

DEVELOPMENTAL BENEFITS OF PLAY ON A NATURAL PLAYGROUND

by

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Children are spending less time outside in nature (Gray, et al., 2015; Louv, 2008). The purpose of this project is to provide the research and rationale on the importance of providing young children with the opportunity to play outdoors on a natural playground. The guiding question for this project is: How does play on natural playgrounds vs. traditional playgrounds contribute to the holistic development of young children? In the literature review, I draw on recent research in the fields of outdoor play, child development, and the comparison of these two elements on natural vs. traditional playgrounds. I then created a PowerPoint presentation as well as a brochure which provides educators, administrators, and parents with a review of the current research on the importance of play on a natural playground as it aids in the cognitive, social-emotional, physical, and spiritual development of young children. The PowerPoint presentation is going to be presented to the Parent Advisory Committee to inform them of the benefits of play on a natural playground aiding in the design and implementation of a new playground for our school.

Keywords: outdoor play, natural playground, natural playscape, loose parts

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Developmental Benefits of Play on a Natural Playground

Chapter One

Introduction

Since the 19th century, there have been many movements guided by research and world events that have led to the evolution of playgrounds. Developmental playgrounds, outdoor gymnasias, sand gardens, model playgrounds, junk or adventure playgrounds, novelty or imaginative playgrounds, and most recently a focus on integrated playscapes (Frost, 2012; Frost, 2006) with the return to nature at the forefront (Fjortoft, 2004).

At its most basic, a natural playground is defined as an outdoor area where children play with natural elements. These natural elements include things such as the rocks, sand, water, and plants (British Columbia Recreation and Parks Association, 2015; Kuh, Ponte, & Chau, 2013). Many adults may remember the days of their childhood when they turned to nature to play: climbing on a rock, walking along a log, crawling through a bush, building a fort, or playing in the sand box. In the last decade, the reduction in children's interactions with nature has brought forth the importance of creating natural play environments (Fjortoft, 2004; Louv, 2008). In the literature, nature playgrounds are referred to by many names: natural playground, discovery play gardens, outdoor play space, naturescape or playscape (BCRPA, 2015). Some have defined natural playgrounds as a space which integrates natural components, naturally occurring or placed, such as: hills, trees, shrubs, sand, logs, and waterways and provide the children with open-ended, physically challenging, and unstructured play opportunities (Fjortoft, 2004; Hamarstrom, 2012; Herrington, Lesmeister, Nicholls, & Stefiuk, 2007; Luchs & Fikus, 2013). Others define a natural playground as a naturally occurring space such as a field, stream, vegetation, or forest where physical activity and imagination leads to the use of these natural elements (BCRPA, 2015; Fjortoft, 2001). Research shows that natural playgrounds support young children's development in multiple domains. From an educational perspective a natural playground can provide opportunities not accessible on a traditional playground or indoors in the classroom (Severin, 2007). As a teacher I see that natural playgrounds provide an environment for children to not only engage their gross motor skills, but also engage their imaginations and

interactions with each other through social play, while their senses are engaged with the natural world. This was evident when the children were helping and encouraging each other to crawl across a log that was spanning the creek. In another instance, the children were building a fort out of sticks and moss and using their imaginations to play out a scenario of trade and barter with pinecones and rocks.

Rationale

Children today lead a much more sedentary lifestyle, partly due to electronics, in comparison to previous generations. As a result children are spending less time outside in nature (Gray, et al., 2015; Louv, 2008). Louv referred to this phenomenon as “nature deficit disorder” (2008, pp. 10-11). Research indicates that Canadian children aged six to ten years of age spend an average of 7.4 hours per day of waking hours sedentary; watching television, playing video games, and sitting for extended periods of time doing art or reading (Gray, et al., 2015; Participaction, 2015). Not only are kids sedentary, leading to health concerns, but they are sedentary inside (Gray, et al., 2015).

Internationally there are many concerns about young children being obese and overweight and thus creating additional health affects in their adult years (World Health Organization, 2014). In 2013, 42 million young children under age five were considered obese or overweight (World Health Organization, 2015). Less outdoor activity is occurring because of the development of technology, concerns about safety, having highly structured lives with less free play, and an increased number of working families (Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013; Gray, et al., 2015). Active Healthy Kids Canada (2012) stated that 46% of children aged six to eleven get three or less hours of free active play per week. The World Health Organization and Canada Federal Government recommend sixty minutes of moderate to vigorous physical activity six days a week in order to have health benefits (Colley, et al., 2011). More young children are spending extended periods of time in early childhood centres while their caregivers are working and as such there is an increased need for these centres to be willing and able to provide for the appropriate level of physical activity for the children in their care (Berg, 2014). I believe natural playgrounds can help with both concerns, sedentary lifestyle and obesity. While kids are not walking through the forest to fish at the creek, they can be taken

outdoors to be supervised at a natural playground to increase physical activity in natural elements. These statistics have led me to explore the literature on children's engagement outdoors in the context of a natural playground and explore the overall holistic development of young children through play on natural playgrounds/playscapes vs. traditional playgrounds.

In this capstone, I draw on recent research in the fields of outdoor play, child development, and the comparison of these two elements on natural vs. traditional playgrounds. My proposal will be to develop a resource in the form of a PowerPoint presentation and brochure to share the literature on the importance of play on a natural playground as it aids in the cognitive, social-emotional, physical, and spiritual development of young children. My target audience is educators, administrators, and parents. My goal is to provide research based evidence and rationale for why they should be providing these outdoor play opportunities for young children.

Personal Rationale

Having taught for over 18 years in grades kindergarten to seven, within several British Columbia public schools in the Cowichan Valley, I have observed that each school has their own unique outdoor learning environment and playground. Some have expansive outdoor spaces that include forests and fields and some have only a small grassy playing field. Some have a manufactured playground and some have a natural playground. Some have new structures and some are rather dilapidated due to the wear and tear of use and time. Until recently, I have not realized the importance or significance of outdoor activities for students, other than a few outdoor nature field trips. Since coming to my current school, with the assistance of my colleagues who strongly believe and practice outdoor learning and the planning of a new playground on our school property, I have become interested in investigating the importance of natural playgrounds and their impact on young children's development.

The Parent Advisory Council (PAC) at our community school has been raising money to construct a new playground for several years. The current man-made playground was left standing when the old school was replaced in 2000. This playground has had several parts removed over the last two years due to safety concerns, leaving a sparse playscape. The PAC is looking at different options for the replacement of the playground such as: a manufactured steel

and plastic traditional playground; a natural playground and outdoor learning space; and an integrated mix of man-made and natural elements. The goal is to provide a playground and outdoor classroom space that can be used by our 290 students, as well as our on-site daycare, before and after school care, and for the youth and families within our community. Should this natural playground come to fruition, I believe it will benefit the elementary students at our school, as well as our entire community, as it would provide a safe, accessible, and enjoyable environment to play and learn.

Theoretical Framework

The theories and concept that frame my graduating project are: developmental theory (Piaget, 1952; Vygotsky, 1967; Dewey, 1990); sociocultural theory (Vygotsky, 1967); and a guiding concept of loose parts in early childhood education which is based on Dewey's concept of experiential learning (1938). Developmental theory focuses on the domains of physical, social, emotional, and cognitive development of children over time. Playing allows for the children to explore, test, and expand their knowledge and physical abilities (Berg, 2014). "Developmental theory emphasizes the need for children to manipulate their environments in order to learn (Piaget, 1952; Vygotsky, 1967; Dewey, 1990)" (as cited in Daly & Beloglovsky, 2015, p.8).

Learning through play can meet the physical, intellectual, language, emotional, and social needs of children. Play in the outdoors affords children the opportunity to communicate, use social skills (sharing, turn taking, following the unwritten rules, safety), use physical skills (balancing, running, climbing), and cognitive skills (reasoning, problem solving) (Daly & Beloglovsky, 2015; Fjortoft, 2001; Fjortoft, 2004; Saskatchewan Ministry of Education, 2009; Raith, 2015; Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013; Wood & Martin, 2010). Playgrounds should be designed to meet the developmental needs of young children and the play within these playscapes to create a zone of proximal development of a child (Vygotsky, 1978), where a child moves beyond their comfort zone with the help and cooperation from their peers and with support from the environment. Vygotsky's sociocultural theory emphasizes the role of cultural beliefs and social interactions of more knowledgeable adults and peers in the development of children (Cherry, 2016; McLeod, 2014). Children learn through direct

hands-on experiences and social interactions with peers on the outdoor natural playground. Many theorists including Froebel, Dewey, Montessori, Steiner, Rousseau, and Malaguzzi have stated the importance of nature and outdoor play to the development and well-being of young children (Ernst, 2014).

Simon Nicholson's (1972) concept of the theory of loose parts is important in nature as children use their imagination to explore, manipulate, and create with objects in nature such as: rocks, sticks, branches, or logs (Daly & Beloglovsky, 2015; Nicholson, 1972). The contribution of these theories and the loose parts concept to the overall holistic development of young children will be explored in the following chapter through a review of relevant literature on the topic.

Significance

The topic of natural playgrounds and the benefits to young children's development is significant to today's early childhood education. As previously mentioned, current research shows that children are more sedentary, with the concomitant health risks that ensue, and spend less time in nature than they did a generation ago (Colley, et al., 2011; Gray, et al., 2015; Louv, 2008; Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013; World Health Organization, 2015). These deficits can be addressed by early childhood educators providing outdoor learning opportunities within the natural environment in the form of physical activity in order to promote healthy lifelong physical activity habits (Copeland, Kendeigh, Saelens, Kalkwarf, & Sherman, 2012).

While, most early childhood philosophies include hands-on learning, play, and whole child development (Wardle, 2007), early childhood educators can benefit from an awareness of the benefits of play within a natural playground to a young child's development. Sutterby and Frost (2002) recommend that the educators provide, encourage, and participate in physical activity in the outdoors in order for children to realize the benefits of physical activity and free play. Playing outside in natural elements provides young children opportunities for problem-solving, exploring, wonderment, curiosity, imagination, friendships, communication,

appreciation for nature, and foremost having fun playing and learning (Berris & Miller, 2011; British Columbia Recreation and Parks Association, 2015; Fraser, 2012; Raith, 2015; Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013; Strong-Wilson & Ellis, 2009; Wood & Martin, 2010).

Spending time in a natural playground impacts the development of the whole child. In a playground children move. They climb, slide, swing, run and balance; they manipulate rocks, sticks, sand, leaves and pinecones. Through their play, they engage in more demanding gross and small motor activities than a traditional playground (Fjortoft, 2001). As children physically interact with the elements in a natural playground they are also investigating, and exploring. They are asking questions, and problem solving. They are, through their self-constructed play, engaging in science, math, social studies, art, and language arts learning (Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013).

