ABSTRACT

In this graduating capstone project, I explore the issues that affect Early Childhood Educators (ECEs) abilities to meet the minimum government recommendations for physical activity each day for the children in their care. In northern Manitoba and other areas of Canada particularly north of the 53rd parallel, children may be unable to go outdoors to play for extended periods of time due to inclement winter weather. Weather, space, and equipment are explored as important aspects as to why ECEs are unable to facilitate children’s physical activities at appropriate levels throughout the day. In this project, I examine the current lack of physical activity and physical literacy provided for children in some child care facilities. Sociocultural theory, social learning theory, and physical literacy theory provide the theoretical framework for this work. Research studies from around the world are examined in the literature review that explores the various barriers ECEs encounter when attempting to provide physical activity to children throughout the day. In connecting the theory to practice, I developed a workshop for ECEs with small classroom spaces that offers suggestions for ways to improve the physical activity and physical literacy levels of the child in their care. From the literature review and my connection to practice, I concluded that the challenge of providing physical activity for children is not just about physical space, but also pertains to the education and creativity of the ECEs charged with the care of children. I recommend that our youngest children also deserve and require a daily space for their healthy growth and development. After all, public schools have access to gymnasiums for health and adult in our communities do too.
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DEDICATION

I dedicate this project to my family who has supported me, loved, cared, and been with me through these many years.

To my wonderful husband Donald Ayres who has waited for me to finish two degree’s so we could start our life together. It’s done, honey! No more waking me from naps to get homework done. Thank you for feeding me and keeping me sane through this project.

To my MOM thank you for pushing me in my education. I would not have accomplished this without your steady encouragement towards further education

In memory of my Dad

I am done going to school

Please tell Mom
CHAPTER ONE: INTRODUCTION

Some children spend many hours in childcare facilities, and at times Early Childhood Educators (ECEs) are unable to provide the recommended physical activity levels due to a variety of factors (Bower, Hales, Tate, Rubin, Benjamin, & Ward, 2008). Two such factors are inclement weather, which significantly limits the amount of time children spend outdoors and facilities without a large space also known as a gross motor room where children can expend some energy while indoors.

In this capstone project, I examine the current research on the lack of physical activity and physical literacy that is provided for children in some child care facilities. I explore how ECEs can improve the physical literacy and physical activity levels of children under their supervision. I also examine the factors and barriers ECEs encounter while attempting to provide physical activity and physical literacy skills to the children. The current work conditions for some ECEs requires them to tackle challenges such as, inclement weather, lack of a gross motor room and being confined for excessive periods of time in a small classroom space while trying to ensure all children have adequate physical activity. ECEs have an obligation to overcome these barriers in creative ways to ensure children get adequate physical activity on those days when they are confined to their small classroom space (Best Practice Manual, 2005, p. 69). In this project I aim to explore how ECE’s can improve children’s physical activity levels when they are confined to their classroom due to inclement weather and have insufficient large muscle or gross motor space. Finally, I provide some activities and ideas that ECEs can use in their classrooms to maintain and perhaps improve the children’s physical fitness and physical literacy skills.

First, I explore some key terms used in this capstone project.
Key Terms

The following are some key terms used in this capstone project in alphabetical order.

*Full-time childcare centers* in the context of this paper, are defined as “... a child care center in which child care is provided for more than 4 continuous hours per day and 3 or more days per week” (Community Child Care Standards Act 2014).

*Gross motor room* in the context of this paper, is an indoor room large enough for children to run and play in an unencumbered fashion. Even though these rooms are not legally required, some child care facilities do have access to various types of rooms (school gym, church hall or a large empty room in the facility) that are attached or adjacent to the center can serve this purpose.

*Gross motor or large muscle skills* in the context of this paper, are skills which require whole body movement and which involve large (core stabilizing) muscles of the body for movements such as standing, walking running and jumping (Berk, 2013).

*Preschool children* in the context of this paper, are children from three to five years old who have not entered the formal public or private school system (Merriam-Webster 2017). In Canada, this term is associated with both child care centers that provide full-time care and preschools that provide programming for children that does not exceed four hours per day.

*Physical activity* in the context of this paper, is defined by the World Health Organization, as “… as any bodily movement produced by skeletal muscles that requires energy expenditure.” (World Health Organization, 2015). This United Nations agency recommends that children participate in 180 minutes of physical activity at various levels (low activity – high activity) throughout each day (Canadian Physical Activity Guidelines (2012).
Physical literacy in the context of this paper, is defined as the motivation, confidence, physical competence, knowledge and understanding to maintain physical activity throughout the lifecourse (Whitehead, 2010, p. 5). Physical literacy refers to all the physical skills a person requires to be active throughout their life.

In the next section, I describe my personal experiences and why I feel I must investigate this topic further.

Context and Personal Background

The catalyst for this project is an experience I had during one vicious Canadian prairie winter when for forty-two days the daytime highs were (-45°C) and nighttime lows were around (-55°C). I remember how I was disappointed when I learned we did not break a weather record during this cold snap. We were short by two days. At this point, I was working at a child care facility, where we had the luxury of being able to take the underground tunnels from the child care facility to the main building and use the gymnasium each morning and afternoon. Not all facilities in which I have worked in have had this luxury. I have been in centers, which scarcely have met the mandated 3.3 meters of space per child. The feeling of being a sardine in a can comes to mind, especially when you have been indoors for several days.

This topic is of particular interest to me because of my current role as an ECE Instructor at a community college located in northern Manitoba where I am responsible for the education and certification of future ECEs. I believe my students require explicit instruction on physical activity and physical literacy especially for the days when they are confined to small classroom spaces due to inclement weather. Many of the elders of the community have told me that the weather is changing and becoming harsher and more unpredictable (Doris Young, personal communication, July 2015). More often during the winter months it is too cold for the children
to be outdoors, and during the summer it is frequently too hot for safe outdoor play. While summer days have not been as extreme as the winter, there are times when children and ECEs have had to stay indoors for two or three days because it is over (+25°C) and too hot. These extreme weather conditions pose a particular challenge to maintaining and improving children’s physical activity levels and physical literacy skills particularly in those child care facilities where there is no gross motor room for children to run, jump and climb freely.

I observed many differences in children’s behavior and fitness levels when they have had access to a gross motor room versus those times when they did not have this opportunity. The children, who had access to a gross motor room, were happier, slept well at nap time and had fewer emotional outbursts compared to the children who did not have the opportunity to run and play during the day. In another facility, one without a gross motor room, I noticed that on the first neighborhood walk with the children following our confinement that it was very difficult for them, and they complained that they were tired after walking a short distance. It was evident that their fitness level had dropped significantly without their daily physical activity time.

The provision of a gross motor room is not required by Manitoba child care licensing regulations (Best Practice Manual, 2005). I find this particularly disturbing as all public schools are built with a gymnasium and children who attend school are required to have physical education classes taught by professional experts in Physical Education and Health Education and often have access to the gymnasium during inside recess days. However, the youngest children, who need the most physical movement for healthy development, may not have access to a gross motor space due to the nature or location of their particular child care facility.

I believe more explicit instruction must be provided to future ECEs, and in professional development workshops provided to current ECEs. This refers, specifically, on how to ensure
children have physical activities of a type and time that will maintain or enhance their physical fitness and improve their physical literacy skills on a daily basis. As an instructor in northern Manitoba, I have noted that the general education level of students and ECEs in the field is significantly lower. Therefore I designed a workshop at the conclusion of this capstone, that is simple, clear and explicit to meet the educational level of the participants in northern Manitoba.

This capstone project contributes to the research required to inform and hopefully persuade the local and provincial governments that all child care facilities in Manitoba, Canada require a gross motor room for the healthy development of all children who spend many hours in these facilities, especially those children living near of above the 53rd parallel.

**Overview of the Theoretical Framework**

This project is informed by sociocultural, social learning, and physical literacy theories. First, sociocultural theory (Vygotsky (1930-1934/1978)) posits that children learn by experience and from their cultural environment. In terms of how this theory connects with the topic of my capstone project, a childcare facility that has a culture that encourages and values active play and physical movement is one where children will thrive in their physical activity and physical literacy skills. Through observing and participating with other children and ECEs, children experience physical activity and may learn the cultural value of an active lifestyle. Second, Bandura’s (1971) social learning theory states that new behaviors can be acquired by observing others such as ECEs or other children within the childcare facility. Consistent with Bandura’s theory, the activity levels of children should increase after initial modeling by ECEs, having been taught how to execute the activity, and then are reinforced by watching the behaviors of other children. Children observing their caregiver and other children being active are more likely to be active themselves. Finally, the work of Margaret Whitehead (Whitehead, 2010) on physical
literacy theory encompasses, “…motivation, confidence, physical competence, understanding and knowledge that individual develop to maintain physical activity at an appropriate level throughout their life” (p. 5). Children, who learn appropriate physical literacy at an early age, are more likely to be emotionally, physically and cognitively healthier.

