Teaching Fundamental Movement Skills to Early Primary Learners through Cross-Age Teaching: First Steps towards Physical Literacy

by

Lisa Manzini

B.Ed., University of Victoria, 1994

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Masters of Educational Leadership

Vancouver Island University

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Abstract

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The purpose of this thesis is to demonstrate the relationship of physical literacy, physical education, fundamental movement skills, physical activity, cross-age teaching, and assessment for learning within a ‘community of learners’ environment. This combination offers a holistic approach toward teaching physical education which will move students into the future as healthy, skilled, knowledgeable participants in lifelong physical activity.

The analysis of literature in this thesis attempts to answer four questions: 1) How can a definition of physical literacy assist us in effectively teaching fundamental movement skills (basic motor and non-locomotor patterns and manipulative skills) to early primary classes, while at the same time teach and reinforce appropriate self and peer assessment, social and behavioural skills? 2) How can we most effectively teach fundamental movement skills to early primary physical education classes using the minimally allotted time? 3) Can a balance be achieved between providing adequate amounts of moderate to vigorous physical activity, teaching
fundamental movement skills and using assessment for learning in the primary physical education class? 4) Can use of the Community of Learner’s philosophy, “We are all teachers, we are all learners” assist us in the teaching of physical literacy in a physical education setting?

The results of the inquiry are then used in the development of a “Connections through Physical Literacy: Teaching Fundamental Movement Skills to Early Primary Students with Cross-Age Tutors” handbook.
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Thanks to Dr. Paige Fisher, Linda Halbert and Judy Kaser for believing in me and my potential as a leader and an innovator.
Dedications

I dedicate my thesis and handbook to my children, Rudy and Luisa, my partner Rob and my parents, Joe and Roberta for your support, patience and understanding during the past two years, without it I would never have made it through the program.

I also dedicate this thesis and handbook to my close friends who have supported and encouraged me throughout the writing process. I will always appreciate all you have done, especially Janice Galley for proof reading over the past two years and Steve Lloyd for your countless hours of proof reading during past month, your eloquent use of words, extensive knowledge and insightful thoughts.

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Chapter 1 Introduction

As an elementary school physical educator for more than fifteen years, I have searched for ways to share my passion for and belief in the importance of Physical Education with colleagues. In 2010, I first came across the term “physical literacy” in a brochure by Canadian Sport for Life. It defines physical literacy as:

the development of fundamental movement skills and fundamental sport skills that permit a child to move confidently, and with control, in a wide range of physical activity, rhythmic (dance) and sport situations. Physical literacy also includes the ability to “read” what is going on around them in an activity setting and react appropriately in those events. (Higgs, Balyi, Way, Norris, & Bluechardt, 2008, p. 5)

This was my “ah-ha moment.” If I could use the term literacy to demonstrate the link between literacy and physical education would classroom teachers understand the importance and value of physical education more? Initiating research I found that

On January 18, 2002, the United Nations General Assembly passed resolution 56/116: United Literacy Decade: Education for All. The foundation of this resolution was based upon a collective conviction that: Literacy is crucial to the acquisition, by every child, youth, and adult of essential life skills, that enable them to address challenges faced in life; and that Literacy represents an essential step in basic education, and is indispensable to full participation in the societies, economies, and world of the twenty-first century. (as cited in Mandigo, Francis, Lodewyk & Lopez, 2009, p. 4)
This was the link I had been searching for. This definition of literacy applies to more than language literacy and numeracy; it applies to all life skills, which must include physical skill. As an elementary school physical educator for more than fifteen years, I have experienced first-hand an apparent decline in cardiovascular fitness, locomotor, non-locomotor, and object control skills in elementary students of all ages. The term “physical literacy” substantiates and validates how I teach physical education to primary students. For the past 10 years, I have focused on teaching my students fundamental movement and social skills while maintaining an adequate level of moderately-vigorous physical activity within the physical education environment. I work to create a “community of learners” in the physical education setting, where students practice skills which will transfer into many areas of their lives.

I believe Physical Education should be inclusive, active and fun. Students need to understand the mechanics of a skill, be able to demonstrate the skill, and transfer the skill into real-life settings (e.g. games, sports, and lifestyle choices). Physical Education is not just about motor skill acquisition, tactical understanding, and game play; it is about fair play, social skills, creativity, and fun. What better way to teach this than through cross-age teaching/tutoring in physical education setting? “By implementing a cross-age teaching model as an instructional strategy, classroom teachers are able to individualize instruction for each of their students; giving all students in the same classroom the opportunity to be engaged in learning at the same time” (Greenwood, 1997, as cited in Horvath, 2011, p.4).

Assessment for learning is another crucial dimension of physical education. When students participate in self and peer assessment, they are given a chance to reflect on their
learning, skill development and personal improvement. I have found using assessment for
learning strategies in the physical education setting allows students to focus, be more “on task,”
and be proud of personal achievements in their learning.

Often elementary school physical education classes, and physical education in general,
focus on game play. As young as kindergarten, children come to physical education class and
expect to play traditional games. At least two problems lie here: first, a misconception by the
students that physical education is primarily learning games, and second, children/students of
this age are often not at an appropriate developmental level, cognitively and physiologically, to
play the traditional games they associate with the gymnasium. Canada’s Long-Term Athlete
Development (LTAD) model categorizes this age group (0-6 years) into an “Active Start Level,”
where children up to six should learn basic movement skills and link them into various forms of
play (Bell, Gibbons & Temple, 2008, p. 1). Four through six year-old children are in the process
of learning and acquiring basic fundamental movement skills (skipping, running, jumping,
throwing, catching, striking and kicking). Their awareness of how to transfer these skills
activities into game play and other areas of their lives is limited, therefore playing traditional
games in PE is often not enjoyable. Consequences for students’ lack of fundamental motor skill
proficiency may include shutting down and avoiding participation, ‘acting out’ inappropriately,
and/or coming to dislike physical education class or physical activity itself. The long-term
effects could include lower levels of sports confidence, reduced cardio-vascular fitness, more
limited levels of participation in physical activity as an adolescent and adult, and of greatest
concern, potentially a general dislike of physical activity and sports for a lifetime (Barnett,
Morgan, van Beurden & Beard, 2008).
The creation of a ‘community of learners’ within a physical education environment establishes social values for the class and helps to create a learning environment in which students feel safe and valued. Social values described as the 4 C’s (communication, commitment, control and collaboration) are created from the input of cross-age tutors and their younger ‘buddies’ (tutees). This process enables students to begin to take ownership of their actions and learning within the physical education environment. The partnership of younger and more mature students allows for the modeling of desired behaviours and fundamental movements skills, and peer assessment (that can proceed in both directions).

The development of a “Connections through Physical Literacy: Teaching Fundamental Movement Skills with Cross-Age Tutors” handbook is intended to offer primary teachers support in teaching fundamental movement skills. Teaching fundamental movement skills with cross-age tutors with a minimum of a two grade split can have several positive outcomes. First, it allows the teacher time to use her/his adaptive expertise as she/he moves around the gym setting, assisting partners or groups by giving relevant and specific feedback. Second, ‘buddies’/tutees enjoy one-on-one instruction, improve their social circle, and have direct modeling of positive behaviours and skills from their cross-age tutor (CAT). Finally, tutors reinforce their own knowledge and skills, build self-confidence, and develop a sense of interpersonal responsibility (Gaustad, 1993; Olmsheid, 1999).

Research Questions:

1. How can a definition of physical literacy assist us in effectively teaching fundamental movement skills (basic motor and non-locomotor patterns and manipulative skills) to
early primary classes, while at the same time teach and reinforce appropriate self and peer assessment, social and behavioural skills?

2. How can we most effectively teach fundamental movement skills to early primary physical education classes using the minimally allotted time?

3. Can a balance be achieved between providing adequate amounts of moderate to vigorous physical activity, teaching fundamental movement skills and using assessment for learning in the primary physical education class?

4. Can use of the Community of Learner’s philosophy, “We are all teachers, we are all learners” assist us in the teaching of physical literacy in a physical education setting? How can the definition of physical literacy assist us in effectively teaching fundamental movement skills (basic motor and non-locomotor patterns and manipulative skills) to early primary classes while at the same time teach and reinforce appropriate self and peer assessment, social and behavioural skills?

The Handbook: Purpose Statement

The purpose of this handbook is to “spark” teachers’ interest in the term Physical Literacy and its educational relevance and use in a Physical Education class. It will invite teachers’ curiosity about the use of cross-age teaching/tutoring to assist in the teaching of fundamental movement skills, and social and behavioural skills, with the goal of creating physically literate students.

Operational Definitions

The following operational definitions have been used in both the writing of this paper and the handbook.
Canada’s Long-Term Athlete Development Model (LTAD)

LTAD is a seven stage model that provides a general framework of athlete development. It aims to embed developmentally appropriate structures within sport, recreation, and education systems. The first three stages of the model; Active Start, Fundamentals, and Learning to Train, focus on developing children’s physical literacy (movement skills). Stages Four to Six (Training to Train, Training to Compete, and Training to Win) focus on developing excellence. Stage Seven (Active for Life) encourages lifelong physical activity. (Bell et al., 2008)

Fundamental Movement Skills (FMS)

Fundamental movement skills consist of three areas; non-locomotor (stability & balance), locomotor (body movement skills) and object manipulation skills or manipulative skills (Lubans, Morgan, Cliff, Barnett, Okely, 2010, p. 1019; Francis, et al., 2011, p. 16).

Locomotor Skills

Locomotor or body movement skills are movements such as walk, run, skip and hop (Lubans et al., 2010, p. 1019; Francis et al., 2011, p.61).

Non-locomotor (Stability/Balance)

Stability/Balance or Body Control Skills focus on balance, agility, coordination, bending, flexing and holding a position (Lubans et al., 2010, p. 1019; Francis et al., 2011, p.37).

Manipulative/ Object Control Skills

Manipulative/Object control skills manipulate or control an object. Examples are catching, trapping, receiving, throwing, striking, pushing and kicking (Lubans et al., 2010, p. 1019; Haywood & Getchell, 2005, as cited in Stodden et al., 2008, p. 291).
Physical Activity (PA)

“Physical Activity is all forms of movement associated with an increase of energy expenditure, including spontaneous physical activity, and organized non-competitive forms of physical activity including exercise, physical education classes, and sport (all forms of vigorous activity)” (Trudeau & Shephard, 2010, p. 138).

Moderate-intensity and Vigorous-intensity Physical Activity (MVPA)

Moderate-intensity physical activity requires a moderate amount of effort and noticeably accelerates the heart rate. Examples include brisk walking, house work, general building tasks, and active involvement in games and sports with children. Vigorous intensity physical activity requires a large amount of effort and causes rapid breathing and a substantial increase in heart rate (World Health Organization, 2010).

Physical Education (PE)

Physical education is defined as

a process of learning through physical activities designed to improve physical fitness, develop motor skills, knowledge and behavior of healthy and active living, sportsmanship, and emotional intelligence. Thus, physical education is not only aimed at physical development but also includes the development of the individual as a whole.

(Definition of Physical Education, 2011)

Physical Literacy (PL)

Physical Health and Education Canada define physical literacy by saying that individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person (Francis et al., 2011, p. 2).
Cross-age Tutoring (CAT)

“Cross-age tutoring has an older child (tutor) instructing a younger child (tutee) in material the older child has mastered” (Gaustad, 1993, p. 1).

Peer Tutoring

“Peer tutoring is an approach in which one child instructs another child in material in which the first is an expert and the second is a novice” (Damon & Phelps, 1989a, p. 11). “Peer tutoring occurs when tutor and tutee are the same age” (Gaustad, 1993, p. 1).

Assessment of Learning (Summative Assessment)

Assessment of learning is “summative in nature and is used to confirm what students know and can do, to demonstrate whether they have achieved curriculum outcomes” (Earl & Katz, 2006, p. 14).

Assessment for Learning

“Assessment for learning is designed to give teachers information that will allow them to modify the teaching and learning activities in which students are engaged, in order to differentiate and understand how individual students approach learning” (Earl, 2006, p. 7).

Formative Assessment

Formative Assessments “are activities undertaken by teachers and by their students in assessing themselves that provide feedback to modify teaching and learning activities” (Black & Wiliam, 1998, p. 140).

Assessment as Learning

“Assessment as learning is a process of developing and supporting metacognition for students. Assessment as learning focusses on the role of the student as a critical connector between assessment and learning”(Earl & Katz, 2006, p. 12).
Community of Learners

A group of people who share values and beliefs and who actively engage in learning from one another - learner from teacher, teacher from learner, learner from learner. They thus create a learning-centered environment in which students and their teacher are actively and intentionally constructing knowledge together. Learning communities are connected, cooperative and supportive. Peers are interdependent in that they have joint responsibility for learning and share resources, points of view, all the while sustaining a mutually respectful and cohesive environment (Learning and the Adolescent mind, n.d.)
Chapter 2 Literature Review

The following literature review provides a rationale linking physical literacy and fundamental movement skills to cross-age tutoring and assessment for learning in a ‘community of learners’ setting, providing a holistic approach for teaching physical education. The following sections describe 1) physical literacy 2) physical literacy and health 3) physical literacy and physical education 4) physical education and fundamental movement 5) mastery of fundamental movement skills 6) physical education and cross-age teaching 7) community of learners 8) “community of learners” philosophy applied to physical education, and 9) assessment and physical education.

Physical Literacy (PL)

The United Nations Education, Scientific, and Cultural Organization (UNESCO) recognizes literacy as a basic requirement for a person to be able to fully participate in society. Their “Education for All” goal states that “literacy is crucial to the acquisition by every child, youth and adult, of essential life skills that enable them to address the challenges they can face in life…” (as cited in Mandigo et al., 2009, p. 4).

This definition of literacy enables educators to link literacy to all areas of the curriculum and life. Friere & Macedo state “literacy refers to the ability to not only read the written word, but to also read the world” (Mandigo et al., 2009, p. 4). Being literate includes the use of critical and creative thinking skills and/or processes, conveying information through various forms of communication and applying knowledge and skills to make connection with and between various
contexts (Ibid). For me and many educators in diverse learning contexts, creating critical thinkers is a goal whether it is in a gym, classroom or music room.

In Canada, the term Physical Literacy has multiple definitions depending upon the organization of origin. Many Canadian definitions for physical literacy come from sport institutes. As stated earlier in this paper, the Canadian Sport Centre defined physical literacy as the development of fundamental movement skills and fundamental sport skills that permit a child to move confidently and with control, in a wide range of physical activity, rhythmic (dance) and sport situations. Physical literacy also includes the ability to “read” what is going on around them in an activity setting and react appropriately to those events. For full physical literacy children should learn fundamental movement skills and fundamental sport skills in each of the four basic environments: on the ground, in the water, on snow and ice and in the air. (Higgs et al., 2008, p. 5; Francis et al., 2011, p. 2)

Some Canadian physical educators have looked to Margaret Whitehead from the U.K. to assist in their definition of physical literacy. Whitehead (2007b) defined physical literacy as “the motivation and confidence, physical confidence, understanding and knowledge to maintain physical activity at an individually appropriate level, throughout life” (Appendix B).

In 2008, Dominic Haydn-Davis, an American physical education academic/proponent, surveyed twelve physical education experts from around the world and asked “What is physical literacy?” From the responses he concluded that these educators concurred with Whitehead because
Physical Literacy is more than just being proficient in one, or a small number of physical activities. It encompasses principles of both lifelong and life-wide learning. It is developed through a complex interplay between the individual, their peers, their community, society and the world. Most importantly, it is encapsulated by the complex link between physical competence and the effective domain. (Mandigo et al., 2009, p.6)

Physical and Health Education Canada (PHE Canada) defines physical literacy as follows.

Individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person, physically literate individuals consistently develop the motivation and ability to understand, communicate, apply, and analyze different forms of movement. They are able to demonstrate a variety of movements confidently, competently, creatively and strategically across a wide range of health-related physical activities. These skills enable individuals to make healthy active choices throughout their life span that are both beneficial and respectful of themselves, others and their environment. (Francis et al., 2011, p. 2; Mandigo et al. 2009, pp. 6-7)

The notable agreement among these definitions of physical literacy allows educators to understand physical literacy as holistic ideal which many sport associations and physical educators are striving to attain.

**Physical Literacy and Health**
There is growing public health concern about the current trend towards an increasingly sedentary lifestyle in children and adults in industrialized nations, and its alarming health effects. The decrease in physical activity is resulting in an increase in obesity and other chronic health issues, including type II diabetes, heart disease, hypertension and cancer” (Larouche, Laurencelle, Shephard & Trudeau, 2012, p. 516). “Further more, there appears to be an association between this trend and increases in the prevalence of childhood obesity and other cardiovascular risk factors “(Shephard & Trudeau, 2000, p.34)

Canada is not immune to this trend as demonstrated in the startling findings from the 2007-2009 Canadian Health Measures Survey. The survey found “only 9% of boys and 4% of girls meet the Canadian Physical Activity guidelines of 60 minutes of moderate to vigorous physical activity (MVPA) on at least six days a week” (Janssen, 2007, p. S113 as cited in LeGear et al., 2012). The survey found that

(1) 85% of the boys and 74% of the girls accomplished 60 minutes of MVPA only 1 day per week, (2) 53% of boys and 35% of girls attained 60 minutes of MVPA 3 days a week, (3) 9% of boys and 4% of girls attained 60 minutes of MVPA 6 days a week, and (4) 30% of boys and 35% of girls attained 30 minutes of MVPA 6 days a week. (Colley et al., 2011)

When looking specifically at the age categories, 6-10 year old boys and girls score significantly higher than the 15-19 year old category, with 11-14 year olds falling in the middle (Ibid). These results concur with international findings that with an increase in age there is an overall decrease in physical activity. The lack of physical activity among youth has become a
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concern for the World Health Organization (WHO), which has put together recommendations for physical activity for age categories 5-17, 18-64, and 65 and above (World Health Organization, 2010). The recommendation of 60 minutes of moderately vigorous daily physical activity concurs with the Government of Canada’s recommendation of 60 minutes per day (Colley et al., 2011). Sallis and Patrick stated that “regular participation in physical activity is associated with substantial health benefits for children and adolescents, including increased bone mass, maintenance of a healthy weight, reduction of high blood pressure among hypertensive adolescents, and improved psychological outcomes” (Okely, Booth & Patterson, 2001, p. 1899).

van Beurden et al. (2003) add

Although more evidence is required, failure to incorporate physical activity as part of daily life and failure to master a basic set of motor skills may prove a major barrier to participation in physical activity and to achieving recommended physical activity levels for the maintenance of good health. (p. 494)

With the trend of childhood obesity and type II diabetes on the rise, governments are looking into ways to increase physical activity. In the US, it has been documented that only 3 minutes of a 30 minute PE class provide the students with moderately vigorous physical activity (Sallis, McKenzie, Faucette & Hovel, 1997, p. 1328). “This is far below the U.S.A.’s national objective of 50%” (Sallis et al., 1997, p.1328) of physical education class time consisting of moderate to vigorous physical activity. Finding a balance in a Physical Education class to provide an adequate amount of time for moderate to vigorous physical activity and time to teach fundamental movement skills is essential.
The “Move It Groove It” (MIGI) program in Australia is an intervention with the goal of achieving both improved fundamental movement skills and increasing physical activity levels. MIGI strategies make use of a buddy system wherein preservice teachers are assigned to generalist teachers and provide them with updated strategies, resources, and knowledge in increasing physical activity and fundamental movement skill mastery during PE. The generalist teachers provided other forms of knowledge and experience for the preservice teachers (van Beurden et al., 2003, p. 494). The MIGI intervention “encouraged teachers to focus on activity and skill acquisition during PE lessons” (p. 497). The study concluded “theoretically, it is possible to utilise strategies that work on skill development and keep physical activity levels high (i.e. circuits/tabloids). However, furthering skill development will also require a proportion of time spent on skill instruction, which can lower physical activity levels” (p. 499).