Children not only interact with natural elements at a playground, they interact with each other. They have opportunities to develop a sense of belonging, inclusiveness, risk taking, and being passionate (Daly & Beloglovsky, 2015). Providing smaller, defined areas where children can play in a sandbox, act on a dramatic play stage, or build with loose parts allows children opportunities to share, communicate, co-operate and take turns (Curtis & Carter, 2003). Children connect with others, and create deep connections to sources of wonderment and joy when interacting with natural elements. In the outdoors, the natural phenomena of plants, clouds, sand, shadows, or puddles bring awareness of the child's environment, and the need to protect and care for these living environments (Saskatchewan Ministry of Education, 2009). Natural environments allow children to create spiritual moments of joy, awe, wonderment, and inner peace (Schein, 2014) in the midst of their running, climbing, questioning, planning, co-operating, compromising, and having fun in nature. Spiritual development isn't necessarily the religious aspect of spirituality but in young children it is the children's appreciation, curiosity, and wonderment around naturally occurring phenomena (Saskatchewan Ministry of Education, 2009). Louv (2008, p. 356) writes "that all spiritual life begins with a sense of wonder, and that one of the first windows to wonder is the natural world."

We cannot easily compartmentalize these four domains of development, cognitive, physical, social-emotional, and spiritual because they are all interrelated as the children move within the natural playground. This capstone will provide early childhood educators with information based on research to plan and implement their curriculum for a natural playground.

Project Overview

In chapter one, I introduced my topic, framed by the following question: How does play on natural playgrounds vs. traditional playgrounds contribute to the holistic development of young children? I have shared my rationale for this project which is grounded in my passion for learning and providing opportunities for children to develop to their full potential. Having colleagues experienced in outdoor learning and the anticipation of having input into designing a new playground for our school, both have led to the excitement and research for this project. This project is based on developmental theory, sociocultural theory, and the guiding concept of loose parts theory in early childhood education.

Chapter two explores the most recent research on play, natural playgrounds/playscapes vs. traditional playgrounds, loose parts, and the developmental benefits for young children. This literature review also expands upon the theories that frame this project.

In chapter three, I discuss how this research can be applied to natural playgrounds in early childhood education settings, including elementary schools. I will discuss my proposal to develop a PowerPoint presentation and brochure that will provide the background of playground development, types of play that lead to the holistic development of the children, and a review of the benefits of a natural playground/playscape vs. a traditional playground. I anticipate that this presentation and brochure will be beneficial to teachers, parents, and community organizations who do not have experience with natural playgrounds or who are apprehensive about the concept and are interested in working towards creating a natural playscape for children.

In chapter four, I will provide a reflection on my research and experiences in the graduate program, discuss the implications of the research for other early childhood environments, and the effects this will have on my own practice.

Chapter Two: Literature Review

Introduction

World wide childhood obesity rates are alarming as 41 million children under 5 years of age are either obese or overweight (World Health Organization, 2016). This equates to one third of children in Canada (Ogilvie & Eggleton, 2016) and one in every four children aged 2-17 in British Columbia being overweight or obese (British Columbia Ministry of Education, 2011). Internationally there are many concerns over children being obese and overweight creating additional health problems such as diabetes or cardiovascular diseases in later adult years (World Health Organization, 2016).

One of the contributing factors to these staggering numbers is the decline in physical activity including children's lack of time in the outdoors due to the sedentary lifestyles and technology based activities children engage in today (Bell & Dymment, 2006; Louv, 2008; World Health Organization, 2016). Research indicates children need to decrease their sedentary time in order to be healthier (Berg, 2014). Being physically active in nature can reduce health risks, improve children's ability to learn, and increase their mental well-being (Fjortoft, 2004; Frost J. , 2006; Kuh, Ponte, & Chau, 2013; Louv, 2008; World Health Organization, 2016). "Regular physical activity is an essential part of early childhood growth and development" (Participation, 2016). Over half the children under age 4 in Canada are enrolled in some type of daycare (Sinha, 2014). With more young children spending extended periods of time in early childhood centres and within these centres 47-54% of the time children are sedentary, it is essential for these centres to provide daily physical activity for their students (Berg, 2014). As the children become older, it is as equally important to provide physical activity for students. In the elementary schools, the British Columbia Education Ministry (2011) has made daily physical education compulsory and these requirements include endurance, strength and/or flexibility activities. It is important to lay the foundations for physical activity at a young age so that it will continue into adulthood.

A comprehensive way to meet the physical activity requirements for children is to play on a playground. Dymment and Bell state that across Canada, on average, children spend

approximately 110 minutes per day or 25% of their day on the school grounds (Bell & Dymont, 2006; Dymont & Bell, 2008). There are many limitations for outdoor play opportunities for our children today due to safety and risk concerns, technology and sedentary time, and more structured play such as dance, hockey, and soccer which limits the free unstructured play of children (Fraser, 2012; Gray, et al., 2015; Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013). Parents and caregivers are often a road block to active unstructured play such as climbing trees, or playing tag due to their perceived risk to their child, and schools are also leery to engage in active play in fear of injury litigation (Ogilvie & Eggleton, 2016). When we discuss free active play, 46% of children aged six to eleven get 3 hours or less per week while 63% of children use their free time in sedentary activities such as screen time (Active Healthy Kids Canada, 2012). Research indicates that children aged three to four spend an average of 7.5 hours per day of waking hours sedentary; watching television, playing video games, and sitting for extended periods of time (Participaction, 2016). Limiting children's time in the outdoors can lead to other health risks such as: attention-deficit, and physical and emotional difficulties (Dymont & Bell, 2008; Fjortoft, 2004; Louv, 2008). As Louv states, we need to get outdoors and back to nature (2008).

There is an ever increasing movement to get back to nature through the use of natural materials and vegetation in the construction of natural playgrounds. Within this project traditional playgrounds will be referred to as those that incorporate fixed manufactured or man-made steel or plastic apparatus used for the specific purposes of climbing, sliding, or swinging (Coe, Flynn, Wolff, Scott, & Durham, 2014; Fjortoft, 2004; Frost J. , 2006; Luchs & Fikus, 2016). The terms natural playgrounds or natural playscapes will be used interchangeably, as 'intentionally designed playgrounds' in which elements of nature are naturally occurring or have been placed by man to enhance play spaces (Fjortoft, 2004; Hamarstrom, 2012; Herrington S. , Lesmeister, Nicholls, & Stefiuk, 2010; Kuh, Ponte, & Chau, 2013; Luchs & Fikus, 2013).

This literature review gives background information on the history of playgrounds, limitations to physical activity, and examines research that studies outdoor play, the significance of play on child development, and the comparison of these on both traditional and natural playgrounds. There is an abundance of research on the physical development of children on

natural playgrounds but research is limited on their holistic development on natural playgrounds (Fjortoft & Sageie, 2000). This review focuses on child development during outdoor play in natural playscapes as well as on natural playgrounds, and using loose parts to promote additional play opportunities in these outdoor play spaces.

History of Playgrounds

Since the 19th century, there have been many movements guided by research, and cultural and world events that have led to the evolution of playgrounds. Playgrounds are defined as any outdoor space that has been set aside, created or designed for children to play (Frost, 2012). A review of Dr. Joe Frost's articles (2006; 2012), briefly describe how playground designs have changed since the 19th century in America. These changes in playground design were influenced by the evolution of educational theories, and industrial and cultural events within America and internationally.

Playgrounds based on nature that provide opportunities for child development are not a new phenomenon. The first playgrounds in the early 19th century were brought about by psychologists and educators, Froebel, Dewey and Hall. These playgrounds were meant for educational purposes and child development, with the German psychologist Froebel introducing the first kindergarten in 1837 (Frost, 2012). Froebel's kindergartens were nature based and included the unstructured exploration, observation, and manipulation of the natural environment to benefit the holistic development of the child (Frost, 2012). In the early 1900's John Dewey continued to provide the nature based experiences for children in his school. Piaget, Vygotsky and Dewey all believed that in order to learn, children needed to be active in their environments and Piaget (1973) stated that they must "construct their own knowledge out of their direct experiences" (Daly & Beloglovsky, 2015, p. 11).

In the 1800's the physical fitness and health movement in Germany led to the first built playgrounds in America. This physical education movement in colleges was focused on strength training of boys through gymnastics. This movement had an influence on public schools and colleges in America. These outdoor gymnasias playgrounds provided children with physical fitness benefits on gymnastics type equipment such as pommel horse and parallel bars (Frost, 2006; Frost, 2012). Also during this time the child saving movement of the industrial revolution

brought about sand gardens for young children. A large pile of sand was placed in vacant lots of impoverished areas in which children learned to build, and create to prepare them for ‘industrial and mercantile pursuits’ (Frost, 2012, p. 4).

Manufacturers were now profiting from the development of steel man-made equipment (Frost, 2006). In 1906 the Playground Association of America was founded out of concerns about supervision and hazards on the built playgrounds that contained modern type equipment such as swings, slides, and climbing apparatus. This movement towards supervised play for all children improved the distribution and creation of playgrounds in large cities around the country (Frost, 2012).

The Great Depression and World War II put a halt to the development of new playgrounds because the metal to make equipment was needed in the war effort. After the war, a Danish architect, C. Th. Sorensen, began the junk playground, adventure playground and loose parts movement with the idea that children are supervised but allowed to use their imaginations to create play using a variety of items. These ‘junk’ playgrounds were eliminated in many areas due to them being seen as unsightly, with unfounded concerns around safety, liability, and lack of supervision, and not having the knowledge of the importance of unstructured play (Frost, 2006; Frost, 2012).

In the 1970’s and 1980’s was the return to manufactured playground equipment with swings, slides, see-saws, and wood or steel structures being the prevalent items on the playground. The International Playground Safety Institute was created due to safety concerns of children hurting themselves moving on equipment that was beyond their abilities. The 1990’s bring us to the integrated playscape where a playground includes natural and man-made elements, loose parts and is accessible to all (Frost, 2012). Children use their imaginations and sense of wonder to play in these environments.

By 2000, the movement was in full swing to add nature to the play environment (Frost, 2012). The movement was towards natural playgrounds with hills, plants, streams, logs, and trees. Loose parts were added to these natural elements in order to provide materials that were more diverse in their use (Frost, 2012). The term integrated ‘playscapes’ was brought into use to

describe the integration of natural and traditional elements that provide wide-ranging play opportunities to build “fitness, health, brains and bodies” (Frost, 2012, p. 13).

As mentioned above there are many types of playgrounds that were developed over time and are still in existence today.

Risks on Playgrounds

In many of these playground movements throughout the decades, the changing faces of playgrounds was due to safety concerns. Brussoni, Olsen, Pike, and Sleet suggest that “too many restrictions on children’s outdoor play hinders their development” (2012, p. 1). By taking risks the child learns what they are capable of doing and this is something children need to develop while exploring their natural environment (Little & Eager, 2010). If we shelter children from risk taking at a young age how will this affect how they handle the financial, social, emotional, and physical risks that are demanded of them in adulthood (Frost J. , 2006). In a news release by The University of British Columbia, lead author on a study on risky outdoor play, Mariana Brussoni was interviewed and stated that, “play environments where children could take risks promoted increased play time, social interactions, creativity and resilience” (University of British Columbia, 2015, p. 1). Risk can be healthy for the holistic development of children.

Children enjoy playing with the freedom to explore, try something new, and experiment in outdoor spaces. The six categories of risky play that were most prevalent in Ellen Sandseter’s (2007) study of 38 preschool children in Norway were: 1) climbing to great heights and jumping down; 2) play that involved high speeds such as jumping off of a moving swing; 3) playing with potentially dangerous tools such as hammers and nails; 4) playing near dangerous natural elements such as steep hills or water courses; 5) rough and tumble play where they use sticks as swords or play wrestle; 6) play where they can hide such as in the forest. This study also considered the children and staff’s perceived risks and the actual risks, which were not always the same, in each of these six categories (Sandseter, 2007). The children were having fun with an element of fear, excitement, and thrill in their risk-taking.