These theories are important in the work of ECEs as they contribute to their understanding of how children learn and acquire physical literacy skills and the motivation that can enhance their physical activity in a childcare center. Sociocultural and social learning theory contribute to children’s active engagement in physical activity because children observe others and learn from both peers as well as imitate their movements. Social cultural and social learning theories are expanded in chapter two. Physical literacy theory provides the foundation for active living throughout the lifespan when it is learned and acquired in childhood. In this capstone project, the works of Vygotsky, Bandura, and Whitehead all contribute to addressing the guiding question in this project, which is found at the end of Chapter One.

**Introduction to the Review of the Literature**

In this capstone project I have conducted a review of the literature with the intention to assess the efficacy of approaches to increasing the physical activity of children. Topics and research included in the review of the literature include the following: barriers to activity in childcare centers, (Gubbels, VanKann, & Jansen 2012; Hinkley, Carson, & Hesketh, 2015; Tucker, van Zandvoort, Burke, & Irwin, 2011; van Zandvoort, Tucker, Irwin, & Burke, 2010) improving activity levels (Adamo, Barrowman, Naylor, Yaya, Harvey, et al., 2014; Bower et al., 2008; Goldfield, Harvey, Grattan, & Adamo, 2012) and the relationship between physical activity and mental health (Goldfield et al., 2012; Tucker, 2008; Whitehead, 2010). This literature review recommends interventions to increase the physical activity levels of children in
child care. I will expand on barriers to activity, suggestions for improving activity levels and the relationship between physical activity and mental health.

In the next section, I consider the rationale for this project.

**Rationale and Importance**

My project focuses on the importance that ECE’s play in teaching and modeling physical literacy and physical activity to children. In Manitoba, children are not allowed to play outside when the “wind chill conditions of more than 1600 watts per square meter, exist; temperatures below -25° Celsius exist” (Best Practice Manual, 2005. p 70). I believe that extreme weather conditions represent a significant barrier to physical activity levels for children in many childcare facilities especially for those who reside in the colder climate regions of Canada, such as northern Manitoba. This barrier is a particularly valid concern if the child care facility does not have access to a gross motor room where the children can expend some energy during cold winter days. Tucker et al. (2011) reported, “…that a number of daycare providers in the current study qualified their responses, pointing out that weather and individual differences among children influenced the physical activity levels of the preschoolers in their care.” (p.216).

Children are often engaged in sedentary behavior for prolonged periods and have limited physical activity especially in child care facilities that do not have access to a gross motor room. Physical inactivity has been identified as the fourth leading risk factor for global mortality causing an estimated 3.2 million deaths globally (World Health Organization, 2015). Soini, Villberg, Sääkslahti, Gubbels, Mehtälä, et al. (2014) reported, “Typically, very low physical activity levels and very high sedentary-level activity have been reported among preschool children during attendance at childcare settings” (p. 255). Children, who spend significant time in childcare facilities, are restricted by the many classroom rules and regulations such as no
running inside. They are not free to roam, romp or run within most classrooms and are often required to engage in long periods of quiet, sedentary play. Safety is often cited as a factor that limits the physical activities levels of children since many childcare facilities have limited space (Soini et al., 2014). Many child care facilities are built without access to a large gross motor room where the children can expend some energy during cold, winter days. As Bunyavanich, Landrigan, McMichael, & Epstein, (2003) stated, “We live in a world in which greater and more frequent environmental extremes are likely” (p. 44). Therefore, as climate change continues to be a challenge regarding extreme heat, extreme cold, and poor air quality, I believe ECEs must be prepared to provide adequate physical activities in their classrooms.

Goodway, Getchell, & Raynes, (2009) prepared the following physical activity guidelines for the National Association for Sport and Physical Education (NASPE) which state the following for preschool children:

“**Guideline 1**: Preschoolers should accumulate at least 60 minutes of structured physical activity each day.

**Guideline 2**: Preschoolers should engage in at least 60 minutes -- and up to several hours -- of unstructured physical activity each day, and should not be sedentary for more than 60 minutes at a time, except when sleeping.

**Guideline 3**: Preschoolers should be encouraged to develop competence in fundamental motor skills that will serve as the building blocks for future motor skillfulness and physical activity.

**Guideline 4**: Preschoolers should have access to indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.
Guideline 5: Caregivers and parents in charge of preschoolers' health and well-being are responsible for understanding the importance of physical activity and for promoting movement skills by providing opportunities for structured and unstructured physical activity.”

These guidelines, align with the Canadian Physical Activity Guidelines (2012) which state, “…preschoolers (aged 3–4 years) should accumulate at least 180 minutes of physical activity at any intensity spread throughout the day, including: A variety of activities in different environments; Activities that develop movement skills; Progression toward at least 60 minutes of energetic play by 5 years of age. More daily physical activity provides greater benefits.”

North American standards for promoting physical activity deem the movement opportunities available to three to five year olds to be essential to their physiological development as well as their general abilities to learn gross motor skills. Thus, it is no less important to remember and to implement these guidelines when living in harsh, northern climates where children may be confined to the indoors or small classrooms for a full day, week or month.

In the next section, I introduce my purpose and guiding questions for this capstone project.

Purpose and Guiding Questions

The purpose of my capstone project is to examine the literature on physical activity in child care and the barriers that deter ECEs from providing the recommend physical activity time. Drawing from the above listed physical activity guidelines for the National Association for Sport and Physical Education (2009) and the Canadian Physical Activity Guidelines (2012), it is my
belief that children in child care may not have adequate physical activity time when they are confined to their classrooms. I believe that the lack of provision of physical activity experiences is teaching children to be sedentary rather than active. Often children are expected or required to do quiet and non-active pursuits while indoors. Through the review of the existing literature and based on my teaching experiences, my aim in this capstone project is to suggest activities that ECE’s can use in their small classrooms for substantial periods of time that enables children to meet the recommended physical activity time required for children’s health. The significance of this project is to challenge ECEs to provide physical activity and physical literacy every day, and especially on days when they are indoors and have no access to a gross motor room.

The guiding questions for this capstone project are, “In what ways can Early Childhood Educators (ECEs) who work with preschool children in northern climates maintain or improve the children’s physical activity levels?” More specifically, “How can ECE’s improve the children’s physical activity levels when they are confined to their classroom due to inclement weather and insufficient large muscle or gross motor space?”

**Summary and Organization of the Project**

In Chapter One, I introduced the topic of the current lack of physical activity and physical literacy provided for some children in childcare facilities. I have related my personal background with this topic to explain its importance to me. I introduced the theoretical background and review of the literature associated with this topic. I outlined my rationale and purpose for this capstone project and stated the guiding questions. In Chapter Two, I expand on the theoretical framework and review the current literature on physical literacy and physical activity provided to children in child care facilities; more specifically, I provide an in-depth exploration of the literature related physical literacy and physical activity in child care facilities. In Chapter Three,
I provide an examination of how to link the theories described and research related to children’s inactivity levels with a practical workshop for ECEs on physical activity for preschoolers.

Finally, in Chapter Four, I provide a summary review and some final reflections and recommendations based on this capstone project.
CHAPTER TWO: LITERATURE REVIEW

In this chapter, I review the theoretical frameworks that provide the underpinnings of this project along with the research literature that focuses on the efficacy of promoting physical literacy and physical activity in child care facilities. I begin this discussion with a description of the theoretical frameworks proffered in bodies of work including Vygotsky’s (1930-1934/1978) social-cultural theory, Bandura’s (1971) social learning theory and Margaret Whitehead’s (2010) physical literacy theory. Following this discussion, I explore and review the research literature related to the guiding question, “In what ways can Early Childhood Educators (ECEs) who work with preschool children who reside in northern climates maintain or improve the children’s physical activity levels?”

Sociocultural, Social Learning, and Physical Literacy Theories

As introduced in Chapter One, Vygotsky’s (1930-1934/1978) social-cultural theory asserts that children learn by experience and from the culture to which they belong. Children’s learning is “first, on the social level and later on the individual level” (Vygotsky, 1978, p.57). Children learn from both peers and adults in what Vygotsky terms the Zone of Proximal development (ZPD). The ZPD espouses that children are influenced by those who are more skilled than they are and are more likely to participate. When children see their peers or ECE instructors being active in the childcare setting, they are more likely to participate in physical activities. This notion is important to my capstone project because it asserts that when younger children have an opportunity to see older children or adults participating in physical activities that they are more likely to do the same and, with some assistance or coaching, are more inclined to attempt new activities or learn new skills. Vygotsky also asserted in his theory the notion of the more knowledgeable other (MKO). In the case of this project, the MKO may be the ECE or
another peer the child may associate with in the classroom. The MKO plays an important role in increasing a child’s activity level since they may demonstrate the physical literacy skills the child is lacking and assist them to become more active. ECEs in this project, as the MKO, facilitate daily physical literacy and physical activities for children to encourage them to be more active throughout the day.