In British Columbia, Action Schools B.C. (ASBC) “is a best practices model designed to assist schools in creating individualized action plans to promote healthy living while achieving academic outcomes” (ASBC, Action Schools BC; Classroom Action Resource, 2011, p. 5). ASBC has been instrumental in research and affirmative action toward assisting BC schools to add 30 minutes of daily physical activity (DPA) into the school day. ASBC provides schools with professional learning opportunities led by master trainers, and provides a Classroom Action Resource/Handbook full of creative, innovative active ideas with a bin of equipment such as skipping ropes, balls and music CDs to increase students’ physical activity in both the classroom and the playground. The goal of ASBC is to promote overall health, focusing on four content areas; healthy heart, healthy bones, healthy self, and healthy school.
ASBC’s intervention had ten schools participating. They were divided into 3 groups, Usual Practice (3), Champion (3) and Liaison (4) schools. The intervention had ASBC-trained teachers increase the amount of physical activity delivered to their students by 50 per cent in the Champion schools and 100 per cent in the Liaison schools. There was no change in the amount of physical activity time in the Usual Practice schools (ASBC, Phase 1 (Pilot) evaluation report and recommendations, 2004).

Overall, Action Schools! BC intervention had the greatest positive influence on the physical activity level of students in the Liaison schools although this varied somewhat between boys and girls. As our Usual Practice schools were by chance already active, we saw an increase in physical activity of about 25 per cent in both Usual Practice and the Champion schools, compared with an almost 33 per cent increase in the Liaison schools. Although results were not significant, there was a trend for boys in the Liaison and Champion schools to increase the number of minutes per day of moderate to vigorous physical activity (MVPA) more than boys in the Usual Practice schools (98 and 52 per cent respectively, compared to 28 per cent). For girls, the greatest increase in physical activity was observed in those girls attending Liaison schools (32 per cent increase) compared with Champion (22 per cent) and Usual Practice (18 per cent) schools. Girls in Liaison schools had an almost two times greater increase in MVPA compared with girls in Usual Practice schools. (ASBC, 2004, p. 36)

Although the results state that there was not a significant difference (8%) in the increase of physical activity for boys in the Usual Practice and Champion schools as Liaison schools, it
should be reiterated that there was a significant increase (14%) in physical activity for girls in the Liaison schools as compared to the Usual Practice schools.

The research concluded by stating “The *Action Schools! BC* model was an effective means to improve the health profiles of children in the following areas:

- Physical Activity
- Healthy Hearts (Cardiovascular health)
- Healthy Bones
- Academic Performance

(ASBC, 2004, p. 61)

These two studies, and many others, have demonstrated the positive effects of interventions integrating increased physical activity times into their participants’ lives on a short term basis of one through six years. Several of these studies have completed follow-up research (three-six years) on the participants, but not of any significant longitudinal time frames.

Long term studies of the effects of daily physical education are more difficult to find. The Trois-Riviere Physical Education study is unique in the length of its six year intervention on primary level students (Trudeau & Shephard, 2005a, p. 112; Trudeau & Shephard, 2000, p. 42), with a 25 year and a 36 year follow-up by the researchers (Trudeau & Shephard, 2005a, p.113; Larouche, Laurencelle, Shephard, & Trudeau, 2012). This study examined the effects of daily physical education and increased physical activity on 546 students over a six-year period. Two unique features of the study were the equitable representation of boys and girls from urban and
rural settings from a very stable population base, and the use of a stable population (p.113).

Trudeau and Shephard state

The duration of the intervention is important, particularly in the primary school age group, because the learning of physical activity skills is a multi-year process, and the necessary type of program changes as the child grows. Firstly, basic motor skills must be taught, then the emphasis can shift to the development of cardiovascular and muscle function, and finally complex team and individual sports can be introduced. (p. 114)

The intervention had the population of 546 students split into equal control and experimental groups. The experimental intervention added five hours a week of a professionally supervised physical education programme throughout the student’s six-year stay at primary school. The control group experienced one forty-minute class of physical education each week with their classroom teacher (p. 113).

The short-term finding of the study concluded that moderate to vigorous physical activity outside of school was higher in the experimental group than in the control group on both week and weekend days (p. 7). The acute physiological “effects included short term enhancements of aerobic power, muscle strength and better performance on physical fitness tests relative to control subjects” (Shephard & Trudeau, 2000, p. 42) Students in the experimental group experienced a 14% decrease in academic instructional time, but demonstrated improvement in academic performance (p. 42). “Possible explanations for higher marks in the experimental group include better behaviour, arousal-induced increased attention on the part of students, and
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effective academic teaching because the staff gains a break from the instruction over the course of the day” (Trudeau & Shephard, 2005a, p.113).

The uniqueness of the Trois-Riviere study is that twenty years after the intervention, 253 participants were contacted and consented to participate in follow up research. Some long-term effects of the intervention included

(1) Women participating in minimum three sessions of strenuous activity per week was substantially higher in the experimental group (42.1 vs. 25.9%). (2) Intentions to practice physical activity was minimally higher in the experimental group (58.5 vs. 50.3%). (3) Far fewer smokers among men in experimental group (11 vs. 23.1%). (4) Women in the experimental group complained less of lumbar pain, (23 vs. 40%) (p. 14). The experimental group considered themselves healthier and perceived a dependence on PA… In a subsample of 133 adults who underwent detailed fitness testing, the experimental group had significantly more favorable scores than the control subjects in terms of resting heart rate, (men 71.1 bpm vs 76.9 bpm), the Flamingo balance test (2.0 and 3.4 vs. 5.5 and 5.3 attempts in men and women) and HDL cholesterol reading (1.37 vs. 1.26 men only) (Shephard & Trudeau, 2000, p. 42)

Researchers noted that the impact on attitudes, lifestyle and function in adults was generally positive. Some 77% of the experimental group was still able to recall the name of their physical education teacher. Most participants had a favourable impression of physical education and many
were “very satisfied” with the instruction they received. (39% of experimental vs. 12% of control). (Trudeau & Shephard, 2005a, pp. 12-13)

A second follow up of the Trois Rivieres study in 2008, recruited 86 individuals and found a dramatic decline in physical activity levels. The declines coincided with major life events, such as having their first child. (Trudeau & Shephard, 2012, pp. 518). Researchers concluded by “around the age of 44, the experimental participants showed no benefit from their additional PE in primary school” (p.521).

The Trois-Rivieres study has given researchers and PE advocates a base to formulate theories and look forward into the long-term impacts of moderate to vigorous physical activity on lifestyle and health. If the long term effects of the Trois- Riviere study are paired with the known “effects of fundamental movement skills on children’s physical, cognitive and social development” (Lubans, Morgan, Cliff, Barnett & Okely, 2010, p. 1019), educators should be able to come up with a viable, user friendly program that will provide the foundation for an active lifestyle.

The linkages between physical literacy, fundamental movement skills, and health are becoming a focus for further research. Lubans et al. (2010) affirm this.

Teaching children to become competent and confident performers of FMS may lead to a greater willingness to participate in physical activities that may also provide opportunities to improve fitness levels and reduce the risk of unhealthy weight gain. Furthermore, the positive association between FMS competence and cardiorespiratory
fitness and the inverse relationship between FMS proficiency and weight status suggest that developing competency in movement skills may have important health implication for young people. (p. 1033).

Sallis and Patrick (1996) earlier reached a similar conclusion, stating “substantial health implications that are associated with regular participation in physical activity for children and adolescents include increased bone mass, maintenance of a healthy weight, reduction of high blood pressure and improved psychosocial outcomes” (Okely et al., 2001, 1899). Glenmark, Hedburg & Jansen and Kuh and Cooper found “evidence that active youths are likely to become active adults, therefore contributing to health across a lifetime” (Okely et al., 2001, 1899). Martens and Sallis and Patrick state “enjoyment of, and participation in, physical activity during childhood and adolescence may contribute to a prevalence of participation in physical activity in the adult population” (Okely et al., 2001, 1899). This is clearly an important component of what educators should focus upon: teaching fundamental movement skills to support health and physical activity over a lifetime.

If a goal of physical literacy is to instill a passion for participation in life-long physical activity, resulting in healthy active adults throughout the lifespan, then Shephard and Trudeau’s Trois-Rivieres study demonstrated success. Twenty years after physical education intervention, participants in the experimental group “had a more favorable attitude towards physical activity and had stronger intentions to undertake physical activity” (Shephard & Trudeau, 2000, p. 43). Margaret Whitehead (2007b) sums up the holistic goal of physical literacy to be “for all young people is to be motivated to continue physical activity, a motivation founded on enhanced self-
confidence and self-realisation they have experienced in physical education setting during their childhood and youth” (p. 8).

**Physical Literacy and Physical Education**

What is the goal of Physical Education? “The traditional ideal of physical education programs was to develop a “healthy mind in a healthy body”. More recently, the focus has shifted to the development of the total person: including health, fitness and wellness” (Trudeau, & Shephard, 2008, p. 3). In British Columbia, the formally-stated aim of Physical Education Kindergarten to Grade 7 is to provide opportunities for all students to develop knowledge, movement skills and positive attitudes and behaviours that contribute to a healthy active lifestyle (British Columbia Ministry of Education, 2006, p. 14). This definition fits well with the current description of physical literacy as described by Whitehead, Haydn-Davies, and PHE Canada, and concurs with Haydn-Davies’ (2005) definition of the overall goal of physical education.

If we take the ultimate goal of PE to be that all children have the skills and attitudes to enjoy and participate in lifelong physical activity - what can the concept of physical literacy offer children? Our role in primary PE is to prepare the basic building blocks, to foster the positive attitudes, to encourage independence, variety in learning and participation (p. 16).

These building blocks that Haydn-Davies refers to are intricate combinations of basic movement (FMS), self-assessment, cooperative and communication skills which have become an international focus in physical education and physical literacy. Numerous international studies are looking into the correlation between these fundamental movement skills and physical activity
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in adolescents and into adulthood, and attitudes towards future participation in physical activity. Haydn-Davies goes on to say that “the teaching and learning of key movement concepts combined with life skills of observation evaluation and language development were identified as important in the promotion of lifelong physical activity” (p.4). Gallaher writes “that improvement of motor development and PE will come if children become involved in the process of learning instead of solely concerned with the product” (Haydn-Davis, 2005, p. 4). Whitehead (2007b) elaborates on this belief:

There is a danger that, in school, there is a drive to achieve an end state of being physical educated and this is too easily interpreted as simply achieving the mastery of a prescribed set of skills… The intent and reality of physical education can therefore become to produce able gymnasts, games players, dancers and swimmers. Following this there is a danger of teachers, teaching, for example, gymnastics or swimming, rather than teaching young people (p.8).

These statements lead us to conclude that learners must understand the skills they are learning and how they can be applied in their life and the world. A “Position Paper for Physical Educators” written by four educators from Brock University concludes

by fostering physical literacy through quality PE programs, the students of today not only are better prepared to lead healthy active lives, but they are better prepared to do so in a way that assists others, are respectful of the environment and which are creative in ways that have the potential to generate new and innovative ideas. (Mandigo et al., 2009, p. 9)
The preceding quote verbalizes the ideal of what I and many physical educators strive to achieve. Physical education should inspire students to develop a love and appreciation for lifelong participation in physical activity and a healthy lifestyle. “With the goal of physical education to nurture physical literacy, there needs to be a shift away from prescribed activity-centered performance model, to a person centered participation model” (Whitehead, 2007b, p.8). There needs to be a shift away from the “goal of physical education to develop a “healthy mind in a healthy body” to a goal of the “development of the total person with a due attention to all aspects of health, fitness and wellness” (Shephard & Trudeau, 2000, p. 35).

What are the roles of schools, physical education classes, and educators in supporting a shift towards a love and appreciation for lifelong participation in physical activity and a healthy lifestyle? With the developing trend towards a more sedentary lifestyle of a majority of school aged children in developed societies/industrialized nations, there is increasing reliance on PE classes to provide students with their only opportunity to engage in moderate-vigorous physical activity (Trudeau & Shephard, 2005, p.90). “Almost all children in industrialised countries attend school therefore a quality PE program has the potential to reach most children” (Ibid, p. 90-91). Even if a quality PE program is implemented, Hardman and Marshall (2000) point out a disturbing “international trend whereby the time allocated to PE increased from the first until sixth grade of primary school, but decreased in subsequent years of schooling” (Trudeau & Shephard, 2005, p. 91). Moreover in Canada and North America physical education is often considered an elective course during the last two years of schooling (Ibid). “The Canadian Fitness and Lifestyle Research Institute questioned parents about the amount of PE offered to their children. The allocation of curricular time varied between provinces, but 20-40% of
children did not receive any PE instruction (Ibid). In contrast to North American schools, “many European schools allocate 1-3 hours/week to PE and some British ‘public’ schools every afternoon is devoted to sport” (Ibid?) In Canada and abroad, “schools have the potential to influence habitual physical activity of the children by encouraging increased participation in extracurricular sport, activities, by favouring active commuting to school and by providing exercise equipment…” (p.90). Canadian schools and governments need to address this issue of insufficient physical education time in high schools to support the goals of physical literacy and assist students in meeting the recommended sixty minutes of daily physical activity.

**Physical Education and Fundamental Movement Skills**

Siendentop (2001) proclaimed, “A quality daily physical education experience during elementary school years is the foundation upon which children establish competency in basic movement patterns” (Francis et al., 2011, p. 12). The department for Education in Victoria, Australia (1996) supported Siendentop’s proclamation.

The development of motor skills, physical fitness and knowledge must begin in the earliest years of primary school. During these years children are physically and intellectually capable of benefiting from instruction in physical education and are highly motivated and enthusiastic about learning. Children who do not master these fundamental movement skills are less able and often less willing to persist with the difficult task of learning more complex motor skills and will avoid activities which expose them to “public” failure. (Haydn-Davies, 2005, p. 5)
Studies by Okely (2004) in the USA and van Beurden et al. (2003) in Australia indicated that low levels of fundamental movement skill mastery and competence in primary school-aged children make them less likely to “participate in and enjoy many physical activities compared with their skilled peers” (Hardy, King, Farrell, Macniven, & Howlett, 2010, p. 503). This is a logical conclusion and something easily observed in a physical education class for any age.

A study of fundamental movement skills among Australian preschool children found that “investments in FMS programs during early childhood are important because they have the potential to enable children to participate successfully in games and sports during adolescence and adulthood, and once learned the skills are retained for life” (Hardy et al., 2010, p. 503). The researchers assessed “eight fundamental movement skills; four locomotor skills (run, gallop, hop and horizontal jump) and four object control skills (striking a stationary ball, catch, kick, overhand throw)” (p. 504). The researchers found that girls had a higher total locomotor score and boys had a higher total object control score, scoring higher in each of the object control scores than the girls (p.505). Some explanations for the difference in fundamental movement skill strength between genders have been studied by researchers. Malina & Bouchard and Thomas & French explain that due the similar “biological characteristics including body type, body composition, strength, and limb length” in pre-pubescent children gender is not the answer to the difference in fundamental movement skills levels (p. 506). Thomas, French, Garcia & Lever surmise that social interactions between family, peers and teachers could be the foundation of these differences. “At an early age the interactions among girls tend to be cooperative, caring and shared manner, while among boys interactions are marked competitiveness, individualism and egocentrism” (p. 506).
Research on fundamental movement skills among Australian preschool children “highlights the need for teachers to provide for structured opportunities which facilitate children’s development and confidence in fundamental movement skills, which may include providing gender separated games, equipment and spaces” (p. 508). A three year follow-up on this study found that all of the children tested on the twelve motor skills of the Test of Gross Motor Development-2 (TGM-2) fell into ‘average range’. Its authors summarized that “pre-school aged girls can be targeted to improve object control skills and this improvement can be retained through middle elementary school” (Zask et al., 2012, p.7). Further recommendations include the targeting of object control skills over locomotor skills, as children appear to learn these skills anyway. They suggest that physical educators should “look for learning activities that promote object control skill, but not ignore locomotor skills” (Ibid). This study reinforces Gallahue’s belief that it is critical that “adequate time and resources be devoted to skill development, especially during preschool and early elementary years, when a “window” of opportunity exists that maximizes the speed and ease of learning new skills” (Okely, Booth, & Patterson, 2001, p. 1903).

Another Australian study titled “Move it Groove it” looked at physical education intervention with year three and four (grade 3 and 4) students. Researchers assessed eight skills; the static balance, sprint run, vertical jump, kick, hop, catch, overhand throw, and side gallop. These skills were selected because (1) they have been clearly defined and successfully measured in other studies, (2) they are recognised as vital to development of higher skills, (3) they should ideally be mastered by the time children
complete year 4, and (5) as a set, they favour neither boys nor girls. (van Beurden et al., 2003, p. 495)

The “Move it Groove it” study concluded that by modifying PE lessons there could be significant gains in students levels of fundamental movement skills and minor gains in moderately vigorous physical activity(p.498). With the MIGI intervention girls and boys showed substantial gains in their weaker fundamental movement skills, over and above what could be expected in a year. It also found that by “developing supportive gender specific social environments for learning it may be possible to substantially diminish differences in performances of boys and girls” (p. 498).