Perceived risks on the natural playground can limit play and therefore development for young children. It was revealed in the study by Bundy et al (2009), the risk factor of using loose parts on a natural playground was a perceived risk by the teachers rather than an actual risk.

These perceived risks often come about by the fear of litigation or other negative repercussions (Bundy, et al., 2009). There was not an increase in injuries during the study where loose materials such as hay bales, tires, and wood were placed on the playground (Bundy, et al., 2009). In fact teachers observed children who fell were more resilient and likely to bounce back up and continue playing with the loose parts than was observed previously on the traditional playground (Bundy, et al., 2009). It appears the fears of risk in the adults were greater than the fear of getting hurt in the children.

In a subsequent study, Niehues, Bundy, and colleagues (2013), conducted an intervention in Australia that was meant to change adults' perceptions of risk on playgrounds. There were 150 participants within nine Catholic primary schools who, through the tasks presented, were to become aware of their fears of risky play being passed on to the children's risk taking behaviours within the outdoor environment. Through exploration and experience most children only engage in developmental and "age-appropriate risk-taking" (Niehues, et al., 2013, p. 229; Vygotsky, 1978). In free play, children seem to recognize their physical and emotional abilities and limitations and will only take risks if they feel they may possibly be successful (Gray, 2014). As Vygotsky states "play creates a zone of proximal development of the child. In play a child always behaves beyond his average age, above his daily behavior: in play it is as though he were a head taller than himself" (1978, p. 6). The developmental benefits that children gain from such natural playground play far outweigh the risks that some adults deem inherent in such natural environments. Little and Eager (2010) refer to the Royal Society for the Prevention of Accidents' motto of making playgrounds "as safe as necessary NOT as safe as possible" (p. 501).

Loose Parts in the Outdoors

Deliberate inclusion of loose parts has been a component of children's play areas for many years. For over 100 years, theorists and educators such as Froebel and Montessori, have emphasized the need to manipulate objects in the environment for cognitive development (Sutton, 2011). Developmental theory emphasized the exploration and manipulation of an environment to aid in learning about the world around us (Piaget, 1952; Vygotsky, 1967; Dewey, 1990). Using loose parts is one way in today's society to provide an environment where children can learn and develop problem solving skills, language skills, physical prowess, and critical

thinking skills (Daly & Beloglovsky, 2015). Loose parts can aid in the holistic development of children. In terms of social-emotional development, loose parts allow for risk taking, inclusion for all, self-confidence, and a passion for learning. Playing promotes social interaction through conversations, collaboration, and cooperation as the children use their imaginations to manipulate and be creative with the loose parts (Daly & Beloglovsky, 2015). Gross and fine motor skills are developed or enhanced at a child's individual developmental level as they interact with the small and large loose parts. Manipulating small loose parts helps with hand-eye coordination and small muscle control (Daly & Beloglovsky, 2015). As Piaget suggested in his theory of cognitive development, children learn by doing or experiencing (1973). By playing with loose parts, children learn to problem solve, communicate, and learn math, science, language, art, and music skills as they are creating and exploring the elements and functionality of the parts (Daly & Beloglovsky, 2015).

In the early 1970's, the theory of loose parts was developed by architect Simon Nicholson (1971; 1972). His philosophy came about with the realization that only a few creatively gifted people were leading the discovery of new things and the creation of new ideas, and that the remainder of the population were consumers of these products (Nicholson, 1972). Nicholson thought that everyone and in particular children, is creative and should have the opportunity to develop this creative side (Daly & Beloglovsky, 2015). He states that "all children love to play, experiment, discover and invent and have fun" (Nicholson, 1972, p. 5). He proposed to use loose parts to develop the curiosity and creativity in young children (Nicholson, 1971).

Loose parts are natural or man-made materials, with no set of instructions, that can be used alone or with other materials (Daly & Beloglovsky, 2015; Neill, 2013). These open-ended materials can be moved, combined, stacked, taken apart and put back together, and most importantly repurposed (Daly & Beloglovsky, 2015; Nicholson, 1972).

Types of Outdoor Play

Since 1959, the importance of play to children was recognized internationally through the Declaration of the Rights of the Child (United Nations Convention on the Rights of the Child, 2013). Article 31 of the United Nations Convention on the Rights of the Child states that parties

recognize “the right of the child to rest, leisure, play, recreational activities and free and full participation in cultural and artistic life” (2013, p. 3). Play can be defined in many ways. It is most often social and promotes “skills such as turn-taking, sharing, negotiation, and leadership” (Bundy, et al., 2009, p. 4). Luchs and Fikus quote Frost as characterizing “play as active, spontaneous, fun, purposeless, self-initiated and serious (Frost, 1979, p.21)” (as cited in Luchs & Fikus, 2013, p. 207). Throughout this project, play will be referred to as “any behaviour, activity or process initiated, controlled and structured by children themselves...with the key characteristics of fun, uncertainty, challenge, flexibility and non-productivity” (United Nations Convention on the Rights of the Child, 2013, pp. 5-6).

Play is an important part of a child’s learning and development. The great philosopher Plato, believed that play influenced children’s development into adulthood (D'Angour, 2013). In Ancient Greece intellectual play or literary play for children and adults took the form of music, poetry, riddles, and games (D'Angour, 2013). Since the 1800’s when playgrounds came into existence, there has been considerable study and research. In 1932, Mildred Parten developed six categories of social interaction during play which included: 1) unoccupied behaviour; 2) solitary independent play; 3) onlooker behaviour; 4) parallel play; 5) associative play; and 6) co-operative or organized supplementary play (Government of Ontario, 2015). She found that the level of social interactions during play increased as the child became older (Government of Ontario, 2015). Jean Piaget and Len Vygotsky began to develop theories of play around the same time. Vygotsky’s sociocultural theory of cognitive development focused on the social aspect of play where children communicate and cooperate with others and then learn from these interactions (Cherry, 2016; McLeod, 2014; Saracho & Spodek, 1995). Jean Piaget’s development theory included sensorimotor or physical play that occurred between birth and 24 months; symbolic play which includes constructive and pretend play between the ages of 18 months and 7 years; and games with rules beginning at 6 years of age (Saracho & Spodek, 1995). This hierarchy was based on the cognitive development of children over time during play as children use prior knowledge to make meaning of their play experiences (Saracho & Spodek, 1995). Piaget (1973) states that “a student who achieves a certain knowledge through free investigation and spontaneous effort will later be able to retain it” (p. 93). Smilansky’s four play stages of functional play-physical; constructive play-building and creating; dramatic or symbolic play-role

playing or fantasy; and games with rules are based on Piaget's developmental theory (Government of Ontario, 2015). These four stages of play will now be discussed as observed and researched on the natural playground or playscape.

Functional/Locomotor Play

Functional play is play that requires gross motor skills such as running, jumping, or climbing. Fjortoft and Sageie (2000) refer to Frosts' functional play stage as the gross motor skills or physical fitness obtained through games such as tag, hide-and-seek, and other games that require movement. This type of active play, where the children use their muscles and physical ability to play, is more typical on traditional playgrounds where physical activity is the main purpose and use by children (Kuh, Ponte, & Chau, 2013; Maxwell, Mitchell, & Evans, 2008). In saying this, in Fjortoft's (2001) study of 46 kindergarten students, the children using the natural playscape out performed those on the traditional playground in motor abilities. Strength, balance, and coordination were noted to be significantly greater in the natural playscape (Fjortoft, 2001). On natural playgrounds children use rocks, logs, shrubs, dirt, and trees to manipulate physically by moving, digging, jumping, running, or climbing using the natural elements (Dyment & Bell, 2008; Fjortoft & Sageie, 2000).

Constructive Play

Constructive play is 'goal oriented' when children are building or creating structures something like a bridge, or a castle (Kuh, Ponte, & Chau, 2013; Maxwell, Mitchell, & Evans, 2008). In a natural playscape where loose parts were added these play experiences were considered constructive play because they have created something new from existing parts (Daly & Beloglovsky, 2015; Kuh, Ponte, & Chau, 2013). Using loose parts and vegetation on a natural playground fosters constructive play as the children design and build their structures such as dens and shelters (Fjortoft & Sageie, 2000; Maxwell, Mitchell, & Evans, 2008). Children use their imagination to create concrete objects such as cars from boxes or forts from sticks and logs. During this building process, children learn to problem-solve, cooperate, and explore many different possibilities through their creativity and the communication with others (Daly & Beloglovsky, 2015).

Symbolic/Dramatic Play

Dramatic play is also known as fantasy, imaginary, or make-believe play in which the child takes on the person or animals' mannerisms and role plays the character (Maxwell, Mitchell, & Evans, 2008). In so doing, they role play such scenarios as house, pirates, space, or farm. In this type of play, natural objects often become or represent other things depending on the child's imagination (Daly & Beloglovsky, 2015; Luchs & Fikus, 2013). Logs become spaceships or cars, rocks become people or pets, and stumps become pirate ships (Daly & Beloglovsky, 2015; Fjortoft, 2004). Loose parts, moving parts, and a variety in the topography in a natural playscape are crucial to facilitating dramatic or fantasy play (Woolley & Lowe, 2013). Sociodramatic play requires children to use their "physical, cognitive, language and social play in carrying out a play theme or event" (Frost, Wortham, & Reifel, 2008, p. 3). In comparison to traditional playgrounds, natural elements such as rocks, logs, stumps, trees, sticks, and leaves allow students to be more engaged in imaginative play with all age groups and abilities participating (Bell & Dymont, 2006).

Games with Rules/Cooperative Play

Games with rules or cooperative play is when children move from solitary or parallel play to working together towards a common goal in their play (Kuh, Ponte, & Chau, 2013). Games such as tag, hide and seek, or soccer are examples of games with commonly known rules (Maxwell, Mitchell, & Evans, 2008). These games often take place in large play space such as a field or forest.

These four types of play most often don't occur in isolation. Maxwell, Mitchell, and Evans refer to their study results of 32 daycare students, when they placed loose parts in the playscape, the children first built or constructed an object with the blocks and then used their imagination to role play a scenario within the space (Maxwell, Mitchell, & Evans, 2008). Conversations about the use of the blocks lead to constructive play or the actual building of a spaceship, boat, zoo cage, or train which then lead to socio-dramatic play when role playing the different scenarios (Maxwell, Mitchell, & Evans, 2008). These dramatic activities were observed to occur in areas that were smaller or more confined, had boundaries such as a bridge that resembled a stage, or on an area or platform that protruded from the playground, but the key

was the addition of a plethora of loose parts for the children to use their imaginations (Maxwell, Mitchell, & Evans, 2008).