Influenced by Vygotsky’s principles regarding the social environment as a component of learning, Bandura expanded the theory to include the integrations and interactions between behaviors, cognitions, and the environment (Bandura, 1971). Social learning theory states new behaviors can be acquired by observing others such as ECEs or other children within the childcare facility, but that there is also an integration of thinking and acting. This tenet is important to the topic of this capstone because ECEs have the power to influence the environment, behavior, and thinking of the children in their care. More specifically, the ECE that has the tools for an active classroom and encourages activity in the children may be able to meet the Canadian Physical Activity Guidelines (2012). In addition, the ECE, who can help children understand that daily physical activity is required for healthy living is providing the best social learning environment in practice. Physical activity needs to be initially modeled for children by ECEs and then reinforced by observing the physical activities of other children. The saying “monkey see monkey do” comes to mind when thinking about Bandura’s theory. Modeling of physical activity results in children having a higher probability of increased physical activity levels.

Whitehead’s (2010) physical literacy theory states, “As appropriate to each individual’s endowment, physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to maintain physical activity throughout the life
course.” (p. 5). Physical literacy theory espoused that preschool children must acquire a vast range of physical skills to be an active, healthy adult. Full-time child care centers are excellent places for preschool children to acquire these skills due to the many hours children spend at the centers. Whitehead (2010) believed that children who learn appropriate physical literacy at an early age are more likely to have improved emotional, physical and cognitive health. Physical literacy theory encompasses the entire lifespan and, as such, Whitehead (2010) urged early learning of physical literacy to ensure that individuals enjoy physical and mental health throughout life. Whitehead (2010) stated that young children need to be encouraged to participate in all types of physical movement including but not limited to sports. In this way, children gain greater control and mastery over their bodies, which can lead to better health throughout their life. It is incumbent upon ECEs to ensure that the children in their care learn, practice and improve their physical literacy skills as per national guidelines for daily physical activity.

The next section includes the review of the literature previously introduced in chapter two.

Review of the Literature

As outlined in Chapter One, topics covered in this review of the literature include the following: barriers to activity in childcare centers, improving activity levels, and the relationship between physical activity and mental health. In the next section, I first describe barriers to activity in childcare.

Barriers to Activity

In their study about the obstacles ECEs encounter facilitating physical activities among preschoolers, van Zandvoort et al. (2010) focussed on who was encouraging physical activity in
childcare facilities and the “challenges” they faced. These authors found that the following barriers to physical activity were significant to the childcare providers: “inadequate equipment, insufficient space, daycare requirements and safety concerns, as well as weather” (van Zandvoort et al., 2010, p.180). The findings from this study clearly indicated that childcare providers might not be providing the adequate physical activity needed to maintain or improve children’s physical fitness due to these many barriers. In a subsequent study, Tucker et al. (2011), “sought to collect childcare providers’ suggestions for improving physical activity during daycare hours and their perspectives regarding the feasibility of meeting the physical activity guidelines currently set out for preschoolers.” (Tucker et al., 2011. p. 207). This study found that the childcare providers thought children were at the active levels recommended by National Association for Sport and Physical Education (NASPE). However, Tucker et al. (2011) concluded that ECE’s perceptions of adequate physical activity are incorrect and current research suggests that preschool children are not as active as recommended. Therefore, Tucker et al. (2011) recommended that additional quantitative research must be conducted so appropriate programs can be designed and implemented with preschool children to increase their physical activity levels. This finding is important because children who spend significant time in childcare facilities may not be engaged in the appropriate amount of physical activity each day to meet the recommended requirements.

Hinkley et al., (2015) compared the differences in childcare centers in Melbourne, Australia, and Kingston, Ontario, Canada, regarding physical activity and sedentary behavior. Their literature review included recent studies on physical activity and sedentary behaviors and how these are beneficial or harmful to preschool children. They also reviewed international and government guidelines that have targeted both physical activity and sedentary behaviors. When
Hinkley et al., (2015) contrasted the two countries in the areas of physical environments, policies, and practices around physical activity, they found Canadian centers had more “physical activity policy” that require “centres to provide active play opportunities, activities to promote gross motor skills and outdoor time” (p.136). However, this 1990 policy was specific to the outdoors, and it reported that children were both sitting more and watching additional television particularly on days when children could not go outside due to cold weather. (p. 132). Hinkley et al., (2015) also found that centers in Australia “provided an indoor area for physical activity, shade outdoors and physical activity education to staff.” (p. 132). The finding from this study indicated that the weather and climate had played a significant role in the difference in activity levels of children. As compared to Canadian children, Australian children were able to play outdoors on more days throughout the year. The findings indicated that perhaps the children’s behavior indoors is more sedentary in Canada. One of the final messages of this study was very clear, “Increasingly sedentary lifestyles place an imperative on centers to support physical activity and minimize sedentary behaviors such as electronic media use” (Hinkley et al., 2015, p. 136). The ratio between physical activity and sedentary behavior is important in this capstone project due to the significant number of days that children may spend indoors without an indoor physical area or gross motor room in northern Canada, as compared to the days provided in Australia.

In a previous study about the relationship between physical activity facilities (play equipment) and physical activity of two and three year old in child care facilities in the Netherlands, Gubbels et al., (2012) concluded that, “…not all physical activity facilities at childcare were indeed positively associated with children’s activity levels” (p. 1). The study found that riding toys in small space and slides, swings and sandboxes were of concern as “they
possibly limit children’s activity levels.” (p.7). Gubbels et al. (2012) recommended that childcare centers who want to provide the best physical activity opportunities for children have adequate indoor and outdoor spaces for children and include equipment for jumping.

These findings provide concrete leads for ECEs and childcare providers regarding several factors that they can improve the physical environment to facilitate children’s physical activity. In the next section, I examine the concept of how to improving physical activity levels in childcare.

**Improving Physical Activity Levels**

Adamo et al., (2014) and Bower et al., (2008) examined the opportunities for physical activity interventions to be delivered in licensed daycare childcare facilities to increase the physical activity levels of children. In these studies, the researchers examined the childcare facility as the prime environment for many children and, therefore, a key factor in the physical health of children. In particular, Bower et al. (2008) took into account the need to reduce sedentary activities and the social aspect of the environment as important factors for children’s physical activity levels. In contrast, Adamo et al. (2014) identified the need for families to be involved with the activity levels of their children. In both studies, the researchers concluded that for many children, the child care facility is their primary environment. As such, child care facilities and their programs can influence the physical well-being of children. Also, the researchers point to the ECEs as both models for and facilitators of children’s physical activity.

In the last section of the review of the literature, I discuss physical activity and mental health as important aspects of child care.
Physical Activity, Health, and Mental Health

In a literature review examining physical activity, health, and mental health in childcare, Tucker (2008) provided a comprehensive review of thirty-nine recently published studies from seven countries between the years 1996-2007. Tucker (2008) reviewed the literature regarding the benefits of physical activity, health and mental health and the clearly presented links between physical activity, health, and mental health. The assumption that preschool children are naturally active enough to maintain physical activity health was found to be incorrect. Moreover, she found that the addition of screen-time, fewer siblings, safety concerns and time spent in daycare were all contributing factors to children’s sedentary lifestyles. Findings from the Tucker (2008) review indicated, “46% of studies reported that preschoolers did not meet the recommended guidelines for physical activity” (p.53). In conclusion, Tucker (2008) recommended that ECEs encourage more activity in indoor both indoor and outdoor play and that ECEs facilitate children’s activities throughout the day long.

Goldfield et al., (2012) explored the reasons and rationale for physical activity interventions in the daycare environment and why this is an appropriate place for these interventions. Their study considered a variety of additional health and lifestyle factors and its effects on the health of preschool children. Through their literature review, they found that many children are not as active as has been recommended by government and health professionals and furthermore, children’s obesity with its related health care issues are increasing. Significantly, Goldfield et al., (2012) found that the general education level of early childhood educators is critical to ensuring that “they have the required knowledge and skills for promoting and engaging young children in physical play, reducing sedentary time and facilitating motor skill development…” (p.1335) In conclusion, the authors recommended that because many children
are spending many hours in child care centers that it is important that early childhood educators are well trained in providing physical activity for children and understand its role in promoting a child’s healthy growth and development.