A six year follow-up on the “Move it Groove it” intervention found that “perceived sports competence acted as a mediator between object control skill proficiency developed in primary school years and subsequent fitness and and physical activity in adolescence” (Barnett, Morgan, van Beurden & Beard, 2008, p. 10). Therefore a “key strategy to promote adolescent physical activity and cardiorespiratory fitness in community and school setting should be to improve perceptions of sports competence especially targeting object motor control development in childhood” (Ibid).

Yet another Australian study analyzed the relationship of physical activity to fundamental movement skills among adolescents. It looked at the relationship between fundamental movement skills and participation in organized and non-organized physical activities for adolescent boys and girls (Okely, Booth & Patterson, 2001, p. 1899). The study concluded that
“the ability to perform fundamental movement skills was significantly related to participation in organized physical activity” (p.1902). It also found that

Movement skills and organized physical activity may be reciprocal determinants. That is, having higher skills may increase options for participation in organized physical activities. Alternatively, participation in organized physical activities may increase skills through greater time spent practicing the skills and through greater exposure to coaching.

(p. 1903)

The afore-mentioned studies all support the importance of physical literacy and its goal of lifelong participation in physical activity. Hardy et al. successfully pull together the main message: “investments in fundamental movement skill programs during early childhood are important because they have the potential to enable children to participate successfully in games and sports during adolescence and adulthood, and once learned the skills are retained for life” (Hardy et al., 2010, p. 508).

**Mastery of Fundamental Movement Skills (FMS)**

When are appropriate times to teach fundamental movement skills? Pangrazi, Chomokos and Massoney state that “between the ages three through nine represent a critical time for children to learn motor skills associated with physical literacy”(as cited in Francis et al., 2011, p. 14). Gallahue believes that a “window” of opportunity exists during preschool and early elementary years that maximizes the speed and ease of learning new skills (Okely, et al., 2001, p. 1904). A study in Victoria, B.C., based its research on this “window of opportunity” and its relation to motor skill self-perceptions of kindergarten students. The researchers found that
whether kindergarten students’ levels of fundamental movement skills mastery were high or low, they most often held positive perceptions of their physical competence (LeGear et al., 2012, p. 4; Stodden et al., 2008, p. 296).

This positive self-perception provides the “window” of opportunity for learning and mastering of motors skills. While young children hold a largely undifferentiated view of ability and effort they may be more predisposed to engage in, and persist with, activities that will foster their skillfulness. Although perceptions were generally high, we did find a modest relationship between perceptions of competence and motor skill proficiency. This finding suggests that children in kindergarten are already beginning to make self-judgements; and that affording opportunities to help them become and feel physically competent needs to occur early in their school, or preschool, life. (LeGear et al., 2012, p. 4)

An Irish study looked into the effects of students’ self-perception and motor skill competence when taught by teachers trained in fundamental movement skills and those who were not. The study concluded that there was not a significant difference in the fundamental movement skill levels within the two groups at the end of the study, but there was a significant difference in the self-perception of core motor competencies of the students taught by a trained fundamental movement skills teacher (Breslin, Murray, McKee, Delaney, & Dempster, 2012, p.122)

The researchers concluded that “providing a structured movement skills programme during curriculum time to children aged 7-8 could result in children having a positive view of their
athletic and scholarly competence, feeling more accepted by their peers and having higher self-esteem” (p. 122).

Educators understand that children learn at different rates. This is more apparent for learning and acquisition of fundamental movement skills due to the effect of physiological maturation. Brady supports this stating “each individual has his or her own distinct timetable since the pace and level of physical maturation is individually determined” (as cited in Francis et al., 2011, p. 18). McClenaghan’s concern is that “if a child has not been introduced to a particular movement activity of patterns or missed out on the opportunity to develop a basic skill, it is more difficult to establish mature patterns of movement as each year passes” (as cited in Francis et al., 2011, p. 18). Physical educators must take into consideration that children learn fundamental movement skills in a progressive pattern according to a series of identifiable stages. Although these stages can be predictable, there are also periods of ideal readiness when children are physically, emotionally and cognitively prepared to learn motor skills. (Francis et al., 2011, p. 18)

The Coaching Association of Canada breaks down the process of learning a fundamental movement skill into four stages “1) emerging, 2) early developing 3) late developing 4) mature skill” (Francis et al., 2011, p. 20). “For every emerging motor skill there is a “best” time for a child to learn” (Higgs et al., 2008, p. 9). For each child this is different, but we must remember it is the consistency in teaching the sequences of a skill that will enable maximum learning (Ibid). Seefeldt (1980) concurs stating:
the child arrives at each stage in their own distinct way and with their own unique timing. As they master each stage they will start to develop a “tool box” of essential skill that will help them cross the proficiency barrier into successful sport and recreation participation. (as cited in Francis et al., 2011, p. 20)

Self-perception, motor skills and physiological development are crucial to the teaching of fundamental movement skills. Students need to be taught during the “window of opportunity” when the potential to learn the skill is at its highest level. Therefore the earlier developmentally appropriate fundamental movement skills skill are taught, the more success educators will have teaching fundamental movement skills and patterns.

**Physical Education and Cross-Age Teaching**

Gallahue, Clarke & Metcalfe express that “while children may naturally develop a rudimentary form of fundamental movement pattern, a mature form of fundamental movement skill proficiency is more likely to be achieved with appropriate practice, encouragement, feedback and instruction” (Stodden et al., 2008, p. 1020). Again, physical literacy skills “enable individuals to make healthy active choices throughout their life span that are both beneficial and respectful of themselves, others and their environment” (Francis et al., 2011, p. 2; Mandigo et al. 2009, pp. 6-7). Whitehead (2005) adds “The physically literate individual will interact with sensitivity and ease with others in group situations, appreciating the expressive quality of movement in her/himself and in others” (p. 6). From these three statements the words respect, encouragement, feedback and interact stand out. As educators look for strategies to teach
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They look for instructional strategies that will promote positive interactions between students that will maximize learning.

One such option is the use of peer-tutors. “The use of peer tutors has been an educational tool for centuries” (Olmsheid, 1999, p.1). Peer tutoring has many positive outcomes as is recognized as a powerful instructional strategy (Hattie, 2009, p. 186). Gaustad supports this and adds

One-to-one tutoring has long been recognized as superior to group instruction.
Instruction can be adapted to the learner’s pace, learning style and level of understanding.
Feedback and correction are immediate. Basic misunderstandings can be quickly identified and corrected, practice provided, and more difficult material introduced as soon as the student is ready. (Gaustad, 1993, p. 1)

Benjamin Bloom agrees and adds that one-to-one tutorial instruction is ‘the gold standard’ for education. In his search for methods as effective as one-to-one tutoring he examines the results of two different interventions by two doctoral students (Anania (1981) and Burke (1983) on different grade levels. The results of both interventions yielded close to the same results, the average tutored students attaining a mastery level 98% above the conventionally taught group. The average student in the mastery group (given formative/corrective feedback) was 84% above the conventionally taught group. The results of the summative assessment translates into 90% of the tutored students and 70% of the mastery students were at the same level as the top 20% of the conventionally taught students (Bloom, 1984, p. 5). Bloom believes that the reason one-to-one tutoring
was so successful is that “there is constant specific feedback and correction between tutor and tutee” in the given classroom activity/assignment. “There is much reinforcement and encouragement in the tutoring situation; the tutee must be actively engaged in the tutoring situation” (Bloom, 1984, p. 12).

Educators are familiar with cross-age tutoring (CAT) or mentoring that occurs within schools. “Buddy Reading” or other “Buddy” classes or learning partners are common within our schools. Math, Language Arts, Reading and Art are areas in which this ‘buddying-up’ is arranged. Multiple benefits are seen both inside and outside the school walls. But what makes cross-age teaching/tutoring effective? Guastad (1993) believes cross-age tutoring is effective because

1) tutor is closer in age, therefore may have a better understanding of tutee, 2) tutor may present subject matter in terms (language) the tutee understands, 3) tutors can model desired skills and behaviours, 4) tutors who struggle academically may have more empathy for tutees, 5) tutors benefit academically reviewing, practicing material and skills with their tutees, 6) tutors self-esteem by seeing the results of their effort, by helping someone learn and experience success (p. 2-3).

Educational researchers have agreed that other benefits associated with cross-age tutoring include

1) increased student achievement for both the tutor and tutee, 2) providing students with opportunities to be actively engaged in learning at the same time, 3) helping both the tutor and tutee have the opportunity to improve on social and behavioural skills (sharing,
communicating, giving feedback), and 4) it has shown to improved self-esteem of tutors and tutees. (Horvath, 2011, p. 9-10)

Olmshheid (1999) added other benefits.

(T)utees receive immediate clarification on information they might not understand and feedback in a non threatening environment. Tutors reinforced their own knowledge and skills, build their self-confidence and develop social responsibility. Students at any age and at-risk students are capable of serving as peer-tutors. Peer tutoring can also help gifted students who need to be challenged. (p.1)

Greenwood (1991) earlier identified other positive effects of peer and cross-age tutoring. Instructional practices that employ peer teaching and peer mediation are known to produce increased achievement and social competence in students. Peers have been used successfully to directly teach, supervise, and evaluate their partners’ performance. Additionally, techniques that enlist the natural sources of peer influence and peer pressure in support of academic and social behavior goals may be used to create powerful contexts for academic learning. The teacher's traditional role is changed from that of directly imparting information to that of supervising students’ responding during peer-mediated instruction. (Greenwood,1991, p. 105)

A study on the ‘Effects of peer tutoring and consequences on the math performance of elementary students’ noted that without structured training for the tutors, a math tutoring program was nonetheless a substantial success. The advantages of using tutors included having
“additional people in a room able to answer questions, provide instruction, provide immediate feedback” and it enabled teachers to work with students who needed more help. It noted that tutors may also gain or strengthen teaching and leadership skills, and potentially increase their personal academic performance (Harris, & Sherman, 1979, p. 597).

Hattie’s text *Visible Learning* found “the overall effects of the use of peers as co-teachers (of themselves and of others) in classes quite powerful” (Hattie, 2009, p. 186). Hattie considers peer tutoring as a way to teach students self-regulation and control over their own learning by learning to teach others, which reinforces their own learning.

Hartley’s (1977) meta-analysis of the effects on mathematics learning through different instructional modes found that

peer-tutoring was the most effective of various conditions. Peer tutoring was most effective when used as a supplement to, rather than a substitute for, the teacher roles. Cross-age tutors were more effective than the same-age peers. She found also found a commonly reported conclusion: the effects on the tutors were not that different from the effects of those being tutored. (Hattie, 2009, p. 187)

In physical education, there have been several terms used to describe this method of instruction: peer teaching (Rink, 1998), peer tutoring (Siendentop & Tannehill, 2000), or reciprocal teaching (Mosston & Ashworth, 1994). Whatever the chosen term, peer mediated teaching has long been promoted as an educationally appropriate practice to aid student learning (National Association for Sport and Physical Education, 1995). Yet despite widespread support
for peer tutoring, there has been limited empirical evidence that it is an effective strategy in physical education (Johnson, Ward, 2001, pp. 247-248). Most studies of the studies in physical education examining the effects of peer tutors have been in adapted physical education settings or inclusive settings. “Several studies demonstrated the positive effects of tutors, but have produced mixed finding regarding the effects of trained and untrained tutors” (Siedentop, Tousant & Parker, in Johnson, & Ward, 2001, p. 248).

Peer-mediated accountability (PMA) has demonstrated strong results in the improvement of motor skills. Peer-mediated accountability consists of several components including teacher established goals, peer recording of students performance, public posting of student performance, and special content related activities that serve as public recognition of student achievement. (p.48)

This intervention works when students have the skill to be assessed in their skill ‘bank’. Peer-mediated accountability provides feedback and gives students time to practice their newly learned skill (p. 248). Class wide peer tutoring in PE (CWPT-PE) is an intervention that has had positive results, “it involves the whole class in reciprocal roles of tutor and tutee” (Ward et al., 1998, as cited Johnson & Ward, 2001, p. 248). Although there have been positive results in relation to peer-mediated accountability (PMA) and class wide peer tutoring in PE more research is required to evaluate its effectiveness within an early primary physical education class.

A Community of Learners

The notion of “a community of learners” is not new. Fu (2000) described a learning community as a classroom
in which the teacher and the children create opportunities for learning, children are encouraged to be active learners by participating in meaningful tasks that support their social and intellectual development. They interact and interchange information and help each other make sense of what they are learning. (p. 2)

In ‘Does Building a Classroom Community Facilitate Learning?’ Cusak (1995) described a classroom community as an environment in which children can become confident learners when their work is purposeful to them and is carried out in an atmosphere that reduces competition. Building a community of learners takes patience, persistence and serious listening to one another; it requires that we teach peace. (p.2)

In a study of the effects on learning affected by the creation of a community of learners in a grade 1 classroom, Mester (2008) used a quasi-experimental action research study with a single-group design. Pre-intervention she administered a “Sense of Community Attitude Inventory” (Schaps, Lewis, and Watson, 1997) and an “Analytical Reading Inventory” (Woods and Moe, 1999). Three other measures followed the experimental treatment. “A Sense of Community Attitude Inventory” (Schaps, Lewis, and Watson, 1997) was given in December 2002 after the small construction groups followed through on their decisions. The post-intervention “Sense of Community Attitude Inventory” (Schaps, Lewis, and Watson, 1997) and the “Analytical Reading Inventory” (Woods & and Moe, 1999) were administered in May, 2003, after all whole group and individual decisions had been completed (Mester, 2008, p. 4).
The results Mester derived from her ‘Sense of Community Attitude Survey’ (Schaps, Lewis, and Watson, 1997), indicated increases in helping, collaboration, closeness, and student influence, from pre- to post-intervention, 3-15% (p.6). Results in the categories of positive interpersonal relationships and student influence (Rules) indicated a decrease of between 7%-18% respectively (p.6). Mester concluded her study by stating:

It seems clear that actively engaging students with each other in designing and physically constructing their classroom environment during the first semester of the school year built feelings of community, which helped sustain them emotionally and academically throughout the school year. (Mester, 2008, p. 16)

The term ‘community of learners’ and its philosophy are not new in British Columbia, “it was a central guiding idea for teacher training at SFU in 1991 and has links to the Year 2000 program in BC after the Sullivan report” (S, Lloyd, personal communication, January 28, 2013). What is significant about the ‘community of learners’ and its philosophy in British Columbia is how a team of educators on Vancouver Island has gained international recognition from Organization of Cooperation and Economic Development (OECD) for their creation of an innovative learning environment known as a “community of learners network”. The team has earned particular note for its emphasis on an ‘inquiry process’ as critically-important in a community of learners. The team has adopted the motto “We are all teachers, we are all learners” (Fisher, Epps, Brown, 2011, p. 2). The team’s “ultimate goal has always been to improve the educational experience of all students and to increase the life chances for the significant number of students whose needs have not been met” (p. 2) by the present public school system.
A “community of learners” approach facilitates student understanding of the many meanings of community, and ways to be an active member within one. This approach deliberately “reorders the roles of ‘teacher’ and ‘learner,’ revaluing of the recipients of school, the students themselves” (Fisher, Epps, Brown, 2011, p. 2-3). Epps continues this notion, stating a Community of Learners climate that is infused with an inquiry mindset can transform the classroom into an innovative learning environment where inquiry cycles spiral throughout the year. Within a community of learners’ climate, students develop self-regulation skills and support one another throughout the process thus developing a common belief that they are all learners and all teachers. This belief is manifested through multiple peer coaching experiences to support one another’s learning. (Fisher, 2011, p. 5)

The process of building a Community of Learners starts with developing a vision and working definition of a community of learners. Students are asked, “If we were to try and achieve a community within our classroom, what would it look like, sound like, feel like?” (Fisher, Epps, and Brown, 2011, p. 11) Once a complete vision of a community of learners is drafted students define the 4C’s; cooperation, control (self), commitment, and communication, again having students define these by answering the questions, What would it look like/sound like/feel like? Student responses are recorded and become the basis for the class ‘Community of Learners Code of Conduct.’ The students take ownership of their code and refer to this code whenever related issues arise (p.12). This ownership allows students to take risks in their learning, to step outside their comfort level and let learning get messy and thereby, creative. The
4Cs are “therefore the foundational culture of a community of learners creates the support necessary for students to take risks and overcome challenges” (p. 12).

A Community of Learners Approach in Physical Education

How can a “community of learner” approach be used in Physical Education? The gymnasium or field like a classroom is a learning environment, therefore learning intentions, and behavioural expectations need to be explicit to support a mutually-respectful learning environment. Oftentimes in the gym environment, students, especially early primary have difficulty transferring behavioural expectations from the classroom into a very large space with limitless distractions such as balls, lack of physical barriers (desks, chairs, tables), various forms of equipment, more noise, and the excitement of a new space. If students become overwhelmed, do not like an activity or are not adequately skilled, they will frequently try to sit out. This is not the goal of physical educators: our goal is active participation from all members of the class. The creation of a “community of learners” within the physical education setting will help students become active participants in their learning, they will feel secure enough to take risks in their learning as well accept and understand all students are diverse in their skill levels within the PE class community.

A method which I have used for the past two years is to “buddy”/partner kindergarten classes with older classes (grade two or grade three). The use of older students as cross-age tutors (CATs) eased the transition of the younger students (tutees) into physical education setting. The results of this mentoring, has had several observed effects 1) Mentoring has assisted early primary students’ understanding of behavioural expectations in this setting. 2) Having the CATs model skills for them assists with one-on-one instruction and personal immediate
feedback. 3) Tutees make personal connections with older students. 4) It has reduced primary students’ concerns (fears) about long and short recess.

The next step will be to have younger students and their cross-age tutors define the community. They will go through the process of defining the four C’s; cooperation, control, commitment and communication in the context of the physical education environment. Defining the four C’s with the cross-age tutors will assist primary students to gain a perspective into what they look like, sound like, and feel like within the context of a physical education environment. Many of the behaviours relating four C’s will be the same in a classroom and in a gymnasium, but there will also be distinct difference as well, i.e. what listening looks like in the gymnasium.