The type of physical outdoor space in which play occurs deeply affects the type of play opportunities. The results of Woolley and Lowe's (2013) research review and study of 10 outdoor playgrounds in England, revealed that different types of play spaces afforded different types of play: constructive play with loose and natural materials; fantasy play in natural spaces that contain a variety of elements; and smaller or more private spaces provided opportunities for more social interactions. The authors concluded that the opportunity to provide more variety of play was more prevalent in natural spaces and the traditional spaces with fixed equipment contributed only to the physical and social aspects of play (Woolley & Lowe, 2013). This was reiterated in Fjortoft and Sageie's (2000) earlier study of 46 kindergarten students in Norway. The authors determined that the natural environment needs to be diverse to promote and stimulate a variety of play opportunities and learning (Fjortoft & Sageie, 2000). Zamani (2012) revealed similar results. The playground on which his study took place consisted of both natural and traditional areas in a preschool in North Carolina. The results revealed that certain elements of the playground afford different types of play: paved surfaces – functional play; sand – constructive; soil – imaginative; raised platforms – games with rules (Zamani, 2012). In conclusion of this study “natural elements significantly afforded 25% more cognitive play opportunities than manufactured elements” with more imaginative and constructive play (Zamani, 2012, p. 164). An outdoor playscape should provide young children with a variety of play opportunities.

Benefits of Play on Child Development in Outdoor Playscapes

Outdoor play in natural settings are linked with the holistic development of children: physical, social/emotional, cognitive, and spiritual. Play is vital to the holistic physical and mental health development of children (Brussoni, Olsen, Pike, & Sleet, 2012). Play behaviours connect to the development of children: functional play leads to physical development; social and dramatic play are linked to the social/emotional development (Government of Ontario, 2015). Developmental theory that focuses on the physical, social, emotional, and cognitive development of children over time is alluded to in Berg's (2014) study of preschools in British

Columbia. When children play they test and explore the limits of their physical development, otherwise referred to by Vygotsky as their Zone of Proximal Development (Berg, 2014; Vygotsky, 1978). Learning through play can meet the physical, intellectual, language, emotional and social needs of children.

Physical Development

Playgrounds are great places to develop physical gross motor skills: climbing, sliding, swinging, running, crawling, and balancing (Malone & Tranter, 2003, pp. 4-5). According to Fjortoft, the children who used the “forest as a playscape performed better in motor skills than on the traditional playground” (2001, p. 115). In the woodlands setting, the natural playscape provided children with an increased ability to balance and demonstrate their coordination (Fjortoft, 2004, p. 39). Playing in the forest or in an open field may require gross motor skills of running, throwing, sliding, climbing, and balancing (Fjortoft, 2001). Bell and Dymont conducted a study across Canada that had 71% of the elementary school participants indicate that making a greener playground provides the students with more opportunity for moderate/light physical activity (Bell & Dymont, 2006). There are more opportunities for engaging in activities that slightly increase the heart rate such as climbing, digging, and building or maintaining heart rate such as moving, bouncing balls, acting, and playing hide and seek (Bell & Dymont, 2006). The use of ever-changing loose parts on the playground also could aid in the physical development of children by providing materials to lift, balance on, dig with and construct. It was noted that, “children who play in natural areas engage in more physically demanding play compared to that in traditional playgrounds (Fjortoft, 2005)” (as cited in Berris & Miller, 2011, p. 103). The observational study in four preschool playgrounds in British Columbia by Stephen Berg (2014), highlights that preschool children engage in more vigorous physical activity in playground environments that have green spaces, construction areas, and loose parts (Berg, 2014).

Childcare providers and policy makers may use these findings for the background reasoning to construct environments that are conducive to increased physical activity levels in young children.

Social/Emotional Development

Social-emotional development is the building of positive relationships, expression of emotions, and self-regulation. Critical elements in social-emotional development include a sense of belonging, inclusiveness, risk taking, and being passionate (Daly & Beloglovsky, 2015).

In order to provide an environment that promotes the development of the child's social-emotional domain we must focus on areas in which group play or social interactions can occur. Through play children learn to share, cooperate, respect others ideas, and express their own ideas, feelings and needs (Malone & Tranter, 2003). Research has found that these aspects of social-emotional development in children are best supported using materials and activities that are open-ended, varied, and unstructured (Daly & Beloglovsky, 2015). If the environment is "fun, peaceful and welcoming, and children are feeling emotionally safe, their interest in play and physical activity will undoubtedly increase" (Bell & Dymont, 2006, p. 26). The diversity and interest of a green playground encourages play that elicits cooperative and positive behaviours and is not reliant on only competitive physical prowess as traditional playgrounds often do (Bell & Dymont, 2006).

Cognitive Development

Cognitive development is the child's knowledge of his/her world in relation to language, numbers, problem solving, spatial relationships, and critical thinking through their investigation and exploration of objects and of their environment. Children learn through play while they "discover, explore and develop an understanding of the environment around them" (Malone & Tranter, 2003, p. 5). We must provide and encourage active play of our children so that they can move physically, interact socially, and develop cognitive skills of problem solving, and creativity. Providing open-ended materials to young children allows them to stimulate their imaginations to explore and be inventive, and become flexible thinkers and better playmates (Curtis & Carter, 2003). The outdoor environment "should engage children's curiosity, stimulate their imaginations, invite exploration, and support their developing competencies...sand, water, soil, and plants provide settings for open-ended play that emphasizes unstructured creative

exploration with diverse materials” (Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013, p. 17). Using areas such as gardens, forests, sandpits, and construction areas can encourage science, math, social studies, art, and language learning. Observing the insects, birds, or plants can provide exploratory learning experiences. In Bell and Dymont’s (2006) survey, 82% of participants in the greening of school grounds in Canada, reported an increase in informal or formal learning through building, observing, capturing, studying, and exploring objects in nature.

Spiritual Development

Spiritual development links closely with physical, cognitive and social-emotional development. “The spiritual aspect of the environment reveals the wonder and beauty of the natural world...Children’s curiosity and desire to appreciate and understand their world stimulate ongoing investigations of naturally occurring phenomena.” (Saskatchewan Ministry of Education, 2009, p. 15). In the outdoors, these natural phenomena of plants, clouds, sand, shadows, or puddles bring awareness of their environment and the need to protect and care for these living environments. If a child was to grow plants or care for animals outdoors, they learn to be responsible and respectful of living things (Saskatchewan Ministry of Education, 2009). Educators can create learning opportunities that promote care for the environment and nature and hopefully these children will become advocates for the care and protection of our world (Fraser, 2012). “Carefully planned environments can provoke children’s appreciation of the beauty of their natural world, foster their curiosity about their surroundings and ignite their imaginations” (Saskatchewan Ministry of Education, 2013, p. 47).

Spiritual development research is limited in early childhood education. This led to Schien’s (2014) grounded theory study of 12 early childhood educators, to define spiritual development and to study the relationship of spiritual development and nature education. In short, by spending time in nature the children’s “wonderment, awe, joy, and inner peace develop into the prosocial personality traits of caring, kindness, empathy, and reverence” (Schein, 2014, p. 78).

A well designed playground should provide young children with a variety of play opportunities in which they can develop themselves holistically.

Loose Parts on the Playground

In their 2009-2010 loose part intervention in Australia, Engelen, Bundy, Naughton, Simpson, Bauman, Ragen, Baur, Wyver, Tranter, Niehues, Schiller, Perry, Jessup, and van der Ploeg (2013), used the following 7 principles in choosing the loose parts to add to the existing traditional playgrounds:

- (1) no obvious play value;
- (2) encourage co-operation and gross motor development;
- (3) multipurpose;
- (4) can be used in challenging, creative and uncertain ways;
- (5) promote interesting sensory experiences;
- (6) potential hazards are easily seen or managed by children; and
- (7) re-use or very inexpensive items (Bundy, et al., 2011, p. 5; Engelen, et al., 2013, p. 3).

The child chooses how the items are used or manipulated and its use is not predetermined by adults or by manufacturers (Neill, 2013). Give young children materials to use their imagination and to create, explore, experiment, and build. Pebbles, leaves, sand, sticks, pinecones, seeds, and shells are examples of small objects that can be manipulated and explored in a variety of ways as children build and create with these materials. Larger objects may include logs, stumps, rocks, dirt, water and sand (Daly & Beloglovsky, 2015). Louv states that, “Nature, which excites all the senses, remains the richest source of loose parts” (Louv, 2008, p. 87). Having a variety of loose parts available in the outdoors and on the playground promotes hours of open-ended play and holistic development (Daly & Beloglovsky, 2015).

Adding loose parts to playgrounds, increases activity levels and types of play demonstrated. Traditional playgrounds have large man-made steel or plastic play structures that are “non-connected pieces of equipment” and provide limited play opportunities (Maxwell, Mitchell, & Evans, 2008). In a study by Benn-Attar, Perez, and Parham (2016), recycled loose parts were placed on a sparse school playground consisting of a traditional climbing apparatus, basketball hoops and picnic tables. The authors revealed, in this New Mexico study of four groups of elementary children at lunch recess, that all grade levels actively used the loose parts

and it was observed that some loose part items were used by all age levels while others were only popular for a certain age level (Ben-Attar & Parham, 2016). Add loose parts to playgrounds and we see higher quality play and holistic development.

Engelen et al, conducted an intervention in twelve Australian primary schools that proved adding loose parts to six of the playgrounds increased the physical activity through the cooperative and creative play of 19 children aged 5-7 years in comparison to the control group (Engelen, et al., 2013). The authors believe this intervention was effective due to the fact that the loose parts were not typical toys, could be manipulated and used in a variety of ways and that this flexibility allowed for more engagement and cooperation (Engelen, et al., 2013). A previous study of 12 children in kindergarten and grade 1 in Australia concluded that physical activity, creativity, and resiliency were more prevalent when loose parts were added to the traditional playground (Bundy, et al., 2009). The types of things that were added to the playground were tires, hay bales, barrels, fabric, crates, and wooden planks. It was noted by the interviewed teachers that the benefits of the play fell into the categories of ‘active, creative, and social play’ (Bundy, et al., 2009). Children were constructing with the materials, they were creating games, they were using gross motor skills, and they were using their imaginations. The students were working together to make these things happen (Bundy, et al., 2009). It was noted that there was an increase in social interactions when children from different age or ability groups began to play together and cooperate in the use of the loose materials (Bundy, et al., 2009; Bundy, et al., 2008). Also the children who had less physical ability were able to use their creativity to become leaders in using loose parts (Bundy, et al., 2008). Using carefully selected loose parts adds to the holistic development of the child through four types of play: cooperative, constructive, nature and locomotor play (Kuh, Ponte, & Chau, 2013). Through these play interactions with their peers, there is increased social, physical, cognitive, imaginative, and spiritual development.

Natural vs. Traditional Playgrounds

As reviewed in the evolution of playgrounds, playgrounds or playscapes come in various shapes, sizes, and layouts. Traditional playgrounds are those that incorporate man made steel or plastic apparatus used for the specific purposes of climbing, sliding, or swinging (Coe, Flynn, Wolff, Scott, & Durham, 2014; Fjortoft, 2004; Frost J. , 2006; Luchs & Fikus, 2016). Natural

playgrounds or natural playscapes are ‘intentionally designed playgrounds’ in which elements of nature are naturally occurring or have been placed to enhance play spaces (Fjortoft, 2004; Hamarstrom, 2012; Herrington S. , Lesmeister, Nicholls, & Stefiuk, 2010; Kuh, Ponte, & Chau, 2013; Luchs & Fikus, 2013). Some traditional playground features such as swings and sandboxes may be included in a natural playscape as are open-ended loose parts to promote play, exploration, and physical activity (Kuh, Ponte, & Chau, 2013).

