name for the concept. I felt that there were things that occurred more naturally in an outdoor learning environment and in learning about the concept of affordances, I was finally able to put a name and definition to my own perceptions. As a result, I must accept and be aware of my own prejudices and assumptions (Eatough & Smith, 2017). I am very experienced, and I bring that experience to my research. It is the primary reason behind why I am interested in this research. Through hermeneutic phenomenology and IPA, I was able to explore the experiences and perspectives of individuals engaged in outdoor learning, paying attention to the ways in which they perceived and made sense of their outdoor environments. These approaches allowed me to move beyond my own personal experience and seek a broader understanding of how others perceived and engaged with outdoor affordances, potentially revealing new perspectives and insights that could challenge my initial expectations. By immersing myself in the participants' narratives and exploring the emergent themes and patterns, these approaches encouraged me to approach the data with an open and receptive mindset, suspending my preconceived notions and allowed the participants' experiences to shape the analysis.

3.5 Recruiting Participants

I have facilitated a professional collaboration group made up of teachers from across the province of Saskatchewan. The primary goal of this group is to provide an opportunity for like-minded teachers in the area of outdoor learning to collaborate with each other and share ideas. My research participants, as a convenience sample, were recruited from this group who were willing to share their experiences with me. They came with a wide variety of backgrounds in both teaching experience, grade and subject levels, outdoor learning experience and locations, which is recommended when following a phenomenological approach (Laverty, 2003). They are all teachers who utilize outdoor learning and are interested enough in it to be part of the collaboration group (Smith et al., 2009). As Smith et al. (2009) emphasize, my participants were recruited deliberately because they were able to give me “access to a particular perspective on the phenomena under study” (p. 45).

I sent out a general invitation email to all members of the outdoor learning collaboration group (See Appendix A: Recruitment Email) and I received fourteen responses from teachers who were interested in participating in the interview process. I presented different options to the teachers for the interview process including a one-on-one interview via Zoom or in person and the option of filling out the interview document on their own time. Of the fourteen that participated, four choose to write their responses to the interview questions on their own while the other ten choose to participate in an oral interview. Of these ten, one was conducted via Zoom and the other nine were in-person.¹

I was focused on the perceptions of outdoor learning affordances of a small group of teachers and on reporting in depth about their perceptions. I was not aiming to make generalizations about the topic, which again makes IPA an appropriate choice of method (Smith & Osborn, 2003). Although there was some variability in grade levels, subject areas, and experience in teaching and using outdoor learning, participants were similar to each other as they were all outdoor learning teachers. I focused on teachers “for whom the research question will be significant” (Smith & Osborn, 2003, p. 55). Details about the participants’ backgrounds is provided in Table 1. Specific information about location and education programs was excluded to maintain confidentiality.

¹ Full disclosure: I have had a supportive and caring relationship with these participants that was developed over years of collaborating together with respect to outdoor learning.

Table 3.1*Research Participant Demographics*

Pseudonym (Chosen by participants)	Gender	Years of Teaching Experience	Grade Level/ Subject Level
Marc	Male	6 years	Grade 4/5 all subjects and Physical Education all grades
Sloane	Female	7 years	Kindergarten and grade 8 all subjects
Sarah	Female	7 years	Grade 1 and 2 all subjects
Darla	Female	8 years	Grade K-4 Physical Education and grade 8 all subjects
Isaac	Male	8 years	Grade 6/7 all subjects
Christina	Female	10 years	Grades 7/8 all subjects
Dave	Male	11 years	Grade 7/8 all subjects
Glen	Male	12 years	Grades 7/8 all subjects
Edmond	Male	12 years	Grade 7 and 9 various subjects
Leif	Male	14 years	Grades 5-12 Physical Education
Steve	Male	16 years	Grade 5-8 all subjects
Cheryl	Female	18 years	Kindergarten to Grade 6 all subjects
Katherine	Female	25 years	Kindergarten and Grade 6 all subjects
Frank	Female	28 years	Grades 7/8 all subjects

3.6 Saskatchewan Geography and Climate

A fifteenth participant could be considered the outdoor spaces of the province of Saskatchewan where the various educator participants took their students when they left the indoor classroom. The outdoor environment of Saskatchewan is characterized by its vast and diverse landscapes, rich natural beauty, and unique ecosystems. Situated in the heart of Canada, the province offers a mix of prairies, forests, wetlands, lakes, and rivers (Ward, 2023; Widdis, 2006).

Southern and central Saskatchewan is renowned for its expansive prairies and grasslands that seem to stretch on forever and big open skies (Ward, 2023; Widdis, 2006). The prairies provide a sense of vastness and tranquility, offering a serene backdrop for outdoor activities and exploration. This environment supports a variety of grasses and wildflowers, creating a diverse and visually appealing landscape. Northern Saskatchewan is covered by the boreal forest, one of the largest intact forests in the world (Ward, 2023; Widdis, 2006). This dense and sprawling

forest is home to a wide range of tree species and is filled with wildlife, such as moose, deer, black bears, and a plethora of bird species, providing ample opportunities for nature observation and wildlife encounters.

Saskatchewan boasts an extensive network of wetlands, including marshes, swamps, bogs, and numerous lakes and rivers (Ward, 2023; Widdis, 2006). These water-rich environments, which include most urban centres, serve as vital habitats for diverse plant and animal species and provide easily accessible opportunities for birdwatching, studying aquatic ecosystems and participating in water activities such as canoeing and swimming. Saskatchewan exhibits unique geological formations that add intrigue to its outdoor environment including Precambrian Shield Cliffs along northern water ways like the Churchill River System and the sand dunes in Douglas Provincial Park (Ward, 2023; Widdis, 2006).

The human-built environment of Saskatchewan comprises a variety of urban, rural, and agricultural areas (Widdis, 2006). The study participants indicated that the schools they had taught at were usually attached to large human-made and maintained parks with large fields of grass and varying shrubs and trees providing shelter and shade while other parks and semi-natural spaces were often within walking distance of their schools.

Saskatchewan experiences a wide variety of temperatures ranging from extreme highs in the summer months of over 35 to 40 degrees Celsius to extreme lows in the winter months of below 45 degrees Celsius (Cote, 2006). While temperatures represent the extremes, it does demonstrate the large range of temperature swings that outdoor educators are faced with in the province. Based on my own personal experiences as an outdoor educator working in Saskatchewan for over 30 years, I have observed that the climate of Saskatchewan undergoes distinct seasons during the school year, with each season contributing to outdoor experiences in its own way. Students return to school in September, and autumn is typically ideal for spending time outside with comfortable temperatures for at least the first six weeks of school. The first snow fall typically occurs around the end of October with winter truly setting in by the end of November. The winter in Saskatchewan can be extremely cold (temperatures below -30 degrees Celsius) and are characterized by snow-covered landscapes, offering opportunities for activities such as cross-country skiing, snowshoeing, ice fishing, and tobogganing. While teachers and students can find it challenging at times to head outside during the extremes of a Saskatchewan winter, with proper clothing it is possible. Winter starts to turn to spring in March and April,

with melting snow and up and down temperatures. May brings the beginning of consistently warmer temperatures and the return of leaves to the trees making it an ideal time for outdoor activities like camping, hiking, and exploring nature.

Overall, the outdoor environment of Saskatchewan encompasses a wide range of landscapes, from human-made urban and rural areas to expansive prairies, dense forests, wetlands, lakes, and rivers. This diversity provides a wealth of opportunities for wildlife observation, nature exploration, and place-based out-of-classroom learning.

3.6 Gathering Data

As Eatough and Smith (2017) point out “a key feature that unites phenomenological psychologists is their interest in experience and their belief that studying experience can provide valuable insights into human life. Similarly, they are agreed that this study requires valuing the evidence of everyday life; it is through the close examination and reflection of this life that its meaningfulness and significance is known” (p. 115). I felt that the most effective way to collect these experiences was using a semi-structured interview which Smith and Osborn (2003) agree is “probably the best way to collect data for an IPA study” (p. 57). “IPA is best suited to one which will invite participants to offer a rich, detailed, first-person account of their experiences” which includes “an opportunity to tell their stories, to speak freely and reflectively, and to develop their ideas and express their concerns at some length” (Smith et al., 2009, p. 53). This supports the use of mind maps to collect data which is “a means to collect personalized and individualistic data from research participants” (Wheeldon & Ahlberg, 2019, p. 1118).

3.7 Interview Process

My participants were asked the interview questions (see Appendix B) and provided as much detail as possible with regards to their experiences with outdoor learning. I asked initial direct questions and then allowed the conversation to go where it would with some probing to elicit more detail when necessary. Most of my participants were the type of people that needed little prompting when it came to the topic of outdoor learning and affordances (Lavery, 2003). I had an interview guide in the form of an outline that was essentially a series of headings that highlighted each topic that was to be discussed. Some of the topics were specific to their

teaching careers to gather some background information and the rest were related to the teacher's experience with outdoor learning including affordances (See Appendix A: Interview Topics).

The exact time and date of each interview were arranged through an email or phone conversation with each participant. The interviews lasted for about an hour and a half to two hours. Most of the interviews took place over the course of July and August 2021. Before each interview was conducted, a written consent form was provided to each participant and signed. For the interview that took place over zoom, the form was emailed to the participant, signed, and then emailed back to me. For the participants that filled out the form on their own, participants were also emailed a consent form which they signed and returned with their data (See Appendix B: Consent Form).

It was in my original plan to video record the interviews as I was making sure that I could do them through a remote platform like Zoom. The first interview that I did was done outdoors during the summer break and as it was outdoors, I choose not to do any kind of audio or video recording and instead relied on just transcribing the discussion into a mind map immediately as we were discussing. This method allowed me to capture detailed jot notes as I can type quickly, and I did not worry about spelling. I wanted an instant transcript that I could provide back to the participant immediately for them to ponder and respond to without waiting for any transcribing to occur. It did mean that there were moments when I had to have the participant pause while I caught up or had them repeat things. It also gave us a framework for further questions and allowed us to delve deeper into topic areas which was another advantage of entering the data directly into a mind map (Burgess-Allen & Owen-Smith, 2010). Entering the data directly into a mind map as the interview took place allowed me to have access to the data much faster than if I had been required to transcribe and go through the transcriptions (Burgess-Allen & Owen-Smith, 2010).

Smith and Osborn (2003) have expressed that semi structured interviews are the common approach for collecting data in IPA as it “allows the researcher and participant to engage in a dialogue whereby initial questions are modified in the light of the participants’ responses and the investigator is able to probe interesting and important areas which arise” (p. 57). I had a series of guiding topics that I wanted to cover recognizing that answers to some questions could appear in other areas due to the open-ended structure of the discussions. Our interviews were more like discussions than formal interviews (Smith et al., 2009). I am familiar with all of my participants

and had worked with them in some capacity or another previous to these interviews, so it was very easy for us to engage in an open-ended discussion that allowed us to dig deep into the potential data. Lavery (2003) shared that the interview process “takes place within the context of a relationship” and that “the presence of a caring relationship” is important in terms of success (p. 29).

3.8 Researcher Role in Data Collection

My job as the researcher “in a semi-structured interview is to facilitate and guide, rather than dictate exactly what will happen during the encounter” (Smith & Osborn, 2003, p. 63). As a researcher I was also tasked to reflect “on essential themes of participant experience with the phenomenon while simultaneously reflecting on own experience” (Neubauer et al., 2019, p. 92). This describes the process that I followed while conducting the interviews. I employed semi-structured interviews in which I viewed my participants as the “experiential expert” with myself as the interviewer acting as the “enabler” allowing my experts to detail and outline their experiences with the phenomena of affordances (Eatough & Smith, 2017, p. 122). As my participants talked, I entered their answers into a MindNode mind map where I carried out initial organization of their answers as the interview was taking place. I would start a new node for each new piece of information shared by each participant as part of the add new information stage identified by Mammen and Mammen (2018).

After each interview, I exported the mind map data to a Word document outline that I then emailed to the participant so that they could look it over and change or add anything that they wished. One of the things I asked each participant to do when they reviewed their data was to try and look at it through the eyes of a person who had no experience with outdoor learning and to see if they could or needed to be more explicit with their descriptions instead of assuming knowledge that they and I would have as a result of our backgrounds. As a result of this, some of the participants choose to explain certain pieces in more detail or give more background. I added any extra detail they provided to their individual mind maps. This coincides with how Lavery (2003) described the process of data analysis with the researcher working through the data “to get a sense of the whole” (p. 30) and synthesising the experiences into an overall picture of the phenomena. This was part of my ‘add information’ stage and my ‘analyze content and structure’ stage as identified by Mammen and Mammen (2018).

3.9 Analysis

I used IPA, the hermeneutic circle, and mind mapping to examine and interpret the data that I collected through the informal interviews. My approach to IPA was guided by what Smith and Osborn (2003) refer to as a “double hermeneutic” (p. 73) in which “the participants are trying to make sense of their world; the researcher is trying to make sense of the participants trying to make sense of their world” (p. 51). Therefore, the meaning that I arrive at through the data gathered is a blend of my participants meaning making and myself, as the researcher, in a state of “co-constitutionality” (Lopez & Willis, 2004, p. 730).

Interpretative Phenomenological Analysis (IPA) is an appropriate approach for my methodology, epistemology, theoretical framework, and research goals. As I was playing a key role in my phenomenological research through interpretation and analysis, I utilized an IPA approach to phenomenology. IPA “attempts to explore personal experience and is concerned with an individual’s personal perception or account of an object or event” (Smith & Osborn, 2003, p. 51). Eatough and Smith (2017) underscore that IPA “is concerned with the detailed examination of personal lived experience” and “the relevance of an experiential perspective” (p. 93).

By keeping the focus on individual participant’s experiences, I used an idiographic approach (Eatough & Smith, 2017). This approach focuses on the particular (Smith et al., 2009) which includes detailed and deep analysis and “understanding how particular experiential phenomena (an event, process or relationship) have been understood from the perspective of particular people, in a particular context” (Smith et al., 2009, p. 26). Smith and Osborn (2003) point out that “the readers make links between the findings of an IPA study, their own personal and professional experience, and the claims in the extant literature” (p. 56). It is up to the readers to decide if my findings apply to them and if they are teachers who utilize outdoor learning, I argue that it does. Smith et al. (2009) indicate that “for IPA, analysis always involves interpretation” [in that] “there is a phenomenon ready to shine forth, but detective work is required by the researcher to facilitate the coming forth, and then to make sense of it once it has happened” (p. 31). “Successful IPA research combines both stances, it is empathetic and questioning” (Smith et al., 2009, p. 32) as the researcher examines the data through the eyes of the participant and from an outsider’s point of view. In addition, the analysis is subjective as it is undertaken through the lens of the analyst. “Although the primary concern of IPA is the lived

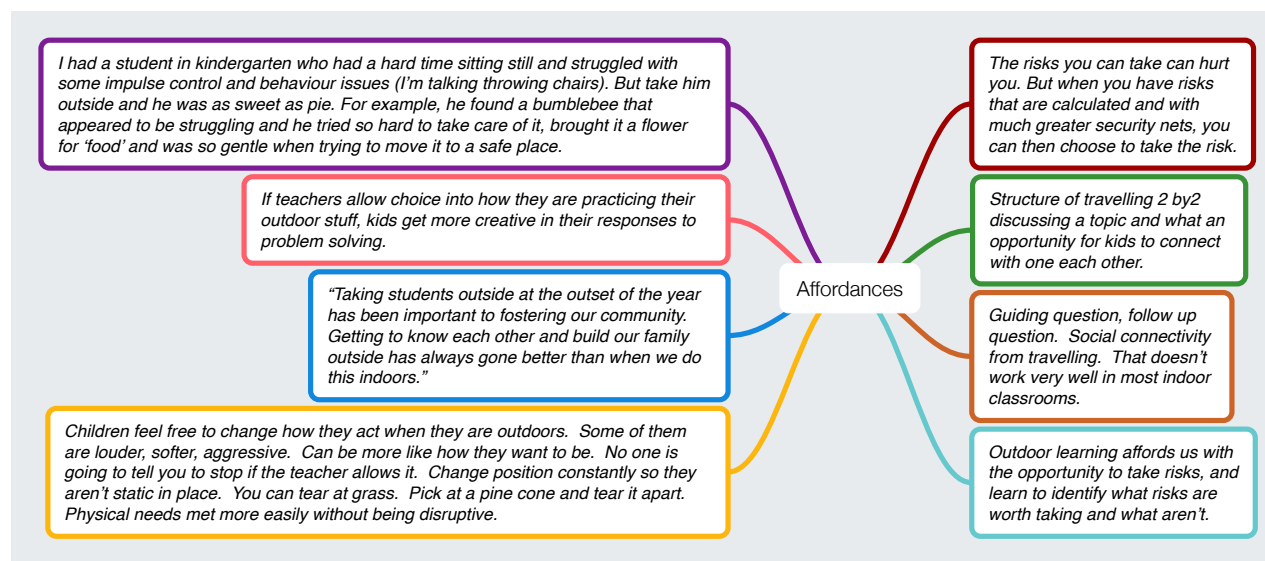
experience, the end result is always an account of how the analyst thinks the participant is thinking...thus the truth claims of an IPA analysis are always tentative and analysis is subjective (Smith et al., 2009, p. 76).

Additionally, mind-mapping acknowledges that understanding is highly individual and can be most effectively grasped through social engagement and takes into account that individuals have different learning styles and employ a blend of verbal language, pictures, and illustrations when thinking, which coincides with my beliefs around knowledge and learning (Wheeldon & Ahlberg, 2019). In employing this approach, I did not start with a list of pre-set themes but instead I used a mind-mapping process to arrive at them. I used the MindNode program to create and work with the mind maps that I created. MindNode is a mind-map creation and editing program that does not code or theme. It allows the user to quickly create different types of mind-maps and edit them with minimal effort.

As advised by Smith and Osborn (2003), I reviewed one case at a time and organized it into my mind map, putting data from each interview into groupings or themes as I worked through the data before I considered the next case and added it to the overall picture mind map. The first interview participant became the foundation for the overall data mind map as I clustered similar ideas together in color-coded themes. Figure 3.1 shows an example of how the mind map

Figure 3.1

Mind map beginnings

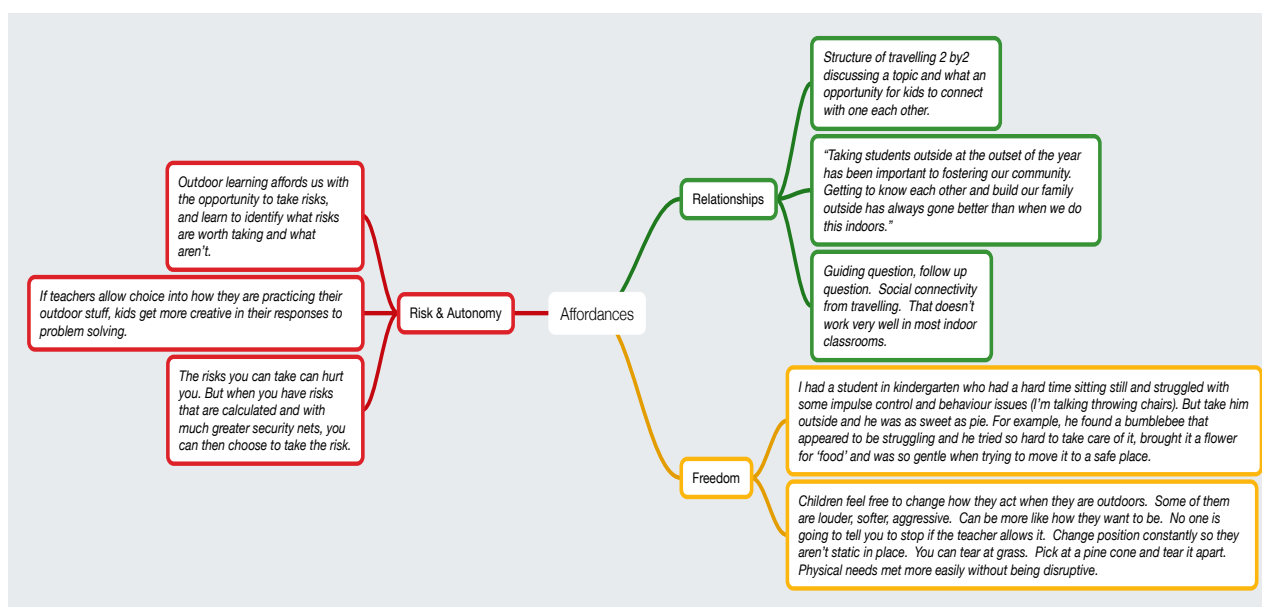


looked in the very beginning when just a few of the data points had been entered before any themes were created.

As I entered data points into the mind map, themes would begin to emerge where participants were sharing examples and stories that contained similarities to each other. When these connections would emerge, I would enter a possible theme node and move those data points to that node (See Figure 3.2).