How does an inquiry process work in Physical Education at a young age? Teachers can introduce learning intentions daily, helping students to understand what they are learning while learning it. By working with a cross-age tutor the students receive one-on-one instruction and immediate feedback on their performance. This will allow the teacher to circulate around the gym or field and use her/his adaptive expertise to assist both tutors and tutees. Sometime during the period the teacher will review what students have learned, and discuss its application to game play, and other settings, and where their learning will take them next class. This should enable students to answer three simple questions: What are you learning? How’s it going? What next? Where to next? By answering these three questions students will gain enhanced knowledge about their learning and a sense of how and why they are learning given skills (Timperley., Wilson, Rarrar, and Fung, 2007, p. 187).
Assessment in Physical Education

Assessment in physical education is as important as assessment in any subject area within the school environment. With a goal of promoting physical literacy and life-long appreciation of physical activity through the teaching of fundamental movement skills, evaluating students’ progress is paramount to our success.

Assessment has always been an integral part of educating. Most longstanding assessment practices in public education have been assessment of learning, which is “summative in nature and is used to confirm what students know and can do, to demonstrate whether they have achieved curriculum outcomes” (Earl and Katz, 2006, p. 14; Gibbons and Kankkonen, 2011, p.6). In physical education an example of this would be an evaluation for proficiency of a forearm pass or an over-head set in a volleyball unit, for example by counting the number of completed passes using proper technique.

Assessment is changing. In 1998, Black and Wiliam brought the term formative assessment to the forefront. Activities associated with this form of assessment “are activities undertaken by teachers and by their students in assessing themselves that provide feedback to modify teaching and learning activities” (Black & Wiliam, 1998, p. 140). Assessment for learning or formative assessment is “designed to give teachers information to modify and differentiate teaching and learning activities” (Earl and Katz, 2006, p. 13; Gibbons and Kankkonen, 2011, p.6). Black and Wiliam (1998) make three claims about the positive effects
of formative assessment: “1) achievement gains associated with formative assessment are amongst the largest ever reported for educational interventions, 2) formative assessment methods may help create greater equity of student outcomes, 3) formative assessment builds students’ skills for learning to learn” (as cited in Elwood, 2006, p. 219). Hattie supports the claim formative assessment is powerful. “It is the attention to purposes of innovation, the willingness to seek negative evidence (i.e. seeking evident on where students are not doing well) to improve the teaching innovation, the keenness to see the effects on all students, and the openness to new experiences that make the difference” (Hattie, 2009, p. 181). Brookhart, Moss and Long (2008) describe formative assessment as all about sharing information, teacher-to-student communication, teachers showing students where teachers believe learning should be headed and what students need to do to get there” (p.52).

This mutual communication empowers students, makes teachers more effective, and accesses students’ natural love of learning. “Most children begin school excited to learn, yet over time they become more oriented towards grades than learning” (Brookhart, 2004, in Brookhart, Moss and Long, 2008, p. 52).

Formative assessment replaces judgemental practices with information exchange and cooperation. This kind of assessment convinces students that teachers really want to understand what and how they think, rather than whether they know the right answers. Students feel permitted to think for themselves and to openly share their understanding which frees them to become a driving force in their own learning. (p. 52)
Brookhart, Moss and Long give educators a reminder of the true goal of formative assessment in relation to students, while enabling educators’ understanding of how formative assessment can be applied to all subject areas including physical education. It allows educators to understand the value of effective descriptive feedback. Providing clear feedback assists students’ self-awareness of what they can do, and what they need to do, in achievable steps. It allows students to make connections in their learning that will lead them to success and self-efficacy (Brookhart, Moss, and Long, 2008, p. 56).

Assessment for learning includes assessment as learning: “the intent of Assessment as learning is to help students take responsibility for their own learning” (Gibbons, & Kankkonen, 2011, p. 6). The Manitoba Education, Citizenship and Youth conference of 2006 further defined “assessment as learning as a process of developing and supporting metacognition for students and encourages the role of students as critical connector between assessment and learning” (Earl & Katz, 2006, p. 12).

Many views of learning have changed from the accumulation of atomized bits of knowledge that are sequenced, hierarchical, and need to be explicitly taught and reinforced. Learning is now more often viewed as an internal process of constructing understanding, during which individuals attempt to connect new information to what they already know so that ideas have some personal coherence and meaning. Individuals construct understanding in many different ways, depending on their interests, experience, and learning styles. (Earl & Katz, 2006, p. 3)
Can assessment for learning be used in Physical Education? The answer is ‘yes’ when we consider Brookart, Moss and Long’s (2008) statement that, “effective teachers create opportunities that maximize the chances learning will happen. By providing students and teachers with specific and regular feedback on how well students are mastering key concepts and skills, formative assessment helps the teacher create such opportunities” (p. 52). In the physical education setting it is often easier for the teacher to ‘see’ how well a skill is being executed simply by watching the student or students. The teacher can easily move around and give clear descriptive feedback and/or demonstrate how to execute skill properly. This is how many physical educators and generalist teachers give feedback. But what does the literature tell us about how is assessment used in physical education? There is not much written about assessment in primary/elementary physical education, the research on assessment practices in secondary physical education can be considered, and some apparently relevant aspects adapted and applied to this age group. Lopez-Pastor et al. (2013) have reviewed international literature on alternative assessment in physical education and come up with a review of several practices.

Prior to the 1970’s in many countries, and for much of modern history, assessment in physical education has not been much of an issue. Back when the majority of school children experienced a ‘drilling and exercising’ form of physical education, assessment insofar as it existed, was straightforward. The instructor could see clearly whether or not individual children were executing the exercises correctly, and marked accordingly.

(p.58)

Lopez-Pastor et al. (2013) have divided assessment in physical education into two categories: ‘traditional’ and ‘alternative’ (p. 59). The ‘traditional’ approach used internationally
implemented Physical Fitness Tests (PFT’s). These were widely used up to the early 1990’s, with approximately a 90% usage rate by physical educators (p. 60). The use of PFTs has fallen under criticism in the past two decades due the reported negative experience of students and lack of application to real life setting/ experiences. (p. 60)

Keating (2003) reviewed PTFs applied in primary and secondary physical education. He listed 10 criticisms and suggested possible solutions in implementing PFTs in physical education syllabi. Solutions included (1) they should not be used for grading students, but for formative and learning purposes, (2) they should raise students’s awareness of the tests on PFTs to assess such knowledge, (3) there should be more emphasis on health and (4) tests should lead to improvements in students’ physical fitness. (Lopez-Pastor et al., 2013, p. 60)

A US study by Matanin and Tannehill (1994) of assessment and grading found that there were two opposing goals in physical education. First, “if the goal of physical education is to enhance a student’s physical well-being, motor skills, and knowledge base about physical activity, objective assessment is necessary to determine if these goals have been achieved.” (p. 405) They continue on to state that “demonstrating student achievement through a goal-related physical education program has been equated with achieving professional accountability.” (Ibid) The opposing (second) goal is “if the goal of physical education is to provide students with a variety of enjoyable activities in a relaxed atmosphere and without the threat associated with objective assessment, findings from this study indicate this goal is being achieved.” (Ibid) They state that “research indicates however, that these programs that do not provide objective, accountable
assessment procedures do not lead to student achievement and cannot be clearly justified as an educational program” (Ibid).

Siedentop and Tannehill (2000) describe ‘Alternative’ assessments in physical education as applications that differ from traditional forms of assessment, such as PFTs, and summative testing. “Alternate” assessments involve students in actively solving realistic problems though application of new information, prior knowledge and relevant skills” (Lopez-Pator et al., 201, p.62). “Some of the terminology associated with ‘alternate’ forms of assessment include; authentic assessment, assessment for learning, learning-oriented assessment, integrated assessment, peer assessment and collaborative assessment” (Ibid).

Desrosiers et al. (1997) “examined integrated assessment development in sample classes of 13 experienced physical education classes in 10 schools in Quebec” (Lopez-Pastor et al., 2013, p. 63). Desrosiers et al. found that “71% of instruments used to perform diagnostic or formative assessment and 70% of instruments included checklists and graduated scales applicable to every student” (Ibid). Teachers in the study supported authentic assessment in physical education. “They stated it provided more relevance as a from of formative assessment when integrated in teaching-learning process and when information about assessment was shared with students” (Ibid).

Two other studies, in Spain and in the USA, found similar results. Lopez-Pastor et al. (2011)
developed a similar approach in Spain in primary and secondary education through an action research group on “Formative and Shared Assessment” in physical education. When such assessment was implemented in the school, there was evidence of improvement in learning, an increase of student involvement in the learning process, self-regulation, high reliability of students’ self-assessment and self-grading, high student satisfaction, and better grades. (Lopez-Pator et al., 2013, p. 63)

Earlier, Mintah (2003) found that 75% of teachers in public schools were using authentic assessment and it was more common in primary than secondary education. He stated that “authentic assessment values quality learning outcomes, encouraging students to be further involved in their learning process, appreciating how they will be assessed and in turn increasing their interest and motivation” (Lopez-Pator et al., 2013, p. 63).

Two more studies by Butler and Hodge (2011) and Melograno (1997) found the “advantages of peer assessment over traditional approaches included more feedback, an improvement in learning, more sociability and more positive relationships among classmates” (Lopez-Pator et al., 2013, p. 64). Butler and Hodge also advocated the “need for ‘two key directives’ for teachers interested in peer assessment. Firstly, to give necessary instruction before beginning the classes and, secondly, to inform students what they are expected to do in terms of how to carry out peer assessment” (Ibid). Ward and Lee (2005) “reviewed research on the use of peer assessment in physical education” and found that “the degree of reliability between student peer-assessments and researchers’ assessments varied from 70%-96%” (Ibid).
Lopez-Pastor et al. (2013) conclude their review stating that alternative forms of assessment are innovative and mature. “We believe assessment is an integral and necessary aspect of education across all subject areas of the school curriculum, and physical educators can longer afford to be ambivalent about this practice, if they ever were” (p. 73).

**SUMMARY**

The 21st century (C.E.) is a time of change in both education and lifestyle. The current trend towards an increasingly sedentary lifestyle in children in industrialized nations is causing some alarming effects. The results of the decrease in physical activity is the increase in obesity and other chronic health issues, including type II diabetes, heart disease, hypertension and cancer (Larouche, Laurencelle, Shephard & Trudeau, 2012, p. 516). The World Health Organization and governments worldwide have taken measures to combat these issues and have defined the types and amount physical activity required to maintain adequate health for different age groups. Scientists, health professionals and educators are looking at ways to increase physical activity across a lifetime. The ultimate goal is to have people maintain the minimally required number of minutes of moderate-to vigorous physical activity daily for a throughout their life (Larouche et al., 2012, p.516).

Researchers from many countries including Canada, USA and Australia have found a correlation between physical activity levels as a child and physical activity of adolescents. Trudeau and Shephard have the only known longitudinal study of the effect of daily physical
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Education which spans over 35 years into mid-adulthood. Their six year intervention, starting in 1970, found sixty minutes of quality physical education a day led to improvement in cardiovascular and muscular strength, and higher levels of participation in physical activity on both weekdays and weekends for the children in the experimental group. The results of their twenty year follow up found the participants from the experimental group had better balance, they had a better appreciation for physical activity and were more likely to participate in it, the women were more likely to participate in moderate to vigorous physical and the men smoked less. (Shephard & Trudeau, 2000, p. 42) The results of their thirty-six year follow found that “by the age of forty-four the experimental participants showed no benefit from their additional PE in primary school” (Larouche, Laurencelle, Shephard, R.J. & Trudeau, F., 2012).

Schools, and physical education classes in particular, play an integral role in providing students with physical activity (moderate-to vigorous intensity) and the education of skills (FMS) necessary to create confident, skilled, physically fit individuals with an appreciation for participation in physical activity for a lifetime. Physical literacy is a holistic educational ideal that strives to help individuals become confident, competent, and creative across a wide range of health-related physical activities. Physically literate individuals will “make healthy active choices throughout their life span that are both beneficial and respectful of themselves, others and their environment” (Francis et al., 2011, p. 2; Mandigo et al. 2009, pp. 6-7). Educators would benefit from innovative and creative ways to teach physical literacy. Using programs such as Action Schools BC can augment the limited physical education time and increase the level of moderately vigorous physical activity in our daily physical activity (DPA) times. Educators must support each other and look to each other for creative solutions to the lack of
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gym space, minimally allotted physical education instruction, and understand taking time away from academic subjects will not hurt their students’ academic performance.

“Qui docet, dicet” - ‘Who teaches, learns’; in recent terms “To teach is to learn twice” (Learning L2 together, 2004) and “We are all teachers, we are learners” (Fisher, Epps & Brown, 2011, p. 2) are powerful guiding ideas that can help move educators forward in the creation a holistic learning environment required for 21st century learning. The “community of learners” philosophy will assist in the creation of an environment where students will feel safe to risk take and feel secure to participate in all activities. Through the combination of cross-age tutoring, the use of assessment for strategies educators can lead students to develop a personal commitment to their own learning.

The combination of a “community of learners” philosophy, physical literacy, the current goals of physical education, cross-age tutoring and assessment for learning make a strong partnership that create a strong teaching philosophy that will move our students into the future as healthy, skilled, knowledgeable participants in physical activity, sport for a lifetime.
Chapter 3: Methods, Discussion, Conclusions

Method and Reflection

The process of writing this master thesis was grounded in an inquiry process. In the summer of 2012 I had to ask myself, “For my project, what am I passionate about, and what learning need is related to it?” My passion is physical education, and I considered using the term “physical literacy” as a vehicle to impart its importance to colleagues. The ‘learning need’ embedded in physical literacy is the need for students to learn fundamental movement skills (locomotor, non-locomotor and manipulative skills). As I wrote my research question, there seemed to be more depth to this inquiry than one question could answer. Eventually I ended up with four. 1) How can a definition of physical literacy assist us in effectively teaching fundamental movement skills (basic motor and non-locomotor patterns and manipulative skills) to early primary classes while at the same time teach and reinforce appropriate self and peer assessment, social and behavioural skills? 2) How can we most effectively teach fundamental movement skills to early primary physical education classes using the minimally allotted time? 3) Can a balance be achieved between providing adequate amounts of moderate to vigorous physical activity, teaching fundamental movement skills, and using assessment for learning in the primary physical education class? 4) Can the use of the Community of Learner’s philosophy, “We are all teachers, we are all learners” assist us in the teaching of physical literacy in a physical education setting?
The goal of my literature review was to investigate the interconnectedness of physical literacy, physical literacy in relation to physical education, physical education and physical activity, fundamental movement skills, cross-age/peer tutoring, and if they could be applied to a “Community of Learners” within a primary physical education setting. I hoped that investigation into these topics would support and substantiate my belief that inter-linking them would support the development of a useful handbook, eventually titled “Connections through Physical Literacy: Teaching Fundamental Movement Skills to Early Primary Students with Cross-Age Tutors”.

Early on in the research and writing of my literary review I made the acquaintance of Dr. Roy J. Shephard, one of the authors of the important ‘Trois-Rivieres study’. Dr. Shephard became a mentor throughout my research and the writing process. We would meet for coffee once or twice a week. He challenged my thoughts in relation to physical education and physical activity and health, suggested areas in which further research was needed, and offered articles or research that might interest me or further support my inquiry into “Why and how can physical literacy change the lives of our students/learners?” My literature review grew and grew, soon becoming much larger than its required length and number of references. As I reflect, I feel this might have been the most gratifying portion of my thesis process, because it gave me a chance to work with someone with an astounding wealth of knowledge and led in new directions, all while substantiating my passion for the importance of physical education for children in our schools.

During the development of the handbook, I have called upon eighteen years of experience teaching elementary physical education, and have referred to current resources from Action Schools BC, PHE Canada, the National Coaching Certification Program, and other tried and true
resources which I have used for years. During the writing of the handbook I conferred with master teachers Brown and Epps from Nanaimo’s innovative “Community of Learners” team as to its application in the physical education learning environment with primary children. I conferred with Action Schools BC on the structure of the handbook and its lesson plans, ASBC providing insightful pointers and noteworthy changes to key sections. Upon completion of the handbook, we will be further developing it to support ASBC Physical Literacy or Fundamental Movement Skills workshops and resources. I contacted and received permission from the National Coaching Certification Program to use their illustrations and tables. I must submit further paperwork to PHE Canada, detailing the illustrations or the tables. PHE Canada wants to know if my intent is to publish or if it is only for fulfilment of the MEDL project requirements.

As stated earlier in this chapter, a Spiral of Inquiry was used to identify a learning need, investigate supporting data, and to create a handbook. Writing the handbook was fulfilling as it reconfirmed for me that I have developed a wealth of knowledge through my career, and that my passion and drive are unabated and apparent in my written work. The cycle of inquiry continued with each lesson I wrote, taught, reflected-upon, analyzed and modified for greater effectiveness. I based lessons for a “Community of Learners” upon conversations with Epps. I have included, below, some of my reflections on the development and ‘field testing’ of the lessons that form the basis of the introductory sections of the handbook in order to offer some insight into the processes I undertook. I tested the lessons with a group of grade 1/2 students, whom I teach one day a week, and their grade 5/6 buddy class.
Reflection on lesson 2 from the handbook: Defining a Community. This was a fun lesson, younger students having to be prompted about great things in their community and why they liked living here. When asked ‘What makes our community a special place to live?’ some students focused on physical aspects, e.g. ‘We have a skating rink’ or ‘a swimming pool.’ They had similar responses to questions relating to the class. So I added the question; ‘How does our community make you feel?’ leading students into considering important things that they had not before. Responses included ‘safe,’ ‘happy,’ and ‘nice.’

Lesson 4 turned out to be a wonderful experience. When students were recording their responses to ‘What does cooperation feel like?’ a grade 5 boy responded, “It feels warm in your tummy.” I was moved by the sincerity of his response and how true it was. “When people work together and cooperate, people feel great, happy and warm in their tummy”.

In lesson seven or eight, I asked the buddy groups to choose their most powerful word and write it on a slip of paper. The response shocked me. Approximately 80% of the group members wrote ‘trust.’ What a powerful word, and so true: to feel safe, to take risks in your learning you must have trust; trust in your teacher, trust in your classmates, trust in the process of learning. It is amazing to me that even our youngest students know this to be true, once given an opportunity to experience and understand it. Trust needs to be apparent everywhere within the school setting both in the classroom and on the playground for successful learning to occur.