Conventional playgrounds with fixed equipment such as slides and climbing apparatus may become boring as they are meant for one purpose only, physical fitness. These playgrounds also present difficulties for less physically abled children (Bundy, et al., 2008). Maxwell, Mitchell, and Evans’ (2008) research study involving day care children, indicated the type of play most prevalent on traditional playgrounds was functional play. This reiterates the fact that these types of playgrounds are built purely for physical activity with the equipment having specific uses such as swinging, sliding, or climbing. There is little or no room for manipulation of equipment, or the use of the child’s imagination as the functions are predetermined (Maxwell, Mitchell, & Evans, 2008).

Adding natural elements to a playground can provide a variety of play opportunities and thus enhance a child’s physical development. The loss of outdoor play led architects, educators, and community members to design playgrounds that include elements of the natural environment (Kuh, Ponte, & Chau, 2013). According to Verstrate and Karsten (2016), in 2000, the first natural playground in the Netherlands was opened. The authors conducted a case study through research interviews and extensive, web-based research to gather more “in-depth information on the creation, management, and day-to-day life on the playground” (Verstrate & Karsten, 2016, p. 178). They mentioned three contributing factors that led many architects and developers to the creation of natural playgrounds over those of traditional man-made playgrounds. The first factor was the stricter laws on safety on playgrounds. A law was passed in 1997 for playground equipment safety and this led to building traditional playgrounds with much more expensive pre-made certified playground equipment, with the main purpose of play. Natural playgrounds were exempt from this certification law as natural elements such as logs and stones are from natural

sources and they provided educational experiences as well as play invitations (Verstrate & Karsten, 2016, pp. 179-182). Second was the ability of middle class professionals to design and build greener options for their children. There are many volunteer experts in a community that can band together to get the planning, permits, fundraising, and building done to complete their goal of a more natural playground (Verstrate & Karsten, 2016, pp. 182-186). Third was the movement to have children return to nature to take risks and to become 'greener' citizens. These children would learn to respect, interact, and care for their environments by being immersed in imaginative play areas that included plants, trees, logs, and other naturally occurring elements (Bell & Dymont, 2006). Residential and commercial development reduced the number of vacant lots, and regulations and rules banned play from many of these spaces. Nature playgrounds were built to allow children to explore the plants and animals of their area and also to take risks in a variety of terrains (Verstrate & Karsten, 2016).

An 18 month study by Kuh, Ponte, and Chau's (2013) of 90 children aged 4-8, was conducted to determine the impact of the installation of a natural playscape on children's play activities in a Massachusetts school setting. The study compared the play on a traditional playground and then after on a newly installed natural playscape. The results revealed that adding loose parts, pathways, sand, water, and trees to the playground developed the children's ability to problem solve, cooperate, observe, and move freely within the new environment while engaged in cooperative, construction or dramatic play, rather than the repetitive, and constrictive play on traditional play equipment. A similar study by Coe, Flynn, Wolff, Scott, and Durham (2014) renovated a traditional playground in a preschool in Tennessee. The new playground had recycled items such as tree stumps, logs and tractor tires added to the play area and the traditional play structures were removed. A comparison of physical activity before and after the renovation revealed that after the natural playground was added there was less sedentary behaviours and a greater percent of students engaged in moderate/vigorous physical activity than on the traditional playground. Luchs and Fikus' (2013; 2016) free play study compared the physical activity levels of 5-6 year olds in Germany on natural and contemporary playgrounds and found that there was not a significant difference in the amount of time spent engaged in physical activity on either playground but the number of play episodes doubled on the contemporary playground (Luchs & Fikus, 2013). The difference was that on a traditional

playground children move around more vigorously in frequent short bursts, whereas on a natural playground the children engaged in moderate, more complex activities for longer periods of time. Having diversity in our playgrounds serves the needs of children with a variety of activity levels (Luchs & Fikus, 2016).

Herrington, Lesmeister, Nicholls, and Stefiuk conducted a study comparing the connection between play, nature, and child development in sixteen outdoor play spaces in early child care centres in Vancouver (2010). They found that quality outdoor play spaces had the following features: elements for children to manipulate; living things; were child sized; allowed imagination to direct the play; and had areas to play alone or in groups (Herrington S. , Lesmeister, Nicholls, & Stefiuk, 2007). The 7C's encourage more diverse play and support child development in outdoor play spaces. The 7Cs (Herrington S. , Lesmeister, Nicholls, & Stefiuk, 2010; Herrington & Brussoni, 2015) are:

Character or overall appeal of the playground;

Context is the positioning of the play space within the overall environment including the surrounding community;

Connectivity is the ability to move around on paths and to visually see the parts of the playground;

Change or including natural elements that can change over time and the different sized zones;

Chance is the opportunity to create, manipulate, and explore open-ended materials;

Clarity is the site line for children and adults;

Challenge is the physical and cognitive risks or difficulties of the space.

In conclusion, a natural playground or playscape is the way to bridge the play of traditional playgrounds and the free-play in nature.

Conclusion: Advantages of Natural Playgrounds

The benefits go beyond just physical activity and physical development.

Through play on diverse natural playgrounds, children are able to cultivate their physical, social/emotional, cognitive, and spiritual development. Play on natural playgrounds aids in the holistic development of children. The goal would be for schools to provide environments where

children can be physically active while learning, socializing, cooperating, communicating, exploring and interacting with natural elements in the playscape. In terms of creating environments within our school envelope and school grounds, teachers and children usually have very little input into the actual design and construction of these environments (Curtis & Carter, 2003). This information will allow early childhood educators and parents to understand how natural playgrounds are beneficial to the holistic development of children through play, and hopefully give them a voice in the design of a viable playground option for our students.

In chapter 3 of this capstone, I will synthesize the research from the literature review and produce a PowerPoint presentation and a brochure. My goal is for these to be used by teachers, parents, community organisations and any individual or group interested in working towards creating a natural playground for children. These will provide the background of playground development, types of play that lead to the holistic development of the children, samples of natural playgrounds, and a review of the benefits of natural playgrounds/playscapes vs. traditional playgrounds.

Chapter Three: Project

Introduction

Natural playgrounds/playscapes are not new, but have made a resurgence due to concerns in today's society. These concerns are obesity, safety, sedentary lifestyles, technology, and structured play activities of children leading to less time in the outdoors engaging in play (Bell & Dymont, 2006; Fraser, 2012; Gray, et al., 2015; Louv, 2008; Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013; World Health Organization, 2016). Louv refers to this as "nature deficit disorder" (2008, pp. 10-11).

The guiding developmental theories of Piaget, Vygotsky and Dewey are reiterated in the research. Children learn in nature through play and develop their physical prowess, cognitive abilities, social skills, and appreciation and respect for nature. Outdoor nature play provides young children with opportunities for problem-solving, exploring, wonderment, curiosity, imagination, friendships, communication, appreciation for nature, and foremost having fun playing and learning (Berris & Miller, 2011; British Columbia Recreation and Parks Association, 2015; Fraser, 2012; Raith, 2015; Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013; Strong-Wilson & Ellis, 2009; Wood & Martin, 2010).

Natural playgrounds/playscapes provide opportunities for the four stages of play developed by Smilansky based on Piaget's developmental theory: functional play-physical; constructive play-building and creating; dramatic or symbolic play-role playing or fantasy; and games with rules (Government of Ontario, 2015). These stages of play are closely linked to the development of children: physical, social/emotional, cognitive, and spiritual. From an educational perspective a natural playground can provide opportunities not accessible on a traditional playground or indoors in the classroom (Severin, 2007). Traditional playgrounds are known for one purpose only, their functional play or physical development (Kuh, Ponte, & Chau, 2013; Maxwell, Mitchell, & Evans, 2008). Whereas natural playgrounds provide a variety of play opportunities and therefore aid in the child's holistic development.

This research is provided for teachers, parents, community organisations and individuals or groups interested in creating a natural playground for children. My hope is for these participants to use this research-based information to make informed decisions on playground design in order to provide the most developmentally appropriate opportunities for our children.

PowerPoint Project

In order to present my research findings at the next Parent Advisory Committee meeting, I have constructed a PowerPoint presentation with an accompanying brochure. The PowerPoint method of visual presentation was selected in order to show photographic samples of the topics introduced. This method also helps my colleagues and I share the presentation platform and keep to an organized and coherent presentation. The brochure will be used to supplement the information given during the PowerPoint presentation as a take home summary. The photographs used were either taken by myself or a colleague in local Vancouver Island locations or sourced from the internet when local pictures were not available.

Creating the Presentation

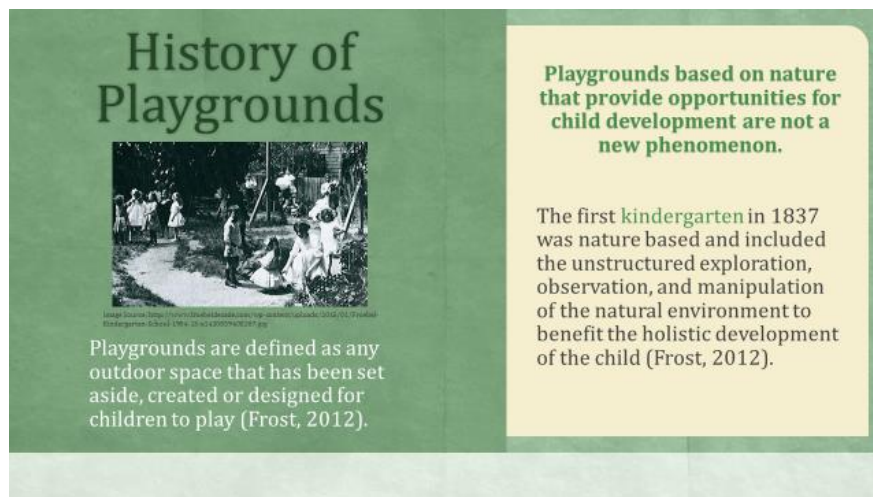
Having little to no experience in creating a PowerPoint presentation this task was challenging. It required a lot of time, tutorials, and trial and error. Extracting ideas from previous presentations and being a visual learner myself, I included pictures and text in my slides. Beginning with a Microsoft Office template that exhibited a natural theme with shades of green and beige, I examined the research in chapters one and two and chose the categories I deemed most important to the parent group. This is how the PowerPoint presentation came to fruition.



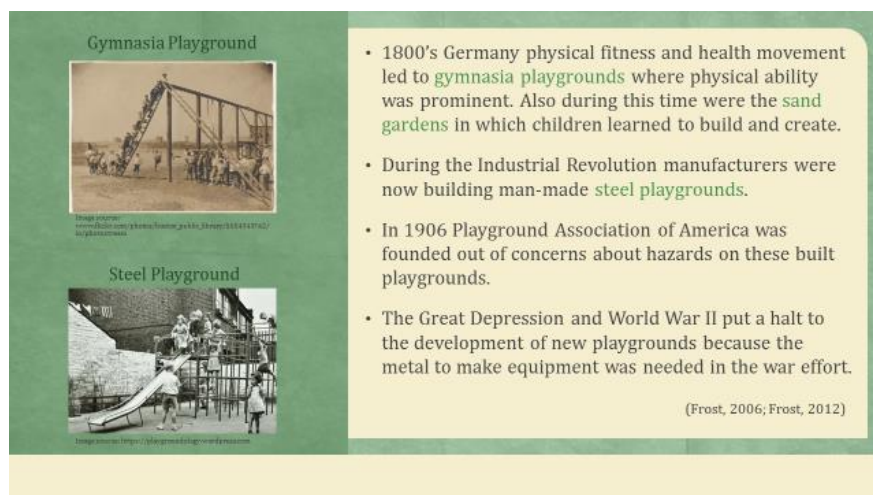
History of playgrounds

The presentation begins with the idea that nature based playgrounds and child development are not a new phenomenon, but began as early as Froebel and the first nature based kindergarten in 1837 (Frost, 2012). This playground included exploration, observation, and manipulation of nature to benefit the holistic development of the child (Frost, 2012).