In Chapter Three, I connect the theoretical frameworks and the literature reviewed on physical literacy and physical activity with practical applications for child care settings, and more specifically for settings without gross motor rooms or an indoor room large enough for children to run and play unencumbered.
CHAPTER 3 CONNECTIONS TO PRACTICE

In Chapter Three, I draw on my experience and the examination of the literature to put forth recommendations for ECEs to improve the physical literacy and physical activity levels of children under their supervision in child care facilities. In addressing my guiding questions, which center on ways ECEs can maintain and improve physical activities levels specifically when restricted to their classroom spaces, I focus on the need to provide adequate structured and unstructured physical activity time, particularly when weather confines ECEs and children to their classrooms. My discussion will center on the following aspects:

- the connection of social cultural theory and social learning theory to the role of ECEs and MKO’s as models for children
- the connection between physical literacy and government recommended activity levels for preschool children.
- the reality of small classroom spaces and barriers that ECEs encounter, and finally,
- examples of realistic and practical activities that ECEs can use within their classrooms to meet the daily physical activity requirements for preschool children.

I conclude this chapter with a workshop for ECEs where I present theories, current research, and I invite ECEs to develop an activity plan to be used in their classrooms on days when inclement weather prevents the children from outdoor play.

**Social Cultural and Social Learning Theories ECEs and MKO’s as Models for Children.**

As explained in Chapter Two, social-cultural theory’s (Vygotsky 1930-1934/1978) describes how children learn by experience and from the culture to which they belong. In a child care facility that encourages daily indoor and outdoor activity, I assert that children are more inclined to be active. I have observed ECEs sitting on a bench in a large gymnasium and the
children sitting next to them. In another situation I observed the ECE taking the initiative to take the children on a walk of a significant distance. The MKO may be the ECE or a peer that the child may associate with in the classroom and plays an important role because they demonstrate the physical activity or physical literacy skill for the child. ECEs as the MKO facilitate daily physical literacy and physical activities for children in order to encourage them to be more active throughout the day. When children see their peers and ECEs active in the childcare setting, they are more likely to be physically active. The ECE walking with their group of children is a positive role model of physical activity for children, while the ECE on the bench is a model of inactivity. Furthermore, social learning theory (Bandura, 1971) states that new behaviors can be acquired by observing others including ECEs or other children within the childcare facility, but also integrates thinking and acting about the behaviour. ECEs have the power to influence the environment, behavior, and thinking of the children in their care. The ECE, who has a full toolbox of activities for an active classroom and encourages activity by children is able use these activities in creative and active ways which in turn may assist them in meeting the Canadian Physical Activity Guidelines (2012). The ECE who can help children understand that daily physical activity is required for healthy living is providing the best social learning environment in practice.

Next, I discuss the links between physical literacy theory and government recommended activity level in practice.

**Physical Literacy Theory and Government Recommended Activity Levels**

In my experience as an ECE, the amount of time that children are engaged in physical activities is not monitored or recorded on a daily basis by ECEs. Therefore, there is no plausible evidence that children in child care are meeting their daily requirement for physical activity. As
Tucker et al. (2011) recommended, more quantitative research must be conducted. I propose that ECEs may realize that more activity needs to occur when they are more cognizant of the type, time, and duration of the physical activity children are engaged throughout the day. This added awareness is particularly important on days when the children and ECEs must stay indoors. While indoors children are usually restricted to their classrooms if there is no gross motor room provided in the facility. As I introduced in chapter one, in the classroom, children’s movements are restricted by the many, many rules and regulations such as no running inside. Children are not free to roam, romp or run within most classrooms and are often required to engage in long periods of quiet, sedentary play. I echo, Soini, et al. (2014) citations about safety as a factor often referenced, and therefore affecting physical activities levels of children since many childcare classrooms and facilities have limited space. Indoor rules created to ensure children are not falling on furniture or each other creates an unintentional barrier to physical movement. However, movement of some furniture and designation of a physical activity space with specific rules to accommodate physical activity could provide the movement space needed for children.

As compared to indoor activities, children experience fewer rules and have more space for free self-directed physical movement when outside. While outside, children have room to run, to jump, to climb, to bike or do a variety of other physical activities that can not be permitted and experienced in a small classroom space filled with furniture. In my experience, children’s physical activity is also not monitored during the outdoor time. The children’s activity levels are assumed to be quite active because they are outside and ECEs believe children are engaged in physical activity. As Gubbels et al., (2012) noted that the outdoor equipment must also be of a type that children use in a physically vigorous ways including jumping
equipment as compared to swings, slides, and sandboxes. Unless ECEs are monitoring and documenting the time and type of activity children are engaged, there is no credible data.

Physical literacy theory encourages all forms of activities for children including, running, jumping, throwing, catching, and balance within their environments throughout the day (Whitehead, 2010). It proposes that children who learn appropriate physical literacy skills at an early age are more likely to develop in a normally complete and healthy way. Children benefit from exploring the environment, the space, the equipment, the objects provided and from the children they encounter. Children need these to learn how to react within their environment. Vygotsky’s social learning theory and Whitehead’s physical literacy theory both point to the need for independent space and social learning to benefit from both social and physical learning.

When children are confined to the indoors and a small classroom space for significant periods of time, their healthy growth and development may be delayed. It is up to the ECEs to teach, practice and improve physical literacy and physical fitness skills of the children under their care and supervision daily (Bower et al., 2008). As stated in Chapter One, the recommended time and type of activity by Goodway et al., (2009) and Canadian Physical Activity Guidelines (2012) recommends 60 minutes of structured physical activity, no more than 60 minutes of sedentary time and several hours of unstructured physical activity each day. It is clear from these governmental recommendations and physical literacy theory that daily movement is an important component to the healthy development of preschool children.

Next, I look at the reality of small classrooms, and some of the many barriers ECEs face when trying to provide the recommended physical activity to children in their care.
Small classroom spaces and barriers that ECEs encounter

Small classroom spaces, no access to a gross motor room and lack of education about physical literacy and physical fitness are just some of the many barriers ECEs encounter when attempting to provide appropriate activity levels for children in child care facilities.

In Canada, there is no set standard for classroom space size or the size of outdoor play spaces for child care facilities. As child care is a provincial responsibility, regulation of the physical space for children is the responsibility of the provincial governing body responsible for child care. These regulations vary greatly from province to province (See Appendix A). In licensed child care facilities in Manitoba, each child is allotted a minimum of 3.3 square meters and facilities are encouraged to have up to 4.6 indoors and 7 square meters outdoors as their play space. (Best Practices Best Practice Manual, 2005. p 57 & 61). While this space is equivalent to three standard loveseats, 20 percent of that space is shared with furniture and the adults charged with the supervision of the children. In my experience, this leaves very little extra space for movement activities with the children. Classrooms are often designed to discourage children from running within the classroom due to safety issues. ECEs in my program are trained to design classrooms without large spaces or long “runways” that could entice children to run within the centre. However, this does not allow for physical movement on days when classroom space is needed for physical activity. In my experience, working in classrooms that are just meeting space standards, there is no room for physical activity or movement unless an ECE is prepared to move furniture. Moving furniture that is often heavy, bulky and difficult to move, is not a consideration most ECEs would attempt. As Zandvoort et al. (2010) reported, insufficient space when children were confined to the indoors was identified as a significant barrier to providing an adequate amount of physical activity. The small space of less than 3.3 meters per
child after the furniture and the adults are factored into the room is a significant barrier to providing space for physical activity. Therefore, ECEs feel limited in the types of activities they can facilitate in their classroom.

While indoors, children are restricted by the many classroom rules, and they are not able to move unrestricted. This causes many children to engage in long periods of quiet, sedentary play which is harmful to their healthy growth and development. Safety is often cited as a factor affecting physical activities levels of children since many childcare facilities have limited space (Soini et al., 2014). I believe there is also a myth that classrooms cannot be used for physical activity. The classroom is viewed by many ECEs as a place for quiet activities such as sedentary pretend play and tabletop work. ECEs do not see the classroom as a multipurpose space with moveable parts that could be rearranged for active physical play.

Gubbels et al., (2012) suggested that child care centers wanting to provide the best physical activity opportunities for children have adequate indoor and outdoor spaces for children and include equipment for jumping. While I have observed that childcare facilities built to the specification of the provincial standards are safe, I would argue that they are not adequate indoor spaces for large muscle movements required for running and jumping. Children require space for their movement activities to be safe. Classrooms filled with furniture such as toy shelves, tables, chairs, art easels, cubbies, etc. are not appropriate space for running and jumping by children and adults. A balance between safety, functionality and physical movement is required if classroom space is to provide the necessary elements for healthy development and care of children.

In addition to the small spaces of the classroom, I concur with van Zandvoort et al. (2010) that equipment and safety concerns are significant factors for ECEs limiting the amount
and type of physical activity they can provide to the children. I have observed ECEs consistently reminding children to keep their feet on the floor, not to be climbing on or over the furniture to prevent accidents. As well, ECEs are often heard reminding children to walk and not run in the child care facility. ECEs feel this reminder is required due to safety concerns about children falling onto furniture or running into other children. Given these attitudes and behaviors by ECEs, I suggest that classroom spaces need to be flexible and furniture mobile enough to be moved, so children have space for the physical activities they require each day for healthy development.