When I shared the “Community of Learners” lessons with a teacher of a grade 2/3 class, she asked if I would teach the first few lessons. I taught the first 5. The children enjoyed
working with each other, and sharing their thoughts and feelings in a more open and challenging way. (e.g. ‘Describe what commitment feels like’). Their classroom teacher and I observed that many of the ‘social and behavioural issues’ lessons were facilitated by the language of a “Community of Learners,” in effect embedding those concepts within the learning both explicitly and implicitly.

Writing “Getting Moving” proved to be more demanding than I had expected. It was necessary to take myself back to a beginner P.E. teacher or non-physical education specialist level. I had to walk myself through the lesson format and reflect on best practices of instruction and classroom management resulting in maximum physical activity, fundamental movement skills, and enjoyment. I attended a “Maximizing Physical Activity in Movement Settings” workshop by Guy LeMasurier, which reaffirmed confidence in my teaching style and introduced me to the term ‘instant activity’ used by George Graham. Although I am an eighteen-year veteran of physical education instruction, I do and will continue to attend conferences, workshops and read to stay on top of current trends and directions in physical education.

A partial draft of the handbook was submitted to ASBC, first primarily to check the format. The handbook was well received, the topic of ‘physical literacy’ now of international interest. ASBC later commented on tightening up the literature review into two pages, using uniform language in the lesson plans, and including more information on fundamental movement skills and including a section on the break-down of skills or each skill with for example three teaching cues. It was suggested that the physical education section include only three lessons, using three different formats as templates in which skills can be mixed and matched. These
multifunctional templates should provide structure to many good physical education lessons.
The results of these updates can be seen in the partial draft of the handbook in this thesis.

**Implications:**

Through the writing of the handbook I have had the ultimate goal of making a difference in the lives of my students and others.’ If the handbook can intrigue educators about the term ‘physical literacy’ and relate it to present notions of literacy then it will have achieved some success. The handbook should help teachers to create inspirational, engaging lessons that have a balance of fundamental movement skills and moderately-vigorous physical activity. Including cross-age tutors or ‘buddies’ is a strategy used by many teachers and schools, thus using the term ‘buddies’ will hopefully lend educators a partial sense of familiarity when implementing ideas. If teachers include daily learning intentions in their lessons and share them with students, each student should be able to answer questions like ‘What are you learning?, How is it going’?, and ‘Where to next?’ These lessons will demonstrate how the inquiry process can be subtly woven into the physical education environment. Educators will understand that using “assessment for learning” is what 21st century assessment in physical education is. If physical fitness tests are used, they should be used to benefit the students’ personal knowledge, assist in personal goal setting and excitement to learn more, not simply as a basis for sorting and ranking. I hope that this handbook will be useful as a tool in helping to develop physically literate children who will participate in life-long physical activity and maintain a healthy lifestyle – with metacognition built in.
I want to share widely the broader, deeper, and holistic nature of physical literacy. To that end I will share my research with our district Teacher Association, submit to electronic newsletters, submit articles to the PE-BC Provincial Specialist Association, and conduct workshops at the QDPE conference at Douglas College. I hope that by acquainting educators with physical literacy, and its congruent goals to that of Physical Education in British Columbia “to provide opportunities for all students to develop knowledge, movement skills, positive attitudes and behaviours that contribute to a healthy, active lifestyle” (British Columbia Ministry of Education, 2006, p. 14), educators will shift instructional practices toward its more holistic ideals.

That the latter ideals include matters of critical concern to education as a whole in the 21st century (C.E.) – to a love of learning, to ‘knowing what I know, and what I’d like to’ or metacognition, to a capacity to explore and learn and fail and get up and fail again and succeed in a learning culture of mutual support and trust, to a sense of personal and shared efficacy and more – embeds the goals of physical literacy within a much larger paradigm, the most important of our time: of individual and community commitment to improving our present and future, in schools and beyond. (S.Lloyd, personal communication, April, 29, 2013)

**Conclusion:**

This document was written to answer and support the four research questions reiterated below, with an ultimate goal of providing a useful resource to assist in the instruction of fundamental movement skills to early primary students during their “window of opportunity.”
How can a definition of physical literacy assist us in effectively teaching fundamental movement skills (basic motor and non-locomotor patterns and manipulative skills) to early primary classes while at the same time teach and reinforce appropriate self and peer assessment, social and behavioural skills?

How can we most effectively teach fundamental movement skills to early primary physical education classes using the minimally allotted time?

Can a balance be achieved between providing adequate amounts of moderate to vigorous physical activity, teaching fundamental movement skills, and using assessment for learning in the primary physical education class?

Can the use of the Community of Learner’s philosophy, “We are all teachers, we are all learners” assist us in the teaching of physical literacy in a physical education setting?

Physical literacy is a relatively new term for educators and the public. In Canada there are several associations with independent definitions. Although the definitions differ slightly their goal is ultimately the same: to develop physically literate individuals. The definitions support the notion that physically literate individuals can move confidently in a wide variety of physical activities. They can “read” their setting and respond appropriately, whether it is communicating with classmates/teammates or applying appropriate motor skills in certain situations, for example to tip or spike a volleyball. A physically literate individual develops the motivation, confidence, and knowledge to make healthy active choices throughout their life (Mandigo, Francis, Lodewyk & Lopez, 2009, p.9; Higgs et al., 2008, p.5; Whitehead, 2007b).
As I reflect on research questions 1 and 2, I have found that the definitions of physical literacy help educators to understand the more all-encompassing nature of the term. The definition assists us in teaching early primary students when we understand the important role fundamental movement skills play in the development of a physically literate individual. If educators can capitalize on the “window of opportunity” to teach fundamental movement skills between three and six years old, while self-perception is high but self-consciousness low, student will have more success. If students are more successful at acquiring skills then they will be more apt and able to participate in physical activity in to their teens and adulthood. Educators can also incorporate instructional strategies into the physical education environment such as cross-age tutors, which has proven successful in that it provides one to one instruction while students receive immediate personalized feedback and develop a rapport with older students to reinforce social skills (Greenwood, Olmsheid, Kourea, Harris & Sherman as cited in Horvath, 2001, p.9-10). The “buddying” of students also supports self and peer assessment in so far as the older students can assist in reading assessments, demonstrate skills, and model desired skills and behaviours.

Research question three asks if a balance can be achieved between three aims: providing adequate levels of moderate to vigorous physical activity, teaching fundamental movement skills, and using assessment for learning for its inherent and associated benefits. The answer is yes. The “Move it Groove It” intervention demonstrated that a balance can be achieved, but strategies such as circuits/stations must be utilized to keep activity levels high. Again, the use of cross-age tutors can assist in the efficient implementation of instruction, and individual feedback.
The fourth research question asked ‘Can the use of the “Community of Learner’s” philosophy “We are all teachers, we are all learners” assist us in the teaching of physical literacy in a physical education setting?’ I have found during the development of eight lessons using “Community of Learners” ideas that the latter will assist in the teaching of skills related to physical literacy. The development of the 4Cs: cooperation, communication, commitment and control, creates a common language amongst students and supports a code of conduct co-developed by the students and the teacher. Through the process of defining the 4Cs students become familiar with the language and facility with using it. For example, when reflecting on ‘What does communication sound like? this can be related by students to giving instruction in the gym, balls unmoving on the ground, eyes on the teacher, students in a ready position. The instructor can ask a student, “Is that what good listening looks like?” if an element is missing. A “Community of Learners” philosophy develops trust amongst students so they feel safe to take risks in their learning – such as wearing gym strip, or making a volleyball serve. In an educational setting the “Community of Learners” philosophy is a positive addition to the learning culture.

Through my research I learned that we do not teach physical literacy. It is instead a holistic ideal, a larger vision. As educators we teach knowledge, values, decision-making, self-regulation, healthy living, social and emotional well-being and skills of fundamental movement, which can help us to develop physically literate individuals. Similar to literacy or numeracy, physical literacy is cumulative and takes years to acquire. It is not a single “unit” that, once taught, means students are physically literate. It is a process not limited to childhood or to schools, but one that can receive critically important emphasis in our teaching.
The following diagram is a visual representation of my vision for this thesis and creates a perspective demonstrating the interconnectedness of a Community of Learners, physical literacy, physical education, physical activity, cross-age tutors, fundamental movement skills, moderately vigorous physical activity, and assessment for learning, all centered around the learner. This diagram is my interpretation of the direction 21st century physical education instruction is moving. It will be inspiring to me, and hopefully to others, to contribute to that process.
Chapter 4: Introduction to the Handbook

The structure of this handbook is simple; it is divided into 4 sections:

1. What’s this handbook about?

2. “Getting Started”

3. “Getting Moving”

4. Appendices (research, glossary, supplementary resources & references)

What’s in this handbook about?, will give an overview of the handbook. The sections included; are an introduction to myself and my rational for writing this handbook, about this handbook (structure), the connection, physical literacy is... and curriculum connections. Purpose of this part of the handbook is to intrigue the reader and invite their curiosity into the ease at which physical literacy can be taught.

The “Getting Started” section is based on getting the students comfortable with each other and the community learners’ philosophy. This section includes a “Getting to know each other” lesson, then moves into eight lessons on the creation of a community of learners philosophy in which a regular classes and a physical education classes can base behavioural and academic expectations. These first six lessons are formatted on 30-45 minute time blocks which I have found to be adequate instructional time to complete the lesson and allow students to remain on task. These lessons are very helpful because they create a common language and common behavioural expectations for the students made by the students. These lessons stemmed from an educational philosophy, recognized by the OECD’s CERI as creating an innovative learning environment. Using these lessons is an
option as the teaching of fundamental movement skills does not rely on the community of learners’ philosophy, however it will allow for greater ease in the teaching and management within the physical education and movement settings.

The “Getting Moving” section include the multi-functional Physical Education lessons, designed to be used at the start of the school year, but can be incorporated into your physical education program at any time throughout the school year. The lessons are based on 30 minute time periods and have been developed with a goal of keeping a balance between teaching fundamental movement skills and moderate to vigorous physical activity. Assessment for learning is included either informally or formally and if an assessment tool is needed it will be included at the end of that lesson. There will be 3 lesson plan templates (example) in the completed handbook. These templates will provide a mix and match format to enable teachers the ease of designing their own lessons.

The appendices sections includes: What the research says (goal is to include only facts in point form with the reference, the goal is to have the literature section condensed to 2 pages), glossary of terms, list of supplemental resources and a reference section.

What the research says offers a brief snap shot into the literature supporting the connections between physical literacy, physical education, physical activity, cross-age teaching, fundamental movement skills moderate to vigorous physical activity and assessment for learning. This provides the rational into why physical education needs to change and how we can move it forward into the 21st century.
The **Glossary** provides a definition of many of the terms given through the handbook. The supplemental resource list is a great list of resources and websites to assist educators in furthering their knowledge and ability to teach fundamental movement skills.
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Connections through Physical Literacy: Teaching Fundamental Movement Skills to Early Primary Students with Cross-Age Tutors

draft

By Lisa Manzini
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# Acknowledgements

Connections through Physical Literacy: Teaching Fundamental Movement Skills with Cross-Age Tutors (draft) by Lisa Manzini
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A special thank-you to Dr. Roy J. Shephard for mentoring me through the process of my literary review and challenging my theories and thoughts in relation to physical education and physical activity and health and directing me towards great resources.

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I would like to acknowledge Action Schools BC for their support in reviewing my lesson plans and giving me quality feedback.

Thanks to Jan and Steve for proof reading my “passionate” literature review.

A special thanks to Dr. Paige Fisher, Dr. Linda Kaser and Dr. Judy Halbert for believing in my potential as a leader and an innovator in education.
Section 1

What’s this Handbook About?
Introduction

As an elementary school physical educator for more than fifteen years, I have searched for ways to share my passion for and belief in the importance of physical education with colleagues. In 2010, I first came across the term “physical literacy” in a brochure by Canadian Sport for Life. It defines physical literacy as:

the development of fundamental movement skills and fundamental sport skills that permit a child to move confidently, and with control, in a wide range of physical activity, rhythmic (dance) and sport situations. Physical literacy also includes the ability to “read” what is going on around them in an activity setting and react appropriately in those events. (Higgs, Balyi, Way, Norris, & Bluechardt, 2008, p. 5)

This was my “ah ha” moment, if I could use the term literacy to demonstrate the link between literacy and physical education would classroom teachers understand the importance and the value of physical education more? If teachers could relate teaching physical education to teaching reading, would it make more sense? Similar to teaching reading, students need to learn the basic skills, the equivalent to the alphabet in physical education are the fundamental movement skills, such running, walking, throwing, catching and balancing to name a few. Without these skills students would become “reluctant” participants in physical education and physical activity and have a lifelong struggle to participate and be active, similar issues of a reluctant reader. This brief introduction endeavours to link physical literacy, physical education,
physical activity, cross-age teaching, fundamental movement skills, moderate to vigorous
physical activity, assessment for learning, within a community of learners’ environment. (See
figure one page 7)

For me, the term “physical literacy” substantiates and validates how I teach physical
education to primary students. For the past 10 years, I have focused on teaching my students
fundamental movement and social skills while maintaining an adequate level of moderately-
vigorous physical activity within the physical education environment. The fundamental motor
skills, I refer to are classed into categories; locomotor, non-locomotor and manipulative skills.

I believe Physical Education should be inclusive, active and fun. Students need to
understand the mechanics of a skill, be able to demonstrate the skill, and transfer the skill into
real-life settings (e.g. games, sports, and lifestyle choices). They need to learn about the
“ingredients” that contribute to a healthy lifestyle and making good choices. Physical Education
is not just about motor skill acquisition, tactical understanding, and game play; it is a holistic
approach that includes fair play, social skills, creativity, fun, nutrition, body awareness and
healthy lifestyle choices. This is a lot to strive for, but if we focus on teaching fundamental
movement skills and at the same time provide enough time for moderately vigorous physical
activity, we will achieve success.

As educators in the present system we have to be creative with our use of physical spaces
within the school, timetabling and finding the most efficient ways to teach. Cross-age
teaching/tutoring is a well-documented effective instructional strategy where “teachers are able
to individualize instruction for their students and give all students the opportunity to be engaged
in learning at the same time” (Greenwood, 1997 as cited in Horvath, 2011, p.4). Cross-age
tutoring in the physical education is an efficient use of space, time and an effective form of instruction where students will receive one-to-one instruction with immediate personalized feedback and have skills individually modeled for them.

My inspiration to include a community of learners’ philosophy in this handbook came from the Community of Learners Network in Nanaimo, B.C. In 2012, the OECD’s centre for Education Research and Innovation (CERI) recognized this groups of educators for their innovative approach to education. The recognition of this Community of Learners Network did not come because it was a new concept or idea. It came from its unique philosophy based on the motto, “We are all teachers we are all learners”. This motto can be used as a powerful tool in moving both students and teachers towards 21st century learning. If we adopt the “Community of Learners” philosophy which is used by a small group of educators from Nanaimo, B.C. it will assist us in creating foundational values characterized with safety, support and trust. These three values will allow students to feel safe to take risks in the exploration and expression of their learning within their learning environment. Epps, an original member of the educational states the Community of Learners shared value system is based on firstly the defining by students of what makes of a Community of Learners in a classroom and secondly defining the 4Cs: cooperation, communication, self-control and commitment. The end goal of this process is for all members of the community of learners to recognize they are responsible for the learning of themselves and others. Students develop self-regulation skills and support one another throughout the process thus developing the common belief that they are all teachers and all learners. This belief is manifested through multiple peer coaching experiences to support one another’s learning. (Fisher, 2012)
Assessment for learning is another crucial dimension of physical education. When students participate in self and peer assessment, they are given a chance to reflect on their learning, skill development and personal improvement. I have found using assessment for learning strategies in the physical education setting allows students to focus, be more on task and be proud of their personal achievements in their learning.

The purpose of this handbook is to spark teachers’ interest into the relationship between physical literacy, physical education, physical activity, cross-age teaching, fundamental movement skills, moderate to vigorous physical activity and assessment for learning in a community of learners’ context within the physical education setting. The lessons will demonstrate the strong partnership of these ideals thus creating a strong teaching philosophy that will move our students into the future as healthy, skilled, knowledgeable participants in physical activity, sport for a lifetime. I hope you find following lessons helpful in moving your students forwards towards becoming physically literate.
This visual representation demonstrates the essence of the handbook. The learner centred model demonstrating the interconnected relationships between fundamental movement skills, moderately to vigorous physical activity assessment for learning, cross–age teachers, physical activity, physical education, physical literacy all based upon a community of learners mindset.
About this handbook

The format of this handbook is simple; it is divided into 4 sections:

1. What’s this handbook about?

2. “Getting Started”

3. “Getting Moving”

4. Appendices (research, glossary, supplementary resources & references)

The “Getting Started” section is based on getting the students comfortable with each other and the community learners’ philosophy. This section includes a “Getting to know each other” lesson, then moves into eight lessons on the creation of a community of learners philosophy in which a regular classes and a physical education classes can base behavioural and academic expectations. These first six lessons are formatted on 30-45 minute time blocks which I have found to be adequate instructional time to complete the lesson and allow students to remain on task. These lessons are very helpful because they create a common language and common behavioural expectations for the students made by the students. These lessons stemmed from an educational philosophy, recognized by the OECD’s CERI as creating an innovative learning environment. Using these lessons is an option as the teaching of fundamental movement skills does not rely on the “community of learners” philosophy, however it will allow for greater ease in the teaching and management within the physical education and movement settings.
The “Getting Moving” sections include the multi-functional Physical Education lessons, designed to be used at the start of the school year, but can be incorporated into your physical education program at any time throughout the school year. The lessons are based on 30 minute time periods and have been developed with a goal of keeping a balance between teaching fundamental movement skills and moderate to vigorous physical activity. Assessment for learning is included either informally or formally and if an assessment tool is needed it will be included at the end of that lesson.

The appendices sections includes: What the research says, glossary of terms, list of supplemental resources and a reference section.

What the research says offers a brief snap shot into the literature supporting the connections between physical literacy, physical education, physical activity, cross-age teaching, fundamental movement skills moderate to vigorous physical activity and assessment for learning. This provides the rational into why physical education needs to change and how we can move it forward into the 21st. century.