Figure 3.2

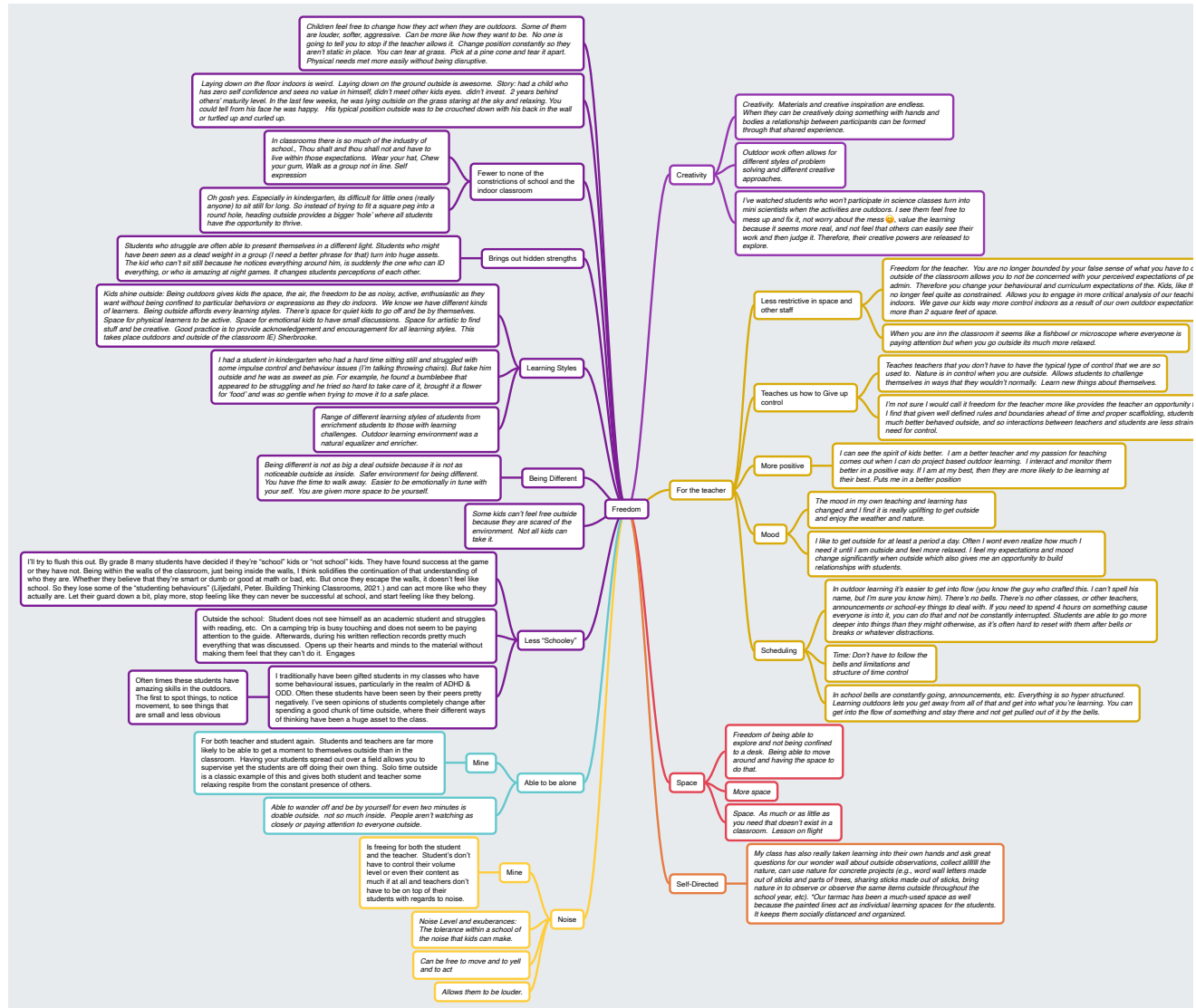
Mind map with themes emerging



For subsequent participants, I either created new theme nodes as needed or added their data to already existing nodes. In this fashion, the overall data mind map with all of its various themes emerged. Eventually, each theme became so large that I split them off into their own mind maps (See Figure 3.3).

Figure 3.3

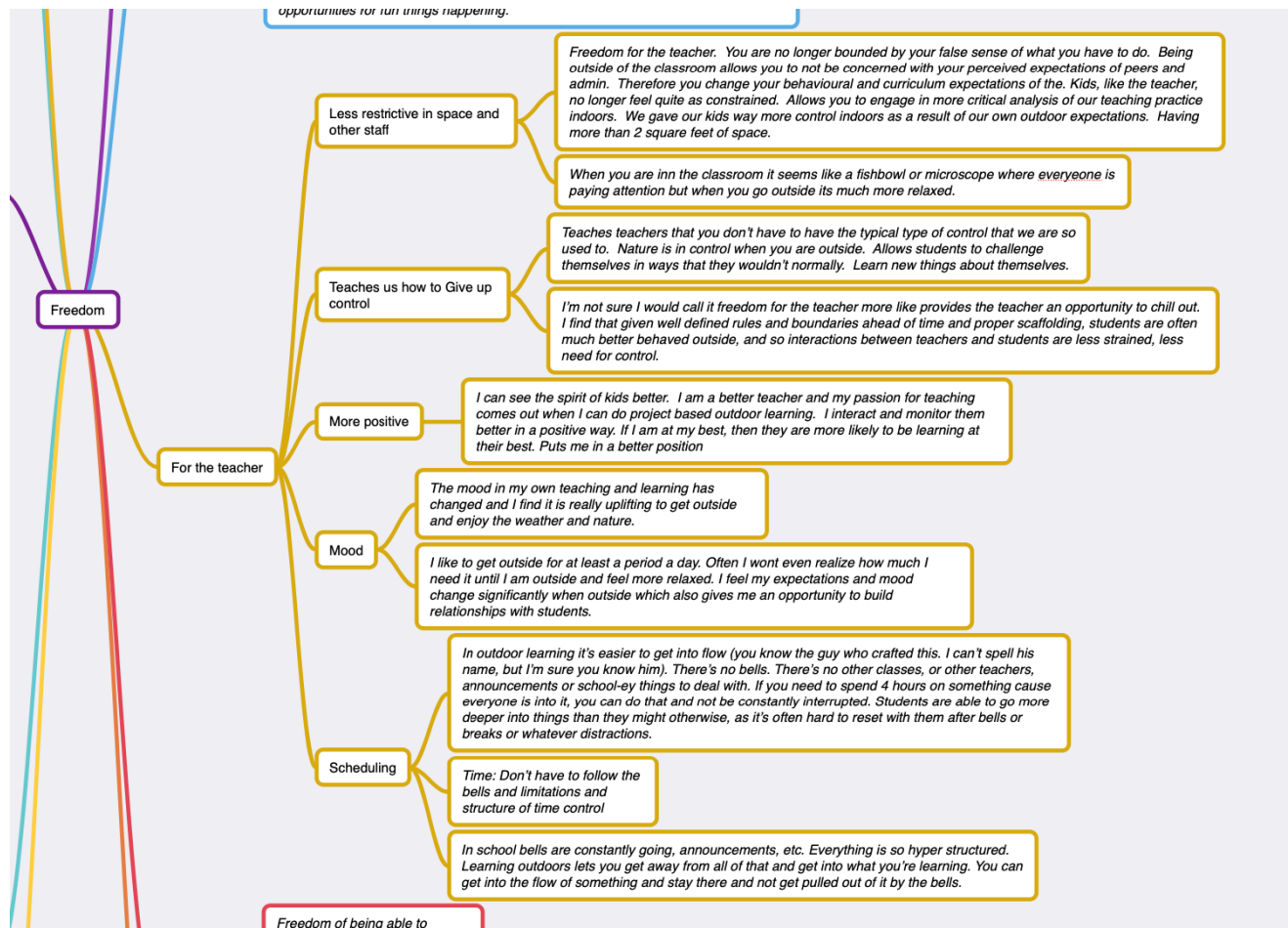
Mind map of a single theme



In addition, as each theme grew, sub-themes began to emerge as a result of my analysis. Figure 3.4 zooms in on set of sub-themes and analysis of the data. As I worked through the data, I would make brief notes describing the connections between data points within each theme and sub-theme and include this as a higher node in the mind map to better organize and explain what I saw emerging from the data.

Figure 3.4

A closer look at one of the sub-themes



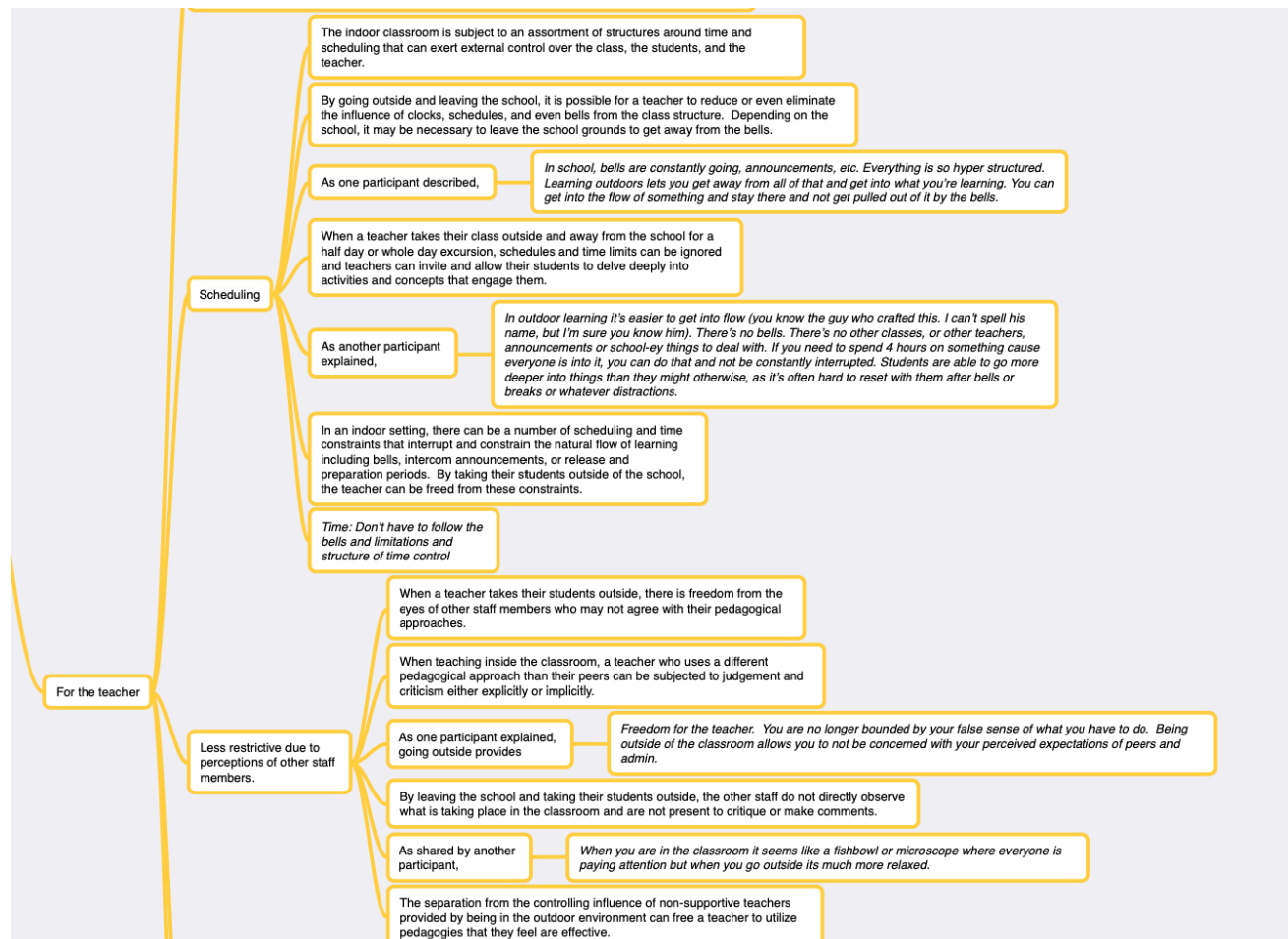
The use of mind maps allowed to me to be able to analyze my data quickly and efficiently (Kotob et al., 2016). Using mind maps to store and organize my data allowed me to focus on “the dynamic relationship between the part and the whole, at a series of levels. To understand any given part, you look to the whole; to understand the whole, you look to the parts” (Smith et al., 2009, p. 25). This continuous approach of experimenting with nodes and connections led to the present configuration that lays out the data effectively which is supported by Mammen and Mammen (2018) who stated “over time, the ongoing process of adding, analyzing, and revising should lead to a progressively more logical, complete, yet parsimonious representation of pertinent context, where the resulting visual taxonomy defines how the individual items relate to each other conceptually, categorically, hierarchically, and directionally” (p. 585). Once all of my data was organized into themes and sub-themes, it

allowed me to directly enter my own thoughts and analysis of the data, themes, and connections between the data and themes into the mind map itself which was then easy to convert into paragraphs for my dissertation paper (See Fig 3.5).

The advantages to having already entered the interview data into a mind map as I was conducting each interview became readily apparent as much of the data was already themed as a result and simply needed to be moved into the overall mind map. Using a mind map to store and organize my data allowed me to move things around and try different combinations of themes and to easily organize my data (Mammen & Mammen, 2018; Koteb et al., 2016). The process

Figure 3.5

Addition of analysis and comments directly into the mind map



was just as Mammen and Mammen (2018) described, “mapping not only allows the research to play with different coding arrangements to identify best fit, but also to examine the validity of conceptual groupings and make adjustments easily” (p. 584). Thus, I continued moving through

the mind map cycle of analyzing and revising content and structure discussed by Mammen and Mammen (2018) in the mind map steps.

By using mind maps, I was able to clearly implement the hermeneutic process, which advocates for a flexible, cyclical, and non-sequential approach to working with data. This approach involves regularly revisiting the relationships between the overall data and its individual components, as well as the various contexts in which they are situated. It also encourages the researcher to approach data with an open-minded perspective and be willing to change one's understanding of its meaning. (Eatough & Smith, 2017). Using the mind map editing software allowed me to sift through the data and play with different combinations of themes and ideas which combined with my own interpretation and my participants through the interviews to bring the main aspects of the phenomena of affordances and how teachers utilized them to the forefront (Eatough & Smith, 2017). As part of the reflective process, I asked my participants to examine their responses and data through the eyes of a person that was not familiar with outdoor learning as I was and to see if there was room for more explanation or detail that could be added as a result. This was my attempt to do as Eatough and Smith (2017) suggested “to produce rich experiential understandings of the phenomenon under investigation and remain close to the participants sense-making” (p. 106). Mammen and Mammen (2018) point out that the steps involved in creating a mind map from research data and for data analysis “resembles the hermeneutic spiral” (p. 584) in how it moves back and forth from looking at parts to looking at the whole and back again as the researcher sifts through the data and theme nodes.

Recognition of specific themes in my analysis was not solely based on their frequency or the number of participants who identified them. I also took into account that some participants mentioned unique ways of utilizing affordances, even if only one or two individuals mentioned them. This approach ensures thoroughness in my analysis by considering diverse perspectives and incorporating them into my findings. As Smith and Osborn (2003) put it, “the themes are not selected purely on the basis of their prevalence within the data” (p. 74). To meet an expectation of rigor, it is important that “the multiple stages of interpretation that allow patterns to emerge, the discussion of how interpretations arise from the data, and the interpretive process itself” (Laverty, 2003, p. 31). Smith and Osborn (2003) remind us that “meaning is central, and the aim is to try and understand the context and complexity of those meanings rather than

measure their frequency” (p. 66). It is not my goal to meet some quantifiable objective in order to meet some ideal of rigor.

The advantages to using mind maps in data analysis are many. I agree with Mammen and Mammen (2018) when they point out that “digital maps can manage very large amounts of data, allow the researcher to repeatedly adjust appearance and wording, and easily retain documentation of successive attempts” (p. 589). which is one of the many reasons why I choose to use mind mapping as my primary data collection and analysis tool. Wheeldon and Ahlberg (2019) pointed out that the use of mind maps when analyzing data “can allow for more flexibility to draw out different sorts of connections, relationships, or themes” (p. 1118). In addition, I agree that “it seemed more intuitive, less time consuming, and required less effort to modify and relocate nodes and generate map images” (Mammen & Mammen, 2018, p. 589). Mammen and Mammen (2018) conclude that “mapping resulted in a publication quality diagram of key themes, with substantial ability to finetune the layout and appearance of concepts to meet our specific needs” (p. 590). This is also why I use mind maps for pretty much any writing of an academic nature.

I engaged in a self-reflection process to examine and understand my own experiences and understandings of affordances in order to utilize them in my research process (Laverty, 2003). Although Husserl (as cited in Laverty, 2003) discussed bracketing (i.e., separating a researcher’s personal beliefs about the research subject or phenomena) many proponents of the hermeneutic approach, including Heidegger and Gadamer, rejected bracketing as unattainable because it is not possible to separate the research or participants from their experiences. (Gadamer, 2004; Laverty, 2003). As Laverty (2003) advised, I utilized “self-reflexivity, an ongoing conversation about the experience while simultaneously living in the moment, actively constructing interpretations of the experience and questioning how those interpretations came about” (p. 30). I continuously reorganized ideas I had recorded on the mind map, combining themes trying out different groupings and relying on my own experiences with affordances to make sense and interpret the responses of my participants (Laverty, 2003). This approach is supported by Gadamer's (2004) concept of the hermeneutic circle that highlights the role of the interpreter's own experiences and perspectives in interpretation and that understanding a text or phenomenon involves a circular movement between the parts and the whole. We approach the text or phenomenon with our own preunderstandings, shaped by our historical and cultural context but

these initial understandings are not fixed; they can be revised and refined as we engage with the details. As we delve into the specific parts, we gain deeper insights that can influence our overall understanding. This ongoing movement between the parts and the whole leads to a dialogue between the interpreter and the text or phenomenon. In addition, Gadamer (2004) challenged the idea of a fixed or objective meaning and instead, suggested that understanding emerges through a dialectical process, constantly revising our preunderstandings based on new insights. The process I employed in my research aligns with the hermeneutic circle, which recognizes the significance of the interpreter's experiences. It highlights the dynamic nature of interpretation, fostering a continuous dialogue between the parts and the whole, leading to the development of understanding (Gadamer, 2004). This is why this approach is well-suited for my research.

I do not believe that a person can look solely at the phenomena of affordances as objects (objectively) because they exist in conjunction with the people who are perceiving them and thus are subjective (Fuster Guillen, 2019). Smith and Osborn (2003) make it clear that “IPA also emphasizes that the research exercise is a dynamic process with an active role for the researcher in that process” (p. 51). In IPA, it is the role of the researcher to engage in “iterative cycles of capturing and writing reflections towards a robust and nuanced analysis; consider how the data (or parts) contributed to evolving understanding of the phenomena (whole)” (Neubauer et al., 2019, p. 92) and a “a language mode with informal tone with idiographic expressions full of adages and maxims is considered suitable for reporting this type of research” (Kafle, 2011, p. 196).

3.10 Summary

In this chapter, I provided an overview of the chosen research approach, methodology, data collection, and analysis methods. It began by explaining the rationale for selecting a qualitative approach and discussed the use of phenomenology and Interpretative Phenomenological Analysis (IPA) as the appropriate research methodology. The recruitment process for participants was explained, followed by a detailed description of data gathering techniques, including interviews and the researcher's role in the data collection. The chapter concluded by outlining the analytical methods employed, including IPA, the hermeneutic circle, and mind mapping.

In the next chapter, I will present an analysis and interpretation of the uses of affordances of outdoor learning as experienced by my research participants. This analysis will provide insights into how the natural environment supports and encourages learning, and how the participants employed these affordances to optimize student learning and realize the benefits of outdoor education.

4. RESULTS AND DISCUSSION

4.1 Introduction

The purpose of this chapter is to present my findings based on the participant interviews and to connect the findings to the existing research in outdoor learning. The participants chose pseudonyms to maintain their confidentiality and anonymity. Interview discussions with each participant were wide-ranging with respect to how the teachers came to use outdoor learning in their teaching practice as well as providing insights into their experiences in so doing. The findings presented in this chapter focus on what participants shared with respect to the affordances for learning they have observed when teaching outside, how the participants utilized the affordances of the outdoor in their teaching practice, and how doing so enhanced the learning experience.