The three slides on the history of playgrounds emphasize the change of playground construction and deconstruction due to safety concerns and changes due to the industrial and cultural events within America and internationally.



The physical fitness and health movement for strength training of boys in Germany led to gymnasia playgrounds. With the Industrial Revolution came steel playgrounds made for profit. During the Great Depression and World War II the steel was needed in the war effort so a stop was put to using metal for such things.



After the war there were few playgrounds in communities, so a Danish architect began a movement of using found items so children could use their imaginations and be creative. They placed these loose parts in empty building lots thus creating junk playgrounds, or adventure playgrounds but safety became a concern. There was a resurgence of manufactured playgrounds. Safety concerns led to a new movement of traditional playgrounds mixed with natural elements.

Junk/Adventure Playgrounds




Image courtesy: <http://www.junkplayground.com>

Natural Playscape




Image courtesy: <http://www.naturalplayscape.com>

- After the war junk playgrounds, adventure playgrounds and loose parts movement became widespread as children were able to use their imaginations to create with a variety of items. These were eliminated due to their messy look and concerns around safety and supervision.
- 1970's and 1980's saw a return to manufactured playground equipment with swings, see-saws, slides and wood or steel structures. The International Playground Safety Institute came about over safety concerns of children moving on equipment that was beyond their abilities.
- 1990's bring us to integrated playscapes a playground includes natural and man-made element, loose parts and is accessible to all.
- By 2000 the movement was in full swing to add nature to the play environment.

(Frost, 2006; Frost, 2012)

Definition of Traditional and Natural Playgrounds

Throughout the presentation I will refer to traditional and natural playgrounds and felt that a definition of each type of playground early in the presentation would alleviate any confusion. Traditional playgrounds are those that incorporate fixed manufactured or man-made steel or plastic apparatus used for the specific purposes of climbing, sliding, or swinging (Coe, Flynn, Wolff, Scott, & Durham, 2014; Fjortoft, Landscape as Playscape: the Effects of Natural Environments on Children's Play and Motor Development, 2004; Frost J. , 2006; Luchs & Fikus, Differently Designed Playgrounds and Preschooler's Physical Activity Play, 2016).



TRADITIONAL PLAYGROUND

A traditional playground is those that incorporate fixed manufactured or man-made steel or plastic apparatus used for the specific purposes of climbing, sliding, or swinging.

(Coe, Flynn, Wolff, Scott, & Durham, 2014; Fjortoft, 2004; Frost J., 2006; Luchs & Fikus, 2016)

Natural playgrounds/natural playscapes are ‘intentionally designed playgrounds’ in which elements of nature are naturally occurring or have been placed by man to enhance play spaces. (Fjortoft, 2004; Hamarstrom, 2012; Herrington s., Lesmeister, Nicholls, & Stefiuk, 2010; Kuh, Ponte, & Chau, 2013; Luchs & Fikus, 2013).



Risks On Playgrounds

In many of the playground movements throughout the decades, the change in playgrounds occurred due to safety or risk concerns. I know that parents, teachers, administrators, and community members have a primary concern for the safety of the children. After completing research in this area I wanted to share some findings from studies that could alleviate some of these fears in others as it did in me. Based on several researchers these slides reiterate the importance and benefits of risk in children’s play, some examples of risky play, and a general motto that I have begun to live by. The 6 categories of risky play came from Sandseter’s 2007 study where children were having fun with an element of fear, excitement, and thrill in their risk taking. This slide reveals two categories at a time with photo examples to show what each category might look like. Make playgrounds “as safe as necessary NOT as safe as possible” (Little & Eager, 2010).

RISKS ON PLAYGROUNDS

- Too many restrictions may affect development (Brussoni, Olsen, Pike, & Sleet, 2012).
- Taking risks helps a child learn what they are capable of doing (Little & Eager, 2010).
- Risks increased play time, social interactions, creativity, resiliency (University of British Columbia, 2015).
- Perceived or actual risk (Bundy, et al., 2009).










Image source: www.naturalplaygrounds.co.uk/natural-playgrounds.html

6 Categories of Risky Play

(Sandseter, 2007)

1) Climbing to great height and jumping down. 	2) Play that involved high speeds such as jumping off of a moving swing. 
3) Playing with potentially dangerous tools such as hammers and nails. 	4) Playing near dangerous natural elements such as steep hills or water courses. 
5) Rough and tumble play where they use sticks as swords or play wrestle. 	6) Play where they can hide such as in the forest. 

Make playgrounds “as safe as necessary NOT as safe as possible.”

• This is the Royal Society for the Prevention of Accidents' motto.
 (Little & Eager, 2010)

Types of Play and the Benefits of Play on Child Development

Now that the preliminary slides have been presented, the following slides will convey the main emphasis of the project. In this section I will introduce the four types of outdoor play and present examples of what each would look like on a natural playground with both visuals and text. Symbolic/dramatic play is the fantasy, imaginary or make-believe play in areas of social interaction in which a log becomes a pirate ship, a space ship, or a car. Constructive play is goal oriented where the children would use loose parts to build dens, forts, or sandcastles. Functional/locomotor play is the gross motor skills required to run, jump, and climb especially on a traditional playground. Games with rules/cooperative play is working towards a common goal with set rules such as playing soccer, tag, or hide-and-seek in a forested or field area (Woolley & Lowe, 2013; Fjortoft & Sageie, 2000; Zamani, 2012).

4 Types of Outdoor Play

Play is "any behaviour, activity or process initiated, controlled and structured by children themselves...with the key characteristics of fun, uncertainty, challenge, flexibility and non-productivity."

(United Nations Convention on the Rights of the Child, 2013, pp. 5-6)



Symbolic/Dramatic Play
fantasy, imaginary, or make-believe
Example: logs become pirate ships, space ships, cars
In natural spaces that contain a variety of elements and smaller more private spaces for social interactions.



Constructive Play
goal oriented
Example: design and build structures such as dens, forts, or sandcastles
In spaces that have loose and natural materials.

The opportunity to provide more variety of play was more prevalent in natural spaces and the traditional spaces with fixed equipment contributed only to the physical and social aspects of play (Woolley & Lowe, 2013).

(Woolley & Lowe, 2013; Fjortoft & Sageie, 2000; Zamani, 2012)

An outdoor playscape should provide young children with a variety of play opportunities.

"Natural elements significantly afforded 25% more cognitive play opportunities than manufactured elements" with more imaginative and constructive play (Zamani, 2012, p. 164).



Functional/Locomotor Play
gross motor skills
Example: running, jumping, climbing
Most prevalent on traditional playgrounds.



Games with Rules/Cooperative Play
common goal with set rules
Example: soccer, tag, hide-and seek
In open spaces, forests, or on raised areas.

(Woolley & Lowe, 2013; Fjortoft & Sageie, 2000; Zamani, 2012)

These four types of play most often don't occur in isolation.

The following four slides are text heavy but are very clear as to the developmental benefits of play on child development in outdoor playscapes. The key words have been highlighted and some point form notes have been included in order to make these concepts easier to follow while the presenter describes the four types of child development: Physical, Social/Emotional, Cognitive, and Spitual. A well designed playground should provide young children with a variety of play opportunities in which they can develop themselves holistically.

Physical Development-functional play

- Physical movement
- Balance
- Coordination

- In the woodlands setting, the natural playscape provided children with an increased ability to **balance** and demonstrate their **coordination** (Fjortoft, 2004).
- Playing in the forest or in an open field may require gross motor skills of **running, throwing, sliding, climbing, and balancing** (Fjortoft, 2001).
- Bell and Dymont conducted a study across Canada that had 71% of the elementary school participants indicate that making a greener playground provides the students with more opportunity for **moderate/light physical activity**. There are more opportunities for engaging in activities that slightly increase the heart rate such as **climbing, digging, and building** or maintaining heart rate such as **moving, bouncing balls, acting, and playing hide and seek** (Bell & Dymont, 2006).

It was noted that, "children who play in natural areas engage in more physically demanding play compared to that in traditional playgrounds (Fjortoft, 2005)" (as cited in Berris & Miller, 2011, p. 103)

Social/Emotional Development-social and dramatic play

- Building of positive relationships
- Expression of emotions
- Self-regulation
- Sense of belonging
- Inclusiveness
- Risk taking
- Being passionate

(Daly & Beloglovsky, 2015)

- In order to provide an environment that promotes the development of the child's social-emotional domain we must focus on areas in which **group play** or **social interactions** can occur. Through play children learn to **share, cooperate, respect others ideas, and express their own ideas, feelings and needs** (Malone & Tranter, 2003).
- Research has found that these aspects of social-emotional development in children are best supported using materials and activities that are **open-ended, varied, and unstructured** (Daly & Beloglovsky, 2015).
- If the environment is "**fun, peaceful and welcoming**, and children are feeling **emotionally safe**, their interest in play and physical activity will undoubtedly increase" (Bell & Dymont, 2006, p. 26).

The diversity and interest of a green playground encourages play that elicits cooperative and positive behaviours and is not reliant on only competitive physical prowess as traditional playgrounds often do (Bell & Dymont, 2006).

Cognitive Development

-Knowledge of his/her world in relation to:

- Language
- Numbers
- Problem solving
- Spatial relationships
- Critical thinking

(Malone & Tranter, 2003, p. 5)

Children learn through play while they "discover, explore and develop an understanding of the environment around them" (Malone & Tranter, 2003, p. 5).

- We must provide and encourage active play of our children so that they can move physically, interact socially, and develop cognitive skills of **problem solving**, and **creativity**. Providing open-ended materials to young children allows them to **stimulate their imaginations** to explore and be **inventive**, and become **flexible thinkers** and **better playmates** (Curtis & Carter, 2003).
- The outdoor environment "should engage children's **curiosity**, stimulate their **imaginings**, invite **exploration**, and support their developing competencies...sand, water, soil, and plants provide settings for open-ended play that emphasizes unstructured **creative exploration** with diverse materials" (Ritchie, Clifford, Burns, Reagan, & Schlossberg, 2013, p. 17).
- Using areas such as gardens, forests, sandpits, and construction areas can encourage **science, math, social studies, art, and language learning**. Observing the insects, birds, or plants can provide exploratory learning experiences.
- In Bell and Dymont's (2006) survey, 82% of participants in the greening of school grounds in Canada, reported an increase in **informal or formal learning** through building, observing, capturing, studying, and exploring objects in nature.

Spiritual Development

- Wonder and beauty of the natural world
- Appreciate and understand their world
- Investigate naturally occurring phenomena

(Saskatchewan Ministry of Education, 2009)

Spiritual development links closely with physical, cognitive and social-emotional development.