Glossary provides a definition of many of the terms given through the handbook. The supplemental resource list is a great list of resources and websites to assist educators in furthering their knowledge and ability to teach fundamental movement skills.
The Connection:

Physical Literacy as defined by Physical and Health Education Canada (PHE Canada)

Individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person, physically literate individuals consistently develop the motivation and ability to understand, communicate, apply, and analyze different forms of movement. They are able to demonstrate a variety of movements confidently, competently, creatively and strategically across a wide range of health-related physical activities. These skills enable individuals to make healthy active choices throughout their life span that are both beneficial and respectful of themselves, others and their environment. (Francis et al., 2011, p. 2; Mandigo et al. 2009, pp. 6-7)

Goal of Physical Education K-7 in British Columbia

To provide opportunities for all students to develop knowledge, movement skills, and positive attitudes and behaviours that contribute to a healthy, active lifestyle. (BC Physical Education IRP, 2006, p.14)

Fundamental Movement Skills

Physical Health and Education Canada describe fundamental movement skills as the building blocks for the development of physical literacy. These fundamental movement skills are broken into 3 categories; locomotor (traveling), non-locomotor (balance movements) and manipulative (object control skills) and depending on the organization involved in the names of the categories might differ. Examples of these skills are on the preceding page from Active for Life. (Francis et al., 2011, p. 20)
Physical Literacy is...

... developing fundamental movement skills

Traveling Skills
- Boosting
- Climbing
- Eggbeater
- Galloping
- Gliding
- Hopping
- Ice picking
- Jumping
- Leaping
- Poloing
- Running
- Scuffling
- Skating
- Skipping
- Sliding
- Swimming
- Swimming
- Wheeling

Object Control Skills
- Sending:
  - Kicking
  - Punting
  - Rolling (ball)
  - Striking (ball, puck, ring)
- Throwing
- Receiving:
  - Catching
  - Stopping
  - Trapping
- Travelling with:
  - Dribbling (feet, hands, stick)

Balance Movements
- Balancing/centering
- Body rolling
- Dodging
- Eggbeater
- Floating
- Landing
  - Ready position
  - Sinking/falling
  - Spinning
  - Stopping
  - Stretching/curling
  - Swinging
  - Twisting/twisting

... leading to fundamental sport skills

- High jump
- Volleyball spike jump
- Hurdle jump (diving)
- Basketball layup
  - Jumping header
  - Ski jump

- Javelin, discus, shot put
- Overhand pitch
- Tennis serve toss
- Soccer throw-in
- Water polo shot
- Football pass
- Underhand pitch

... in various decision making situations

- Over opponent
- Around opponent
- Long or short steps
- Length and height
- Flight or left foot
- Twisting

- Long or short
- High or low
- To the left or right leg
- To the chest or head
- To open space
- Over a defender

... in a variety of environments:
- ground, water, snow, ice and air

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Canadian Sport for Life resource: Developing Physical Literacy: A guide for Parents of Children Ages 0-12, 2008
Curriculum Connections

**Introduction:** in this section I have included the applicable Prescribed Learning Outcomes and the Performance Standards which apply to lesson 1 of “Getting Moving”. This section is under review and upon further feedback the PLO’s or Performance Standards could be included in each lesson or a complete list of PLO’s and Performance Standards could have an column added to indicate which lessons incorporate the targeted outcomes. This section also will be updated to reflect the new direction of the British Columbia Education system.

**Curriculum Connections: Prescribed Learning Outcomes**

<table>
<thead>
<tr>
<th>Lesson 1</th>
<th>Getting to know each other</th>
<th>Grade</th>
<th>Related Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Curriculum Organizer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td>Active Living</td>
<td>K 1</td>
<td>K-Describe physical activities they enjoy 1-Describe physical activities they are good at</td>
</tr>
<tr>
<td>Movement Skills</td>
<td>K 1 2</td>
<td>K-movement in personal space 1-moving through general space 2-moving through space will changing directions</td>
<td></td>
</tr>
<tr>
<td>Movement Skills (locomotor)</td>
<td>K 1</td>
<td>K-can walk, run, skip, hop on 1 foot 1 -can walk, run, skip, hop on 1 foot</td>
<td></td>
</tr>
<tr>
<td>Movement Skills (Manipulative)</td>
<td>K,1,2,3</td>
<td>K-Demonstrates roll of an object, 2 handed throw 1- Demonstrates 2 handed throw and 2 handed catch with trapping against body. 3- Demonstrates (2 handed throw) and 2 handed catch with no trapping against body.</td>
<td></td>
</tr>
<tr>
<td>Safety, Fair Play, and Leadership</td>
<td>K 1</td>
<td>K-following rules and directions 1-following rules and safety guidelines 2-following procedures and behaviours 3-respect and encouragement for others during physical activity</td>
<td></td>
</tr>
<tr>
<td>Safety, Fair Play, and Leadership</td>
<td>K 1 2 3</td>
<td>K-working cooperatively with others during physical activity 1- working cooperatively with peers during physical activity 2-respect for others during physical activity 3-leadership in physical activity</td>
<td></td>
</tr>
<tr>
<td>Health and Career</td>
<td>Healthy Relationship</td>
<td>2 3</td>
<td>2- communication skills 3- building positive relationships</td>
</tr>
</tbody>
</table>
## Curriculum Connections: Healthy Living Performance Standards

<table>
<thead>
<tr>
<th>Lesson 1</th>
<th>Getting to know each other</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy Living Performance Standards</td>
<td>Active Living</td>
<td>K-3 accomplished</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K-3 acquired</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K-3 developing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K-3 emerging</td>
</tr>
<tr>
<td>Healthy Relationships</td>
<td>K-3 accomplished</td>
<td>The student is able to interact with others in positive ways and shows willingness to help others do the same.</td>
</tr>
<tr>
<td></td>
<td>K-3 acquired</td>
<td>The student is able to interact with others in positive ways and identify positive aspects of relationships.</td>
</tr>
<tr>
<td></td>
<td>K-3 developing</td>
<td>The student sometimes is able to interact with others in positive ways, and may need support to solve problems or conflicts.</td>
</tr>
<tr>
<td></td>
<td>K-3 emerging</td>
<td>The student needs considerable support to interact with others appropriately, including creating and maintaining relationships.</td>
</tr>
<tr>
<td>Healthy Practices</td>
<td>K-3 accomplished</td>
<td>Independently the student is able to follow the rules and safety expectations as well as show leadership.</td>
</tr>
<tr>
<td></td>
<td>K-3 acquired</td>
<td>Independently the student is able to follow the rules and safety expectations of the school and community.</td>
</tr>
<tr>
<td></td>
<td>K-3 developing</td>
<td>The student inconsistently follows the rules and safety expectations of the school and community.</td>
</tr>
<tr>
<td></td>
<td>K-3 emerging</td>
<td>The student often needs support and redirection to follow the rules and safety expectations of the school and community.</td>
</tr>
</tbody>
</table>
Section: 2

“Getting Started”
Lesson 1: Getting to Know Each Other

Learning Intention:

- to introduce “buddy” classes and assign learning partners (tutors & tutees) By the end of class students will know the name of their new “buddy” and be able to tell someone else what their buddy’s name is and their favourite outdoor physical activity (game). Students will use “I can” statement to identify their buddy’s name and favourite outdoor physical activity.

Setting: gym or classroom

Preparation: class lists, paper for recording new partner groups

Equipment: 1 scarf per partner group

Introduction:

1. (3 min.) Have students come into the space (classroom or gym), sit them down and introduce the concept of “buddies”.
   e.g. Every Friday Mrs. X class and Mr. Z class will be having their P.E. class together in the gym. Each of you will have a “buddy” and will work with your buddy during these classes throughout the school year. It is a great way for Mrs. X’s kindergarten to connect with an older student and so they know a familiar face on the playground. Mr. Z’s class, this is a great chance for you to demonstrate some of the movement skills you have learned over the past few years and help your younger buddy to learn these skills and for you to demonstrate leadership skills. Our expectation for all of you in the gym is to work together, listen to each other, and treat each other fairly.

2. It is important for the younger students to hear and see a demonstration of what working together looks like.
• Have the two teachers demonstrate 2 students working together, e.g. when we’re passing a ball, I need to wait for my partner to look at me, have her/ his hands out and be ready. I have to try and pass the ball to my partner, not throw it as hard as I can. Then I need to say something good about their throw back to me. E.g. I like how you waited for me to tie my shoe before you passed it to me.

**Lesson 1 con’t.**

• Demonstrate what not working together looks like e.g. the younger student running away from their partner. Ask what can we do in this situation? Students can give answers.

3. **Getting into pairs,** (often there are children who know each other already; I have found at the start of the school year, it is great to place them together). Ask is there anyone they know? Meet up at the center line, grab a scarf and find a space and pass it back and forth until you hear 1 blast of a whistle then sit down and face me, or students could go and sit beside them on the e.g. center line. Then look at the remaining students and try to make same sex pairings. (Watch for tears, this can be very stressful for the younger students)

4. **Getting to know each other;** have the students move into their new space with a scarf. While tossing a scarf to each other introduce self (mine name is), share your favorite ice cream flavour, if they have a pet, do they have siblings etc. This can also be done on a piece of paper as in an interview form. When students can toss the scarf back and forth without dropping it, they have an option to get a second scarf and try tossing 2 back and forth.

5. **Learning Walk:** if the younger students are in kindergarten this is a nice way to teach them about the school ground. (The older students have a map of the school ground and give them a tour. E.g. this is the playground and this is where you can play, this is the field etc. A simple walk around the school ground in partners, this activity could be student lead, or teacher lead in two groups. OR

**Physical Activity:** (this gets partners moving and allows teachers to assess the basic movement skills of students and check to see if partners are working together.)

Partner relays have pairs move to the side line of the gym, big buddies in front little buddies behind. Have a series of motor skills to do. Emphasise, “this is not a race”.

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Page 15
1. **Run** across the gym touch the far wall, come back and pass the scarf to your partner and they will run to the far wall and come back. (Does this once each then sit down)

2. **Skip** (chose a child to demonstrate the skip) you will skip to the far wall and skip back pass the scarf to your partner repeat.

3. **Hop on 1 foot** to the x line and hop back pass the scarf to your partner repeat.

**Closure:** Review each other’s names and have the older buddies thank the younger one for being their buddy and see you next week/ or next class (in classroom or in the gym).

**Lesson 2: Defining a Community**

**Learning Intention:** Students will use “I can tell you ….. and ….. are important to a community.” statement

**Time:** 30-45 minutes

**Activity:** for kindergarten and grade 2, whole class discussion (record answers on chart paper to refer to later)

**Activity:** for grade 3 and up, have students in small groups brainstorming and recording on a sheet for each small group or partners

**Questions:**

1. What community do we live in?
2. What is great about our community?
3. What do we like about our community?
4. What makes our community a special place to live?
5. How does our community make you feel? (come back and share responses, gr. 3+)
6. Are there smaller communities within our larger community of __________ (e.g. Squamish)?
7. Can your family be a community? Why can it be a community?
8. Within your family community do different people have different responsibilities? (come back and share responses, gr. 3+)
9. Can a school be a community? Can our class be a community?
10. If our class is a community of learners, what would we like our classroom environment to feel like? What would you like our classroom community to sound like? What would
you like our classroom community to look like? Would different members of our classroom community have different roles/responsibilities?

Come back together and share and record on chart paper. (Some groups may try to focus on the physical building, but steer them towards feeling, and sounding words, e.g. trust, cooperation, safe.)

**Closure:** Students say good-bye and thank their buddy for working with them.
Lesson 3: Sharing the definition of community with the “buddy” class.

Learning Intention: The little buddies will be able to recount their knowledge on “What makes a community” with their CATs/big buddies.

Time: Time: approx. 30 minutes

This activity can be used in two ways.

1. The Cross-age tutors (CATs) with no previous instruction come in and work with the little buddies (tutees) to answer the questions again (1-5, 8 & 9). In small groups, 4-6 students with a max. of 2 tutees, the students will share their knowledge. The tutees will have been pre-taught and this review process will enable the tutees to “teach” the CATs about communities and allow the CATs to add their knowledge into the answers. (Debrief, have students come back to large group and share their responses and add to the descriptors from the previous class, post)

2. The Cross-age tutors (CATs) will have completed lesson 1 and meet with their “little buddies” (tutees). The CATs will break out into small groups of 4-6 students with a max. of 2 tutees. The CATs will go through questions 1-9 within their groups and discuss and record their responses in words, pictures or audio. (Debrief, have students come back to large group and share their responses, record and post.)

Wrap up: Students say good-bye and thank their buddy for working with them.
Lesson 4-7: Defining the 4Cs

Learning Intention: by the end of the 4 lessons, students will be able to identify their most meaningful word for each of the 4Cs

Time: 4x 15 or 20 minutes lessons, up to 80 minutes (break into manageable lessons times)

Setting: “little buddies” and CATs in small groups (can keep same groups or change the groups).

Introduction: introduce the 4Cs: Cooperation, communication, (self) control and commitment.
In large group explain; the object of the next 4 lesson are to define: What cooperation, communication, (self) control, commitment Cooperation look like, sound like, feel like and record your responses for each word into the correct columns.

Activity: (approx. 15-20 per C word)

Lesson 4: describe: What Cooperation looks like, sounds like, and feels like. Have partners or small groups of 4 students move to a space and work on their descriptions. (Circulate around to groups and check for understanding, have groups describe unclear words e.g. trust under the looks like heading) Once the groups are satisfied with their responses, they check in with the teacher before moving onto the next definition. At the end of each lesson have each pair of students choose their most powerful word of the day. Have them write it on a slip of paper and make a 4Cs bulletin board, with students’ powerful words. (a nice touch is to take pictures of buddy partners)

Lesson 5 (same format) describe: What communication looks like, sounds like, and feels like

Lesson 6 (same format) describe: What (self) control looks like, sounds like, and feels like

Lesson 7 (same format) describe: What commitment (to self, others, and learning) looks like, sounds like, feels like. (Or introduce each term separately and have students work on each one and when teacher is satisfied with their responses give the group the next word).

OR
Introduce each term separately and have students work on each one and when teacher is satisfied with their responses give the group the next word.

Lesson 8: Bringing the 4Cs together.

Learning Intention: Students will demonstrate on task behaviour throughout the activity and will demonstrate a collaborative partnership

Equipment: n/a
FMS developed: n/a
Cross-Age Tutoring: tutor; communication, modeling, leadership
tutee; communication, direction following
Assessment: informal observation
Community of Learners: combining the 4Cs
Time: approx. 30 minutes
Preparation: 12 pieces of chart paper, label as follows:

1. Communication looks like
2. Communication sounds like
3. Communication feels like
4. Cooperation looks like
5. Communication sounds like
6. Communication feels like
7. Self-Control looks like
8. Self-Control sounds like
9. Self-Control feels like
10. Commitment looks like
11. Commitment sounds like
12. Commitment feels like.
Post on walls or on tables.

Activity: Assign each group to a paper # (definition).

• Students will have 2 minutes to put their descriptors on their assigned paper. If some of their descriptors are already listed have them put a check beside the work.
• On a signal after two minutes students will move to the next paper, this is repeated until all definitions are complete. (As the activity progresses it will take less time, encourage discussion of what has been written)

• At the end of the process groups are encouraged to walk back through and read what has been added or ask each group to present to the class the definition they started out with.

• As a large group discuss/decide if all descriptors should remain on the list or if some should not.

• Depending on age groups involved, the older buddies can make 3 posters for each of the C words. (This will allow for 1 poster to be posted in each classroom and 1 in the gymnasium) Try to list words in order of importance. E.g. if looking at speaker was checked off 5 times it should be listed first on the poster. (Ensure posters are big, bright, bold and beautiful)

• Bring to the next “buddy” class to celebrate and share their fantastic work.

• **Closure:** With the new posters posted, read over with the buddy groups discuss how these posters on the 4Cs will become a reference tool and the basis for learning and behaviour within their school environment, let the students know that each classroom will have a poster as well as the gymnasium.

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Section: 3

“Getting Moving”
Lesson 1: Teaching Fundamental Movement Skills

Learning Intention: to assess the fundamental movement skills of both the buddies and the CATs. At the end of the class students will use the “I can move in the gym by …(name 3 locomotor skills)

*Keep instruction and management to a minimum for maximum activity*

Equipment: 1 ball per pair

Time: 30 minutes

FMS developed:

- **Locomotor:** walking, hoping, jogging,
- **Non-locomotor:** 2 foot balance
- **Manipulative:** rolling, 2 hand under-toss a ball

Cross Age Tutoring: tutor, communication, modeling, leadership

Tutee, communication, direction following

Assessment: informal observation of motor skill levels (record obvious concerns)

Community of Learners: communication skills, commitment to learning

Instant Activity: (3-5 min.) as students come into the gym have them move into the giant square (e.g. the basketball court)

1. Walk, cue look up and step to the side of the person and keep moving.
2. Freeze; stop face teacher in a ready position, give positive, specific feedback to those doing it correctly (I like how Lisa is facing me, I like how Rudy has his knees bent and looks ready to move) When I say go, e.g. hop… go.
3. Hop, 3 times on one foot then other 3 times on the other. Freeze, When I say go
4. Move walk and touch the ground with both hands. Freeze, When I say go
5. Jog slowly, remember to look up and move out of classmates’ way. Freeze, When I say go
6. When I say go little buddy run and get a ball from the bin and run over and sit next to your buddy. Go
Lesson 1 con’t.

**Buddy Activity: (15 min.)**

**A. Rolling**

1. (3-5 min) Buddies will sit on the group with their feet spread out in front like a V. Little buddies feet should be touching the big buddies legs between the ankle and knee. (demonstrate) Roll the ball to your buddy and tell them your name, roll, tell them your favorite color, roll tell them your favorite fruit; come up with something to create a conversation while rolling the ball.
2. Whistle, stop
3. Move farther apart (sitting) , When I say go, continue to roll ball
4. Whistle, stop

**B. 2 hand underhand toss** to partner. Goal is to toss the ball with accuracy to your partner, first at short range (chose e.g. the badminton court lines from short service line to once you and your buddy can do this 10 times without dropping the ball, each take a step back. Reinforce if the distance is too far then move closer, but you must make 10 passes without dropping the ball. Then switch your ball for a smaller ball, gradually working towards the goal of passing a bean bag.