In general, teachers, like many people, are not familiar with the term affordances, even when they have observed and used them. To ensure that participants started their discussion with me from the same place, I provided a basic definition of what affordances are – I explained that: *Affordances are aspects of the environment that allow someone to do something that they might not have been able to do without it. They act as an encouragement for other things to occur. Affordances allow and even encourage things to happen that may not have happened otherwise.*

Affordances and benefits are two concepts that are often discussed in the context of outdoor learning. While they are related, they are not the same thing, and it is important to understand the difference between them. Affordances refer to the opportunities that the environment provides for certain actions or behaviors. For example, a tree with low-hanging branches might afford the opportunity for climbing, while a flat, grassy field might afford the opportunity for running and playing. Affordances are characteristics of the environment that can be perceived and acted upon by individuals. Benefits, on the other hand, are the positive outcomes or advantages that result from engaging with the environment and its affordances. For example, climbing a tree might provide the benefit of increased physical activity and improved coordination, while running and playing on a grassy field might provide the benefit of increased social interaction and improved mental health. Benefits can vary from person to person depending on their individual needs and goals.

In the context of outdoor learning, affordances refer to the opportunities for learning that the natural environment provides. For example, a forest might afford the opportunity for students

to learn about plant and animal life, while a river or stream might afford the opportunity for students to learn about hydrology and water quality. By engaging with the environment and its affordances, students can gain a wide range of benefits, including improved physical and mental health, increased knowledge and understanding of the natural world, and increased confidence and self-esteem. Overall, the difference between affordances and benefits in the context of outdoor learning can be summarized as follows: affordances are the opportunities that the environment provides for learning, while benefits are the positive outcomes that result from engaging with those opportunities. While both are important, it is the combination of affordances and benefits that makes outdoor learning such a valuable and enriching experience for students.

All the teachers involved in this study have experience in taking students outside of the classroom for learning. For the purposes of this study, the questions that I focused on were:

- What have you seen as affordances for learning in the outdoor environment?
- How have you utilized the outdoor environment affordances?

During the semi-structured interviews, participants often provided integrated responses, simultaneously describing the affordances, how they and their students utilized them, and the observed results for students. Consequently, my analysis and discussion move between describing the affordances, how students interacted with them, exploring how the participants used the outdoor environment and harnessed those affordances to enhance the learning experience, and the impacts of doing so. As my analysis progressed, six main themes emerged from participants responses – the themes are, in no particular order:

- relationships
- engagement
- flexibility
- risk and student autonomy
- freedom
- health

Given that participants had, when interviewed, interwoven discussions of affordances (opportunities), methods of utilization, and benefits (positive outcomes and results), my presentation of these six themes has also interwoven a discussion of affordances, uses, and benefits.

4.2 Relationships

The theme of relationships included subthemes of different interactions, removes pressure, teambuilding, camping trips, and shared adversity. Learning in the outdoor environment was identified by the educators in this study as offering unique opportunities for fostering and enhancing relationships among students and between students and teachers. They acknowledged that the outdoors provided a conducive setting for the formation, facilitation, and improvement of these relationships. As Glen pointed out, *“taking students outside at the outset of the year has been important to fostering our community. Getting to know each other and build our family outside has always gone better than when we do this indoors.”* Numerous aspects of outdoor learning were described as contributing to the development of relationships including the opportunity for different interactions, the presence of decreased pressure, the opportunity for collaboration during activities like camping trips and the experience of overcoming challenges together. In this study, the dynamic interactions and shared experiences outdoors were identified by the participants as creating a conducive atmosphere for building strong connections and trust among students and between students and teachers. The outdoor environment's affordances for fostering relationships were recognized and utilized by the educators in this study to create a more engaging and supportive learning environment.

4.2.1 Different Interactions

The outdoor environment was described by the participants as encouraging a wider variety of situations that encourage students to interact with each other. They also indicated that there can be constraints on the interactions necessary to forming strong relationships with each other in an indoor classroom setting. As Glen explained,

It's also way easier to build relationships with people. If you're in a desk in a row facing the front, it's hard to get to know the other people in your class. If you're out and walking somewhere and chatting with people, it's different. Or if you're in a big initiative task, or your stuck in a canoe with someone, etc. Outside allows us to mingle with people, move around, and also lets the teacher move around between groups and chat with students, check in with people, etc. In a much more comfortable way than in a classroom.

The outdoor environment facilitated easier relationship building and social engagement as it allowed individuals to interact more freely and comfortably. It also enabled better teacher-

student interactions, as teachers are able to move around and engage with students in a more informal manner.

An example of an activity that was specifically referred to is walking. It can sometimes seem like students are always walking from one place to another when participating in learning outdoors. There were many ways to utilize the necessity of walking to invite students to further develop their relationships with each other that were shared by the participants including having them walk in pairs and providing topics for them to talk with each other about. Marc described it as *“the structure of travelling two by two, discussing a topic and what an opportunity for kids to connect with one each other.”* Structures available when walking include *“guiding question, follow up question. Social connectivity from travelling. That doesn’t work very well in most indoor classrooms”* according to Marc. The talking while walking is not something that is typically available or encouraged in an indoor setting. Walking also provided the educators with opportunities to have informal conversations with students in a natural setting without having to specifically arrange for it. As Leif summed it up, *“simply walking beside a student opens up an avenue for conversation. Some students feel more relaxed outside of a classroom.”* The participants' descriptions affirmed that the outdoor environment fostered diverse interactive situations and offered opportunities for students to engage in conversation and collaboration through activities such as walking which promoted social connectivity, which is often absent in traditional indoor classrooms, while also enabling students to develop meaningful relationships.

4.2.2 Removes Pressure

The outdoors was portrayed as a more relaxing environment for both students and teachers which can result in strengthened relationships. As described by Sloane, when classrooms go outside, *“teacher student relationships improve because everyone relaxes more.”* There can be a lot of pressure on students to conform to ways of being and acting around other students while in an indoor classroom. The outdoor environment can invite reserved students particularly to engage more with others around them. As Sloane described,

Something about being outside takes the pressure off trying to be cool and fit in. I find that shy, seemingly introverted young people are able to interact more easily when outside the confines of the classroom. The same goes for presenting- it seems as though students have an easier time presenting for their peers when they aren’t cooped up in a

small, quiet space with everyone's attention focused on them. The outdoors seems to help lessen anxiety and make children more brave and sociable.

The availability of more space, and even distractions, in the outdoors was seen as encouraging for students in speaking in front of and with their peers. While inside the classroom, these same students were described as struggling under the undivided attention of those around them. As Sloane pointed out, *"students that are more timid inside the class really break out of their shell outside. Different students end up talking to one another. The improved social dynamics leads to less behaviour problems which leads to better student engagement."* The outdoor environment offers multiple chances for students to form relationships with each other as a result of the natural opportunities to talk with each other.

When in an outdoor environment, teachers and students were described as being freed from the constant oversight and restrictions that are imposed in an indoor classroom. As a result of being outside and not subject to the expectations and rules of the school and other staff, including administration, teachers were invited to exert less direct control over every aspect of a student's existence when outside and need for micromanaging behaviour and noise levels can be eliminated. As Isaac pointed out,

The entire relationship between students and teachers is changed in the outdoor environment. Students can be louder and more annoying while actually not being more annoying to everyone simply because of acoustics. The management structure is defined by necessity and does not feel arbitrary outside. I have strict rules at certain times because of safety and trust-building but once trust is built and in the right context, I can be very loose and easy-going with the rules. There is no hat rule outside.

Rules that exist for students indoors are often viewed as arbitrary and can cause problems and negative interactions between teachers and students. However, these rules typically do not exist in outdoor settings, which reduces the potential for negative interactions between teachers and students.

Outdoor learning was characterized as providing a relaxing environment that fostered stronger relationships between students and teachers by relieving the pressure to conform, particularly benefiting reserved students, and enhancing social dynamics while reducing behavior issues. In this natural setting, teachers were able to establish healthier relationships with

students as they were liberated from constantly exerting control, leading to overall improvement in the teacher-student dynamic.

4.2.3 Teambuilding

While team building activities can and do take place inside, participants indicated that most activities that take place outdoors require students to work together to accomplish the tasks. As Sloane pointed out, *“team building. You can do icebreakers inside the classroom but just going outside and doing anything ends up being a team building experience.”* These opportunities and demands for working together as a team encouraged students to communicate effectively with each other which has been shown in other research to further develop their relationships with each other (Coates & Pimlott-Wilson, 2019). As Sloane indicated, team building encouraged by the outdoor environment *“leads to better social dynamics. Kids that wouldn’t talk in the classroom are chatting with everybody outside.”* Another common activity connected by participants to the outdoor environment is gathering around a fire and cooking a meal. The collaboration required by the process of cooking and the camaraderie invoked by sharing a meal fostered stronger relationships. As Glen described,

We often do multiple days of team building outdoors at the start to get to know each other. Lots of different tasks. Often, we start fires and share meals together over the fire. Food brings people together, and it’s easy to do a quick hot dog roast or even marshmallows. Or even just boil water and make tea or hot chocolate.

Outdoor activities were portrayed as providing opportunities for students to work together as a team which fostered effective communication skills and further developing their relationship with each other as a result.

4.2.4 Camping Trips

While being outside on a regular basis facilitates and strengthens relationships, overnight camping trips was described as offering even more opportunities for forming relationships among students and between students and teachers. While a teacher can take their students on an overnight camping trip anytime throughout the school year, they were described as especially effective at the beginning. As Glen stressed,

We typically use camping trips at the start of the year. This allows all of the affordances to be sort of concentrated. The relational benefits of outdoors is heightened, it’s fun, it’s

physically active, it allows us to learn to work together and learn curricularly in a less structured way.

Spending time outside on a camping trip provided more time for students to interact with each other which included time for fun and enjoyable pursuits which was seen as beneficial for forming relationships. As Glen shared, *“it allows us as well to have time for work and time for play. The play time is always just as valuable as the curriculum time at a camp as far as building relationships and breaking down barriers.”* Camping trips were thought of as offering significant opportunities for relationship-building among students and between students and teachers, as they can provide increased exposure to the different aspects of outdoor learning such as opportunities for teamwork and fun that can contribute to strengthened relationships.

4.2.5 Shared Adversity

The outdoor environment was also described as providing a variety of different challenges that require students to work together and support each other in order to overcome difficulties which as could result in relationships between students growing stronger and more supportive. When talking about the influence of the outdoors on relationships, Edmond shared, *I find it bring the students together. They work much better as a group because of challenges they share. Bring the gear. Rely on each other. Show leadership. Work on interpersonal skills due to being in an environment that we can't totally control.*

The outdoors was portrayed as a setting that presents unpredictability and challenges, which required students to collaborate in solving real-world problems. These authentic and practical outdoor situations not only necessitated problem-solving but also provided students with opportunities to apply their knowledge in a real-world context. Through collaborating on difficult outdoor tasks, students worked together, shared ideas, and collectively tackled challenges, leading to the building of connections and strengthening of relationships among them. As Isaac expressed,

The randomness of the outdoors is also what encourages teamwork and relationship building. On a small scale, when students are faced with difficult real-world problems it often takes discussion and teamwork to solve the problem. They naturally learn from each other and get to utilize their prior knowledge.

The randomness that existed in the outdoor environment also provided regular opportunities to solve actual problems that usually arise. These random and spontaneous challenges required students to work together to solve and overcome them. Isaac explained,

The randomness can be a bit stressful for a teacher because you will be faced with problems that you may not foresee but students are going to be facing these problems and need to learn how to work through it. Students build character more from observation and experience than they do by being told. We can tell students how to problem solve but until they are faced with real problems those skills won't kick in. They are also learning from us, their teachers in times of trouble. When there are unexpected occurrences happening and the teacher is remaining calm and working through the problem in an orderly fashion, the students watching them are learning how to handle stressful situations. The randomness of the outdoors allows students to use their critical thinking skills, work as a team and observe and learn from their teacher.

The opportunities that exist in the outdoors, such as the randomness of challenges and problem-solving, encourage teamwork, support, and relationship building among students. The outdoor setting provides opportunities for students to learn from each other, utilize prior knowledge, and observe effective problem-solving strategies, and can lead to strengthened relationships.

4.2.6 Relationships: Summary

Being outdoors fostered an environment that was viewed as inviting to building and enhancing relationships among students and between teachers and students. In the words of Isaac,

Once you start doing more adventurous outdoor education like bike trips and camping it brings students together through shared experience and getting through adversity. I have never heard a student jokingly discuss how hard a math problem was. I repeatedly hear students discussing a time when one student slipped into the creek while pond dipping. Although that was not supposed to happen in that activity, it did, and the whole group now has a shared positive memory of that day that they go back to repeatedly throughout the year. I brought students camping and it rained the whole time and was freezing so we had to come back early. I thought the camping trip was a huge failure and missed opportunity but two years later, those students talked in their grade 8 farewell speeches

about how much that experience meant to them and shared stories of how they got through it as a team.

Sloane remarked on how they had noticed a diminished impact on relationships due to a reduction in time spent outside.

I noticed a negative impact this past year of COVID as I didn't feel that I bonded with them as much because we were missing fall camping trips. Something about eating with each other and waking up after sleeping around each other. Sitting around a campfire visiting and playing camp games.

In this study, educators harnessed the outdoor environment to create a positive impact on relationships. The diverse interactive situations outdoors made it easier for students to build connections with both their peers and teachers. Additionally, being outside relieved social pressures, benefiting even the more reserved students. Through team-building activities like camping trips and group challenges, relationships among students and between students and teachers were further strengthened. Overcoming difficulties together in the outdoor setting fostered a sense of camaraderie and promoted the development of problem-solving and critical thinking skills. Overall, the unique context of the outdoor environment supported relationship-building and contributed to a more positive and interconnected learning community.

4.3 Engagement

The theme of engagement included subthemes of sparks interest, fun, realistic and relevant activities, and self-propagating. The participants in this study used the affordances of the outdoor environment to encourage and support student engagement in learning. They capitalized on the diverse materials and activities available outdoors, creating an environment that ignited student interest and promoted active participation. The enjoyable and immersive nature of outdoor activities positively impacted student engagement and yielded improved learning outcomes. Additionally, the hands-on experiences with real landscapes and materials provided unique and engaging learning opportunities. As their students became more engaged through outdoor activities, some of them were naturally inclined to independently seek out additional learning opportunities and explorations. The outdoor environment's inherent affordances not only facilitated immediate engagement but also fostered a desire for ongoing learning and exploration. The experiential nature of outdoor learning allowed for a deeper connection with the subject matter, promoting a sense of relevance and personal investment. By

taking their students outside, participants enhanced the overall learning experience, nurturing a sense of curiosity and engagement among their students.

4.3.1 Sparks Interest

The participants recognized that being outdoors provides an abundance of stimuli and diverse experiences that pique students' interest and foster curiosity, ultimately encouraging active engagement in their learning. As Sloane put it, the outdoors,

Sparks interest in learning. With Ks totally get into it. We had a bird make a nest outside of our K classroom and everything that happened outside would naturally turn into a learning unit. Sparked curiosity instantly. The Ks interest and finding stuff outside naturally would guide unit planning. Older kids get solo time and expected to slow down, be observant, write about your experiences, etc.

The outdoor setting was characterized as having many aspects that intrigued and motivated students to be curious and interested in their surroundings and the learning activities. The types of activities encouraged in this outdoor environment engaged students and piqued their interest. Sarah, talking about their students, stressed,

They are engaged and excited to get outside. They love finding things in the environment that we can use for our learning (sticks, pinecones, different types of leaves, etc.) and have really taken ownership over our outdoor learning spaces as they helped to create them.

Being outside also provided students with plenty of opportunities to make connections between learning activities and the real world which also encouraged students to be interested and engaged. Sarah pointed out:

Students are always on the hunt for something that applies to our learning, especially if we have learned it earlier in the year, they are excited to show me things that pertain to it (it shows they are reflecting in their learning and are practicing those concepts when they see it in the outdoor environments we are in).

The outdoor environment intrigued and motivated students, sparking curiosity and actively engaging them in their learning. Students demonstrated excitement and ownership over outdoor learning spaces as a result of the opportunities provided by the outdoor environment, eagerly seeking out connections between their learning and the real world.

4.3.2 Fun

The outdoor setting was viewed as providing more opportunities for students to have fun and enjoy themselves as they participate in the types of activities that are encouraged by being outside. Frank stressed that

There is a huge chorus from all students that I have worked with that the learning is more fun outside. When learning is fun there is more learning. I hear more laughter, see bodies relax, see willingness to cooperate and risk take when we go outside, because they are having fun. The fun is one of the big whys for why all the valuable learning that we as outdoor educators are seeking becomes engaging.

Glen concurred, stating, “*being outside is inherently more fun than being inside a classroom.*”

When participating in learning activities outside, opportunities to take a break and play a game were viewed as more available and more likely as the outdoors provides the freedom of space and from the restraints of the indoor classroom which may cause teachers to stick to the schedule. Glen described that “*while working we often have impromptu breaks for games or other things.*” According to Edmond, “*hands-on projects outside, working with other people I believe are more fun to complete than paper based, desk based, solo work.*” The outdoor environment offered a naturally stimulating and engaging variety of activities and materials, making it more enticing and enjoyable for students. This resulted in making learning more fun and was utilized by the participants to increase student engagement.

4.3.3 Realistic and relevant activities

There were a multitude of opportunities for students to participate in realistic and relevant pedagogical approaches to curriculum when learning went outside. It was identified that the outdoor setting invites students to participate in hands on practical work and provides many opportunities for students to engage in experiential activities. In the words of Marc, the outdoors “*naturally gives students an opportunity to work outside of the idea of pencil and paper by building an outdoor classroom in winter, making bird feeders, or finding materials from outside to build a human skeleton model.*”

Taking students outside of the classroom and into the landscapes that surround the school exposed students to the natural elements like climate, terrain, and structures that are readily available in the natural world. As Cheryl shared, when students were outside, they observed “*landscapes and structure that don’t exist in a classroom. If I need a hill, or the snow, rain,*

etc.” Christina pointed out that the “*natural location of Saskatoon – i.e. the river and parks – allow for areas of the curriculum to be studied outside in the real world (I.e. water unit for science).*” There was so much that was readily available for students to interact with and learn from when they are taken outside as shared by Sarah:

We have many things we are utilizing outside such as adopting a tree, lots of green space to explore, the wetlands nearby, a beautiful learning filled neighbourhood to learn from on wonder walks, etc. that we could not do inside the walls of our classroom. We could talk and talk about nature but actually being out in it and immersing student learning in nature helps students to be engaged, investigate and ask questions, inquire about things they would not be exposed to in the classroom (e.g., last year my students and I did a lot of pinecone work- cold weather makes them close, warm makes them open so they can spread seeds, lady bugs congregate in them in late fall to prepare for winter, students could tell the difference between pine and spruce trees and their cones, etc.)

Students were invited to experience the elements that were present in the outdoors as they learnt about them as compared to just reading or hearing about them.

In leaving the confines of the classroom, students were offered a variety of real-life experiences that may not have occurred inside the classroom. As Katherine described, the outdoors is the

School of real life. When outside of school building, less control of environment. So many unexpected things when outside in the real world. The learning from that is huge. Recognizing that human beings are actual human beings. See the humanity of all. Valuing human life in all its forms. Handling grief and people dying.

When the students were taken outside of the confines of the school, real life, with all its inherent messiness, was present and the students were able to experience it with the participants guidance. As a result of the realistic nature of the outdoor environment, actual problems were created for the students to solve due to the various unknowns that exist outside. Darla shared that the outdoor setting provides the students with the “*unknown and learning how to problem solve that you can’t specifically plan for it. When you are outdoors students get into situations that they have to solve.*”

As mentioned before, much of what occurs in the indoor classroom needs to be planned and prepared by the teacher prior to the lesson. In contrast, the outdoor environment naturally

provided the context for student led discovery learning without preparation or organizing on the part of the teacher as made clear in what Isaac shared,

In science, if you are looking at biodiversity in the schoolyard, I am often impressed with what students come up with. This presents discovery learning that is difficult to recreate in the classroom. It needs to be manufactured in the classroom. There has been a number of times when I am dubious about what learning will even take place when doing different activities outside but most of the time, I am blown away with what students discover, discuss, and are able to take away. It often takes a willingness to jump in and let students explore which leads to some amazing discoveries.

The outdoor environment often surprised educators with the depth of learning, discussions, and takeaways that students can achieve. Embracing a willingness to let students explore led to remarkable discoveries.

The outdoor learning environment provided a realistic and relevant curriculum by offering hands-on, experiential activities that went beyond pencil and paper tasks. Students engaged with the natural elements, landscapes, and structures, experiencing real-life situations and solving actual problems. Teachers were impressed by the depth of student discoveries and discussions and emphasized the need to embrace student-led discovery learning and to let students explore. The outdoor environment offered authentic experiences and opportunities for engagement, investigation, and inquiry that participants felt could not be replicated in the classroom.