In my experience as an ECE and ECE Instructor, I have observed that gross motor rooms that provide adequate space for physical activity are a luxury in child care centers. An indoor gross motor room is not a requirement for licensing of a child care centre in Manitoba and, therefore, is not included in the building of new centers. I have observed that gross motor rooms that have been accessed by the child care facility are usually because the child care facility shares space and has a working agreement to access the gross motor room space. These spaces included underground hospital tunnels, a school gymnasium, a church hall or a recreation center gymnasium attached to the child care facility. I would not have survived the six-week winter confinement due to \(-45^\circ\text{C}\) daytime highs if the child care center where I worked did not have access to the large gymnasium in the attached school. The gymnasium was double-sized and could be sectioned off into two halves creating areas for two classes to participate in physical activity at the same time. The gymnasium contained a vast and varied amount of equipment as the facility specialized in the care of children and adult with profound disabilities.

It was a relief each morning or afternoon to take a group of children through the connecting tunnels to the gymnasium. The children were so excited to run, ride bikes and
wrestle that the ECEs often did not have to program activities during the first few weeks. However, during the last few weeks in the gymnasium, it was imperative that the ECEs provide daily programmings such as obstacle courses, running games, and cooperative games. The children grew bored over time with the novelty of the experience and, therefore, required the input of the ECEs to ensure their activity levels were adequate. Children began to sit on the edges of the gymnasium and play sedentary games in the corner when they were bored with running and playing tag in the open space. ECEs were required to set-up the equipment or facilitate games to keep the children moving for the 30 – 45 minutes of gymnasium time. In contrast, I have worked in several child care facilities without an available gross motor room available. In these facilities, the children demonstrated many behavioral and emotional outbursts when the ECEs were unable to provide adequate physical activity. The “insufficient space” (vanZandvoort et al., 2010) was detrimental to the children. I resonate with Goldfield et al. (2012) and Tucker (2008) finding regarding how the lack of space and physical movement may have caused some children to have difficulty with social skills, napping and be unhappy. With my limited ECE experience and training, at the time, I was unaware of the options available to provide the proper daily physical activities for the children’s healthy growth and development. In the next section, I suggest some realistic and practical activities that ECEs can use within their classroom to facilitate children’s daily physical activities.

**Guidelines and Realistic Activities for Early Childhood Educators within their Classrooms**

Climate change leading to extreme weather conditions is a reality in Canada (Bunyavanich et al., 2003). Extreme weather conditions are a challenge for safe outdoor play. Therefore, the challenge to provide adequate physical activities in classrooms for the healthy development of children in child care is a reality. As I have observed, expecting children to sit
or play quietly for the entire day is unrealistic and unhealthy for their development. Activities incorporated into the child care routine can significantly influence children’s movement during the day and their healthy development.

In the following section, I share some of the preliminary steps that ECEs could use in planning a more active day for the children in the classroom.

**Preliminary Steps for ECEs Planning for Active Days**

The following are some preliminary steps ECEs can use to begin to plan a more active classroom on days when the weather is inclement, and they are unable to go outside. I suggest ECEs begin by looking at the environment and take some notes of the physical environment in the indoor space. Next, ECEs can observe and document the children and their current activity levels to determine where more might be needed. Finally, ECEs examine their perceptions and attitudes or beliefs about being physically active as this is an area they may be sharing their value judgments with the children.

These are specific recommendations:

1. Take note of your environment
   - Do you have a space adequate for some physical movement with the children?
   - Can you move some furniture to make an adequate space?
   - Could you do activities in your room with small groups of children (3 or 4) at a time in the space you have?

2. Observe the Children
   - What types of activities do the children enjoy doing (e.g. running, jumping, climbing, riding bikes, catching or throwing balls, superhero play, etc.)?
• Observe the individual children who are active? When are they active (e.g. running, jumping, climbing, riding bikes, catching or throwing balls, superhero play, etc…)?

• Observe the individual children who are passive? When are they passive (e.g. sitting, lying down, walking slowly)?

• Notice the individual differences in activity levels in your room. For example, how are children currently engaging with the toys and activities in the classroom?

• Note the schedule of the childcare facility day
  o Is it active - are you doing activities most of the day?
  o Is your day mostly passive sedentary activities are the children sitting a lot and doing quiet play?
  o Are there activities during circle time?
  o Are there planned games that ECEs facilitate or are the children left to be self-directed?
  o What other activities are the children engaged outside of child care?

3. Document

• Document each child's activity level for 1 – 2 days.
  o When are they active?
  o When are they sedentary?

The act of being more observant of each child's activity level will give the ECE a base to start building their program. (see Appendix C - Activity Documentation sheet)
4. What types of activities are you involved in? If an ECE does not enjoy physical activity, they may be projecting this to the children. Therefore, I invite ECEs to examine their perceptions and attitudes or beliefs about being physically active. Here are some questions for reflection that might help ECEs to be reflective:

- What activities do you enjoy the most?
- Do you enjoy being physically active?
- Do you enjoy walking, biking, hiking, skating, skiing, swimming, etc.?
- Do you enjoy any team sports or games, curling, hockey, basketball, volleyball, baseball, golf, horse shoes or pickleball?
- Do you play catch or soccer with the children to engage their gross motor skills?
- Are you physically active outside work time? We know movement is recommended for adults and children so consider engaging in movement with the children

In the next section, I outline and briefly describe the workshop for ECEs entitled – “Making Your Classroom Work for Physical Activity with Children.”

**Outline and Brief Description of Workshop for Early Childhood Educators**

**Title:** Making your classroom work for physical activity with children

Drawing from the Canadian Physical Activity Guidelines (2012) on days when children are unable to go outside and are confined to their small classroom spaces, ECEs must ensure 60 minutes of structured physical activity as well as 60 minutes of unstructured physical activity opportunities for children. To ensure this, ECEs must facilitate, monitor and record the activity
of the children. The professional development workshop (see Appendix B) is a beginning for ECEs who have limited or no training in physical activities in small spaces.

Workshop components include the following:

- Introduction
- Theoretical Framework
- Current Research
- Getting Started
  - Your activity level with children
    - If they see you active, they likely will be more active and it is more fun for both you and the children.
  - Observations and documentation of your children’s activity levels
  - What’s in your classroom now and how can it work for you
- Suggested activities that ECEs can do in small spaces
  - Try them together to see if we can get our heart rates up
- Making your plan
  - Put it on paper so you can use it, track it and change it
- Other practical things to know
- Questions
- (See Appendix B)

Workshop participants will have time to create their plan and share among their table group for feedback or suggestions. I expect to invite participants to share ideas and activities that they have used successfully with children in their experiences.
In Chapter Four, the last chapter, I draw my conclusions based on the literature review and practical implications for ECEs who are confined to small classroom space for extended periods of time.
CHAPTER FOUR: CONCLUSIONS

In this final chapter, I reflect on the literature review, its connection to practice and share some conclusions about what I have learned. In the concluding thoughts, I consider the importance of physical activity and physical literacy in the lives of children who spend many hours in child care facilities. Finally, I outline the limitations of this project and recommendations for future study and practice.

Reflections and Concluding Thoughts

The impetus for this capstone project came from my experiences in child care facilities that provided limited to outstanding physical activity opportunities, and my recognition of the need for appropriate spaces for children during long Canadian prairie winter months. I have learned through the literature review that the challenges of providing physical activity for children is not just a matter of space but also pertains to the education and creativity levels of the ECEs charged with the care of children. The Canadian Physical Activity Guidelines (2012) are very challenging for everyone to meet so children may be active every day. ECEs are requested to provide 60 to 90 minutes of vigorous structured physical activity throughout the day in a small classroom. I learned that it is important to keep children as active as possible throughout the day and to encourage children to be sedentary for no more than an hour at a time. Through my workshop “Making Your Classroom Work for Physical Activity with Children,” I provide ECEs with some creative ways to keep children active throughout the day especially when they are unable to go outdoors.

Through this capstone project, I now understand how important ample physical activity throughout the day is for children. I realize how parents rely on ECEs for their child’s healthy development, especially those who must leave their children in child care for many hours per
week due to work or school commitments. The ECEs responsibility is not just for safe and adequate care but also to ensure children have adequate physical activity opportunities throughout the day. From the literature review, I have confirmed how child care is an excellent place for children to learn healthy activities with their peers and to form good habits for the future. (Adamo et al., 2014). Therefore, ECEs have the privilege to shape children’s active futures because of the many hours they spend together.