**C. Culminating Activity:**

**Partner relays** have pairs move to the side line of the gym, big buddies in front little buddies behind. Have a series of motor skills to do. Emphasise, “this is not a race”, I always say keep going until I say “go home” (return to start and stand behind partner).

1. **Run** across the gym touch the far wall, come back and pass the scarf to your partner and they will run to the far wall and come back.
2. **Skip** (chose a child to demonstrate the skip) you will skip to the far wall and skip back pass the scarf to your partner repeat.
3. **Hop on 1 foot** to the x line and hop back pass the scarf to your partner repeat.

**Closure:** Review each other’s names and have the older buddies thank the younger one for being their buddy and see you next week/ next class.
Section 4:

Appendices
What the Research Says:

The following literature review provides a snapshot of the rationale linking physical literacy and fundamental movement skills to cross-age tutoring and assessment for learning in a ‘community of learners’ setting, providing a holistic approach for teaching physical education. The following sections describe 1) physical literacy 2) physical literacy and health 3) physical literacy and physical education 4) physical education and fundamental movement 5) mastery of fundamental movement skills 6) physical education and cross-age teaching 7) community of learners 8) “community of learners” philosophy applied to physical education, and 9) assessment and physical education.

1) Physical Literacy

Why is physical literacy important? As educators we are familiar with the importance of literacy and numeracy. The United Nations Education, Scientific and Cultural Organization recognizes literacy as basic requirements for a person to able to fully participate in society. Their “Education for All” goal states that that “literacy is crucial to the acquisition by every child, youth and adult, of essential life skills that enable them to address the challenges they can face in life…” (as cited in Mandigo et al., 2009, p. 4) How are the terms literacy and physical literacy related? Within Canada, there are several definitions of physical literacy dependant on the specific lens of the organization (e.g. education or sport). I have chosen the definition made by educators for educators which can be found on the Physical and Health Education Canada (PHE Canada) website. It defines physical literacy as:

Individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person, physically literate individuals consistently develop the motivation and ability to understand, communicate, apply, and analyze different forms of movement. They are able to demonstrate a variety of movements confidently, competently, creatively and strategically across a wide range of health-related physical activities. These skills enable individuals to make healthy active choices throughout their life span that are both beneficial and respectful of themselves, others and their environment (Francis et al., 2011, p. 2; Mandigo et al. 2009, pp. 6-7).

The noticeable agreement in the definition of literacy and physical literacy allows educators to understand that physical literacy as a holistic ideal which many physical educators are striving to attain.

**Physical Literacy and Health**

There is growing public health concern about the current trend towards an increasingly sedentary lifestyle in children and adults in industrialized nations and its alarming health effects. “Pediatric obesity is considered an epidemic (Anderson, 2000 as cited in Trudeau & Shephard, 2005, p.4) and there is a growing prevalence of cardiovascular risks among young children” (Bereson et al., 1998; Sallis, Patterson, Buone and Nader, 1998, as cited in Trudeau, & Shephard, 2005, p. 4)

Canada is not immune to this trend of inactivity as demonstrated in the startling findings from the 2007-2009 Canadian Health Measures Survey. The survey found “only 9% of boys and 4% of girls meet the Canadian Physical Activity guidelines of 60 minutes of moderate to vigorous physical activity (MVPA) on at least six days a week” (Janssen, 2007, p. S113 as cited...
in LeGear et al., 2012 p. 1). When the results are further separated in age and gender specific groups the results concur with international findings that have found with an increase in age there is a decrease in physical activity. (Barnett et al., 2008, p.1)

The lack of physical activity among youth has become a concern for the World Health Organization (WHO), which has put together recommendations for physical activity for age categories 5-17, 18-64, and 65 and above (World Health Organization, 2010). The recommendation of 60 minutes of moderately vigorous daily physical activity concurs with the Government of Canada’s recommendation of 60 minutes per day (Colley et al., 2011). Sallis and Patrick stated that “regular participation in physical activity is associated with substantial health benefits for children and adolescents, including increased bone mass, maintenance of a healthy weight, reduction of high blood pressure among hypertensive adolescents, and improved psychological outcomes” (Okely, Booth & Patterson, 2001, p. 1899).

Sallis and Patrick state that “regular participation in physical activity is associated with substantial health benefits for children and adolescents, including increased bone mass, maintenance of a healthy weight, reduction of high blood pressure among hypertensive adolescents, and improved psychological outcomes” (as cited in Okely, Booth & Patterson, 2001, p. 1899).

With the trend of childhood obesity, type II diabetes on the rise and inactivity on the rise, governments are looking into ways to increase physical activity. In the US, it has been documented that only 3 minutes of a 30 minute PE class provide the students with moderately vigorous physical activity. This is far below the U.S.A.’s national objective of 50% of physical education class time consisting of moderate to vigorous physical activity (Sallis, McKenzie, Faucette & Hovel, 1997, p. 1328). Finding a balance in a Physical Education class to provide an
adequate amount of time for moderate to vigorous physical activity and time to teach fundamental movement skills is essential.

The “Move It Groove It” (MIGI) program in Australia is an intervention with the goal of achieving both improved fundamental movement skills and increasing physical activity levels. The MIGI intervention “encouraged teachers to focus on activity and skill acquisition during PE lessons” (p. 497). The study concluded that “theoretically, it is possible to utilise strategies that work on skill development and keep physical activity levels high. (i.e. circuits/tabloids)

However, furthering skill development will also require a proportion of time spent on skill instruction, which can lower physical activity levels” (p. 499).

In British Columbia, Action Schools B.C. (ASBC) “is a best practices model designed to assist schools in creating individualized action plans to promote healthy living while achieving academic outcomes” (ASBC, Action Schools BC; Classroom Action Resource, 2011, p. 5).

ASBC has been instrumental in research and affirmative action toward assisting BC schools to add 30 minutes of daily physical activity (DPA) into the school day. ASBC provides schools with professional learning opportunities led by master trainers, and provides a Classroom Action Resource/Handbook full of creative, innovative active ideas with a bin of equipment such as skipping ropes, balls and music CDs to increase students’ physical activity in both the classroom and the playground. The goal of ASBC is to promote overall health, focusing on four content areas: healthy heart, healthy bones, healthy self, and healthy school.

ASBC’s intervention had ten schools participating. They were divided into 3 groups, Usual Practice (3), Champion (3) and Liaison (4) schools. The intervention had ASBC-trained teachers increase the amount of physical activity delivered to their students by 50 per cent in the Champion schools and 100 per cent in the Liaison schools. There was no change in the amount
of physical activity time in the Usual Practice schools (ASBC, Phase 1 (Pilot) evaluation report and recommendations, 2004).

Overall, Action Schools! BC intervention had the greatest positive influence on the physical activity level of students in the Liaison schools although this varied somewhat between boys and girls. As our Usual Practice schools were by chance already active, we saw an increase in physical activity of about 25 per cent in both Usual Practice and the Champion schools, compared with an almost 33 per cent increase in the Liaison schools. Although results were not significant, there was a trend for boys in the Liaison and Champion schools to increase the number of minutes per day of moderate to vigorous physical activity (MVPA) more than boys in the Usual Practice schools (98 and 52 per cent respectively, compared to 28 per cent). For girls, the greatest increase in physical activity was observed in those girls attending Liaison schools (32 per cent increase) compared with Champion (22 per cent) and Usual Practice (18 per cent) schools. Girls in Liaison schools had an almost two times greater increase in MVPA compared with girls in Usual Practice schools. (ASBC, 2004, p. 36)

Although the results state that there was not a significant difference (8%) in the increase of physical activity for boys in the Usual Practice and Champion schools as Liaison schools, it should be reiterated that there was a significant increase (14%) in physical activity for girls in the Liaison schools as compared to the Usual Practice schools.

The research concluded by stating “The Action Schools! BC model was an effective means to improve the health profiles of children in the following areas:

• Physical Activity

• Healthy Hearts (Cardiovascular health)
• Healthy Bones
• Academic Performance

(ASBC, 2004, p. 61)

These two studies have demonstrated the positive effects of interventions incorporating increased physical activity times into their participants’ lives on a short term basis of one through six years (Trudeau & Shephard, 2008, p. 7).

Finding the long term effects of Physical Education is much more difficult. The “Trois-Rivieres Physical Education study” from Quebec by Trudeau and Shephard is the only known longitudinal study of the effect of daily physical education which spans over 25 years. Their six year intervention, starting in 1970, found sixty minutes of quality physical education a day led to improvement in cardiovascular and muscular strength and higher levels of participation in physical activity on both weekdays and weekends for the children in the experimental group. These children demonstrated an increase in academic performance, although there was a 14% decrease in academic instructional time (Shephard & Trudeau, 2000, p.42).

The results of their twenty year follow up study found the participants from the experimental group had better balance, had a better appreciation for physical activity, were more likely to participate in physical activity and had a lower resting heart rate. The women in the experimental group were more likely to participate in moderate to vigorous physical activity and had less back pain and the men smoked less (p. 42).

If the goal of physical literacy is to instill a passion for participation in life-long physical activity resulting in healthy active adults throughout their lifespans then Shephard’s and Trudeau’s Trois-Rivieres study demonstrated success. Twenty-five years after the physical education intervention, participants in the experimental group “had a more favorable attitude.
towards physical activity and had stronger intentions to undertake physical activity” (p. 42).

Margaret Whitehead (2007b) sums up the holistic goal of physical literacy to be “for all young people is to be motivated to continue physical activity, a motivation founded on enhanced self-confidence and self-realisation they have experienced in physical education setting during their childhood and youth” (p. 8).

**Physical Literacy and Physical Education**

What is the goal of Physical Education? In British Columbia, the aim of Physical Education Kindergarten to Grade 7 is to provide opportunities for all students to develop knowledge, movement skills and positive attitudes and behaviours that contribute to a healthy active lifestyle (British Columbia Ministry of Education, 2006, p. 14). This definition fits well with the current description of physical literacy as described by PHE Canada. The “Position Paper for Physical Educators” written by four educators from Brock University concludes:

by fostering physical literacy through quality PE programs, the students of today not only are better prepared to lead healthy active lives, but they are better prepared to do so in a way that assists others, are respectful of the environment and which are creative in ways that have the potential to generate new and innovative ideas. (Mandigo et al., 2009, p. 9)

What are the roles of schools, physical education classes and educators in supporting a shift towards a love and appreciation for lifelong participation in physical activity and a healthy lifestyle? In today’s modern society a majority of school aged children in developed societies/industrialized nations now depend on PE class to provide their only opportunity to engage in moderate-vigorous physical activity (Trudeau & Shephard, 2005, p.90). The schools and educators roles in British Columbia are to provide 30 minutes of Daily Physical Activity as provincially mandated. Educators need to look for ways to inspire and create opportunities for
students to participate in moderately vigorous physical activity daily whether it be in the classroom, on the playground, or in the gym.

**Physical Education and Fundamental Movement Skills**

It is said “A quality daily physical education experience during elementary school years is the foundation upon which children establish competency in basic movement patterns” (Siendentop, 2001, as cited in Francis et al., 2011, p. 12).

Studies by Okely (2004) in the USA and van Beurden et al. (2003) in Australia indicated that low levels of fundamental movement skill mastery and competence in primary school-aged children make them less likely to “participate in and enjoy many physical activities compared with their skilled peers” (Hardy, King, Farrell, Macniven, & Howlett, 2010, p. 503). This is a logical conclusion and something easily observed in a physical education class for any age.

A study of fundamental movement skills among Australian preschool children found that “investments in FMS programs during early childhood are important because they have the potential to enable children to participate successfully in games and sports during adolescence and adulthood, and once learned the skills are retained for life” (Hardy et al., 2010, p. 503). The study “highlights the need for teachers to provide for structured opportunities which facilitate children’s development and confidence in fundamental movement skills, which may include providing gender separated games, equipment and spaces” (Hardy et al., 2010, p. 508). It also suggests that physical education instruction should focus fundamental movement skills over locomotor skills, but not ignore locomotor skills completely. (Zask et al., 2012, p.7)

Two more Australian studies, “Move it Grove it” 6 year follow up and “The relationship of physical activity to fundamental movement skills among adolescents” found “perceived sports competence acted as a mediator between object control skill proficiency developed in primary
school years and subsequent fitness and and physical activity in adolescence” (Barnett, Morgan, van Beurden & Beard, 2008, p. 10) and “the ability to perform fundamental movement skills was significantly related to participation in organized physical activity” (Okely, Booth & Patterson, 2001, p. 1902)

As educators, we must find ways to enable all learners to develop a mastery of these fundamental movement skills which will carry over in adolescence and adulthood.

**Mastery of Fundamental Movement Skills (FMS)**

When is the appropriate time for teaching fundamental movement skills? Pangrazi, Chomokos and Massoney state that “between the ages three through nine represent a critical time for children to learn motor skills associated with physical literacy” (as cited in Francis et al., 2011, p. 14). Gallahue’s believes that a “window” of opportunity exists during preschool and early elementary years that maximizes the speed and ease of learning new skills (as cited in Okely, et al., 2001, p. 1904). A study in Victoria, B.C., based its’ research on this “window” of opportunity and its relation to motor skill perceptions of kindergarten students. The researchers found that whether kindergarten students’ levels of fundamental movement skills mastery were high or low, they most often held positive perceptions of their physical competence (LeGear et al., 2012, p. 4; Stodden et al., 2008, p. 296).

The coaching association of Canada breaks down the process of learning a fundamental movement skill into four stages “1) emerging, 2) early developing 3) late developing 4) mature skill” (as cited in Francis et al., 2011, p. 20). Educators are familiar that not all students develop at the same rate, but as Higgs et al. point out that “for every emerging motor skill there is a “best” time for a child to learn” (2008, p. 9). For each child this is different, but we must
remember it is the consistency in teaching the sequences of a skill that will enable maximum learning (p. 9).

Self-perception, motor skills and physiological development are crucial to the teaching of fundamental movement skills, students need to be taught during the “window of opportunity” when the potential to learn the skill is at its highest level. Therefore the earlier developmentally appropriate fundamental movement skills skill are taught, the more success educators will have teaching fundamental movement skills and patterns.

Physical Education and Cross-Age Tutoring

How does cross-age tutoring apply to physical education? As referred to earlier in the paper, physical literacy skills “enable individuals to make healthy active choices throughout their life span that are both beneficial and respectful of themselves, others and their environment” (Mandigo et al. 2009, pp. 6-7). Whitehead supports this thought and adds that “the physically literate individual will interact with sensitivity and ease with others in group situations, appreciating the expressive quality of movement in her/himself and in others” (2005, p. 6). From these statements, the words, respect, encouragement, feedback and interact stand out. As educators look for strategies to teach communication, cooperation, self-control and assessment skills, they look for instructional strategies that will promote positive interactions between students that will maximize learning. One such option is the use of peer-tutors or cross-age tutors which “has been an educational tool for centuries” (Olmsheid, 1999, p.1). It is a proven strategy within the classroom setting and integrated physical education classes. Many educators who are familiar with peer tutoring or cross-age teaching support Gaustad’s idea that “one-to-one tutoring has long been recognized as superior to group instruction. Instruction can be adapted to the learner’s pace, learning style and level of understanding. Feedback and correction are
immediate. Basic misunderstandings can be quickly identified and corrected, practice provided, and more difficult material introduced as soon as the student is ready” (1993, p. 1). She elaborates on why peer tutoring or cross-age teaching is successful because,

1) tutor is closer in age, therefore may have a better understanding of tutee, 2) tutor may present subject matter in terms (language) the tutee understands, 3) tutors can model desired skills and behaviours, 4) tutors who struggle academically may have more empathy for tutees, 5) tutors benefit academically reviewing, practicing material and skills with their tutees, 6) tutors self-esteem by seeing the results of their effort, by helping someone learn and experience success. (p. 2-3)

Greenwood, Olmshed, Kourea, Harris & Sherman and other educational researchers have agreed the other benefits associated cross tutoring are:

1) increased student achievement for both the tutor and tutee, 2) providing students with opportunities to be actively engaged in learning at the same time, 3) helping both the tutor and tutee the opportunity to improve on social and behavioural skills (sharing, communicating, giving feedback), and 4) it has shown to improve self-esteem. (as cited Horvath, 2011, p. 9-10)

Although the research supporting the use of peer-tutoring or cross-age tutoring in the physical education setting is limited. The above statements demonstrate the power of this method of instruction in any learning enviroment. My personal experience with the use of cross-age tutors in the physical education setting has found it to be effective in teaching fundamental movement skills and has several positive social and emotional effects as well.

Community of Learners

The notion of a community of learners is not new. In 2000, Fu described a learning...
community as a classroom,

in which the teacher and the children create opportunities for learning, children are encouraged to be active learners by participating in meaningful tasks that support their social and intellectual development. They interact and interchange information and help each other make sense of what they are learning. (2000, p. 2)

The ‘community of learners’ philosophy in this handbook came from a group of educators from Nanaimo, B.C, whom have been recognized internationally by the OECD’s Centre for Educational Research and Innovation (CERI). This ‘community of learners’ approach facilitates student understanding of the many meanings of community, and ways to be an active member within one. This approach deliberately “reorders the roles of ‘teacher’ and ‘learner,’ revaluing of the recipients of school, the students themselves” (Fisher, Epps & Brown, 2011, pp. 2-3). Epps continues this notion stating a

Community of Learners climate that is infused with an inquiry mindset can transform the classroom into an innovative learning environment where inquiry cycles spiral throughout the year. Within a community of learners’ climate, students develop self-regulation skills and support one another throughout the process thus developing a common belief that they are all learners and all teachers. This belief is manifested through multiple peer coaching experiences to support one another’s learning. (Fisher, 2011, p. 5)

The process of building a Community of Learners starts with developing a vision and working definition of a community of learners. Students are asked, “If we were to try and achieve a community within our classroom, what would it look like, sound like, feel like?” (Fisher, Epps, and Brown, 2011, p. 11) Once a complete vision of a community of learners is
drafted students define the 4C’s; cooperation, control (self), commitment, and communication, again having students define these by answering questions, around, what would it look like/sound like/feel like. Student responses are recorded and become the basis for the class ‘Community of Learners Code of Conduct’. The students take ownership of their code and refer to this code whenever related issues arise (p.12). This ownership allows students to take risks in their learning, to step outside their comfort level and let learning get messy and thereby, creative, “therefore the foundational culture of a community of learners creates the support necessary for students to take risks and overcome challenges” (p. 12).