4.3.4 Self-propagating

The educators shared that as a result of the students and teachers enjoying and being more engaged in learning as a result of being outside, it would lead them to want to do it more which led to even more enjoyment and engagement forming a sort of self-propagating loop to form. As Sloane shared, *“the more you take your kids outside the more they will encourage and ask to be outside, as they will start to recognize the benefits themselves.”* Although it has been pointed out by authors like van Dijk-Wesselijs et al. (2020) that it can be a challenge and a struggle to start taking students outside for their learning given the logistical and planning issues that need to be dealt with to go outside to learn, once teachers and students experienced the possibilities and potential of outdoor settings, their desire for more was likely to flourish. As Frank shared, *“some students always ask to go outside. It is more fun. It is more engaging. It*

gives them a sense of well-being. As soon as they feel safe out there, they want more.” With persistence on the part of the teacher, the student’s engagement, and desire for going outside snowballed to the point that students began to call for more opportunities to go outside and learn as described by Sarah, “I find my students are excited to be outside and almost expect it for certain times. We do lots of math outside so when we are inside, they ask why. This happens for phys. ed. as well.”

Engaging in outdoor learning increased students' enjoyment and engagement, which led to a self-propagating cycle of wanting more outdoor experiences. The students recognized the benefits and actively requested more opportunities to learn outside. Participants found that once the possibilities of outdoor learning were experienced, the students' enthusiasm and desire for outdoor learning grew, with some even expecting and advocating for outdoor activities in various subjects.

4.3.5 Engagement: Summary

The participants in this study observed that outdoor learning affordances sparked students' interest and fostered curiosity, which led to active engagement in their learning. The outdoor setting provided affordances of diverse stimuli, through natural objects and materials, which intrigued and motivated the students. The students developed a sense of ownership over outdoor learning spaces and eagerly made connections between their learning and the real world. Additionally, the outdoor environment offered more opportunities for fun and enjoyment, which allowed the students to relax, cooperate, and take risks while learning. By taking their students outside, the participants were able to provide hands-on, experiential activities that went beyond traditional classroom tasks, fostered engagement and problem-solving skills. As students experienced the benefits of being engaged in outdoor learning, their desire for more outdoor experiences grew, leading them to actively seek opportunities and expect outdoor learning in different subjects.

4.4 Flexibility

The theme of flexibility included the subthemes of natural manipulatives, creativity, spontaneous, and variety. The participants in this study identified different aspects and affordances of the outdoor learning environment that provided students with a high degree of flexibility in their learning experiences. They referred to the abundant array of natural manipulatives in various shapes and sizes that were available in the outdoors that empowered

their students to gather and utilize them to stimulate their creativity. They also described the outdoors as ever-changing and spontaneous which encouraged them to adapt their learning approaches and embrace new possibilities. With numerous opportunities for self-directed learning available outdoors, the flexible nature of the environment allowed for a tailored and adaptable learning experience that catered to the individual needs of students. The educators in this study utilized the flexibility that was present outdoor to create a learning environment that encouraged exploration, adaptability, and innovation which resulted in their students being empowered to take ownership of their learning.

4.4.1 Natural Manipulatives

The outside environment was found to provide a wide variety of different materials that students gathered and collected on their own as part of the different activities. The gathering process offered students more control over the learning process. According to Sarah,

We have been able to do math outside without bringing any manipulatives because we have so many options outside such as pinecones, sticks, rocks, leaves, etc. to use. You can find math anywhere you look outside and can fit it into all strands of the curriculum.

Preparing for a lesson in a typical indoor classroom can demand significant effort from teachers, especially in younger grades where students often require more assistance. In contrast, outdoors, the necessary materials are readily available on the ground, awaiting collection by the students themselves. As Glen expressed,

Going outside also affords us with spare parts that we can use. We can attempt to build water filters using things that we can find; we could do math or art using things we find. We can go on a hike and talk about wellness and medicine while learning about plants and how they are used.

Flexibility in education emphasizes adaptability and the ability to adjust teaching methods to meet the diverse needs of students. By incorporating natural manipulatives found outside, the educators in this study promoted flexible learning experiences. Their students were able to use these materials to engage in hands-on activities, problem-solving tasks, or sensory experiences. The open-ended and flexible nature of the natural manipulatives allowed the students to use their imagination and explore different concepts in a self-directed manner.

4.4.2 Creativity

In the outdoor environment, the flexible space and larger variety and quantity of available materials was found to invite a creative response from students. This invitation for creativity engaged the whole student as they moved around to discover and innovate. When asked about affordances, Katherine stated, *“Creativity. Materials and creative inspiration are endless. When they can be creatively doing something with hands and bodies a relationship between participants can be formed through that shared experience.”* Inside, students may be crammed cheek to jowl and able to see and pass judgement on each other’s actions and work at any time. For students who are concerned what others may think about them or judge them for possible failures, this proximity may act as a deterrent to being creative and trying new and innovative things. As Frank explained,

I’ve watched students who won’t participate in science classes turn into mini scientists when the activities are outdoors. I see them feel free to mess up and fix it, not worry about the mess, value the learning because it seems more real, and not feel that others can easily see their work and then judge it. Therefore, their creative powers are released to explore.

When in the large open spaces of the outdoors, students are empowered to try new things and be creative without the fear of someone else, teacher or student, looking over their shoulders and criticizing them. In an indoor setting, students can struggle with the space and material constraints that limit their creativity and restricts their willingness and ability to be creative. By going outside, students are provided with as much space and materials to work with as their imaginations generate. The outdoor environment, with its flexible space and abundant materials, provided an inviting platform for students' creativity to thrive by removing the fear of judgment and allowed students to express themselves freely which fostered a supportive atmosphere that empowered their creative potential.

4.4.3 Spontaneous

The participants highlighted how the outdoor environment naturally provided spontaneous learning opportunities, with little to no need for teacher preparation or planning. They emphasized that these opportunities resulted in a more enriching learning experience

compared to the constraints of the classroom setting. Steve talked about the serendipity of being in a place and coming across something that was not planned for,

Serendipitous sorts of things happen outside. We were working on a project on the mayoral election and doing levels of government outside city hall and the mayor happened to walk by and he gave us 30 minutes of his time taking about the job. You have a plan but something or someone comes along and gives a much richer experience and information than anything I could do in the classroom.

According to the participants, these opportunities are seldom found within the school and classroom environment. Unlike the outdoors, spontaneous events and encounters that stimulate discussions and inquiry are not typically encouraged inside. The indoor classroom was portrayed as lacking the dynamic nature of the real world, where people and living creatures can naturally engage students and provoke curiosity. As Isaac shared,

The next affordance the outdoors brings is randomness. Whether you are doing a walk around the block or taking kids camping there is an element of randomness that is present once you leave the classroom. This randomness is what makes much of the learning outdoors, authentic. There have been a number of times that I have taken students walking around the community and noticed something interesting which we could discuss, debate, and reflect on. When we do math outdoors, everything is not uniform. We can find strategies for measuring distance, finding speed, and finding the age of trees. Students are going to be faced with numbers and problems which they would not normally have to deal with when working on a worksheet in the classroom. This randomness forces students to think critically about what they are learning. They may need to come up with strategies and even discuss them with their peers.

Teachers may talk about things that occur and exist in the real world while inside the classroom and even allow students to see it through videos and photos on the internet, but when students are in the outdoor setting, they are invited to experience and see those things for themselves. As Steve stressed, “Experiences happen that can’t be replicated indoors, and they are far better teachers than any lesson. Like having kids on the river canoeing and seeing the garbage floating along.” Instead of seeking to minimize distractions and disruptions, the participants utilized their existence outdoors to create learning opportunities for their students. According to Edmond, what might be considered a distraction indoors can be viewed as an opportunity

outdoors when *“Distractions: become lessons in themselves. Going out and talking about how flowers grow and then hummingbirds and bees go by. Lots of more avenues to go by.”* This can be challenging at times as it calls for teachers and students to be flexible and accepting of complete changes to a previously planned schedules, but opportunities for spontaneous action offer students a large variety of options. Embracing spontaneity and being flexible in adapting to changes in schedules allowed for a wide range of options and can encourage problem-solving skills which mirrors the realities students will face in their lives.

4.4.4 Variety

The participants acknowledged that the natural outdoor environment had a wider variety of activities and things for students to experience throughout the school year. Dave stressed, *“There is a larger variety of things that can be done outside. A variety of materials, places, locations, activities.”* The outdoors naturally changes from day to day and month to month without any input on the part of the teacher or the students. The controlled environment of the indoor classroom stays the same unless the teacher or students take action to make change. This variety of all aspects of the outdoor setting provided an ever-changing set of options to the educators in this study which allowed it to be flexible to the needs of the learners. If one thing is not working, there was usually something else available. As Glen described,

There is simply more you can do outside. You can learn under trees. You can do field work. You can observe. You can actually get close to or touch or experience the things you’re reading about in textbooks. You can get a bunch of pinecones to use as math manipulatives and then after throw them around. There are so many more opportunities for fun things happening.

Inside the classroom, things are only available if the teacher or students has arranged for them to be so. The indoor environment relies on and is limited by what can be thought of and created by the people in the room and by school rules that establish what is permitted. A school has a finite number of rooms that teachers and students can utilize for learning and, aside from their own classroom, most other spaces usually need to be pre-booked if not already reserved by another class. There is no booking calendar for the outdoor environment. If a particular space is occupied, there are plenty of other spaces available that can offer a similar variety of different learning options and outcomes. Sarah shared,

Having multiple types of outdoor areas allows us to switch up our outdoor learning to suit that particular learning need (e.g., playground for math or scavenger hunts, rock and log circles for discussions and lessons, loads of green space to utilize for multiple different learning including walks, investigating science, collecting nature items for art or math, using different spots to do art, etc.)

The variety found in the outdoor learning environment is flexible in that it offers diverse options, constantly changing experiences, and freedom from constraints. The educators were able to adapt instruction to meet learners' needs, utilized different outdoor spaces and accommodated various learning styles. The outdoor environment encouraged flexibility in teaching and learning, supported differentiated instruction and provided dynamic opportunities for exploration and growth.

4.4.5 Flexibility: Summary

The participants in this study observed and utilized the theme of flexibility in outdoor learning through various affordances. Firstly, the availability of natural manipulatives allowed students to have more control over the learning process and engage in hands-on activities across different subjects. Secondly, the flexible space and abundance of materials outdoors sparked creativity in students, enabling them to explore, innovate, and express themselves freely. Thirdly, the spontaneous nature of the outdoor environment provided rich learning opportunities that were often unexpected but highly engaging. Finally, the wide variety of experiences offered by the natural outdoor setting allowed educators to adapt instruction to meet individual needs, explore diverse learning options, and accommodate different learning styles. The flexibility of the outdoor learning environment empowered both teachers and students to embrace new possibilities, foster creativity, and facilitate dynamic learning experiences.

4.5 Risk and Autonomy

The theme of risk and autonomy contained the subthemes of risk, choice, ownership, responsibility, resilience, and confidence. The participants in this study used the risk that was present in the outdoor environment to foster and support the autonomy of their students. In the context of this study, risk was referred to as the possibility of injury, taking on tasks or activities that may involve uncertainty, and the possibility of failure. Autonomy referred to the ability of individuals to make independent decisions and take responsibility for their actions and learning. The educators described that as their students engaged in the diverse aspects of learning

outdoors, they were invited to make choices about the available risks and learned how to manage them. By making these choices and experiencing the resulting consequences, their students developed responsibility, resilience, and perseverance. Moreover, the experience of risk and autonomy in the outdoors empowered their students to build confidence in themselves. Overall, these positive impacts were made possible by the various levels of risk-taking opportunities that were present in the outdoor environment, which the teachers used to create a rich and dynamic learning experience for their students.

4.5.1 Risk

Participants viewed the presence of risk in the outdoor environment as a unique opportunity that offered a diverse range of learning options rarely found in indoor settings. Interacting with structures, living things, and materials outdoors carried an increased risk of potential harm, elevating the level of risk compared to the indoor classroom. This elevation of risk in the outdoors was attributed to the affordance of a larger and more open space, greater freedom, and a wider variety of uncontrollable elements. Despite the existence of risk indoors, the outdoor environment was seen as particularly valuable for students to prepare them for adulthood and life beyond school. As Glen described,

There is very little risk in a typical classroom. Perhaps scissors or too sharp of a pencil? When students are able to go outside, it's inherently riskier, which allows students to push their boundaries and learn how to navigate risk. It could be climbing a tree, or starting a fire, or cooking a meal, swimming in a lake, crossing a playground with a bog monster, etc. Having the opportunity to engage in risk that is supervised and managed for dangers allows students to learn how to deal with it so they're better prepared for after they graduate and are deemed a "grownup" and sent out on their own.

Outside, there was also the risk of being wrong or making a mistake. While this risk may exist indoors to some degree, in the outdoors students were regularly having to make decisions about their actions which offered opportunities to deal with risk at every turn. The risks that existed in the outdoor environment needed to be assessed and managed by both the teacher and the students, which opened the door for more learning experiences. Isaac pointed out that

Risk is an important part of the outdoors. It helps to build relationships by looking out for one another and for students to understand how to assess risk in everyday life. We do risk assessments as a group before we start activities where they pinpoint the biggest risk

factors, and we discuss ways to mitigate risk and what happens when problems arise. These discussions not only make it safer but build confidence in students to deal with issues.

By working together to face the different risks that are present outside, students also strengthened the relationship between them. In the study, participants observed that being outside allowed students to experience and learn from the real-life consequences of their decisions. The types of activities that occurred in the outdoor environment, along with the freedom of action and space that existed, led to a higher likelihood that when students explored outside, they experienced and learned from some type of risk.

4.5.2 Choice

In the outdoors, students were invited and encouraged to make choices on their own, including where to go, what to do, how to position oneself, and how to behave in different circumstances. As Frank stressed, when outside, *“there are so many more choices and options of what and where to engage in whatever you are doing.”* When students have the freedom to decide where to go, what activities to engage in, and how to behave in various situations, they may encounter unfamiliar or challenging scenarios that can carry inherent risks. This autonomy and decision-making in the outdoor environment exposed students to real-life consequences and provided valuable learning opportunities to navigate and manage risk responsibly.

Taking the students outside resulted in lots of opportunities for student choice and autonomy and the larger number of choices that were available, the decisions that students made were encouraged to be more creative. As Frank acknowledged, *“because you have more choices to pick from, you are more likely to see outside the box because you are literally and physically outside of the box of the classroom.”* In addition, the outdoor environment was seen as offering more realistic opportunities to make decisions about concrete things, including possible risks. Frank further explained that *“choices are more relevant outside”* and *“the more outside, the more real risk, the more real choices.”* Through the presence of risk and opportunities to make choices, the students were provided the opportunity to develop their autonomy. Frank outlined, *When you are outside, there is way more at risk and choices are way more relevant. The outdoors naturally leads to autonomy, risk, and choice. Gradual release of control is stronger when used outdoors as your risks are higher and actual and so students take*

them more seriously. Infinity loop. The more outside, the more real risk, the more real choices.

Outdoor learning fostered increased autonomy and risk-taking for students in that the real-world consequences of choices make decisions more relevant, while higher actual risks lead to students taking them more seriously. This created a positive loop, where more time outdoors resulted in more significant choices and increased independence. As the outdoor environment provided a greater exposure to risk for students, they were also given more opportunities to make choices about how to respond to that risk which can result in greater autonomy for students.

Going outside empowered students with increased autonomy and decision-making. The environment's real-life consequences and inherent risks prompted responsible choices and fostered greater independence and decision-making as students spent more time outside.

4.5.3 Ownership

The outdoor setting provided opportunities for students to take ownership of their learning journey. In this environment, students took charge by independently gathering materials and devising their own solutions to various challenges. In the outdoor environment, the options were only limited by the imaginations and creativity of the students and what they could find. This newfound freedom sparked a sense of initiative and curiosity in the students, leading them to actively engage and participate enthusiastically in the learning process. As Sarah shared,

My class has also really taken learning into their own hands and ask great questions for our wonder wall about outside observations, collect allllll (sic) the nature, can use nature for concrete projects (e.g., word wall letters made out of sticks and parts of trees, sharing sticks made out of sticks, bring nature in to observe or observe the same items outside throughout the school year, etc). Our tarmac has been a much-used space as well because the painted lines act as individual learning spaces for the students. It keeps them socially distanced and organized.

It may be difficult to encourage students to self-direct in the indoor classroom because students could interfere in the learning of others due to lack of space in the room and on work surfaces (desks) and because of the challenge in providing enough variety and quantity of learning materials. Outside, there existed as big a work surface as any student could use. If they needed more room, they were able to get up and move to another, larger, space. As mentioned earlier,

there was a large variety of types and numbers of materials and spaces available for students to work with outdoors that allowed teachers and students to go elsewhere to find what they needed.

The sense of ownership and responsibility connected them to the places the student had created which influenced them to be more engaged and involved in the learning that occurred in those spaces. Through the unpredictability of the outdoor experiences that contributed to the student's excitement and curiosity, further reinforced their investment in the learning process and space. As Sarah explained,

We have also set up two different outdoor learning spaces that get the kids excited about being outside and owning their space. Students helped create the space so feel ownership and responsibility towards it. They seem to stay quite focused during outdoor learning activities (I've found with a bigger group this year and still getting routines down, students need reminders during discussions outside but are very engaged in the hands on learning outside) and it is something new every time we are out because you will never know what you will come across!

In the outdoor setting, students were given the freedom to gather materials, devise solutions, and explore their surroundings which fostered a sense of ownership over their learning journey. This ownership empowers students to take charge of their education, make choices, and actively engage in the learning process. The ample space and diverse materials available outdoors further supported student autonomy by providing opportunities for self-directed learning experiences. Their involvement in creating the outdoor learning spaces and the unpredictability of outdoor experiences also encouraged the students to exercise autonomy and embrace the excitement of learning in an independent and self-driven manner.

4.5.4 Responsibility

When learning takes place inside the classroom, teachers may talk about natural consequences for students who make inappropriate choices, but it likely the teachers who are imposing these so-called natural consequences. In the outdoor environment, these consequences to student choices are often provided with no required input from the teachers. The outdoors is not malicious or judgemental, it just is. A student cannot argue with the outdoor environment and complain that they did not deserve the consequences resulting from a faulty choice. Sloane described what the students experienced in the outdoors, *"you do this, you're going to learn the hard way. Real world implications of all their decisions. Kids have to work together to have*

successful trips- meal planning, packing, hauling gear, setting up camp, getting a fire going, etc.” Responsibility was the willingness and ability of the students to take ownership of their actions, decisions, and their consequences. It involved understanding the impact of one's choices and being accountable for the outcomes that result from those choices. The responsibility discussed by the participants encompassed being proactive, self-reliant, and mindful of the effects of one's behavior on oneself and others.

When the students did not take responsibility for their decisions and actions, the outdoor environment provided immediate real-life consequences. Edmond shared an example of this:

Lots more natural consequences. Rainy and wet and you are missing gear. Much more tangible results from your environment. We can't control. Going on a day trip in winter and had poor shoes. They said they were fine. People questioned why we took them. The lesson was so reinforced, they never forgot their gear.

While students can certainly learn and develop responsibility within the confines of the indoor classroom, often under the guidance and encouragement of their teachers, outside, the environment provided the compelling force that encouraged them to take responsibility for their actions and choices. Outdoors, the students possessed greater control over their decisions, and as a result, they had to deal with the consequences that stemmed from their choices.

In the outdoor setting, the inherent risks and opportunities for student autonomy fostered growth in both their responsibility-taking and problem-solving skills. Cheryl emphasized that teachers needed to “*trust in them to do the things that need to be done and be safe*” as this helped the students develop their sense of responsibility. Confronted with numerous novel situations, even the most prepared individuals were challenged, which compelled students to assess and address each circumstance. According to Darla, the outdoor environment introduced “*the unknown and learning how to problem solve that you can't specifically plan for it. When you are outdoors students get into situations that they have to solve.*” When students found themselves in such situations outdoors, they had to take charge and find solutions. These opportunities for autonomy in the outdoor environment ultimately led to the development of responsibility.

The outdoor learning environment, with its inherent risks and opportunities for autonomy, nurtured responsibility in students. Students face real-life consequences for their decisions in the outdoors, which can lead to a deeper understanding of accountability. The

participants used the immediate real-life consequences for students' actions and decisions to help their students internalize responsibility and become more self-reliant and mindful individuals, ready to tackle challenges and make responsible decisions.

4.5.5 Resilience

Experiencing risk and challenges in the outdoor environment was described as supportive for students to develop resilience and perseverance. This ability to overcome challenges, adversity, and setbacks while maintaining a determined and persistent attitude involved facing difficult situations, pushing one's limits, and exhibiting tenacity to continue striving towards goals. By utilizing risk and challenges through outdoor activities, teachers encouraged their students to step out of their comfort zones. When the students faced risks and took calculated chances, they learned to adapt, problem-solve, and persist through setbacks. This gradual exposure to risk helped them build resilience over time. Glen explained:

Being outdoors has also allowed us to much more easily find what I think of as the optimum adversity level. It's tied into the flow idea, but basically, you can find situations that are challenging enough that it almost pushes the group to the brink, but they support each other and persevere through. In the moment, they might not totally enjoy every moment, but AFTER they have a shared story, a shared challenge that they overcame, and I think this does huge things for a group. Think canoe trip through wind, challenging hike, camping in May and it snows. Even building and sleeping in quinzhees or snowshoeing in a challenging area.