Additionally, this capstone project has renewed my advocacy to ensure future child care facilities are built or renovated to include a large gross motor room for the children. Space to run and play is vital in our changing climate where extreme weather is becoming the norm (Bunyavanich et al., 2003). While ECEs can do some activities in their small classroom spaces, a large gross motor room for running and jumping is best and must be part of every child care facility. Drawing from the literature reviewed and based on my experiences in different child care facilities in Canada, I believe that just as adults go to the gym for their physical health and public schools have gymnasiums, our youngest children also deserve and require a daily space for their healthy growth and development.

**Limitations and Recommendations for Future Study and Practice**

The review of the literature for this project was limited to the physical activity levels of children in child care. The scope of my project was limited to the ECE in a small classroom space with no gross motor room because I focused on child care facilities in Manitoba that do not have a gross motor room for the children. My focus was, therefore, about how to get children moving when they are limited to their classroom space. There are many other attributes of childhood physical fitness, health, and development that are important aspects of the healthy development of children. As per the focus of my project, I believe daily movement is the most
important aspect of the strategy to ensure physical fitness and an immediate need that can be tackled with professional development education of ECEs. Next, I outline some recommendations for further study and practice that stem from the limitation that I have presented.

Interest in this topic is a burgeoning in the early childhood education field, but accurate quantitative and qualitative research is difficult to create due to the many restraints placed on researchers when using human subjects and particularly when using children (Tucker, 2008). More research is required on this topic to accurately measure children’s daily activities in child care facilities in Canada where the weather is a significant factor in children’s limited outdoor play including the northern regions of the prairie provinces. Based on this research, appropriate interventions can be developed and implemented by ECEs to use in their classrooms, gross motor rooms and outdoors to maintain and improve children physical fitness levels.

Finally, it is my recommendation based on my experience and understanding of the literature that a gross motor room is made available for the healthy development of children, who spend many hours in a child care facility where outdoor play is limited by weather like the prairie regions and north of the 53rd parallel.
References


APPENDICES
Appendix A

Legislated requirements for outdoor play/environment and physical activity

<table>
<thead>
<tr>
<th>Province/Territory</th>
<th>Act and regulations</th>
<th>Requirements re: outdoor environment</th>
<th>Requirements re: time and program aspects of physical activity</th>
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</thead>
</table>
| Newfoundland and Labrador| Child Care Services Act. 1998. Child Care Services Regulations, 2005, 89/05          | 8.(1) A child care service  
(a) shall, if it is centre based,  
if it operates more than 4 hours a session, have access to an outdoor play area on-site, surfaced, enclosed, of a size and equipped in the manner determined by the Minister, and  
(b) if it operates for 4 or fewer hours a session, have access to an outdoor play area which, if it is on-site, shall conform to the requirements of subparagraph (vi), but if it does not have an on-site outdoor play area, then with subparagraph (vii). | Not specified                                                   |
PHYSICAL FACILITIES  
- A facility shall provide a minimum of 3/12 square meters of indoor space and a minimum of 7 square meters of outdoor space for each child enrolled in the facility. (EC475/87)  
- Where there is no outdoor space immediately adjacent to the facility, nearby parks or other open space, which in the Board's judgment is appropriate to the nature of the program activities offered, may be used. (EC475/87) | Not specified                                                   |
| Nova Scotia Day Care Act, 1989. Day Care Regulations (amended 2011 by N.S. Reg. 155/2011) | Outdoor play equipment and space requirements for facilities 22 (1) An outdoor play space used by a facility must be accessible to all enrolled children, including those with diverse abilities. Children enrolled in a full-day program, or a school-age program must be provided with either of the following: One or more outdoor play spaces located at the facility that are safe and suitable for the age range of the children enrolled in the program; or (b) access to a safe and suitable outdoor play space that is within a reasonable distance of the facility and that is suitable for the age range of the children enrolled in the program. Except for outdoor play spaces located at a public school or a private school, for the purpose of clause (2)(a) an outdoor play space located at a facility must meet all of the following requirements: it must provide at least 7 m² (75 ft.²) of play space per child using the play space; it must be large enough to accommodate the largest age group of children enrolled in the program, other than infants; it must be enclosed by a fence that is at least 1.2 m (4 ft.) high. If any infants are enrolled in a full-day program, there must be a separate outdoor play space for the infants at the facility or in the immediate vicinity that meets all of the following requirements: it must provide at least 7 m² (75 ft.²) of play space per infant using the play space; it must be large enough to accommodate all of the infants enrolled in the program; it must be enclosed by a fence that is at least 1.2 m (4 ft.) high. | Outdoor play space requirements for family day care homes 24(1) An outdoor play space used by a family home day care program must be accessible to all enrolled children, including those with diverse abilities. Children enrolled in a family home day care program must be provided with an outdoor play area that is on the premises of the family day care home and enclosed by a fence that is at least 1.2 m (4 ft.) high; or (b) within a reasonable distance of the family day care home and that has been determined by the agency to be safe and appropriate. (3) An outdoor play space used by children enrolled in a family home day care program must be supervised in accordance with the staff-to-children ratios and group sizes set out in Section 34 for a family home day care program. | Program 18 (3) For children enrolled in a full-day program or a family home day care program, all of the following must be provided daily: (a) rest time; (b) a developmentally appropriate period of outdoor activity in the morning and afternoon, except when extreme weather conditions exist; (c) opportunities for physical activity. |
New Brunswick

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<tbody>
<tr>
<td><strong>4.6 Outdoor Play Space</strong></td>
<td></td>
</tr>
<tr>
<td><strong>4.6.1 Day Care Centres</strong></td>
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<tr>
<td>Outdoor play space must:</td>
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<tr>
<td>-be measured by the Coordinator and provide a minimum of four and one half</td>
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<tr>
<td>-(4.5) square meters (48 square feet) per child to accommodate fifty per cent</td>
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<tr>
<td>-(50%) of the centre’s approved capacity</td>
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<td>-be enclosed on all sides by a fence of a least 1.22 meter (4 feet) in height for</td>
<td></td>
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<tr>
<td>-children under the age of five (5)</td>
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<tr>
<td>-have gates equipped with bolts and latches which must be locked at all times</td>
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<tr>
<td>-when children are using the play space</td>
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<tr>
<td>-have a surface which is well drained and free from depressions in which</td>
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<tr>
<td>-water may stand</td>
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<tr>
<td>-be maintained free of glass, debris, animal litter</td>
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<tr>
<td>-be adjacent to the centre</td>
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Day care centres, approved to care for children under the age of two (2) must either:
- ensure this age group use the outdoor play space at a time separate from all other age groups or
- designate an area within the outdoor play space to meet the needs of this age group

A fenced outdoor play space is not required for school age children. Day care centres, approved to care for school age children, must ensure that the children have access to an outdoor play space; if this space is not adjacent to the facility, it must be within reasonable walking distance.

**4.6.2 Community Day Care Homes** Community day care homes must provide outdoor play space, which is either directly adjacent to the Operator’s home or within walking distance, for example, a neighbourhood park or playground.
Quebec


§4. Outdoor play spaces and outdoor play areas
39. A permit holder must provide the children with
(1) an outdoor play space, enclosed by a safety fence at least 1.20 m in height, situated less than 500 m from the facility to which the permit holder has access during the hours childcare is provided and whose minimum area must be 4 m² per child, allowing for at least one third of the maximum number of children stated on the permit to be accommodated at a time; or
(2) an outdoor children's play space in a public park within 500 m of the facility, delimited by a fence and accessible during the hours of childcare.

The play space must be suitably and safely laid out and, if it has an outdoor play area, that area must be adapted to the age of the children. The distance of 500 m is measured by the shortest route taken to walk the distance safely.

Ontario


Playground
21. (1) Every operator of a day nursery shall ensure that each day nursery operated by the operator that has a program that runs for six hours or more in a day has an outdoor play space that is at least equivalent to 5.6 square meters for each child based on the licensed capacity, unless otherwise approved by a Director. R.R.O. 1990, Reg. 262, s. 21 (1).

Program
53.(5)(b) each child over thirty months of age that is in attendance for six hours or more in a day plays outdoors for at least two hours each day, weather permitting, unless a physician or parent of the child advises otherwise in writing. R.R.O. 1990, Reg. 262, s. 53 (4); O. Reg. 50/91, s. 1.