- In the outdoors, these **natural phenomena** of plants, clouds, sand, shadows, or puddles bring **awareness** of their environment and the need to **protect and care** for these living environments. If a child was to grow plants or care for animals outdoors, they learn to be responsible and respectful of living things (Saskatchewan Ministry of Education, 2009).
- "Carefully planned environments can provoke children's **appreciation of the beauty** of their natural world, foster their **curiosity** about their surroundings and ignite their **imaginings**" (Saskatchewan Ministry of Education, 2013, p. 47).
- Schien's (2014) grounded theory study of 12 early childhood educators, aimed to define spiritual development and to study the relationship of spiritual development and nature education. In short, by spending time in nature the children's "**wonderment, awe, joy, and inner peace** develop into the prosocial personality traits of **caring, kindness, empathy, and reverence**" (Schein, 2014, p. 78).

Loose Parts and Child Development

Loose parts theory was developed by architect Simon Nicholson in 1971 (Nicholson, 1971; 1972). This philosophy of loose parts has become prevalent in playgrounds/playscapes of today. Loose parts are natural or man-made materials, with no set of instruction, that can be used alone or with other materials (Daly & Beloglovsky, 2015). They allow children to manipulate, build or create while using their imagination. The next three slides will assist the parent's in choosing loose parts for the playground and the benefits these loose parts have on child development.

Loose Parts

Loose parts are natural or man-made materials, with no set of instructions, that can be used alone or with other materials (Daly & Beloglovsky, 2015; Neill, 2013). These open-ended materials can be moved, combined, stacked, taken apart and put back together, and most importantly repurposed (Daly & Beloglovsky, 2015; Nicholson, 1972).

bricks

stones

stumps

wood

pallets



Image source: © 2013 www.austlii.org/au/other/au-ia/play-space/

bark

logs

tires

twigs

boards

It has been "found that outdoor play spaces that contain materials the children could manipulate—sand, water, mud, plants, pathways and other loose parts—offered more developmental and play opportunities than spaces without these elements." (Hill, 2010, p.1)

7 Principles in Choosing Loose Parts for the Playground

- 1) no obvious play value
- 2) encourage co-operation and gross motor development
- 3) multipurpose
- 4) can be used in challenging, creative and uncertain ways
- 5) promote interesting sensory experiences
- 6) potential hazards are easily seen or managed by children
- 7) re-used or very inexpensive items

(Bundy, et al., 2011, p. 5; Engelen, et al., 2013, p. 3).

LOOSE PARTS and CHILD DEVELOPMENT

<ul style="list-style-type: none"> • Social-emotional development----- 	<ul style="list-style-type: none"> -allow for risk taking, -inclusion for all, -self-confidence, -social interaction through conversations, -collaboration, and cooperation.
<ul style="list-style-type: none"> • Physical development ----- 	<ul style="list-style-type: none"> -gross and fine motor skills are developed or enhanced -available at a child's individual developmental level -hand-eye coordination and small muscle control
<ul style="list-style-type: none"> • Cognitive development----- 	<ul style="list-style-type: none"> -children learn by doing or experiencing (Piaget, 1973) -learn to problem solve, and communicate, -learn math, science, language, art, and music <p style="text-align: right;"><small>(Daly & Beloglovsky, 2015)</small></p>
<ul style="list-style-type: none"> • Spiritual development----- 	<ul style="list-style-type: none"> -learn to respect, interact, and care for the environment <p style="text-align: right;"><small>(Bell & Dymont, 2006)</small></p>

Natural vs. Traditional Playgrounds

The next slide provides a summary of the research in chart form. It will provide an overall view of the actual construction, the types of play, and the developmental benefits on each of the traditional and natural playgrounds. This slide is animated to bring in one idea at a time from the natural side and then the comparable from the traditional side of the chart.

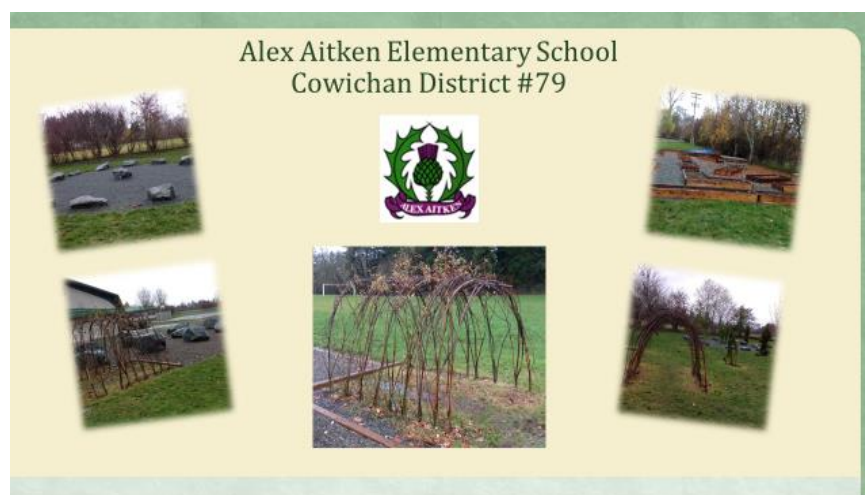
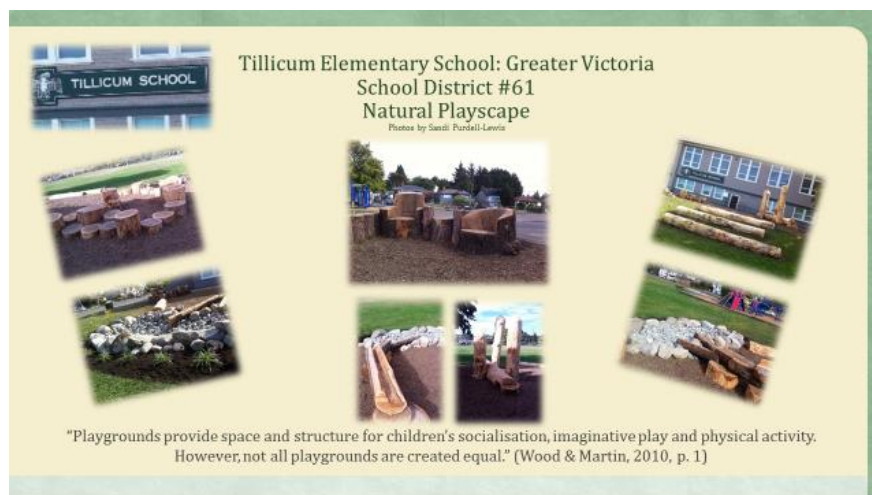
<u>Natural vs. Traditional Playgrounds</u>	
Natural	Traditional
<ul style="list-style-type: none"> • Loose parts, pathways, sand, water, trees to manipulate • Develop problem solving, cooperation, and observation skills • Learn to respect, interact, and care for their environments • Take risks at ability level in a variety of terrains • Engaged in moderate, more complex activities for longer periods of time • Imaginative play • Construction play • Dramatic play <p>(Verstrate & Karsten, 2016)</p>	<ul style="list-style-type: none"> • Fixed equipment that has predetermined uses • Purpose is physical fitness but present difficulties for less physically able children • More vigorous activities in short bursts • Physical/Functional play most prevalent <p>(Bundy, et al., 2008; Maxwell, Mitchell, & Evans, 2008)</p>

Herrington, Lesmeister, Nicholls, and Stefiuk (2010) created the 7 C's to encourage more diverse play and support child development in outdoor play spaces (Herrington & Brussoni, 2015). These 7 C's will assist the parent group in designing a new playground by making sure they create spaces on the playground that provide opportunities for more variety of play and holistic child development.

<u>7 C's for more diverse play and child development on natural playgrounds</u>
<ul style="list-style-type: none"> • 1) Character: or overall appeal of the playground • 2) Context: is the positioning of the play space within the overall environment including the surrounding community • 3) Connectivity: is the ability to move around on paths and to visually see the parts of the playground • 4) Change: or including natural elements that can change over time and the different sized zones • 5) Chance: is the opportunity to create, manipulate, and explore open-ended materials • 6) Clarity: is the site line for children and adults • 7) Challenge: is the physical and cognitive risks or difficulties of the space <p>(Herrington S., Lesmeister, Nicholls, & Stefiuk, 2010; Herrington & Brussoni, 2015)</p>

Examples of Natural Playscapes

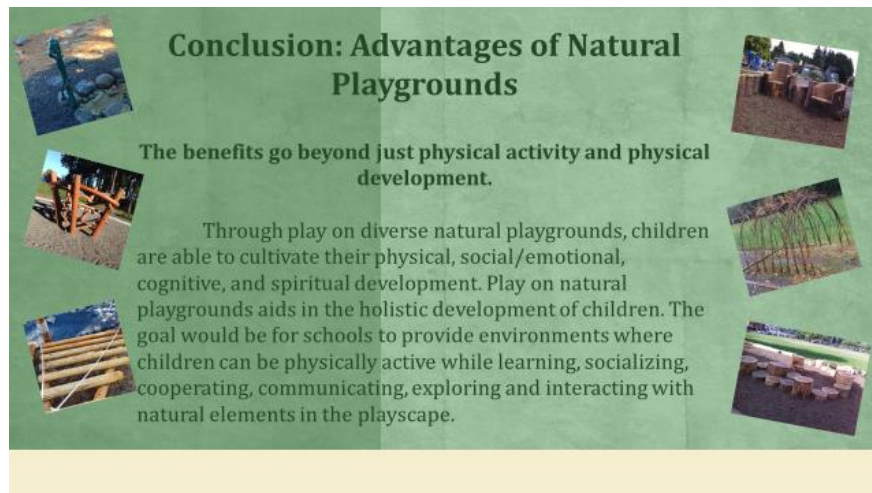
Following are examples from around Vancouver Island of natural playscapes in different settings. Two of the projects are from public schools and two are from public parks. The projects are all in different stages of completion. The Tillicum School has a full natural playscape while Alex Aitken School is in the preliminary stages of creating areas of natural play. The same holds true to the Campbell River Centennial Park that is a completed natural playscape, where as the Cowichan Valley Regional District Bright Angel Park has one area that has been transformed into a natural playscape. These slides will give the parents some local Vancouver Island examples of what could be created on our school grounds and reinforce that we could start small and build as funding and resources become available.





Conclusion

The last slide reiterates to the parents that through play on diverse natural playgrounds, children are able to cultivate their holistic development: physical, social/emotional, cognitive, and spiritual.



Creation of Brochure:

As with the presentation, I began with a three-fold brochure template from Microsoft Office PowerPoint that could be manipulated to suit my purpose. Using similar natural colours as in the presentation format, I created a brochure for the parents to take home. I copied bulleted notes from my presentation, added pictures, and quotes to reiterate the importance of natural playgrounds in our school setting.

The cover is an introduction to what a natural playground is, and its' definition. Inside flaps include the developmental benefits of play on a natural playground, and the comparison of natural vs. traditional playgrounds. Also on the inside is the information that could guide the parents in the design and construction of a natural playscape including: the 7 C's for more diverse play and child development; and the 7 principles of choosing loose parts for the playground. The back page of the brochure provides an area for taking notes and has two riveting quotes that sum up the presentation.