Teachers need to balance and manage many factors with regard to risk and autonomy. Providing the right amount of risk can lead to the students growing in resilience and perseverance. Too little may result in little to no growth, but too much can overwhelm students. In challenging situations, students might face moments of doubt or difficulty, but peers often step in to offer support and help them persevere. This teamwork and peer encouragement played a crucial role in fostering resilience. As Glen described,

Camps also allow us to engage in something challenging. Whether it's canoeing or a long hike or bike we always try to engage in something that gets kids to experience what I think of as optimum level of adversity, where it's pretty hard and they want to give up but they make it through and they can be proud. Or they DO give up but a peer helps pull them through it and they're still proud. It's the sort of goals we have for differentiation

and curriculum I think, to push them to their edges so they experience growth, but it's easier to do it in the outdoors, and then we refer back to that perseverance that they had outdoors at camp when they experience hard things academically throughout the year.

The students were deliberately exposed to risks, such as facing difficult situations during outdoor activities, stepping out of their comfort zones, and taking calculated chances. These risks were managed in a way that allowed the students to gradually build their resilience and perseverance over time. The students were given the autonomy to engage in challenging outdoor activities, making choices and decisions while ensuring a supportive and safe environment.

The risk and challenges in the outdoor environment contributed to the development of student resilience and perseverance. By engaging in outdoor activities with the right amount of risk, students learned to adapt, problem-solve, and persist through setbacks. The gradual exposure to challenges helped to build their resilience over time. Teachers need to strike a balance between providing opportunities for growth and avoiding overwhelming students. Outdoor experiences grant students the autonomy to face challenges, step out of their comfort zones, and make decisions, further promoting their resilience and perseverance.

4.5.6 Confidence

As students got to take risks and exercise autonomy choices in the outdoors, they were seen to gain confidence in their own ability to make decisions and solve problems. Engaging in outdoor activities built confidence in students as it allowed them to succeed at small tasks and progressively take on larger challenges. Real-world learning in the outdoors and experiential learning from mistakes furthered fostered their self-reliance and confidence. Facing challenges outdoors encourages adaptability and problem-solving, promoting confidence in tackling new situations. As Steve put it,

The outdoors builds confidence in students. You see students succeed at small tasks, and they move up to larger tasks. The outdoors causes learning to be real world: You did not dress warmly, and it's cold, students learn to dress warmer. No matter how many times I teach layering and being warm they do not learn as well until the kids are cold, then they learn the next time we head out.

First Nations, Inuit, and Métis (FNIM) students were seen to grow in confidence as they engaged in outdoor activities which allowed them to demonstrate expertise and became leaders during excursions and valued helpers in various situations. The experience fostered a cultural

connection and emphasized the diversity of strengths among FNIM students while the collaborative learning environment encouraged a sense of belonging and reinforced their confidence in their capabilities. Leif shared an example:

It (the outdoor environment) provides a platform of confidence for the FNIM students that we have the honor to work with. There are students who we work with that are very knowledgeable in many areas of the outdoors and taking them outside lets them open up and show us their skills. It validates their ways of knowing that has been passed to them from their parents and grandparents, giving a venue and a voice to make connections. These students have become leaders on our excursions and our go to kids when we need help in certain situations - (eg a weak paddler with a strong paddler. carrying a heavy pack or identifying plants that we don't know.)

Engaging in outdoor activities enabled students to succeed at small tasks and progressively take on larger challenges which led to increased confidence. Facing the challenges in the outdoor environment promoted adaptability and problem-solving skills, which encouraged confidence in tackling new situations. By providing opportunities for risk-taking and autonomy, teachers encouraged students to make decisions and solve problems independently which contributed to their confidence.

4.5.7 Risk and Autonomy: Summary

The outdoor environment offered students unique opportunities to engage with structures, living things, and materials, which carried a higher level of risk compared to the indoor classroom. Teachers recognized this elevated risk as a valuable aspect of preparing students for adulthood and life beyond school. By engaging in supervised and managed risky activities, students learned how to navigate risks while developing resilience and perseverance. The outdoor setting provided real-life consequences for students' choices, fostering responsible decision-making and accountability. Students were encouraged to exercise autonomy in the outdoors, making independent choices about where to go, what to do, and how to behave, stimulating creativity and honing problem-solving skills.

In the outdoor setting, students were given ownership of their learning journey as they independently gathered materials and devised solutions to challenges, fostering a sense of initiative and curiosity. Unlike controlled consequences often imposed indoors, the outdoor environment presented natural consequences for student choices, allowing students to face the

outcomes of their decisions without teacher intervention, promoting responsibility and accountability. Encountering difficult situations and pushing their limits in the outdoors helped students adapt, problem-solve, and persist through setbacks, cultivating resilience and confidence.

By utilizing the various affordances and opportunities of the outdoor environment, teachers supported student development in confidence, resilience, responsibility, choice, and ownership, which empowered them to confidently deal with future challenges.

4.6 Freedom

The outdoor environment provided freedom for both students and teachers which teachers were able to utilize in a variety of ways to enhance student learning. The research participants described several features of the outdoors that contributed to this feeling of freedom, including more space and freedom from noise constraints, freedom for teachers in terms of scheduling, judgement, and control, and the freedom for students to move, be different, and explore their hidden strengths and learning styles. These different aspects were the subthemes of the main theme of freedom and combined to create an environment that allowed students and teachers to break free from the constraints of the traditional indoor classroom setting and explore new ways of learning and teaching. The recurring use of the word 'freedom' by participants underscored its importance as a key theme in their outdoor experiences.

4.6.1 Space

The outdoor environment was described as having more available space for both students and teachers. Students were able to freely move around and explore, enjoying the freedom not often found in indoor classrooms. This open environment encouraged a variety of actions and activities that may not be possible indoors and provided unique opportunities for learning and engagement. In contrast, the indoor classroom is often confined by four walls and limited square footage, with desks, tables, chairs, and student materials occupying much of the available space. As Steve put it, the outdoor environment allowed for the *“freedom of being able to explore and not being confined to a desk. Being able to move around and having the space to do that.”* At first glance, this aspect of the outside may seem self-evident. There is typically more physical space outside of the school than in a typical classroom. Even if a classroom was the size of the

gymnasium, there will always be more space outside. Cheryl explained that the outdoors provides “*space. As much or as little as you need - that doesn't exist in a classroom.*”

The outdoor environment offers an abundance of space, which can pose challenges and concerns for teachers and students in terms of risk and classroom management. Nevertheless, it provided the class with all the room they might need. This freedom allowed students and teachers to have time alone when necessary, making it easier to find personal space compared to the indoor classroom. As Frank put it, this space meant that students were “*able to wander off and be by yourself for even two minutes is doable outside. Not so much inside. People aren't watching as closely or paying attention to everyone outside.*” With ample space available, students can spread out across a field, granting the teacher the ability to supervise while allowing students to engage in their own activities. Taking time for solitary moments outdoors, away from distractions and devices, exemplifies this practice, offering both students and teachers a refreshing break from constant interaction with others.

The sub-theme of space in the outdoor environment highlights the affordance of more available space, allowing for increased freedom for both students and teachers. Participants observed that students could freely move around and explore and enjoyed a level of freedom not commonly experienced in indoor classrooms. They noted that the freedom to have personal space and moments of solitude outdoors was valuable for both students and teachers.

4.6.2 Noise

In the outdoor environment, both students and teachers enjoyed increased freedom when it came to noise. Unlike indoors, students need not tightly regulate the amount, content, or volume of their noise. Similarly, teachers don't have to exert the same level of control over their students' noise levels outside, mainly because the likelihood of disrupting other classrooms and staff is significantly reduced. According to Cheryl, “*Students can be free to move and to yell and to act.*” The outdoor environment encouraged students to talk and make noise with each other and on their own without fear of repercussions. Noise in a classroom can make it difficult for students or teachers to work, either on their own or with each other. Noise in the hallways or other parts of the school can disrupt other classrooms.

When students are outside, they are usually in large open spaces and their actions and subsequent noise will not disturb other classrooms and teachers. This meant that talking and even yelling was not a big deal and that students who need to talk or yell could do so without

having to control their behaviors all the time. Frank said simply that the outdoor setting “*allows them to be louder.*” This freedom to be louder means that groups of students can talk and collaborate with each other and be far enough away from other groups, so their talk does not negatively impact their ability to work together.

In the outdoor environment, both students and teachers experienced increased freedom with noise compared to indoors. Students were able to talk and make noise without fear of disrupting others and teachers had less need to control noise levels as they could utilize the spacious outdoor setting to engage students in collaborative discussions without disturbing other classrooms.

4.6.3 For the Teacher

The outdoor environment was described as providing aspects of freedom that were specific invitations for the teacher. There was freedom from the constraints of time and scheduling. There was freedom from the observations and criticisms of other staff. There was freedom from the feeling of needing to control every aspect of a student’s actions and behaviour.

4.6.4 Schedules

The indoor classroom was seen as subjected to an assortment of structures around time and scheduling that can exert external control over the classroom, the students, and the teacher. By going outside of the school, it was possible for a teacher to reduce or even eliminate the influence of clocks, schedules, and even bells from learning activities. As Glen described,

In school, bells are constantly going, announcements, etc. Everything is so hyper structured. Learning outdoors lets you get away from all of that and get into what you’re learning. You can get into the flow of something and stay there and not get pulled out of it by the bells.

When a teacher took their students outside and away from the school for a half day or whole day excursion, schedules and time limits were able to be ignored, and teachers could invite and allow their students to delve deeply into activities and concepts that engaged them. Glen explained,

In outdoor learning it’s easier to get into flow. There’s no bells. There’re no other classes, or other teachers, announcements or school-ey things to deal with. If you need to spend four hours on something because everyone is into it, you can do that and not be constantly interrupted. Students are able to go more deeper into things than they might

otherwise, as it's often hard to reset with them after bells or breaks or whatever distractions.

Outdoor learning environments eliminated typical school distractions which enabled students to focus better on their studies and activities. The uninterrupted learning experience enhanced students' continuous engagement with the material and avoided the need for constant reorientation after breaks or interruptions. The outdoor setting provided opportunities for students to explore subjects more deeply, unrestricted by the confines of the traditional classroom. Taking students outside allowed teachers to eliminate the influence of clocks, schedules, and bells from learning activities and freed them to delve deeply into engaging concepts without constant interruptions.

4.6.5 Criticism

Taking their students outside of the school was characterized as providing freedom from the eyes and possible criticism of other staff members who may not agree with their pedagogical approaches. When teaching inside the classroom, a teacher who used pedagogical approaches different from their peers can be subjected to judgement and criticism either explicitly or implicitly but as Frank explained, going outside provided “*freedom for the teacher. You are no longer bounded by your false sense of what you have to do. Being outside of the classroom allows you to not be concerned with your perceived expectations of peers and admin.*”

By leaving the school and taking their students outside, the other staff are unable to directly observe what is taking place and are usually not present to critique or make comments. As Sloane shared, “*When you are in the classroom it seems like a fishbowl or microscope where everyone is paying attention but when you go outside its much more relaxed.*” The outdoor environment liberated participants from controlling non-supportive teachers and granted them the freedom to use pedagogies they deemed effective. It offered a respite from potential criticism by other staff members which allowed teachers to explore different teaching methods without peer or administrative judgment. This relaxed setting enabled teachers to implement pedagogies freely, unhindered by external scrutiny.

4.6.6 Control

The outdoor setting freed teachers from their classroom management habits of control. Unlike the indoor classroom, the outdoor environment did not lend itself well to maintaining the same level of tight control over students, primarily due to the inherent freedom that prevailed

outdoors which made attempts at tight control challenging. Embracing the outdoor environment taught teachers that they need not rely on the typical type of control commonly used indoors. Instead, nature assumed a more prominent role in guiding the learning experience. In the words of Darla, the outdoor environment *“teaches teachers that you don’t have to have the typical type of control that we are so used to. Nature is in control when you are outside. Allows students to challenge themselves in ways that they wouldn’t normally. Learn new things about themselves.”* Students and teachers were exposed to a different dynamic where nature played a significant role in shaping the educational journey. The outdoor environment encouraged a shift in teaching and learning paradigms and promoted a more flexible approach to education while it fostered personal growth and self-discovery among students.

The outdoor environment provided a more relaxed setting which allowed teachers to approach their work with a different mindset. When clear rules and boundaries are established beforehand, students tended to behave better outside which suggests that providing structure and guidelines can contribute to smoother interactions between teachers and students in the outdoor setting. Sloane shared

I’m not sure I would call it freedom for the teacher, more like it provides the teacher an opportunity to chill out. I find that given well defined rules and boundaries ahead of time and proper scaffolding, students are often much better behaved outside, and so interactions between teachers and students are less strained, less need for control.

As a result of the improved student behavior outside, there was less strain on interactions between teachers and students which could indicate that the outdoor environment inherently reduced the need for strict control measures and fostered positive teacher-student dynamics.

Experiencing the freedom of exerting less control over students while in the outdoor environment was seen as having an impact on a teachers’ practice while inside the classroom. As Frank pointed out, the outdoor environment *“allows you to engage in more critical analysis of our teaching practice indoors. We gave our kids way more control indoors as a result of our own outdoor expectations.”* By contrasting their experiences outdoors with their expectations indoors, teachers can gain valuable insights into their own teaching methods and how they can improve. As a result of granting students more control in the outdoor setting, teachers may become more open to giving students increased autonomy and agency in the indoor classroom as well. By allowing nature to assume a significant role in guiding the learning experience,

teachers were able to free themselves from having to always maintain control over their students which led to a more relaxed and flexible approach to education and fostered personal growth and discovery for both the students and the teachers.

4.6.7 For the Students

The outdoor environment was described as providing aspects of freedom that were specific invitations for the students. Students were allowed to move and position themselves in whatever way they wished without it disrupting or affecting other students. The outdoors offered students freedom from the kinds of structures and expectations that can constrain students indoors. Outside experiences and learning activities were depicted as bringing out students' hidden strengths and allowing for a variety of learning styles to be met.

4.6.8 Physical Positioning Needs

In an outdoor environment, individual physical needs were found to be more readily fulfilled. This includes meeting specific positioning requirements, location preferences, and accommodating the various activities students engage in at any given moment. Unlike the constraints of a classroom setting, where such adjustments might cause disruptions to others, being outside allows students to change positions or locations without significant impact on their peers or the teacher. Frank stressed that

Children feel free to change how they act when they are outdoors. Some of them are louder, softer, aggressive. Can be more like how they want to be. No one is going to tell you to stop if the teacher allows it. Change position constantly so they aren't static in place. You can tear at grass. Pick at a pinecone and tear it apart. Physical needs met more easily without being disruptive.

In the outdoor environment, students enjoyed unrestricted freedom to move and adjust their physical orientation as they pleased, without any disruption to their fellow learners' educational experience. As Frank shared further,

Laying down on the floor indoors is weird. Laying down on the ground outside is awesome. I had a student who had zero self-confidence and saw no value in himself, didn't meet other kids' eyes and didn't invest. He was two years behind the others' maturity level. In the last few weeks, he was lying outside on the grass staring at the sky and relaxing. You could tell from his face he was happy. His typical position outside was to be crouched down with his back in the wall or turtled up and curled up.

Some students have a need to move around and change their physical position frequently throughout the school day. However, accomplishing this in a regular indoor classroom can pose challenges and difficulties. Moreover, such behavior may be perceived negatively by both other students and teachers. On the other hand, when teachers opt to conduct lessons outdoors, these same students were able to freely engage in their preferred movement without encountering significant issues. This outdoor setting allowed them the freedom to meet their physical needs while still being an integral and successful part of the class.

4.6.9 Constraints of School

In a typical indoor classroom, there are several behaviors—such as sitting still, looking attentive, refraining from talking, and taking notes—that are considered indicators of success or attentiveness. However, not all students find it easy to adopt and demonstrate these behaviors. Some students may even struggle to acquire them altogether. Consequently, the rigid behavioral expectations in indoor classrooms may restrict certain students' opportunities for achievement.

In contrast, the outdoor environment was perceived by participants as offering a range of options and allowing students to respond to learning opportunities in diverse ways. The outdoors naturally facilitated differentiation of instruction and learning, enabling a more inclusive and accommodating approach to education. As Katherine articulated,

Student does not see himself as an academic student and struggles with reading, etc. On a camping trip is busy touching and does not seem to be paying attention to the guide. Afterwards, during his written reflection records pretty much everything that was discussed. Opens up their hearts and minds to the material without making them feel that they can't do it. Engages.

Certain students may experience feelings of not belonging and anticipate lower levels of success due to the perception of what constitutes appropriate school behavior. However, the outdoor environment was seen to differ from the indoor classroom setting in its expectations and offered students the freedom to explore a wide variety of possible pathways to success and opportunities to show their strengths and skills. Sloane stressed that,

Especially in kindergarten, it's difficult for little ones (really anyone) to sit still for long. So instead of trying to fit a square peg into a round hole, heading outside provides a bigger 'hole' where all students have the opportunity to thrive.

The outdoor environment offers students the freedom to explore a wide variety of possible pathways to success and opportunities to show their strengths and skills.

The constraints of the indoor classroom are very powerful at influencing the behavior and beliefs of students. For those students that work well within those restrictions, they believe in their ability to succeed and do well. The outdoor environment encouraged those who did not respond well to the indoor classroom behaviour expectations to see themselves as successful. Glen explained,

By grade 8 many students have decided if they're "school" kids or "not school" kids. They have found success at the game or they have not. Being within the walls of the classroom, just being inside the walls, I think solidifies the continuation of that understanding of who they are. Whether they believe that they're smart or dumb or good at math or bad, etc. But once they escape the walls, it doesn't feel like school. So they lose some of the "studenting behaviours" and can act more like who they actually are. Let their guard down a bit, play more, stop feeling like they can never be successful at school, and start feeling like they belong.

The outside had different rules and expectations of behavior from the indoor classroom which encouraged students to try different things and do what they needed to do in order to be successful. As Glen pointed out,

In a classroom, things need to run differently than they can outside. Outside, students can take breaks, they can work with their hands, they can be away from other students that they need to be away from. Students who normally need to be heavily managed in a classroom often take on leadership roles when outside. Students who are fidgety and can't sit still suddenly are in a place where that's ok. Students who are loud are ok to be a little louder because they're outside.

Many of the structures and expectations that can constrain and limit students in the indoor classroom do not exist in the outdoor environment which can free students from the obstructions that have been imposed on their success. The outdoor environment provided freedom and diverse learning opportunities for students which enabled them to showcase their strengths and succeed. It allowed students to shed restrictive behaviors and fostered a sense of belonging. Moreover, the outdoor setting allowed for a more inclusive and accommodating approach to education, where students were able to take breaks, engage in hands-on activities, and be

themselves without the constraints imposed by indoor classrooms. The absence of these constraints in the outdoor environment fostered students' growth, leadership, and overall learning experience.

4.6.10 Hidden Strengths

There was more freedom in the outdoor environment for students to demonstrate and share hidden strengths that they may have that are not readily demonstrated in the typical indoor classroom. The indoor setting can be very monolithic in nature, inviting only a specific set of strengths, usually academic, to be appreciated. As Glen illustrated,

I traditionally have been gifted students in my classes who have some behavioural issues, particularly in the realm of ADHD & ODD. Often these students have been seen by their peers pretty negatively. I've seen opinions of students completely change after spending a good chunk of time outside, where their different ways of thinking have been a huge asset to the class. Often times these students have amazing skills in the outdoors. The first to spot things, to notice movement, to see things that are small and less obvious.

The outdoor environment provided opportunities for these students to shine in ways that may never otherwise have occurred if the class had not gone outside. The opportunities arose because the demands and circumstances of the outdoor environment differ, often significantly, from the indoor classroom and therefore invited a wider variety of skills and abilities to be valued and celebrated. Glen explained further,

Students who struggle are often able to present themselves in a different light. Students who might have been seen as a dead weight in a group (I need a better phrase for that) turn into huge assets. The kid who can't sit still because he notices everything around him, is suddenly the one who can ID everything, or who is amazing at night games. It changes students' perceptions of each other.

There are students whose gifts shone the brightest when outside of the classroom. These students were empowered to share their hidden strengths when the class went outside.

The outdoor environment offered students more freedom to showcase hidden strengths that may not be evident in a traditional indoor classroom. It allowed a wider variety of skills to be valued and celebrated, going beyond the usual focus on academic strengths. Students with behavioral issues have their different ways of thinking appreciated outside, leading to a positive

change in their peers' perceptions. The outdoor setting empowers these students to shine and share their hidden strengths, creating a more inclusive and enriching learning experience.