114. Unless prevented from doing so by inclement weather, a childcare provider must ensure that the children are taken outdoors every day to a safe place where they can be supervised.
<table>
<thead>
<tr>
<th>Province</th>
<th>Act/Regulations</th>
<th>Section/Paragraph</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitoba</td>
<td>Community Child Care Standards Act. 2004. Chapter c-158. Child Care Regulations 62/86.</td>
<td>Space 9(3)</td>
<td>Every licensee who operates a full time child care centre, a nursery school which provides child care for more than four continuous hours per day, or a school age child care centre shall provide or have access to outdoor play space which provides for a minimum of seven square metres per child and accommodates the greater of 50% of the number of licensed spaces or 55 square metres, and (a) in the case of a full time child care centre or nursery school providing child care for more than four continuous hours per day the space shall be located within 350 metres of the centre; (b) in the case of a school age child care centre the space shall be located within 700 metres of the centre.</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>Child Care Act. 2000. Child Care Regulations 2001</td>
<td>Outdoor play area 58(1)</td>
<td>The licensee of a centre must provide a safe outdoor play area of seven square metres per licensed child care space. (2) Unless otherwise provided in the licence, at least half of the outdoor play area required by subsection (1) must be adjacent to the centre and the remainder must be within walking distance of the centre, determined in relation to the youngest age category for which the centre is licensed. 66 A licensee of a home must provide a safe outdoor play area that is sufficient for the number of licensed child care spaces and resident child care spaces and that is: (a) adjacent to the home; or (b) where there is insufficient outdoor play area adjacent to the home, within walking distance of the home, determined in relation to the youngest child attending the home.</td>
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<tr>
<td>Province</td>
<td>Act/Regulations</td>
<td>Outdoor Play Space</td>
<td>Program of Activities</td>
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<tr>
<td>Alberta</td>
<td>Social Care Facilities Licensing Act. 2000. Child Care Regulation 180/2000.</td>
<td>19(1) A licence holder must provide outdoor play space that is adjacent to or within easy and safe walking distance from the program premises and accommodates at least 50% of the licensed capacity at a level of not less than 2 square metres for each child under 19 months of age and not less than 4.5 square metres for each child who is 19 months of age or over.</td>
<td>Not specified</td>
</tr>
<tr>
<td>British Columbia</td>
<td>Community Care and Assisted Living Act. 2002. Child Care Licensing Regulation 332/2007.</td>
<td>Play area, materials and equipment 16 (1) A licensee, other than a licensee who provides a care program described as Occasional Child Care or Child-minding, must have for each child at least 7 m² of outdoor play area. Subsection (1) does not apply to a licensee who provides a care program described as Family Child Care, but the licensee must provide an indoor and outdoor play area for children. A licensee must ensure that the entire outdoor play area is enclosed in a manner that is suitable for the age and development of children, and will ensure that children are free of harm, and (b) constructed in a manner, and using materials, that are suitable for the age and development of the children intended to use it.</td>
<td>Program of activities 44 (3) A licensee, other than a licensee providing a care program described as Occasional Child Care, must provide each child with daily outdoor play periods unless weather conditions would make it unreasonable to do so.</td>
</tr>
<tr>
<td>Northwest Territory</td>
<td>Child Day Care Act. 1990. Chapter c-3. Child Day Care Standards and Regulations. Nutritional standards Nutritional standards</td>
<td>Exterior 20. (1) Every operator shall provide safe outdoor play space. Where the outdoor play space is not adjacent to the child day care facility, the operator shall provide safe access to the space; and ensure that the space is within walking distance of the facility. Where the outdoor play space is adjacent to the child day care facility, the operator shall ensure that a minimum of 5 m² of play space is provided for each child; and the space is fenced if the surrounding environment is potentially hazardous to children.</td>
<td>Daily program 22. Every operator shall provide daily outdoor play activities for each child unless outdoor play is prohibited by the child’s parent or guardian or the health care professional providing health care to the child; or the weather is inclement</td>
</tr>
<tr>
<td>Yukon Territory</td>
<td>Child Care Cente Program Regulation 1995/087 Nutritional standards Nutritional standards</td>
<td>Space requirements - outdoor space 11. (1) The operator must provide access to outdoor playground space, either on the premises or off, of sufficient size to allow not less than five square metres of play area per child for each child using the outdoor space (it is not necessary that required outdoor playground space be provided for every child in the program, however, at no time may the operator allow the number of children using the space to exceed the limit provided for above). (2) Unless it is a public playground, the outdoor playground space provided by the operator must: (a) be surrounded on all sides by a fence at least 1.2 metres high; and (b) be suitably surfaced and drained for safe and comfortable play; and (c) be designed to allow required supervision of children; and (d) be maintained in a safe and sanitary condition, according to established guidelines; and (e) provide an area for sand play and other</td>
<td>Program of activities 16. (3) The daily program must include… (d) physical activities which promote large muscle development and physical competence such as running and climbing.</td>
</tr>
</tbody>
</table>
| Nunavut | Child Day Care Act. 1990, Chapter c-3.  
Child Day Care Standards and Regulations, Nutritional | See Northwest Territories |
Appendix B

Making your classroom work for physical activity with children

Hello
My name is Laura Ayres and welcome to my workshop titled - Making your classroom work for physical activity with children. I am currently the Early Childhood Education Academic Coordinator for University College of the North (UCN) in The Pas, Manitoba.

This project is part of my capstone project that I wrote to meet part of the requirements for my Master’s degree in Early Childhood Education from the University of British Colombia. It also forms the beginning of a research project that I intend to commence in The Pas, MB at UCN with children in the childcare facilities once I secure approval, funding and teaching release time.

The catalyst for this project was actually from an experience I had during one vicious Winnipeg winter where for 42 days the daytime highs were -45°C Celsius and night time lows were around -55°C Celsius for the six full weeks. I remember how disappointed I was that we did not break a weather record. We were short by two days. I was working at St. Amant Centre Child Care facility, and we had the luxury of being able to take the underground tunnels from the Child Care facility to the main building and used the gymnasium each morning and afternoon. Unfortunately, I have worked at facilities that did not have the luxury of a large indoor play space for children. I have been in centers where you barely have your allocated 3.3 meters of space per child, and it feels like we are sardines in a can after a few days indoors.

Think about these facts; public schools are built with gymnasiums since physical education is a requirement of the curriculum. However, child care programs that are expected to assist in the development of gross motor skills in children are not required to have a gymnasium. Living and working in Manitoba, I find this quite interesting since we often have winters that have a long stretch of -25°C Celsius.

The Manitoba Daycare requirements state that children cannot go out when it is -25°C or below. If you do not have a gym or a large space where children can run, what do you do? In my experience, we ask children to do sedentary quiet activities inside because we do not have the space or do not feel we have the space to let them run off energy.

Are ECE’s inadvertently teaching children to be couch potatoes or sedentary at a time in their development when they need to be active, moving, practicing movement skills and expending energy?

My “Big Idea” for this project is to eventually present this research and the research that others have done on this topic to the Manitoba government to advocate for regulations that require all child care facilities to have access to large gyms or gross motor rooms for all facilities. Manitoba got children out of dark basements in 1982 and should now be ready for this next step. I believe that we can get children to be more active and healthier while they are in our care at child care facilities.

So, let’s take a look at some of the research that has been completed and what greater thinkers than I have discovered. I will briefly outline the theoretical framework for my work, then present some of the current literature, and finally, link the theories with some really practical things you can take back to your child facility and use on your next -45°C Celsius day with the children.
This is my guiding question for this project, “In what ways can Early Childhood Educators (ECEs) who work with preschool children who reside in northern climates maintain or improve the children’s physical activity levels?”

Vygotsky (1930-1934/1978) posits that children learn by experience and from their cultural environment. Therefore, in terms of how this theory connects with the topic of my capstone project, a childcare facility that has a culture that encourages and values active play and physical movement is one where children will thrive in their physical activity and physical literacy skills. Through observing and participating with other children and ECEs, children experience physical activity and may learn the cultural value of an active lifestyle. What are the children seeing and experiencing in your childcare facility? Are the ECEs sitting a lot or are they active? Do they find a spot outside to sit and watch children play or are they active and playing with the children? Vygotsky would say that a childcare facility where there is lots of active play and physical movement is one where children will thrive because they are in an environment where movement is encouraged.

Bandura (1971) states that new behaviors can be acquired by observing others such as ECEs or other children within the facility. Consistent with Bandura’s theory, the activity levels of children should increase after initial modeling by ECEs and then reinforced by watching the behaviors of other children. Children observing their caregiver and other children being active are more likely to be active themselves. Think of “Monkey see Monkey do,” and in this case, this is what we want children to do. If children see ECEs and other children doing activities, they are more likely to do or try the activities themselves. As ECEs we want our children acquiring lots of new skills and activities and in child care. There are lots of children at different stages of development, so younger ones are watching older ones and maybe want to try what the older ones are doing. Think about little brothers or sisters who want to do what their older siblings are doing – in the case of activities we want to encourage children to follow the leader.

Whitehead (2010) – Margaret Whitehead is the guru of Physical Literacy theory that states, “As appropriate to each’s endowment, physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to maintain physical activity throughout the life course.” (p. 5) Physical literacy is about all the different types of movement we need throughout our life to be physically active. We learn these skills in early childhood, - walking, running, jumping, etc. Physical literacy theory is about all kinds of movement, not just sports but the movements we need each day to keep us healthy. “Use it or lose it” motto is key here – the more children are using muscles and learning that movement is good, fun and important for a healthy life the more they are becoming physically literate.
I focused my research on these three areas: the barriers to activity, improving activity levels and the relationship between physical activity and mental health.