**A Community of Learners Approach in Physical Education**

How can a ‘community of learner’ approach be used in Physical Education? The gymnasium or field like a classroom is a learning environment, therefore learning intentions, and behavioural expectations need to be explicit to support a mutually-respectful learning environment. Oftentimes in the gym environment, students, especially early primary have difficulty transferring behavioural expectations from the classroom into a very large space with limitless distractions such as balls, lack of physical barriers (desks, chairs, and tables), various forms of equipment, more noise, and the excitement of a new space. If students become overwhelmed, do not like an activity or are not adequately skilled, they will frequently try to sit out. This is not the goal of physical educators: our goal is active participation from all members of the class. The creation of a “community of learners” within the physical education setting will help students become active participants in their learning, they will feel secure enough to take risks in their learning as well as accept and understand all students are diverse in their skill levels within the PE class community.
A method which I have used for the past two years is to “buddy”/partner kindergarten classes with older classes (grade two or grade three). The use of older students as cross-age tutors (CATs) eased the transition of the younger students (tutees) into physical education setting. The results of this mentoring, has had several observed effects 1) Mentoring has assisted early primary students’ understanding of behavioural expectations in this setting. 2) Having the CATs model skills for them assists with one-on-one instruction and personal immediate feedback. 3) Tutees make personal connections with older students. 4) It has reduced primary students’ concerns (fears) about long and short recess.

The next step will be to have younger students and their cross-age tutors define the community, they will go through the process of defining the four C’s; cooperation, control, commitment and communication in the context of the physical education environment. Defining the four C’s with the cross-age tutors will assist primary students to gain a perspective into what they look like, sound like, and feel like within the context of a physical education environment. Many of the behaviours relating four C’s will be the same in a classroom and in a gymnasium, but there will also be distinct difference as well, i.e. what listening looks like in the gymnasium.

How does an inquiry process work in Physical Education at a young age? When teachers introduce their learning intentions daily, it helps students to understand what they are learning while learning it. By working with a cross-age tutor the students receive one-on-one instruction and immediate feedback on their performance. This will allow the teacher to circulate around the gym or field and use her/his adaptive expertise to assist both tutors and tutees. Sometime during the period the teacher will review what students have learned, and discuss its application to game play, and other settings, and where their learning will take them next class. This should enable students to answer three simple questions: What are you learning? How’s it going? What
next? Where to next? (Timperley, Wilson, Rarrar, and Fung, 2007, p. 187) By answering these three questions students will gain enhanced knowledge about their learning and a sense of how and why they are learning given skills.

**Assessment in Physical Education**

Assessment in physical education is as important as assessment in any subject area within the school environment. With a goal of promoting physical literacy and life-long appreciation of physical activity through the teaching of fundamental movement skills, evaluating students’ progress is paramount to our success.

Assessment has always been an integral part of educating. Most longstanding assessment practices in public education have been assessment of learning, which is “summative in nature and is used to confirm what students know and can do, to demonstrate whether they have achieved curriculum outcomes” (Earl and Katz, 2006, p. 14). In physical education an example of this would be an evaluation for proficiency of a fore-arm pass or an over-head set in a volleyball unit, for example by counting the number of completed passes using proper technique.

What does the literature tell us about how assessment is used in physical education? There is not much written about assessment in primary/elementary physical education, the research on assessment practices in secondary physical education can be considered, and some apparently relevant aspects adapted and applied to this age group. Lopez-Pastor et al. (2013) state that

Prior to the 1970’s in many countries, and for much of modern history, assessment in physical education has not been much of an issue. Back when the majority of school children experienced a ‘drilling and exercising’ form of physical education, assessment insofar as it existed, was straightforward. The instructor could see clearly whether or not
individual children were executing the exercises correctly, and marked accordingly.

(p.58)

Assessment is changing, in the classroom and in physical education. In 1998, Black and Wiliam brought the term formative assessment to the forefront. Activities associated with this form of assessment “are activities undertaken by teachers and by their students in assessing themselves that provide feedback to modify teaching and learning activities” (Black & Wiliam, 1998, p. 140).

Can assessment for learning be used in Physical Education? The answer is ‘yes’ when we consider Brookart, Moss and Long’s (2008) statement that, “effective teachers create opportunities that maximize the chances learning will happen. By providing students and teachers with specific and regular feedback on how well students are mastering key concepts and skills, formative assessment helps the teacher create such opportunities” (p. 52). In the physical education setting it is often easier for the teacher to ‘see’ how well a skill is being executed simply by watching the student or students. The teacher can easily move around and give clear descriptive feedback and/or demonstrate how to execute skill properly. This is how many physical educators and generalist teachers give feedback.

Lopez-Pastor et al. (2013) have reviewed international literature on alternative assessment in physical education and come up with a review of several practices. “Some terminology associated with ‘alternate’ forms of assessment include; authentic assessment, assessment for learning, learning-oriented assessment, integrated assessment, peer assessment and collaborative assessment” (Lopez-Pastor et al., 2013, p. 62).

Desrosiers et al. (1997) looked into the use of authentic assessment and “examined integrated assessment development in sample classes of 13 experienced physical education
classes in 10 schools in Quebec” (p. 63). They also found that “71% of instruments used to perform diagnostic or formative assessment and 70% of instruments included checklists and graduated scales applicable to every student” (Ibid). Teachers in the study supported authentic assessment in physical education. “They stated it provided more relevance as a form of formative assessment when integrated in teaching-learning process and when information about assessment was shared with students” (as cited in Lopez-Pastor et al., 2013, p. 63).

Lopez-Pastor et al. (2013) conclude their review stating that the alternative forms of assessment are innovative and nature. “We believe assessment is an integral and necessary aspect of education across all subject areas of the school curriculum, and physical educators can longer afford to be ambivalent about this practice, if they ever were” (p. 73).

Summary:
This short literary review provides background research that supports the my belief that the combination of a “community of learners” philosophy, physical literacy, the current goals of physical education, cross-age tutoring and assessment for learning make a strong partnership that create a strong teaching philosophy that will move our students into the future as healthy, skilled, knowledgeable participants in physical activity, sport for a lifetime.
Glossary:

The following definitions have been used in the writing of the handbook and are in alphabetical order.

**Canada’s Long-Term Athlete Development Model (LTAD)**

LTAD is a seven stage model that provides a general framework of athlete development. It aims to embed developmentally appropriate structures within sport, recreation, and education systems. The first three stages of the model; Active Start, Fundamentals, and Learning to Train, focus on developing children’s physical literacy (movement skills). Stages Four to Six (Training to Train, Training to Compete, and Training to Win) focus on developing excellence. Stage Seven (Active for Life) encourages lifelong physical activity. (Bell et al., 2008)

**Fundamental Movement Skills (FMS)**

Fundamental movement skills consist of three areas; non-locomotor (stability & balance), locomotor (body movement skills) and object manipulation skills or manipulative skills (Lubans, Morgan, Cliff, Barnett, Okely, 2010, p. 1019; Francis, et al., 2011, p. 16).

**Locomotor Skills**

Locomotor or body movement skills are movements such as walk, run, skip and hop (Lubans et al., 2010, p. 1019; Francis et al., 2011, p.61).

**Non-locomotor (Stability/Balance)**

Stability/Balance or Body Control Skills focus on balance, agility, coordination, bending, flexing and holding a position (Lubans et al., 2010, p. 1019; Francis et al., 2011, p.37).

**Manipulative/ Object Control Skills**
Manipulative/Object control skills manipulate or control an object. Examples are catching, trapping, receiving, throwing, striking, pushing and kicking (Lubans et al., 2010, p. 1019; Haywood & Getchell (2005) in Stodden et al., 2008, p. 291).

**Physical Activity (PA)**

“Physical Activity is all forms of movement associated with an increase of energy expenditure, including spontaneous physical activity, and organized non-competitive forms of physical activity including exercise, physical education classes, and sport (all forms of vigorous activity)” (Trudeau & Shephard, 2010, p. 138).

**Moderate-intensity and Vigorous-intensity Physical Activity (MVPA)**

Moderate-intensity physical activity requires a moderate amount of effort and noticeably accelerates the heart rate. Examples include brisk walking, house work, general building tasks, and active involvement in games and sports with children. Vigorous intensity physical activity requires a large amount of effort and causes rapid breathing and a substantial increase in heart rate (World Health Organization, 2010).

**Physical Education (PE)**

Physical education is defined as

- a process of learning through physical activities designed to improve physical fitness,
- develop motor skills, knowledge and behavior of healthy and active living,
- sportsmanship, and emotional intelligence. Thus, physical education is not only aimed at physical development but also includes the development of the individual as a whole.

(Definition of Physical Education, 2011)

**Physical Literacy (PL)**
Physical Health and Education Canada define physical literacy by saying that individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person (Francis et al., 2011, p. 2).

**Cross-age Tutoring (CAT)**

“Cross-age tutoring has an older child (tutor) instructing a younger child (tutee) in material the older child has mastered” (Gaustad, 1993, p. 1).

**Peer Tutoring**

“Peer tutoring is an approach in which one child instructs another child in material in which the first is an expert and the second is a novice” (Damon, Phelps, 1989a, p. 11). “Peer tutoring occurs when tutor and tutee are the same age” (Gaustad, 1993, p. 1).

**Assessment of Learning (Summative Assessment)**

Assessment of learning is “summative in nature and is used to confirm what students know and can do, to demonstrate whether they have achieved curriculum outcomes” (Earl & Katz, 2006, p. 14; Gibbons & Kankkonen, 2011, p.6).

**Assessment for Learning**

“Assessment for learning is designed to give teachers information that will allow them to modify the teaching and learning activities in which students are engaged, in order to differentiate and understand how individual students approach learning” (Earl, 2006, p. 7).

**Formative Assessment**

Formative Assessments “are activities undertaken by teachers and by their students in assessing themselves that provide feedback to modify teaching and learning activities” (Black & Wiliam, 1998, p. 140).
Assessment as Learning

“Assessment as learning is a process of developing and supporting metacognition for students. Assessment as learning focusses on the role of the student as a critical connector between assessment and learning” (Earl & Katz, 2006, p. 12; Gibbons & Kankkonen, 2011, p. 6).

Community of Learners

A group of people who share values and beliefs and who actively engage in learning from one another - learner from teacher, teacher from learner, learner from learner. They thus create a learning-centered environment in which students and their teacher are actively and intentionally constructing knowledge together. Learning communities are connected, cooperative and supportive. Peers are interdependent in that they have joint responsibility for learning and share resources, points of view, all the while sustaining a mutually respectful and cohesive environment (Learning and the Adolescent mind, n.d.)
Some Great Supplemental Resources.

A great place to find resources is the PHE Canada book store online. These are proven resources and easy to use.

Basic Skills Series: K-3 Games, CAPHRED; http://www.phecanada.ca/store/k-3-games.html

Fundamental Movement Skills: the building blocks for development of physical literacy (Active Start and FUNdamental Stages) and

Fundamental Movement Skills: the building blocks for development of physical literacy (An Educators Guide to Teaching Fundamental Movement Skills) )
http://www.phecanada.ca/store/books/fms-series-1.html

NCCP Fundamental Movement Skills: Improving children’s lives through physical literacy (Community Leadership Workshop:Coaching Workbook (must take the 1 day workshop)

Ready-to-Use P.E. Activities for Grades K-2 or Grades 3-4, Joanne M. Landy & Maxwell Landy
http://www.phecanada.ca/store/catalogsearch/result/?q=ready+to+use+p.e.+activities


Run, Jump, Throw … and away we go! (Kindergarten- Grade 12),

Active for Life magazine: http://activeforlife.ca/

Canada Sport for Life: http://activeforlife.ca/
References


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doi:10.1177/103451203390020701


Retrieved 01 12, 2013, from brock.scholarsportal.info/journals/brocked/home/article/download/.../29


http://www.phecanada.ca/sites/default/files/advocacy_tools/PE_PA.pdf


Fisher, P., Epps, M.L. & Brown, L. (2011). We are all Teachers, We are All Learners: Transforming Our Understanding and Moving Our Practice. *Mobilizing the Power of collaborative Inquiry Networks to Link Research, Policy and Practice to Promote Quality and Equity*- Ref.#0113. Limassol, Cyprus. Retrieved 07 2012


http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&__ERICExtS


**Connections through Physical Literacy: Teaching Fundamental Movement Skills with Cross-Age Tutors** (partial draft) by Lisa Manzini

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**INTRODUCTION TO PHYSICAL EDUCATION K TO 7**

**PHYSICAL EDUCATION K TO 7: AT A GLANCE**

The aim of Physical Education K to 7 is to provide opportunities for all students to develop knowledge, movement skills, and positive attitudes and behaviours that contribute to a healthy, active lifestyle.

**GOALS OF PHYSICAL EDUCATION K TO 7**

- Students will have opportunities to participate daily in a variety of physical activities.
- Students will develop age-appropriate knowledge and skills for participating productively, safely, and responsibly in a range of physical activities.
- Students will develop the knowledge, skills, and attitudes that enable them to attain and maintain a healthy, active lifestyle.
- Students will develop an understanding of the value of a healthy, active lifestyle.

**CURRICULUM ORGANIZERS**

<table>
<thead>
<tr>
<th>Active Living</th>
<th>Movement Skills</th>
<th>Safety, Fair Play, and Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
<td>• body and space awareness (e.g., personal and general space, balance)</td>
<td>• knowledge of safety guidelines, procedures, and behaviours</td>
</tr>
<tr>
<td>• physical and emotional benefits of physical activity</td>
<td>• non-locomotor movement skills (e.g., creating shapes with body, push, swing)</td>
<td>• safe participation in all aspects of physical education</td>
</tr>
<tr>
<td>• recognizing and monitoring safe exertion rates</td>
<td>• locomotor movement skills (e.g., walk, run, jump, hop, skip, slide, gallop)</td>
<td>• warmup and cooldown</td>
</tr>
<tr>
<td>• role of nutrition in physical activity and well-being</td>
<td>• manipulative movement skills (e.g., carry, catch, dribble, roll, slide, strike with hand, strike with implement, throw, trap)</td>
<td>• fair play (e.g., encouraging others of all ability levels, following the leadership of others, respecting outcomes of activities, respecting diverse ability levels)</td>
</tr>
<tr>
<td>• knowledge of body changes resulting from physical activity</td>
<td></td>
<td>• leadership (e.g., peer helping, refereeing, setting up equipment, demonstrating skills)</td>
</tr>
<tr>
<td>• goals for physical activity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Participation**

- daily participation in moderate to vigorous, sustained physical activity

**ACTIVITY CATEGORIES**

A balanced physical education program includes opportunities for students to participate in a variety of activities across the following five categories:

- **Alternative Environment Activities** (e.g., swimming, skating, canoeing, hiking, snowshoeing)
- **Dance** (e.g., hip-hop, line dance, folk dance, ballroom, story dance, traditional, Aboriginal dance)
- **Games** (e.g., chasing games, pat-a-cake games, soccer, badminton, shinny, hockey)
- **Gymnastics** (e.g., tumbling, rhythmic gymnastics, apparatus, balancing on benches)
- **Individual and Dual Activities** (e.g., juggling, stability balls, track and field, rope jumping, bowling, aerobics)

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### INTRODUCTION TO PHYSICAL EDUCATION K to 7

### PHYSICAL EDUCATION K to 7: CONCEPTS

<table>
<thead>
<tr>
<th></th>
<th>Kindergarten</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Living</strong></td>
<td>• benefits of regular participation in physical activity</td>
<td>• benefits of regular participation in physical activity</td>
<td>• personal benefits of regular participation in physical activity</td>
<td>• benefits of regular participation in physical activity for the heart, lungs, muscles, and bones</td>
</tr>
<tr>
<td></td>
<td>• importance of food as fuel for physical activity</td>
<td>• parts of the body involved in physical activity</td>
<td>• how bodies respond to physical activity</td>
<td>• choices for being physically active</td>
</tr>
<tr>
<td></td>
<td>• physical activities they enjoy</td>
<td>• choices that support physical activity</td>
<td>• importance of choosing healthy foods for physical activity</td>
<td>• healthy nutritional choices to support physical activity</td>
</tr>
<tr>
<td></td>
<td>• daily participation in physical activity</td>
<td>• physical activities they do well</td>
<td>• physical abilities they would like to develop</td>
<td>• physical abilities of people they admire</td>
</tr>
<tr>
<td><strong>Movement Skills</strong></td>
<td>• movement in personal space</td>
<td>• moving through general space</td>
<td>• moving through space while changing directions</td>
<td>• daily participation in physical activity</td>
</tr>
<tr>
<td></td>
<td>• non-locomotor movement skills including making shapes with body</td>
<td>• non-locomotor movement skills such changing level of body positions</td>
<td>• non-locomotor movement skills including rock and sway, swing, and step turn</td>
<td>• daily participation in physical activity</td>
</tr>
<tr>
<td></td>
<td>• locomotor movement skills including walk, run, jump or hop, body roll</td>
<td>• locomotor movement skills including skip, gallop or slide, and two-foot skip</td>
<td>• ready position for locomotor movement skills</td>
<td>• locomotor movement skills including running and leap</td>
</tr>
<tr>
<td></td>
<td>• manipulative movement skills including slide/coll an object, carry an object, and two-handed throw</td>
<td>• manipulative movement skills including kick, two-handed catch with trapping against body, and strike a stationary object with an implement</td>
<td>• manipulative movement skills including one-handed underhand throw, two-handed throw against body, and throw an object, kick, trip object with foot, dribble object with hands</td>
<td>• sequences of non-locomotor and locomotor movement skills</td>
</tr>
<tr>
<td><strong>Safety, Fair Play, and Leadership</strong></td>
<td>• safety guidelines for physical activity</td>
<td>• importance of safety guidelines</td>
<td>• safe behaviours</td>
<td>• safe behaviours</td>
</tr>
<tr>
<td></td>
<td>• following rules and directions</td>
<td>• following instructions and safety guidelines</td>
<td>• following procedures and directions</td>
<td>• respect and encouragement for others during physical activity</td>
</tr>
<tr>
<td></td>
<td>• working cooperatively with peers during physical activity</td>
<td>• working co-operatively with peers during physical activity</td>
<td>• respect for others during physical activity</td>
<td>• leadership in physical activities</td>
</tr>
</tbody>
</table>

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