4.6.11 Learning Styles

The participants described how the freedom that exists in the outdoor environment allowed for a variety of learning styles and learning needs to be accommodated simultaneously. Katherine pointed out,

Kids shine outside: Being outdoors gives kids the space, the air, the freedom to be as noisy, active, enthusiastic as they want without being confined to particular behaviors or expressions as they do indoors. We know we have different kinds of learners. Being outside affords every learning styles. There's space for quiet kids to go off and be by themselves. Space for physical learners to be active. Space for emotional kids to have small discussions. Space for artistic to find stuff and be creative. Good practice is to provide acknowledgement and encouragement for all learning styles. This takes place outdoors and outside of the classroom.

The outdoor environment provided a wide range of materials, locations, spaces, and physical surfaces that freed students to find what fit them and their learning style. The indoor classroom is more limited because there is a limited amount of material that can be located in a typical classroom space and accommodating the different learning styles of students can require a lot of planning and preparation by the teacher. Sloane shared an example of how the outdoors naturally accommodated the needs and learning style of a particular student:

I had a student in kindergarten who had a hard time sitting still and struggled with some impulse control and behaviour issues (I'm talking throwing chairs). But take him outside and he was as sweet as pie. For example, he found a bumblebee that appeared to be struggling and he tried so hard to take care of it, brought it a flower for 'food' and was so gentle when trying to move it to a safe place.

The outdoor setting granted students the freedom to find and work with those places and materials that suited their individual learning styles. Marc summed it up nicely when pointing out that the outdoor environment provides opportunities for a “range of different learning styles of students from enrichment students to those with learning challenges. Outdoor learning environment was a natural equalizer and enricher.”

The outdoor setting provided diverse materials and spaces which empowered students to discover what best suits their learning styles. This natural accommodation of different learning styles is contrasted with the indoor classroom, where accommodating students' needs can be more challenging and require extensive planning. Overall, the outdoor setting acted as a natural equalizer and benefitted students with various learning challenges and enriched the learning experience for all.

4.6.12 Being Different

Finally, the outdoor environment offered more freedom for students to be different from one other. As the outdoor environment varies greatly from one location to another, so do students vary from each other in their looks, behavior, needs, and actions. In the indoor classroom, there is so much that is the same. Each physical room is pretty much like the one next to it. Many classrooms are filled with rows of almost identical desks. Additionally, conventional classroom management approaches based on the desire for control emphasizes conformity of behaviour, so any differences between students becomes readily apparent inside the indoor classroom as Frank explained,

Being different is not as big a deal outside because it is not as noticeable outside as inside. Safer environment for being different. You have the time to walk away. Easier to be emotionally in tune with yourself. You are given more space to be yourself.

Being outside created a safer and more accepting space for students to embrace their differences, as it is less noticeable and allowed them the freedom to be themselves.

4.6.13 Freedom: Summary

The outdoor environment provided freedom to both students and teachers. Through the presence of more available space, students were invited to freely explore and engage in various activities not easily possible indoors. This freedom to move and explore accommodated different learning styles and needs. Moreover, the outdoor setting granted students the freedom to be noisier and engage in conversations without worrying about disrupting others. For teachers, the outdoor environment offered freedom from time constraints, schedules, and the observations of other staff members, which enabled them to be more creative and flexible in their teaching approaches and allowed them to rely less on tight control and embrace nature's influence on the learning process. For students, the outdoor environment provided freedom from strict behavioral expectations in the indoor classroom. Students could freely express themselves, change

positions, and explore activities that suit their needs and strengths. The outdoor setting also supported a variety of learning styles which accommodated students in an inclusive and enriching way. Moreover, being outside allowed students to display hidden strengths that may not have been apparent in the traditional classroom which fostered a sense of belonging and confidence. Overall, the outdoor environment offered freedom for both teachers and students which could be used in a variety of ways to enhance student learning.

4.7 Health

The theme of health contained the subthemes of emotional, physical, and spiritual health as well as energizing teachers. The participants in this study used the various affordances for learning that are present outdoors to encourage and support student health. The outdoor environment was regarded as having a calming influence and capable of empowering emotional health for both students and teachers. This was due in part to the availability of space and the many options for using that space. When outside, students and teachers were encouraged to be more physically active, and students could be inspired to grow spiritually while developing connections to the land and environment. For teachers, the outdoor environment invited them to be more positive, relaxed, and engaged with their students. Participants reported that the emotional, physical, and spiritual aspects of health were all invigorated when students were taken outside.

4.7.1 Emotional Health

Participants described the outdoors as a calming environment that supported students in self-regulation leading to improved emotional health. The outdoor environment offered distinct advantages not easily replicated indoors which positively influenced student emotional health and learning experiences. Students found the outdoors to be a more calming and peaceful space which reduced stress and fostered engagement with learning. Additionally, the affordance of space which supported flexibility of movement and communication allowed students to express themselves freely without disrupting the entire class. The outdoor setting facilitated different learning modes which enabled easy separation and movement of students and accommodated individual preferences for reflection or independent work. As Isaac illustrated,

The outdoors offers affordances that are either difficult or impossible to recreate inside the classroom. ...Many of my students have told me that they enjoy learning outdoors simply because it is a more calm environment. My students who need to move and talk

can do that without taking over the entire class. If I need students to reflect or work solo it is easy to separate and move students.

In contrast, an indoor classroom is typically a room with walls that trap and reflect noise and students may find it difficult to find enough space for their personal needs. Overall, these affordances of the outdoor environment contributed to improved emotional well-being and a more inclusive, supportive, and enjoyable learning atmosphere for students.

The outdoor environment, with its natural elements, was described by participants as having a calming effect on students. It was suggested that humans have a deep-rooted connection to nature that can help students regulate their emotions and find peace during times of chaos. The outdoors provides an effective space for students to practice self-regulation. Allowing students to have solo time in a spaced-out outdoor setting, where they can listen to their thoughts, helped them regulate their emotions and find balance during challenging situations. Isaac pointed out:

I often use the outdoors for self-regulation. Nature is calming, it is in our DNA and sometimes when things are getting chaotic, a little solo time where students are spaced outside with nothing to do but listen to their thoughts is just what they need to regulate. I find this is also a nice use of time after meaningful presentations or learning opportunities before we discuss things to give students some time with their thoughts. Although you can make students sit quietly in the classroom, it does not have the same impact and becomes just the teacher getting on everyone's case. Teachers often see the outdoors as recess or playtime where disorder is the norm, however, paired with consistent routines the outdoors presents an opportunity for a calm and orderly learning environment.

The impact of the outdoor environment on students' emotional health was considered distinct from the indoor classroom setting. Simply making students sit quietly in the classroom lacked the same positive effect as being in the outdoors. In the classroom, it could lead to a negative perception of teachers being strict, while the outdoor setting offered a more conducive and beneficial space for emotional regulation. Contrary to the misconception of the outdoors as a place for disorder, it was indicated that consistent routines and structure could create a calm and orderly learning environment outdoors. This approach supported a positive learning experience and emotional well-being for students.

Teacher participants in this study noted that the outdoor environment facilitated better self-regulation among students. When faced with challenges or agitation within their group, students tended to seek solace in private spaces or take walks to calm themselves. This privacy allowed for effective reflection and refocusing and helped them manage their emotions and return to the group with renewed focus. As Isaac observed:

Students are much more inclined to self-regulate when they are outdoors. If things aren't going well with their group or if they are getting worked up they often go to a place where they are alone or take a walk and it refocuses for when they come back. Although students can do this in the classroom it feels different in that setting. They need to ask permission and often others are around asking what they are doing.

The outdoor environment was depicted as providing a more open and accepting atmosphere for students to regulate their emotions without feeling restricted or observed.

The calming influence of the outdoor environment was identified as also effective for students with behaviour challenges and empowered them to be successful in their learning programs. Sarah noticed, “*my student with higher needs (autistic) is so calm outside and is able to work quite well in our learning spaces.*” The outdoors offered a location that was perceived as calmer by both students and teachers which allows both to be more receptive to the things around them, including the learning. Darla shared that being outside, “*allows us to learn things while being in a place that is calmer, and in a better mindset (mental/spiritual realm).*” The outdoor environment was described as creating a better mindset, encompassing both mental and spiritual realms, which enhanced students' overall engagement and receptivity to the learning process. It was suggested that that the outdoor environment played a role in promoting a sense of peace and well-being which lead to improved emotional health.

When students stepped outside, they found empowerment in acting and learning in ways that best suited their needs for success. The outdoor environment embraced and encouraged various paths to achievement, prioritizing learning over mere behavioral compliance. Being outdoors granted students the freedom to relax and express their true selves without the constraints imposed by indoor limitations. As Frank stressed, “*being outside allowed students to relax and follow their natural ways of being rather than controlling (or not) their behaviour to manage indoor limitations. I see this as becoming and valuing their whole selves.*” As students experienced the empowering influence on self-regulation that the outdoor environment could

provide, it increased the likelihood that students would request more time outside as they recognized and appreciated the success that it led to. Katherine explained,

[Being outside supports] kids being able to manage their energy in ways that bring about their best learning. Starts with the teacher giving direction on how to manage energy but becomes something that they become aware themselves. They feel that they can advocate and have a teacher that follows their lead and self-management. As in kids self-identifying that they need to head outside.

The outdoor environment supported students in managing their energy in ways that optimized their learning experiences.

Participants described the outdoors as a calming space that supported self-regulation and reduced stress among students which led to improved emotional well-being. The outdoor setting provided distinct advantages not easily replicated indoors which created a more inclusive and supportive learning atmosphere. Students felt empowered to act and learn in ways that suited their needs, and the outdoor environment allowed for flexibility of movement and communication which enabled better expression and engagement in the learning process. The participants recognized the outdoor environment as a valuable tool for self-regulation and provided time for reflection which enabled students to manage their emotions and refocus during challenging situations. By promoting self-regulation and offering a calm and peaceful space, the outdoor setting was seen to contribute to students' overall emotional health.

4.7.2 Physical Health

The outdoor setting, with its ample space and diverse range of activities inspired by nature, was seen to serve as a catalyst for encouraging and enticing physical activity among both students and teachers. In the words of Glen, *“especially in Covid lockdowns, lots of students stayed in and played video games a lot. Getting outside for classes allows them to normalize being outside rather than being inside, it gets them active. Even if it’s just walking around.”* While certain activities, such as solo time, may involve staying in one place, almost all other outdoor activities for students required walking from location to location, covering distances greater than those typically found indoors.

The outdoor setting was described as offering opportunities for integration between physical activity and academics that invited and encouraged students who had different learning styles to participate. According to Marc, the outdoor environment allows and offers the

Ability to get out and move . . . We could get outside and move our bodies physically to do other academic things. Got lots of buy in from my various students due to physical component. Wintertime especially lots of physical movement.

The inclusion of a physical component in outdoor learning was portrayed by participants as leading to a higher level of engagement from students. The opportunity to move their bodies during academic tasks enhanced their interest and participation in the outdoor learning experiences. In the words of Cheryl, the outdoors is “*outside of the brain. Being able to sit, stand, move in learning. More availability to make connections and learn better foundational connections.*” This active learning approach in the outdoors provided more opportunities to make connections and establish stronger foundational understandings which led to improved learning outcomes.

Sloane pointed out that time spent outside meant students made “*lots of gains in natural physical fitness. Doing lots of stuff outdoors like biking and hiking. The outdoor learning environment afforded these kids the opportunities. The regularity of being outside and naturally being active leads to improved fitness.*” The outdoor learning environment was described as effective in improving students' natural physical fitness, with time spent outside leading to physical fitness gains. The opportunities provided by outdoor activities like biking and hiking contributed to these positive outcomes. By supporting a more active lifestyle through outdoor activities, the participants positively influenced student physical health.

The participants emphasized the benefits of being outdoors to promote a more active lifestyle. The outdoor environment offered ample space and diverse activities inspired by nature which made it an inviting place for students with kinaesthetic learning styles to participate. The inclusion of a physical component in outdoor learning led to higher engagement from students, as they were able to move their bodies during academic tasks. By providing regular opportunities for students to be active outside, the participants positively impacted student physical health.

4.7.3 Spiritual Health

Teacher participants in this study considered immersion in the natural outdoor environment to be inviting and empowering for the spiritual growth of a students, strengthening the connection between their spirit and nature. Sloane described the outdoors as influencing the “*spiritual aspect. lots of different things outside that are naturally connected to spiritual growth*

and experience. Being still, noticing the living things around you, taking note of the stars in the sky, etc.” Nature provided a space for students to connect with aspects of the environment that promoted spiritual growth and introspection. The act of being still in an outdoor space facilitated a deeper connection with nature and oneself which led to a heightened sense of spiritual well-being.

Sloane also stressed that spending time outside in nature and apart from other people allowed students to get in touch with themselves spiritually:

Anyone who participated in a solo or a mindful moment outside would understand exactly what I am talking about. Given a moment to be still in an outdoor space really fires up all the senses while at the same time centres the spirit, calms your mind and fills your heart.

Having the students engage in solo or mindful moments outside created a deep understanding of the spiritual impact of the outdoor environment. Having them take a moment to be still in nature enhanced sensory experiences while simultaneously centering the spirit, calming the mind, and evoked a sense of fulfillment in the students. Frank explained the deceleration effect experienced when students spend alone time outside,

Aside from the spiritual connection to the land, you stop moving so fast. When you are in nature, everything slows down. In solo time, you can actually distinguish between taste and smell. You become way more physically present which means it releases stress and muscle tension. Increase that focus ability since you don't have information constantly bombarding you.

Being in nature allowed students to escape the constant bombardment of information and stimuli, such as technology and media and everything seemed to slow down which promoted mindfulness and a deeper appreciation for the present moment. These aspects collectively contributed to a more spiritually enriching experience and fostered a sense of tranquility and promoted overall spiritual health for students in the outdoor setting.

As Frank stated, being outside is “*more spiritual in nature. Once you go outside, you are giving them the opportunity to connect to the land. If you don't go outside, they can't do it.*”

The outdoor environment provided a more spiritual experience for students and allowed them to connect with the land and the natural world. Being outside offered a unique opportunity for the

students to deepen their spiritual connection with nature and appreciate the interconnectedness of all living things. Steve described the impact of being outside with students as:

Getting a deeper appreciation for nature and what a person's place is in that when you take kids out canoeing and they see a big body of water that they are going to canoe across it leads to perseverance and his place in the world. When you are outside in the natural world, you find your place. Get to experience that decisions can actually matter.

By taking students outside, participants provided them with the opportunity to develop a deeper appreciation for nature and their place in the world. Being in the natural world empowered students to recognize the significance of their decisions and actions. Experiencing the impact of their choices in nature reinforced the idea that their decisions can make a difference. Books, videos, photos, or web pages might be able to explain the facts and information about the natural world, but these materials may not be able to provide the depth of experience that spending time in the natural outdoors did. These aspects collectively contributed to a more spiritually enriching experience in the outdoor setting which further promoted overall spiritual health for students.

Spending time in the outdoor environment was seen to help students develop a deeper understanding of the need to protect the environment. The direct experience of nature reinforced the appreciation for its beauty and vulnerability which led to a stronger sense of responsibility towards environmental conservation. In the words of Frank, spending time outside,

Helps with the understanding of protecting the environment. Once you bring them outside more and more, it nails home more appreciably that they need to protect the environment that they are in. People don't experience nature normally. Even just sitting outside on the ground having a conversation, changes how you think about the earth. Some of it will be subconscious.

The participant suggested that people don't normally experience nature in their daily lives, and bringing students outside allowed them to develop a greater appreciation for the natural world. It can lead to a shift in how students think about the earth and their place in it which may occur at a subconscious level, as the outdoor environment evoked a sense of interconnectedness with nature and fostered a sense of stewardship for the environment. Katherine felt that it was an

Existential thing. When you are outdoors, you know that you are small and part of a bigger picture. Makes you realize that you have a responsibility to the world. Small and insignificant to the forces of nature. Can also do small things to support and help.

By being outdoors, students gained a deeper awareness of their place in the natural world which encouraged humility and a sense of responsibility. Understanding their role as part of the bigger picture empowered the students to take meaningful actions to support and help the environment, which contributed to a more spiritually enriching experience.

Being outside offered the students a unique opportunity to connect with the land and appreciate the interconnectedness of all living things, promoting a sense of tranquility and spiritual health. According to the participants, the outdoor setting empowered their students to recognize their place in the natural world which contributing to a more spiritually enriching experience overall.

4.7.4 Energized Teachers

The teacher participants described feeling a sense of well-being and improvement when they were outdoors with their students. Sarah explained that *“the mood in my own teaching and learning has changed and I find it is really uplifting to get outside and enjoy the weather and nature.”* The participants reported that spending time outside positively impacted their teaching and learning experiences. Being outdoors was described as uplifting and relaxing, leading to mood improvements. For teachers, going outside allowed them to relax and be more patient with students, which improved their relationships. As Isaac put it,

I like to get outside for at least a period a day. Often, I won't even realize how much I need it until I am outside and feel more relaxed. I feel my expectations and mood change significantly when outside which also gives me an opportunity to build relationships with students.

Going outside, helped the participants feel more relaxed and provided opportunities for building stronger connections with students. The outdoor environment created a supportive atmosphere that allowed them to step away from constant discipline which also fostered better relationships with their students. Glen agreed that by going outside, *“the teacher is allowed to relax a bit, so they don't have to be constantly harping on the same kids. This helps create better relationships.”* The teacher is allowed and encouraged to be more relaxed when outside with students as they can stop concerning themselves with the typical indoor classroom management and control structures that exist inside. Sloane said that going outside allowed teachers to be:

More chill. Find myself way less uptight when I am outside then when inside a classroom. Little noises inside. Less need to control because it doesn't seem necessary.

Kids talking is less frustrating when outside because you aren't cooped up in a small space and its less noticeable.

The participants emphasized that being outdoors provided a more relaxed and less uptight teaching environment compared to the confines of a classroom. The openness of the outdoor space reduced the need for strict control over students' behavior. As Cheryl articulated with regards to being outside,

I can see the spirit of kids better. I am a better teacher and my passion for teaching comes out when I can do project based outdoor learning. I interact and monitor them better in a positive way. If I am at my best, then they are more likely to be learning at their best. Puts me in a better position

It was acknowledged that as the teachers are at their best in the outdoor environment, it positively impacts students' learning experiences. This realization put the teacher in a better position to create an effective and engaging learning environment for the students. Being outside created a sense of well-being and relaxation for the teachers, which uplifted their mood and led to a more energized and effective teaching approach that benefited students' learning experiences.

4.7.5 Health: Summary

The outdoor environment, through the available affordances and other aspects, was identified by participants as having a positive impact on students' emotional, physical, and spiritual health. Emotionally, the outdoor setting was seen as calming and peaceful and supported students in self-regulation and reducing stress. The open space and flexibility of movement allowed students to express themselves freely without disrupting the class, fostering a more inclusive and supportive learning atmosphere. Physically, being outdoors encouraged physical activity among students and teachers. Integrating physical activity with academics led to higher engagement and improved learning outcomes. Spiritually, spending time outdoors facilitated spiritual growth and introspection for students. The natural environment created a sense of tranquility and interconnectedness with nature, promoting overall spiritual well-being. Moreover, the outdoor environment positively influenced teachers' well-being. Teachers reported feeling energized and more relaxed when outdoors with their students, leading to better teacher-student relationships and enhanced teaching experiences. The outdoor environment's unique affordances contributed

to better emotional, physical, and spiritual health outcomes for both teachers and students, creating a more energized and supportive learning environment overall.

4.8 Summing Up Chapter 4

After conducting my analysis of the data collected from participants in my study, I identified six themes that encompassed the various affordances, strategies for harnessing these opportunities, and benefits that the participants observed and identified. The themes included relationships, engagement, flexibility, risk and autonomy, freedom, and health. In the next chapter, I offer a synopsis of the affordances, strategies and benefits based on my findings. In addition, I will discuss the implications of my study for teachers and students, including how the affordances could enhance the learning experience, and I will offer recommendations regarding outdoor learning for teachers, administrators, and others, as well as providing suggestions for future research.

5. SYNOPSIS, CONCLUSIONS, IMPLICATIONS, and RECOMMENDATIONS

5.1 Synopsis and Conclusions

This phenomenological research study sought to answer the question: What affordances for learning have teachers observed in the natural outdoor environment and how have they utilized them to enhance the learning experience? In this research I asked teachers with experience in taking students outdoors for learning, what affordances they observed and utilized in the outdoors as part of their pedagogical practice. These teacher participants addressed my research question as they offered insights into the rich affordances of outdoor environments while revealing how they utilized the affordances to enhance learning experiences that provided benefits for students, teachers, and the learning process itself.