**What are the barriers to activity in child care centers?**

van Zandvoort, Tucker, Irwin, & Burke, (2010) found, “inadequate equipment, insufficient space, daycare requirements and safety concerns, as well as weather” (p.180). As the major barriers to providing activity in childcare facilities. Other barriers found were – that ECEs thought children were active enough but in fact, children were not meeting the national standards for physical activity (Tucker, van Zandvoort, Burke, and Irwin, 2011).

Hinkley, Carson, and Hesketh (2015) compared the differences in childcare centers in Melbourne, Australia, and Kingston, Ontario, Canada, regarding physical activity and screen-based sedentary behavior they found that Canada had more “physical activity policy” in terms of “requiring centres to provide active play opportunities, activities to promote gross motor skills and outdoor time” (p.136). But they found children were sitting more when indoors in Canada compared to Australia. Australia also “provided an an indoor area for physical activity, shade outdoors and physical activity education to staff” (p.132).

Gubbels, VanKann, & Jansen (2012) looked at the equipment and found that riding toys, small spaces, slides, swings, and sandbox were a problem for physical activity in children because these pieces of equipment are not active enough. They suggested that for the best physical activity levels that centers have adequate indoor and outdoor spaces for children and that they include equipment for jumping.

**What did current research say about Improving Activity levels?**

Adamo, Barrowman, Naylor, Yaya, Harvey, et al., 2014; and Bower, Hales, Tate, Rubin, Benjamin, & Ward, 2008; In both studies, the researchers concluded that for many children, the child care facility is their primary environment. As such, child care facilities and their programs can influence the physical well-being of children. As well, the researchers point to the ECEs as both models for and facilitators of children’s physical activity.

**What was the relationship between physical activity and mental health?**

(Goldfield, Harvey, Grattan, & Adamo, 2012; Tucker, 2008; Whitehead, 2010). Tucker (2008) reviewed the literature regarding the benefits of physical activity, health and mental health and the clearly established links between physical activity, health, and mental health. The assumption that preschool children are naturally active enough to maintain physical activity health was found to be incorrect. Moreover, she found that the addition of screen-time, fewer siblings, safety concerns and time spent in daycare were all contributing factors to children’s sedentary lifestyles. Findings showed that “46% of studies reported that preschoolers did not meet the recommended guidelines for physical activity” (p.53). In conclusion, Tucker (2008) recommended that ECEs encourage more activity in both indoor and outdoor play. Finally, she also recommended that ECEs facilitate children’s activities throughout the day.

Goldfield, Harvey, Grattan, and Adamo (2012) explored the reasons and rationale for physical activity interventions in the daycare environment and why this is an appropriate place for these interventions. Their study considered a variety of additional health and lifestyle factors and its effects on the health of preschool children. Through their literature review, they found that many children are not as active as has been recommended by government and health professionals.

All this research points to the fact that children in childcare are not active enough and that more activity needs to be done throughout the day, every day. However, ECEs who are stuck in a small 3.3 m classroom have little room to move so “In what ways can (ECEs) who work with preschool children who reside in northern climates maintain or improve the children’s physical activity levels?”
How active are you with the children in your center?
Are you sitting during playtime or are you active with them?
If you do not enjoy physical activity, then you may be projecting this to the children. If children see you sitting most of the time they may sit more often or do more quiet seated activities. If they see you active, they likely will be more active and it is more fun for both you and the children.

Are their activities you enjoy that you could incorporate into indoor or outdoor play? Zumba, walking around the neighborhood, Movement is good for ECEs too! It is like a free workout on work time. I urge you to get up and run, walk, play ball with the children – get your heart rate up a little each day.

Do you have a space adequate for some physical movement with the children?
Can you move some furniture to make an adequate space?
Could you do activities in your room with small groups of children (3 or 4) at a time in the space you have?
• What types of activities do the children enjoy doing (e.g. running, jumping, climbing, riding bikes, catching or throwing balls, superhero play, etc.)?
• Observe the individual children who are active? When are they active (e.g. running, jumping, climbing, riding bikes, catching or throwing balls, superhero play, etc....)?
• Observe the individual children who are passive? When are they passive (e.g. sitting, lying down, walking slowly)?
• Notice the individual differences in activity levels in your room. For example, how are children currently engaging with the toys and activities in the classroom?
• Note the schedule of the childcare facility day
  • Is it active - are you doing activities most of the day?
  • Is your day mostly passive sedentary activities are the children sitting a lot and doing quiet play?
  • Are there activities during circle time?
  • Are there planned games that ECEs facilitate or are the children left to be self-directed?
  • What other activities are the children engaged outside of child care?

Document each child's activity level for 1 – 2 days,
  • When are they active?
  • When are they sedentary?

The act of being more observant of each child's activity level will give the ECE a base to start building your program.

The next slide and the handout sheet Activity Documentation can help you with your observations.
This simple documentation form should help you to get at least some preliminary data on the children in your classroom. This is action research – it is research that you are doing in your classroom, and as such you want to be accurate but just to the best you can with the limited time you have to observe the children over a two day period. The times should be the same for all children – so you would do a quick look at 9:30 and just jot down what each child is doing at that time. This is not strictly scientific, but it is about being more conscious of each child. You will get different data if you do it by time or by child – but you will get data that then you can use to form some conclusion about where you could put activity into the day whether the weather is a factor or not. You are looking for trends in the children’s day where maybe many of them are very passive and could use some activity.

<table>
<thead>
<tr>
<th>Child's Name</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane</td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>P</td>
<td>Most active after snack.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>More quiet before rest and end of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>day.</td>
</tr>
</tbody>
</table>

Tucker (2008) found that there was very little documentation of children’s activities level in child care facilities. This simple documentation will help you be more conscious of when the children in your classroom are active and when they are passive. This is just a starting point for your program. If you know when your children are most passive, this would be the time to look at doing some activities. We want to have them active most of the day so if they are naturally active at some points let them and then fill in the spaces when they are passive.
Once you have some data over at least two days, more is better up to 2 weeks. Then you can start to look at your room and ask yourself the following questions:

- Do you have a space adequate for some physical movement with the children?
- Can you move some furniture to make an adequate space?
- Could you do activities in your room with small groups of children (3 or 4) at a time in the space you have?
- This is the time to look at your space and what you can do.
- Could you move equipment or furniture for a season (November – February) or winter to have a space for activity?
- Could you form a small “exercise” group with 3 or 4 children who do the activity with you and then switch?

This is the time to add some creativity to your small classroom space.

Deborah Stewart (2009) recommends structuring the day around sit, stand/move, sit. The recommendation is that children not sit for not more than 60 minutes. Every 60 minutes do 10 minutes of something physical.
Let’s get up and do the following activities that you can do in a small classroom space some of these are cardio based, and some are strength based.

These are just some examples of activities you could incorporate into your day

- **Action cube** – has six different activities – child throws the dice, and everyone does the activity in place
  - Action cube (jumping jacks, running in place, jumping side to side, jumping front and back, stride step, step touch) each activity is done to a count of 10, and then the next child throws it. Put a timer on this activity see how many children can make it to 5 minutes.
  - Make different cubes – balance activities (each foot, different body positions), strength activities (planks, lunges, push-ups, sit-ups) mix and match with different activities
- The Web – take streamers and wrap around the furniture to create a web – children have to go over or under the web around the room to get an article and bring it back
  - Make it high enough that they can crawl under but also low enough that they can go over it.
- The Square Dance – (needs music) 2 lines of children moving feet and then promenade with partner down the center till you get back to beginning then swing your partner and switch till you have moved with everyone

Go Noodle is a wonderful App that has some super activities you can do with the children

We will look at the Introduction and then do Indoor Recess 7 minutes. This is just one example of an app that can be helpful for small space activities.

**Sit / Stand / Sit**

- Share your ideas?
  - At your table share some of your favorite activities
  - Then we will share together and vote on the 1 we want to try
Move everyday

- Remember to move every day with children
- On winter days you need to be the cheerleader and get the children moving
- Goal is 60 minutes throughout the day! Could be in 10 min segments
- Keep looking for ideas for your small space

References


## MAKING YOUR CLASSROOM WORK FOR PHYSICAL ACTIVITY WITH CHILDREN

### ACTIVITY DOCUMENTATION

<table>
<thead>
<tr>
<th>Child’s Name</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane</td>
<td>9:30</td>
<td>11:00</td>
<td>2:30</td>
<td>4:00</td>
<td>Most active after snack</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>P</td>
<td>A</td>
<td>P</td>
<td>Quieter before rest and end of day</td>
</tr>
</tbody>
</table>

**Notes**

- Most active after snack
- Quieter before rest and end of day