Natural Playgrounds vs.

Traditional Playgrounds

Natural

- Loose parts, pathways, sand, water, trees to manipulate.
- Develop problem solving, cooperation, and observation skills
- Learn to respect, interact, and care for their environments
- Take risks at ability level in a variety of terrains
- Engaged in moderate, more complex activities for longer periods of time
- Imaginative play
- Construction play
- Dramatic play

(Cummings & Scriver, 2004)

Traditional

- Fixed equipment that has predetermined use
- Purpose to physical fitness but present difficulties for less physically able children
- More vigorous activities in short bursts
- Physical/functional play most prevalent

(Dodge, et al., 2008; Cummings & Scriver, 2004)

By spending time in nature the children's "wonderment, awe, joy, and inner peace develop into the prosocial personality traits of caring, kindness, empathy, and reverence."

(Saxe et al., 2007)

Notes:

The opportunity to provide more variety of play was more prevalent in natural spaces and the traditional spaces with fixed equipment contributed only to the physical and social aspects of play

(Hartill & Jones, 2012)

NATURAL PLAYGROUNDS

Natural Playgrounds, natural playspaces are "intentionally designed playgrounds" in which elements of nature are naturally occurring or have been placed by man to enhance play spaces.

(Pyle et al., 2004; Cummings, 2012; Jamnikin, et al., 2009; Kelle, et al., 2010; L. 2010; Kelle, Pormo & Oksa, 2012; Laitinen & Piha, 2014)

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 Bachelor of Education
 University of Victoria, 2017

Developmental Benefits on a Natural Playground



Image source: <http://www.ecofriendlytechnology.com/2014/05/05/>

Physical Development- functional play

- Physical movement
- Balance
- Coordination

(Pyle, 2010; Doherty-Hughes, 2010)

Make playgrounds "as safe as necessary NOT as safe as possible"



Image source: <http://www.theresapark.com/2014/05/05/theresapark-natural-playground/>

7 Principles in Choosing Loose Parts for the Playground



7 Cs for More Diverse Play and Child Development on Natural Playgrounds

1) **Character**: or overall appeal of the playground

2) **Context**: is the positioning of the play space within the overall environment; including the surrounding community

3) **Connectivity**: is the ability to move around on paths and to visually see the parts of the playground

4) **Change**: or including natural elements that can change over time and the different sized zones

5) **Choice**: is the opportunity to create, manipulate, and explore open-ended materials

6) **Clarity**: is the site layout for children and adults

7) **Challenge**: is the physical and cognitive risks or difficulties of the space

Caring Development

Knowledge of the child world in relation to:

- Language
- Emotion
- Problem solving
- Social relationships
- Critical thinking

(Doherty-Hughes, 2010)

Spiritual Development

Wonder and beauty of the natural world

- Appreciate and understand their world
- Investigate naturally occurring phenomena

(Gardner, 2010; Doherty-Hughes, 2010)

- no obvious play value
- encourage co-operation and great motor development
- multipurpose
- can be used in challenging, creative and uncertain ways
- promote interesting sensory experiences
- potential hazards are easily seen or managed by children
- re-used or very inexpensive items

(Baker, 2011; Doherty-Hughes, 2010; Pyle, 2010)

Summary:

I anticipate that the Parent Advisory Committee will be able to use the research based information provided to make informed decisions on designing and creating a playground for our school community. The goal is to provide a playground and outdoor classroom space that can be used by our 290 students, as well as our on-site daycare, before and after school care, and for the youth and families within our community. Should this natural playground come to fruition, I believe it will benefit the elementary students at our school, as well as our entire community, as it would provide a safe, accessible, and enjoyable environment to play and learn.

Chapter Four: Reflections

Project Summary

The guiding question for this project is: How does play on natural playgrounds vs. traditional playgrounds contribute to the holistic development of young children? This project consists of four chapters.

Chapter one provides the reader with the introduction, the rationale, and the theories that drive the project.

Chapter two is a literature review to support and justify my project question. This chapter is the culmination of the most recent and relevant research in the areas of history of playgrounds, risk on playgrounds, outdoor play, child development and the benefits in outdoor playscapes, loose parts in the outdoors and on playgrounds, and a summary of the benefits of a natural vs. traditional playground in terms of the holistic development of a child.

Chapter three is the actual project which consists of a PowerPoint presentation and supplemental brochure. These two resources were created so that I could share my findings on the developmental benefits of natural playgrounds with others, including Parent Advisory Committee (PAC) members, administrators, educators, and community members. The presentation and brochure include the research to support the physical, social/emotional, cognitive, and spiritual development of children on a natural playground/playscape.

Chapter four provides a summary of my project, evolving beliefs and the impact on future practice, implementation of the project, recommendations, and future considerations.

Evolving Beliefs and the Impact on Future Practice

During the course of this Masters' program, I have had many inspirational moments from colleagues, course work, and real school experiences that have led me to explore and research the developmental benefits of play on a natural playground. Many of my colleagues at the school in which I currently teach, believe in Louv's (2008) return to nature phenomenon and show this by taking their students outdoors on a regular basis. Whether it be outside to explore on and off

school property, build a chicken coop or fort, or to take their writing and art work outside, the teachers allow the children to learn in and with nature.

The Masters' course work had two elements in particular that inspired me to delve deeper into this project. First I became more aware of the environments in which I teach, both indoor and outdoor. I began by creating a more natural and open environment in my classroom by providing more neutral colours and more natural wood manipulatives and shelving units. Bringing the outdoors inside seemed to make for a more calming effect on myself and my students. I began taking the students outside more often to observe and explore nature. We used magnifying glasses and tweezers to have a closer look at bugs or leaves. Building snowmen, planting potatoes and daffodils, and caring for our community garden are just a few activities the children engaged in in nature.

The second course which was a cause for deeper exploration of natural environments, was based on play. Play is an important aspect of a child's development. Learning about rough and tumble play and the real versus perceived risk factors that are inherent in such play has changed my perception. I was often one of those teachers who said, "Go down the slide properly or don't play with sticks" in fear of repercussion from principal or parents if said child got hurt. Now I allow the children to take the risks within reason because as Vygotsky (1978) says the child will play within their zone of proximal development or complete challenges that they are developmentally ready for. By taking risks, the child learns what they are capable of doing and this is something children need to develop while exploring their natural environment (Little & Eager, 2010). I now try to live by the Royal Society for the Prevention of Accidents' motto of playgrounds should be "as safe as necessary NOT as safe as possible" (Little & Eager, 2010, p. 501). I am now allowing for the children to explore by using their judgement, within reason, on whether something is safe for them or not, and this has allowed for much more excitement in investigating nature and the outdoors.

At the same time as I was completing this course work, our school's Parent Advisory Committee began looking at designs to replace our outdated playground. This led me to delve deeper into what the benefits of a natural playground were over that of a man-made playground and if there were significant differences. During this beginning research period, the parent group

asked me to assist in composing a proposal for funding for a natural playground, through the British Columbia Automobile Association (BCAA) Play Here Program's contest. Now that my research is completed they wish for me, along with two colleagues, to present my findings and speak at the next Parent Advisory Committee meeting to inform and educate the parents on the benefits and uses of a natural playground versus a traditional playground.

I have used the conclusion of my research, that natural playgrounds have a variety of play opportunities and therefore enhance development, in my professional and personal life. In acquiring educational games, toys, or objects for my classroom or for my granddaughter, I now weigh the developmental benefits before purchasing. For example, at Christmas I was in a large toy store perusing the aisles and I was shocked with the number of toys that are plastic and made with one purpose in mind. I was hard pressed to find something that was made from natural materials and that could be used for a variety of play opportunities and therefore enhance the holistic development of the child.

Implementation of Project

My goal in creating these resources, PowerPoint presentation and brochure, was to bring about conversations and considerations around creating natural playgrounds for children and therefore providing opportunities for their holistic development.

The opportunity to present portions of my PowerPoint presentation to our local Parent Advisory Committee (PAC) came to fruition during this month's meeting. The school PAC has been raising funds to replace a 25 year old playground that is being deemed unsafe piece by piece. While they have primarily looked at traditional playground packages, they were open to learning about natural playgrounds.

This presentation was attended by eighteen parents, our administrator, and the District PAC chair. The PowerPoint presentation was executed on a big screen television and the slides were manually advanced so that during the presentation there was time to explain slides in more detail when questions arose. My focus was on sharing information on the elements of natural playgrounds, taking safe risks, the play opportunities that are prevalent, and the developmental benefits that are afforded the children during play on a natural playground. Everyone attending

the meeting appeared engaged and interested in the information. Some had seen local natural playgrounds, but had not really considered it a viable option for a school playground. After the presentation a few questions were directed at myself and the two colleagues that joined me at the meeting. The benefits of a natural playground over a traditional playground were understood. Many of the questions that were asked were centered around the actual construction of the natural playground or the placement of the natural playground on our school grounds and what it might look like on our grounds. These questions were beyond the scope of this research project, however I am able to provide some contact information in regards to the Campbell River project, as I had contacted the person who initiated the Centennial Park Naturescape.

Following the presentation the PAC members and the administrator continued further their discussions. My colleagues and I were not present during this open discussion. Our administrator reported back, indicating that many more questions arose including some around the benefits of a natural playground and the differences between traditional and natural playgrounds. The administrator answered these questions the best she could based on her knowledge of my research.

The most important and exciting aspect of the open discussion was the fact that the parents were open to the idea of including a natural playground on our school property. They began to brainstorm and offer ideas on how natural elements can be added to our play areas, even before all the playground fundraising is completed. One parent indicated that she had a connection to an architect who may draw the plans for the playground. Another parent said that the company she works for is always blasting rock and just hauling it away. Yet another parent had a connection to someone who owned a trucking business and could get large tires. These are just some of the exciting and necessary discussions that can bring this natural playground from a dream to realization on our school grounds.

Recommendations

To other educators interested in pursuing the topic of developmental benefits of natural playgrounds and to those who wish to plan, design, and construct a natural playground for children, I have three recommendations:

- 1) Start small and take your students outdoors as much as possible to learn and play in natural settings.
- 2) Take the risk and explore beyond the school walls and school grounds.
- 3) Use this resource to present to your PAC, community members, other educators or administrators when conveying to them of the importance of natural playgrounds to the children's holistic development.

These recommendations are of particular importance to those in a position similar to myself where we are without a natural playground or playscape and are fundraising towards the creation of a natural playground on the school property. Start small, move outside your comfort zone, and advocate for the most play-based and developmentally beneficial type of playground.

Future Considerations

In presenting this information I wish to reveal how my thinking has changed, not only in my knowledge and enthusiasm towards a new natural playscape at our school, but also how the research has changed my thinking in my teaching profession. My goal is for other educators to use this research to inform their practice on the developmental benefits of play on natural playgrounds. Getting the children outdoors in nature is the first step and then creating a natural playscape in which to play and explore is next. For the Parent Advisory Committee, this research provided them with current research on the benefits of a natural playground over that of a traditional playground. A lot of rich conversations have begun on the importance of this type of playground and the possible implementation of this at our school. Hopefully they will design and create a natural playground based on my research and therefore provide more play and developmental opportunities for the children of our school. In the future, I hopefully will be able to present my research findings to other PAC groups and/or district committees who are interested in natural playgrounds.

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