5.1.1 Affordances of the outdoor environment for learning

This study has delved into the affordances for learning that exist in the outdoor environment. The teacher participants highlighted these affordances: (1) expansive spaces; (2) distractions; (3) freedom; (4) real, or found, objects; (5) the dynamic, changeable nature of outdoor landscapes and environments; and (6) inherent opportunities for challenge and risk. By engaging with these affordances, educators can create transformative and captivating learning experiences that extend beyond the walls of the traditional classroom.

5.1.1.1 Expansive Spaces.

One of the key affordances offered by the outdoor environment is the abundance of space. This ample space allowed students to move around freely, exploring their surroundings, and engaging with the natural world which has been corroborated by previous studies (Barrable & Barrable, 2022). It facilitated opportunities for physical activity, encourages curiosity, and promotes social interaction which has been discussed and shown in research (Bjørger, 2016; Barrable & Barrable, 2022). Whether students choose to mingle with their peers or seek moments of solitude, the outdoor environment provided the flexibility to accommodate their individual needs and preferences. Maynard et al. (2013a) also found that the outdoors provided more space for students to move around and explore. Expansive spaces also encouraged students to be more physically active as it requires them to spend more time walking. This simple act of walking not only promoted physical health but also fostered exploration and discovery which was supported in research by Bjørger (2016). As students navigated from place to place, they

encountered new sights, sounds, and experiences, expanding their understanding of the world around them.

5.1.1.2 Distractions.

While the outdoor environment may introduce more distractions than a controlled indoor setting, these distractions should not be viewed as hindrances but rather as affordances and catalysts for learning. By shifting the focus away from individual students as the sole center of attention, the outdoor environment allowed for self-directed exploration and discovery. Students were given the opportunity to observe and interact with their surroundings, engaging with the natural elements and living creatures that spontaneously intrude upon the learning space. These distractions stimulated curiosity, provoked inquiry, and fostered a sense of wonder in the students, leading to meaningful learning experiences.

5.1.1.3 Freedom.

The outdoor environment provided students with a sense of freedom that is often constrained within traditional classroom settings. Fewer limitations on noise and movement allowed for more open communication and collaboration among students. This freedom to engage in open dialogue facilitated the exchange of ideas, the development of critical thinking skills, and the cultivation of effective teamwork. Fiskum and Jacobsen (2013) and Maynard et al. (2013a) emphasized that both students and teachers enjoy greater freedom concerning noise levels. Specifically, when students are outside, teachers can relax their control over noise levels, as the likelihood of disturbing other classrooms and staff is negligible. Furthermore, the outdoors liberated students and teachers from rigid schedules, providing them with the autonomy to make decisions about their learning experiences. By venturing beyond the school's confines, a teacher can potentially diminish or eliminate the impact of clocks, schedules, and even bells on learning activities (Dyment, 2005a; Heintzman, 2009). Taking students outside has been shown to free teachers from their classroom management habits of control (Miller & Twum, 2017; Mygind, 2007; Waite, 2010). Taking breaks and playing games not only rejuvenated students' energy but also promote creativity, problem-solving, and social skills. These moments of respite fostered a balanced and holistic approach to education, nurturing the well-being of students and enhancing their overall learning journey. In an outdoor environment, individual physical needs, ranging from specific positioning requirements to location preferences, and even the student's

physical activities at any given moment, can be more readily accommodated (James & Williams, 2017).

5.1.1.4 Real Objects

Another notable affordance of the outdoor environment is the wealth of objects and materials that are available for observation and interaction. These real and tangible objects inspired hands-on projects and activities that fostered creativity, critical thinking, and problem-solving skills. Students were empowered to select, collect, and organize these objects, promoting a sense of ownership and personalization in their learning journey which has been observed in other studies (Bjørgen, 2016; Fiskum & Jacobsen, 2013). It has also been shared that the outdoor environment offers a remarkable variety of objects, spaces, and environmental conditions for students to observe and engage with. (James & Williams, 2017; Waite, 2010). The flexible nature of the outdoor space allowed for an ever-evolving learning environment. The availability and characteristics of objects and spaces changed from day to day and season to season, providing students with a dynamic and stimulating educational landscape. This interaction with a diverse range of objects and materials nurtured curiosity, sensory exploration, and the development of a deeper understanding of the world and their variety cultivated adaptability, flexibility, and an appreciation for the diverse facets of the natural world. Previous studies have discussed that the outdoors' provision of control over learning materials enables students to customize their learning activities, resulting in increased relevance and higher levels of student engagement (Bjørgen, 2016; Son et al., 2017).

5.1.1.5 Dynamic Changeability.

In the outdoor setting, teachers and students alike experienced a reduced level of control over the environment and what happens within it, which allowed for unexpected occurrences and unpredictability to shape the learning process. Students were exposed to a variety of people, living creatures, and natural objects that spontaneously emerge in the outdoor space (Bento & Dias, 2017; Bjørgen, 2016; Dymont, 2005a). This exposure cultivated adaptability, resilience, and a deeper understanding of the interconnectedness of the natural world. By embracing and responding to these unexpected elements, educators created opportunities for engagement and genuine connections with the environment which is supported by Herrington and Brussoni (2015). Moreover, the outdoor environment encompassed natural elements and landscapes that can change over time and by location, including climate, terrain, structures, hills, rivers, and

bodies of water. These elements offered unique opportunities for experiential learning and personal growth.

5.1.1.6 Challenge and Risk.

Climbing trees, starting fires, swimming in open water, and experiencing various weather conditions meant that challenge and risk was present outside for students, but in a context where teachers provided a supportive environment (Bento & Dias, 2017; Brussoni et al., 2015). These dealings with challenging and risky experiences fostered resilience, self-confidence, and decision-making skills (Brown & Fraser, 2009; Coe, 2017). Open spaces, challenges and risks, and freedom of action and decision-making inherent in outdoor activities promoted autonomy, exploration, and self-discovery (Brussoni et al., 2015; Coe 2017; Glackin, 2016).

5.1.1.7 Affordances: Summary.

The participants of the study identified several affordances offered by the outdoor environment. They recognized the abundance of space for free exploration, promoting physical activity and social interaction. Distractions were seen as catalysts for self-directed learning, stimulating curiosity and wonder. The participants appreciated the freedom from constraints, allowing open communication, critical thinking, and autonomy. They valued the presence of real objects, inspiring hands-on projects and deeper understanding. The dynamic changeability of the outdoors was recognized for cultivating adaptability and resilience. Participants acknowledged the value of embracing challenges and risks under supportive guidance, fostering decision-making skills and self-confidence. Overall, these identified affordances showcase the transformative potential of the outdoor environment, enriching students' learning experiences and nurturing personal growth and connections with the natural world.

5.1.2 How Teachers Utilized the Affordances

The participants in this study recognized the immense value of the affordances of the outdoor environment in enhancing educational experiences and they made it a priority to incorporate outdoor activities into their teaching practices. Teachers seamlessly connected classroom learning with outdoor affordances by: (1) guiding students on walks, (2) supporting students' freedom of expression; (3) arranging overnight camping trips that provided immersive experiences in nature; (4) embracing a student-centered approach allowing students to follow their interests; (5) allowing and supporting students interaction with objects; and (6) engaging in challenging or risky activities with proper risk assessment and management. By utilizing the

affordances they identified, teacher participants facilitated students in taking ownership of learning, while promoting students' personal growth, responsibility, resilience, and a deeper understanding of the natural world.

5.1.2.1 Walks.

Teachers strove to utilize the affordances as a means of establishing a seamless connection between classroom learning and outdoor learning. Utilizing the expansive spaces to simply take students on walks in outdoor environments, teachers encouraged exploration, observation, and inquiry. Walking outside stimulated the senses, nurtured curiosity, and facilitated connections between theoretical concepts and the natural world (Kernan, 2010; Son et al., 2017). This uncomplicated use of open spaces provided hands-on experiences that allowed spontaneous discoveries and serendipitous learning moments (Bjørgen, 2016).

5.1.2.2 Supporting Freedom of Expression.

When outside, the teacher participants allowed students to be noisy, enthusiastic, and less restrained compared to a traditional indoor classroom. This freedom of expression and movement fostered engagement, creativity, and a sense of ownership in the learning process. Furthermore, allowing students to freely move around and change physical locations without comment promoted exploration and hands-on interaction with the outdoor environment.

5.1.2.3 Camping Trips.

Taking students on overnight camping trips was another approach employed by the teachers. These trips provided students with immersive experiences in nature, fostering teamwork, problem-solving skills, and a deeper appreciation for the environment. By engaging in activities such as setting up tents, cooking over a fire, and exploring natural surroundings, students developed self-reliance, adaptability, and decision-making abilities (Autry, 2001; Cooley et al., 2015; Hattie et al., 1997). These trips allowed students to develop resilience, independence, and self-reliance, while also providing opportunities to enhance survival skills and decision-making capabilities within a controlled and supportive setting (Autry, 2001; Christie et al., 2014; Richmond et al., 2018). As part of this approach, teachers also engaged students in preparing meals together by cooking over a fire. This approach not only imparted practical life skills but also fostered collaboration, communication, and cultural appreciation (Autry, 2001;

Goralnik & Nelson, 2017; Richmond et al., 2018). Cooking over a fire connected students to the natural elements and traditional practices associated with outdoor living.

5.1.2.4 Student-Centered Approach.

A key emphasis was placed on allowing students to be curious and take ownership of their learning. Teachers adopted a going with the flow approach, refraining from interfering with the availability of outdoor resources and following the direction that students naturally gravitated towards when outside. This student-centered approach nurtured independent thinking, critical analysis, and a deep connection with the natural world (Lieberman & Hoody, 1998). Teachers embraced the concept of student-led discovery learning. They acknowledged that the outdoor environment had its own inherent lessons and allowed it to guide the learning process. By creating opportunities for students to explore, discover, and make their own connections, teachers fostered independent thinking, problem-solving skills, and a sense of wonder (Waite, 2009; Waite, 2010). This meant that teachers were prepared to take advantage of unexpected moments and allowed them to unfold naturally. They seized these teachable moments and used them to enhance learning experiences. This flexibility and adaptability contributed to relevant and memorable educational encounters (Ruiz-Gallardo et al, 2013; Waite 2010).

5.1.2.5 Student Interaction with Objects.

Teacher participants actively facilitated student interaction with objects in the outdoors. They provided opportunities for students to observe, touch, and manipulate natural objects, enhancing their understanding of the environment (Anuk et al, 2010; Beames et al, 2012). By engaging with these objects, students developed a deeper appreciation for the natural world and strengthened their connection to it (Mannion et al., 2015; OFSTED, 2008). Allowing students to explore and examine natural spaces, as well as the objects and elements they contained, played a central role in the participants' approach to outdoor learning. Teachers had the flexibility to move students to different locations, allowing for exploration of diverse natural environments. This adaptability fostered engagement, curiosity, and a deeper understanding of the natural world (Fägerstam, 2014; Torquati & Ernst, 2013).

5.1.2.6 Challenging or Risky Activities.

Engaging students in activities that were challenging or risky was another focus of the teachers. They provided opportunities for students to step out of their comfort zones and develop resilience. Prioritizing risk assessment and management, teachers prepared students to navigate

challenges safely, promoting responsible decision-making and personal growth. In doing so, teachers encouraged students to take risks, make decisions, and learn from their mistakes. By creating a supportive environment, students developed confidence and autonomy (Mackenzie et al., 2018; Skinner et al., 2012). Teachers understood the delicate balance between providing opportunities for adversity and ensuring that students did not face boredom, frustration, or significant danger of injury.

5.1.2.7 Teachers Utilization: Summary.

The teachers in this study effectively utilized various strategies to harness the affordances for outdoor learning. By prioritizing outdoor experiences, engaging in camping trips, going on walks, preparing meals over a fire, allowing student autonomy, incorporating breaks and games, promoting student interaction with objects, exploring natural spaces, facilitating student-led discovery learning, embracing the unexpected, engaging students in challenging activities, and allowing for risk-taking and decision-making, these teachers created dynamic and enriching learning environments. They balanced the facilitation of optimal adversity with the safety and well-being of their students. Through their efforts, teachers successfully maximized the potential of the outdoor environment, providing students with transformative educational experiences that fostered curiosity, resilience, and a deep connection with the natural world.

5.1.3 Positive Impacts/Benefits

According to the teacher participants in this study, utilization of outdoor learning affordances yielded numerous positive impacts, contributing to the students' development, and enhancing their overall educational experience, holistic growth, and well-being. Notably, the utilization of affordances of the outdoor environment fostered: (1) the development and strengthening of relationships; (2) increased student engagement; (3) student creativity and autonomy; (4) support individual learning needs and nurturing of essential life skills, such as responsibility, resilience, competence, and confidence; and (5) student mental, physical and spiritual health and well-being.

5.1.3.1 Relationships.

The development and strengthening of relationships among students and between teachers and students was a significant benefit observed by the teacher participants. The outdoor environment provided students with ample opportunities to mingle and interact with one another. By taking the students outside, the invitation to work with others occurred and relationships are

improved (Coates & Pimlott-Wilson, 2019; Richmond et al., 2018). When walking outside, students felt more inclined to engage in conversations as they experienced a sense of freedom and fewer constraints compared to the indoor classroom. The existing literature provides support for the notion that activities in outdoor settings promote dialogue and collaboration among individuals (Fägerstam, 2014; Scott et al., 2013). The availability of more space and distractions also encouraged students to speak in front of and with their peers. When outside, natural opportunities for communication and socialization were abundant, contributing to the cultivation of meaningful relationships. Learning activities outside of the school have been shown to increase feelings of belonging and improve relationships between students (Breunig et al., 2015; Condon et al., 2018). Moreover, the outdoor learning experiences resulted in improved relationships between teachers and students. Previous research by Gilbertson et al. (2006) and White (2012) has demonstrated the positive impact of outdoor learning on relationships between students and between students and teachers. As the outdoor setting allowed for more space and freedom, teachers did not feel the constant need to exert control, leading to a more positive and relaxed teacher-student dynamic. The shared experiences during overnight camping trips provided additional time for students and teachers to engage in activities that strengthened their relationships. A camping trip provides more time than might exist in a standard school day to engage in a wider variety of activities that can result in healthy relationships forming between different students in the class (Garst et al., 2001; Richmond et al., 2018). Additionally, the process of solving problems that arose due to the unpredictability of the outdoor environment further fostered collaboration and strengthened connections among students. Experiencing the real-life problems that exist when learning outside not only results in students supporting and learning from each other (Richmond et al., 2018) but also encourages them to work together and collaborate, providing plenty of opportunities to develop and practice strong relationships with each other (Ord & Leather, 2018; Skoutajan, 2012).

5.1.3.2 Student Engagement.

Another observed impact of utilizing outdoor learning affordances was an increase in student engagement. The unique features of the outdoor environment sparked students' interest and curiosity, motivating them to be more actively engaged in their learning. The enjoyable and immersive nature of outdoor experiences contributed to a heightened sense of engagement (Fägerstam, 2014). Students were eager to participate in relevant and experiential activities that

allowed them to explore, investigate, and make meaningful connections. The student-led discovery learning that occurred in the outdoor environment empowered students to take ownership of their learning journey, further enhancing their engagement and motivation. Importantly, the engagement and interest sparked by outdoor learning experiences had the potential to self-propagate, creating a positive cycle of curiosity and enthusiasm for learning. The real-life experience that the outdoor setting invites students to participate in can lead to more attention and enthusiasm than may result from desk work inside the classroom (Smith & Sobel, 2010). Being outside also provided students with plenty of opportunities to make connections between learning activities and the real world which also encouraged students to be interested and engaged (Mannion et al, 2015). Taking students outside of the classroom offers a diverse setting with plenty of opportunities to spark their interest and engage them in learning (Mannion et al., 2015; OFSTED, 2008). Plenty of experiential opportunities outside (Breunig et al, 2015; Gilbertson et al, 2006; Son et al., 2017). Smith and Sobel (2010) indicated that real life events can and will happen outside of our classrooms without the teacher having to make them happen. This offers students real-life opportunities to solve these problems as they arise (Smith & Sobel, 2010). The outdoor environment abounds with opportunities for students to engage in relevant and experiential work with real materials and landscapes, showcasing the affordances available for hands-on, practical learning (Anuk et al, 2010; Beames et al, 2012; Torquati & Ernst, 2013).

5.1.3.3 Student Creativity and Autonomy.

The outdoor environment also had a positive impact on students' creativity. The availability and variety of different materials, along with the freedom and space to make their own choices without judgment, encouraged and nurtured creativity (Coates & Pimlott-Wilson, 2019). The large open spaces provided an empowering environment for students to try new things and be creative without the fear of interference from teachers or other students. This freedom and flexibility allowed students to explore and express their creativity in diverse ways (Davies et al, 2013; Guerra & Glăveanu, 2021). The utilization of outdoor learning affordances also nurtured autonomy in students. The real-life elements present in the outdoor environment offered real-life consequences, fostering the development of essential life skills such as responsibility, resilience, competence, and confidence. By engaging in challenging and potentially risky activities where the possibility of making mistakes or being hurt existed, students learned to overcome challenges and manage risk levels effectively. Most, if not all, of

the affordances present outdoors provided students with opportunities to make choices and take risks, encouraging autonomy and decision-making skills. The outdoor environment also promoted ownership of learning and spaces, allowing students and teachers to explore wherever they desired and utilize available resources as they saw fit (Broda, 2011; Dymont, 2005a). The outdoor environment can offer opportunities for students to exert control over their own created space (Gallay et al., 2016; Ruiz-Gallardo & Valdes, 2013). This sense of ownership connects them to the places they have created which can influence them to be more engaged and involved in the learning that occurs in those spaces (Dymont, 2005a; Richmond et al., 2018). The presence of immediate real-life consequences in the outdoor environment compelled students to develop a sense of responsibility and accountability (Coates & Pimlott-Wilson, 2019; Maynard et al., 2013; Son et al., 2017). The outdoor environment provides opportunities for autonomy which can lead to the development of responsibility (Miller & Twum, 2017; Son et al., 2017). The demands of the outdoor environment have been shown to increase resilience, perseverance, and confidence (Brussoni et al., 2015; Holland et al., 2018. Richmond et al., 2018). It has been shown that participating in outdoor learning activities improves students' self-esteem and leadership skills (Garst et al., 2001; Richmond et al., 2018). The outdoor environment can empower students to improve their sense of confidence in themselves and their ability to accomplish tasks because of the different circumstances to do so that are offered by the outdoors (Richmond et al., 2018). Importantly, these aspects of autonomy were found to carry over to all aspects of students' lives, including their academic pursuits within the classroom.

5.1.3.4 Individual Learning Needs and Life Skills.

In addition, the outdoor environment provided a wide range of materials, locations, spaces, and physical surfaces that catered to students' individual learning styles. The freedom in the outdoor environment naturally facilitated differentiation of learning, allowing students to find what best suited their preferences and learning styles. This freedom also supported a variety of learning needs, ensuring that students could engage in activities that aligned with their strengths and interests. As a result, hidden strengths and talents of students were revealed and celebrated, promoting a positive self-identity and self-esteem. Inviting students who might not conform to conventional school success behavior models to engage in the outdoor environment can foster a sense of belonging and provide them with opportunities for success (Glackin, 2016; Ruiz-Gallardo et al., 2013). According to Glackin (2016) and Ruiz-Gallardo et al. (2013), the outdoor

environment provides students with the liberty to explore diverse avenues towards success, enabling them to showcase their strengths and skills. According to Glackin (2016), the outdoor environment fosters a sense of success in individuals who struggle to conform to the behavioral expectations of the indoor classroom. In the outdoor environment, students had greater freedom to exhibit and share hidden strengths that may not be easily showcased in a traditional indoor classroom setting (Bento & Dias, 2017; Fägerstam, 2014; James & Williams, 2017). The outdoor environment's freedom facilitates the simultaneous accommodation of diverse learning styles and needs (Coates & Pimlott-Wilson, 2019; Lieberman & Hoody, 1998).

5.1.3.5 Student Health.

The outdoor environment also positively impacted students' health and well-being. Emotionally, the open and spacious outdoor environment created a calming atmosphere that promoted self-regulation. Fägerstam (2014) argued that the outdoors offers a calming environment where students can learn. It also provides multiple opportunities for self-regulation (Dillon & Dickie, 2012). Spending time outside in nature has been shown to improve a person's self-regulation (Bowen & Neil, 2013; Wang, et al., 2018). Students were able to experience a sense of serenity and tranquility in nature, which positively influenced their behavior and attitude towards learning. It has been found that student behavior and attitude improve when they participated in outdoor learning activities (Chawla, 2015); Dymont, 2005a; Ruis-Gallardo et al., 2013). This improved behavior has been found to continue when students move into the indoor classroom (Dymont, 2005a). Being exposed to nature has been found to improve a person's mood and emotional health (Fügen & Breitenbecher, 2017; Zelenski & Nisbet, 2014). Additionally, the outdoor environment provided multiple paths for learning and success, accommodating various learning styles and preferences. Students became more physically active due to the ample space and the types of activities supported by the outdoor environment (Harrington & Brussoni, 2015). Due to the necessity of physical activity to experience and utilize various aspects of the natural environment, it creates a recurring loop where the natural environment continually encourages physical activity, making it challenging to be outdoors without engaging in physical activity (Dave et al., 2009; Godbey, 2009; Vries et al., 2011). The outdoor environment has been shown to provide natural connections between physical movement and academic learning for students who are kinaesthetic learners (Harun & Salamuddin, 2013; Son et al., 2017). It has been shown that the availability of natural outdoor

spaces can lead to more physical activity and improved health outcomes (Coombes et al., 2010; Dave et al., 2009). Engaging in outdoor experiences allowed students to connect with the land, themselves, and others, contributing to their spiritual well-being. Mayer et al. (2008) found an improvement in spiritual health occurred because of exposure to nature. Spending time in nature and reconnecting with the land allows people to reconnect with “themselves and each other” (Gass, et al, 2012, p. 95). Importantly, the outdoor environment offered students the opportunity to be alone and spend time in solitude, which can be challenging to achieve indoors. Solitary time outside free from noise, conversations, or expectations has been shown to enhance spiritual growth (Heintzman, 2009). This solitude in nature fostered introspection, rejuvenation, and a deeper connection with oneself and the environment. The outdoor environment has been described as important for students to be able to connect with the land and nature around them (Greenwood & Leeuw, 2007; Hentzman, 2009). Lastly, the teachers themselves experienced improved health outcomes through their use of outdoor learning affordances. The revitalizing effect of the outdoor environment positively impacted teachers' well-being, re-energizing them and promoting a sense of fulfillment in their teaching practices. Spending time outside with students has been shown to help teachers relax and result in them feeling happier and more fulfilled (Maynard et al., 2013; Powers, 2004; Ruiz-Gallardo, et al., 2013; Smith & Sobel, 2010).

5.1.3.5 Impacts: Summary.

The teachers' use of outdoor learning affordances highlighted in this study had numerous positive impacts on students. It facilitated the development and strengthening of relationships, increased student engagement, nurtured creativity, promoted autonomy, and enhanced students' health and well-being. The outdoor environment provided a rich and transformative educational experience that empowered students, celebrated their individuality, and fostered a deep connection with nature. By harnessing the affordances of the outdoor environment, the participants in this study created an engaging and holistic learning environment that supported student growth, curiosity, and overall academic and personal development.

5.2 Limitations

There are some potential limitations to this study. My subjectivity as the researcher is a potential limitation. My personal beliefs and experiences may have influenced my interpretation of the data, and my own background and experiences may impact my understanding of the phenomena being studied. I have extensive experience in the area of outdoor education and have

my own thoughts and opinions on what affordances exist in the outdoor learning environment and how to utilize them to positively impact students and their learning. That being, I do not feel that these experiences changed or modified the data analysis and interpretation. My goal with this research was to find out how the teachers who participated had utilized the affordances for learning in the outdoor environment. Another limitation of this study is that I had prior familiarity with all the participants. This pre-existing relationship could have influenced the participants' descriptions, leading them to assume that certain details were already understood or implicitly communicated based on previous conversations. As a result, the participants may not have provided as explicit or detailed descriptions as they would have otherwise. This familiarity between myself and the participants may have influenced the level of depth in the participants' responses. In addition, all of my participants were from Saskatchewan which means that the affordances identified and ways of using them are potentially specific to that geographical area. Potentially, this could mean that the findings may not be transferable to other locations. The in-depth description of the outdoor environments, the affordances, and the different ways that the participants utilized the outdoors to enhance student learning all provide valuable insight into what the participants experienced and allows readers in other locations to see the similarities and differences in their situations potentially providing insights and pathways forward for their own teaching practice. Despite these limitations, there are several implications of this research.

5.3 Implications

The availability of various affordances in the outdoor environment has significant implications for teachers and their teaching practices. Affordances are opportunities that the environment provides for action, and in the case of the outdoor environment, these opportunities can be harnessed by teachers to facilitate a range of learning experiences and outcomes for their students.

One of the key implications of the availability of affordances in the outdoor environment is the potential for increased student engagement. The outdoor environment provides a diverse and stimulating setting that can spark students' curiosity and interest in learning, leading to increased engagement in the learning process. The real-life experiences and hands-on activities that are possible in the outdoor environment can also be more engaging for students than desk-based work in the classroom, leading to improved learning outcomes.

Another implication of the availability of affordances in the outdoor environment is the potential for positive relationship development among students and between students and teachers. The outdoor setting can provide opportunities for students to work together, solve problems, and support each other if teachers use these affordances in ways that may not be possible in the classroom. This can lead to stronger, more positive relationships between students and between students and teachers, which in turn support better learning outcomes. This research suggests that outdoor learning can improve relationships between students and teachers, facilitate social and emotional development, support diverse and inclusive learning experiences, reduce stress and pressure, promote collaboration and teamwork, and connect students with nature and the environment. These positive impacts of teachers using the affordances available in the outdoor environment may be particularly important in today's educational context, where students face a wide range of challenges, including academic pressure, social isolation, and environmental degradation.

In addition to improved relationships, is the idea that outdoor learning environments can support more diverse and inclusive learning experiences for students. Traditional indoor classrooms often constrain the types of interactions and experiences that are possible, limiting the ways in which students can learn and engage with each other. In contrast, outdoor learning environments can provide opportunities for a wider range of interactions and experiences, including physical, social, and cognitive activities. This can support the development of more diverse and inclusive learning experiences, which can be beneficial for students who may struggle in traditional classroom settings.

An additional implication of research on outdoor learning affordances is the idea that outdoor learning can promote collaboration and teamwork among students. In today's globalized and interconnected world, it is increasingly important for students to be able to work effectively with others to solve complex problems and achieve common goals, particularly climate change, mental health challenges, and the Truth and Reconciliation Commission's calls to action. Outdoor learning environments can provide opportunities for students to collaborate and work together, which can support the development of important 21st century skills such as problem-solving, communication, and critical thinking.

Finally, research on outdoor learning affordances has implications for the role of nature and the environment in education. Many students today have limited opportunities to connect

with nature and the environment, which can have negative impacts on their physical, mental, and emotional well-being (Driessnack, 2009). Outdoor learning environments can provide opportunities for students to connect with nature and the environment, fostering a sense of stewardship and responsibility for the natural world. This can support the development of environmental literacy and other important skills and values that are essential for responsible citizenship in the 21st century.

Overall, the availability of affordances in the outdoor environment presents possibilities and has implications for teachers and their teaching practices. By taking advantage of the opportunities provided by the outdoor environment, teachers can facilitate a range of learning experiences and outcomes that are engaging and improve the relationships between students and staff and students. These implications address present-day challenges and can create meaningful and impactful learning experiences for students.

5.4 Recommendations: Supports for Teachers

For teachers to be able to take students outside to take advantage of the affordances that exist in outdoor learning environments, they need support from policy makers, including school administrators, parents, school boards, and provincial governments.

To ensure the successful integration of outdoor learning in education, pre-service teachers in university need comprehensive courses and training that equip them with the necessary knowledge and skills to make the most of the affordances provided by outdoor learning environments. These courses should focus on various aspects, including understanding the potential benefits of outdoor learning, addressing safety and risk management concerns, planning and implementing outdoor learning activities, and effectively utilizing diverse materials and resources in outdoor spaces. Pre-service teachers need to be familiar with best practices for outdoor learning and be trained to collaborate with school leaders, parents, and community members to foster a culture that values and supports outdoor learning. By providing pre-service teachers with the necessary support and training, they will be better equipped to create engaging and meaningful outdoor learning experiences for their students.

Teachers need access to outdoor learning spaces. This might include, for example, nature trails, parks, gardens, or outdoor classrooms. These spaces, while not risk-free, should be safe and conducive to learning by providing diverse materials so students can engage in a variety of activities. Teachers also need access to appropriate equipment for outdoor learning activities.

This might include outdoor clothing, camping gear, sports equipment, and art and science supplies. Having the right tools can help teachers to facilitate engaging and meaningful experiences for students in the outdoors.

Teachers need supports to learn how to plan and implement outdoor learning activities. This might include professional development on best practices for outdoor learning, as well as guidance on how to address potential challenges or safety concerns. Teachers also need support from school leaders and other stakeholders to promote collaboration and knowledge sharing among teachers, parents, and community members to foster a culture of outdoor learning. This can include organizing events and workshops that showcase successful outdoor learning practices, sharing resources and best practices, and creating networks for teachers and educators to collaborate and share ideas.

Teachers also need the support of parents and the community to ensure that outdoor learning is valued and seen as an essential part of education. This could include involving parents and community members in outdoor learning activities or promoting the benefits of outdoor learning to the broader community. Policy makers can revise school policies and guidelines to support outdoor learning and ensure that they align with provincial regulations and standards. This can involve updating curriculum to include outdoor learning opportunities, revising risk management protocols, and providing guidelines for scheduling and logistics.

The success of outdoor learning relies heavily on support from school administrators, board members, and government policy makers in order for teachers to be able to take students outside to utilize the affordances that exist in outdoor learning environments. This support can come in the form of outdoor learning spaces, appropriate equipment, and professional development opportunities. They can also promote collaboration and knowledge sharing to ensure that outdoor learning is valued and integrated into education. This can be achieved through revising policies and guidelines, updating curricula, and providing resources and guidance to teachers. By taking these steps, policy makers can facilitate meaningful outdoor learning experiences for students and improve academic outcomes and physical and mental health.

5.5 Recommendations: For Future Research

Based on the research finding presented, I have several recommendations for future research in the area of outdoor learning and affordances. It would be valuable to conduct

additional research to confirm and expand upon the six themes identified in this study. This could include conducting a larger study with a more diverse sample of teachers and students to better understand the relationship between outdoor learning and these affordances.

A recommendation for future research on outdoor learning could be to conduct dedicated studies on the three topics that have garnered significant attention in contemporary educational discourse: Truth and Reconciliation, Climate Change Education, and Mental Health. Each of these areas holds immense importance and is connected to outdoor learning, but they require comprehensive exploration due to their profound and complex nature. A specialized investigation into Truth and Reconciliation could delve into historical injustices, colonialism, and the process of healing and reconciliation within the context of outdoor education. Climate Change Education research could encompass interdisciplinary aspects, such as science, policy, and societal implications, to understand how outdoor learning can effectively address climate change challenges. Similarly, a focused study on mental health and outdoor learning would delve into the multi-faceted nature of mental health concerns and explore how outdoor settings can provide specialized attention to promote well-being.

Future research could also explore the ways by which outdoor learning makes use of the various affordances. For example, research could examine the specific activities and experiences that contribute to the formation of stronger relationships, increased engagement, flexibility, risk-taking and autonomy, freedom, and improved health. It would also be useful to conduct research on the long-term effects of outdoor learning on students. This could include studies that track the progress of students who have participated in outdoor learning programs over time, in order to understand the potential long-term benefits of these experiences. This research could provide valuable insights into the ways in which outdoor learning can support student learning and development and could inform the design of effective outdoor learning programs and initiatives.

5.6 Conclusion

In conclusion, this phenomenological research study has shed light on the myriad of affordances offered by the outdoor environment for learning. The exploration of these affordances, including open spaces, distractions, freedom, reduced control, objects, dynamic nature, and challenges, has revealed the transformative potential of outdoor settings in education. By harnessing the power of outdoor learning, educators can create holistic learning experiences that go beyond the confines of traditional classrooms. The strategies employed by participant

teachers, such as camping trips, nature walks, communal cooking, and a student-centered approach, further exemplified the effectiveness of utilizing outdoor affordances. These strategies fostered engagement, skills, and an appreciation for the natural world that promoted resilience, curiosity, autonomy, and critical thinking. Moreover, the benefits of outdoor learning environments identified by the participants, such as improved peer relationships, enhanced engagement and creativity, personalized learning, physical health, and emotional well-being, highlight the holistic impact of learning in nature. Overall, outdoor learning environments offer valuable opportunities for academic and personal growth, benefiting both students and teachers alike. The outdoor environment is a powerful and transformative learning space that provides affordances for students and teachers. The numerous opportunities for exploration, engagement, and discovery offered by the outdoors create an environment conducive to relevant, holistic, and meaningful learning experiences. By harnessing the affordances of the outdoor environment, educators can cultivate curiosity, critical thinking, collaboration, and a deep connection to the natural world. As educators embrace the potential of the outdoors, they can unlock a world of possibilities, enriching the educational landscape and nurturing the growth and development of their students.

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APPENDIX A: Recruitment Email

Hi

I have finally received ethics approval for my research project regarding Using the Outdoor Environment to Support Learning. I am writing you this email to see if you are interested in being a participant in this research. I am hoping to have as many of the participants in our outdoor learning collaboration meetings be involved in this research project as possible with the final outcome being an e-book that is available to anyone who is interested in outdoor learning.

The research format will be a multiple case study with each of the participating teachers representing a case. The data gathering can take whatever form you would prefer including:

- a) You filling out as much or all of the outline with jot notes and sharing it with me.
- b) Online Zoom interview with me taking notes and filling in the outline together.
- c) In person interview with me taking notes and filling in the outline.
- d) Any combination of the above or some other format that you suggest.

Just to be clear, there will be lots of collaboration on the outline between you and me. As we move through it, I will compile your responses and submit them back to you for further clarification and detail as needed.

I do not want to make a bunch of extra work for you. I feel that your experiences in creating and leading outdoor learning opportunities for your students at school would be valuable for teachers out there looking at taking their students outdoors. Anything that I can do to make the collection and sharing of this information easier, please let me know.

I have included a copy of both the mind map and word document outline of the case study topics. This is not a static document. As I go through it with the different participants, it is possible that other areas of information might come forward and we could look at those together.

If you are willing, could you email me back your reply, either in the affirmative or negative, by May 3rd? That way I can start to plan our way forward in the data collection process.

Thanks
Chris Clark

APPENDIX B: Interview Guide

Outdoor Learning Interview

Background in the outdoors

How long

Typical activities

Teaching Background

How long

Typical grade & subjects

Teaching Description

location(s)

grade level(s)

subject(s)

program?

How did you come to use outdoor learning in your teaching practice?

What got you to go outside with your students? What did you need in order to take those first steps?

Affordances

Affordances are things that allow someone to do something that they might not have been able to do without it. They act as an encouragement for other things to occur. They allow and even encourage things to happen that may not have happened otherwise.

What have you seen as affordances for learning in the outdoor environment?

How have you utilized and leveraged the outdoor environment affordances?

Benefits

What have you seen as benefits of outdoor learning with your students?

What do you think has led to those benefits?

Impacts

What positive and/or negative impacts on learning in an outdoor environment have they observed and experienced?

Supports

What supports have you received that encouraged you to utilize the outdoor environment.

What do teachers say they need most to support them in using the outdoors for learning?

Barriers or Challenges

What barriers or challenges have they experienced? What potentially kept you from going outside with students?

Personal

Professional

Systematic

How have they overcome these barriers and/or how have they seen others overcome them?

Risk Management Structures

How do these work?

Why do you use them?

Classroom management structures

How do these work?

Why do you use them?

Equipment

What equipment do you suggest that your students have in order to effectively participate in outdoor learning activities?

Learning Activities

How do you do outdoor learning with your students?

What are some activities that you do with your students in the outdoors?

APPENDIX C: Participant Consent Form

You are invited to participate in a research study entitled: Using The Outdoor Environment To Support Learning

Student Researcher(s): Christopher Clark, Doctor of Philosophy Student, Educational Foundations, College of Education, 306-966-7514, cdc127@mail.usask.ca

Principal Investigator/Supervisor: Lynn Lemisko, Educational Foundations, College of Education, University of Saskatchewan, Phone: 306-966-7658, lynn.lemisko@usask.ca

Purpose and Objective of the Research:

The purpose of this study is to identify how educators can and do utilize the affordances of outdoor learning to help their students experience the positive impacts of the outdoor environment.

Procedures:

Teachers who are interested in outdoor learning will be interviewed for the purpose of finding out how they perceive and utilize the outdoor environment in their educational pedagogy. The participating teachers are being recruited from across the province of Saskatchewan.

You are invited to participate in a set of data-gathering events between April 1, 2021 and October 31, 2021. You will be invited

To participate in a set of collaborative interviews between yourself and the researcher to gather the specific data regarding your individual outdoor learning case that is anticipated to take between one to three sessions of thirty minutes each.

To participate in one to two focus groups to discuss and share your thoughts and ideas about outdoor learning in a collaborative discussion with other participants that will last one hour.

The interviews and focus groups will be conducted through the online collaboration platform Zoom and be recorded so that the video can be transcribed. The transcription of the video will be provided to the participants, so they have a chance to review them and make additions and deletions as they see fit. Pseudonyms will be used to identify all people and schools that may be mentioned in the transcripts.

Participants can turn off their device's camera during the interview or focus group discussions if they would prefer not to be video recorded.

The recordings may be transcribed by a third-party transcriber who would be employed to do so. The third-party transcriber is a professional medical transcriptionist who will maintain confidentiality.

Please feel free to ask any questions regarding the procedures and goals of the study or your role.

Potential Risks:

There are no known or anticipated risks to you by participating in this research. You have full and voluntary control over whether or not you participate in the interviews and focus group discussions and can withdraw at any time.

Potential Benefits:

Your participation will provide pathways and pedagogical approaches for other teachers to utilize the outdoor learning environment with their students.

Confidentiality:

The data from this research project will be published and presented at conferences; however, your identity will be kept confidential. Although we may report direct quotations from the interview or focus group discussions, you will be given a pseudonym, and all identifying information will be removed from the transcription, papers and presentations.

The interviews and focus group discussions will be transcribed as soon as possible following the event. Prior to analysis of the transcription, you will be given the opportunity to review the transcript and to add, alter, or delete information from the transcript as you see fit. You will be asked to return any revisions four weeks after receiving a copy to review. If no revisions are received within the four weeks, the data will be used as is.

As part of the interview process, the data gathered will be entered into a mind map or outline form based on the participants preference and then be made available with the transcript to be considered and edited at their convenience.

As researchers, we will undertake to safeguard the confidentiality of the focus group 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. Because teachers who work together in the same school division will be together in the same online meeting room for the focus group discussion it is not possible to guarantee the anonymity of the participants in the focus group from each other, despite the use of pseudonyms in the transcription.

Please note that although we will make every effort to safeguard your data, we cannot guarantee the privacy of your data, due to the technical vulnerabilities inherent to all online video conferencing platforms.

As a participant, you agree not to make any unauthorized recordings of the interviews or focus group discussions. The researcher cannot guarantee that all participants will refrain from recording the focus group discussions.

The researcher will be conducting the videoconferences in a private area of my home that is not accessible by individuals outside of the research team during the data collection. It is recommended that the participants do likewise.

For information regarding Zoom's Privacy Policy, please refer to <https://zoom.us/privacy>

Storage of Data:

The video recordings will be initially stored on a password-protected computer during analysis and moved to the password protected University of Saskatchewan OneDrive cloud drive.

After five years, the data will be electronically deleted and destroyed beyond recovery.

Transcripts and consent forms will be stored in a locked filing cabinet in Lynn Lemisko's locked office on campus.

After five years, the transcripts and consent forms will be shredded and destroyed.

Right to Withdraw:

Your participation is voluntary, and you can participate in only those discussions that you are comfortable with. You may withdraw from the research project for any reason, without explanation or penalty of any sort.

With the focus groups discussions, you may leave the group meeting at any time; however, data that have already been collected cannot be withdrawn as it forms part of the context for information provided by other participants.

Follow up:

To obtain results from the study, please email either of the researchers at the addresses listed at the top of page 1.

Questions or Concerns:

You are invited to contact the researchers using the information at the top of page 1, or:

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.

Continued or On-going Consent:

As indicated, this research involves multiple data gathering events over time. To ensure that we have ongoing consent from you regarding your willingness to continue to participate, we will provide you with an information sheet that is taken from this consent form as a reminder of the confidentiality issues that have been explained, that your participation is completely voluntary and that you have the right to withdraw at any time.

Use of Previous Conversations

I give permission for comments I made in previous conversations to be included in this research.
YES ____ NO ____

I give permission for the researcher to use in this research information from previous conversations that may identify me. YES ____ NO ____

Oral Consent:

I read and explained this consent form to the participant before receiving the participant's consent, and the participant had knowledge of its contents and appeared to understand it.

Name of Participant

Researcher's Signature

Date

Consent:

[Your signature below indicates that you have read and understand the description provided.]

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.

Sept 1, 2021

Name of Participant

Signature

Date

Sept 1, 2021

Researcher's Signature

Date

A copy of this consent will be left with you, and a copy will be taken by the researcher.