Twenty Minutes A Day: Elementary Teacher Perceptions and Practices Regarding Daily Physical Activity (DPA) In Ontario

For the degree of Master of Teaching
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Abstract

The purpose of this study is to examine teacher practices and perceptions surrounding Daily Physical Activity (DPA) in Greater Toronto Area (GTA) classrooms. There is a great deal of research regarding the benefits of physical activity in children and adults, and even some directly related to improved academic achievement being correlated to physical fitness, yet there is little to no research regarding the specific DPA program initiated by Ontario. The information from this study was derived from interviews conducted with four elementary teachers who have varying experiences with DPA in their classrooms. These interviews were used to collect data regarding school and teacher attitudes, types of DPA, curriculum connections, and barriers to implementation. The findings lead to important implications for future DPA implementation and teacher practice, as well as investigating this program further to ensure it is an attainable and successful one in the future.

Key words: Daily Physical Activity, DPA, Physical Education, Physical Literacy, Elementary Physical Activity, Elementary Classroom, Movement.
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Introduction

Obesity is on the rise not only in Canada, but on a global scale. Youth are not receiving enough physical activity to maintain a healthy weight (Colley et al., 2011). Ninety percent of children are spending too much time in front of screens (on average 6 hours on a weekday), such as televisions and computers (Active Healthy Kids Canada, 2010). This time spent being sedentary accumulates as children spend the majority of their time at school in desks, considering only 6% of curriculum time is required to be spent on physical education (Morgan & Bourke, 2008).

As stated by Stewart Kennedy, MD, and President of the Ontario Medical Association (2012), "the fact is we are raising the first generation of children that will not outlive their parents if current obesity trends and rates continue. Ontario's doctors are calling on the government to demonstrate the same resolve and commitment they did when they were stomping out tobacco, and apply those efforts to tackling obesity rates."

Considering a non-specialized teacher often teaches this 6% of curriculum time, the efficiency of this time is also questioned (Morgan & Bourke, 2008). Furthermore, time spent at recess should not all be deemed time spent engaging in physical activity, as on average boys only participate in about 28 minutes a day, and girls only 21 minutes during all recesses combined (Ridgers, Stratton, & Fairclough, 2005).

For these reasons there has been a focus placed on physical activity in Ontario, namely with the Daily Physical Activity (DPA) program (Patton & McDougall, 2009). Students are required to get 20 minutes a day of moderate-to-vigorous physical activity
every day, through physical education classes or other activities lead by a teacher (Patton & McDougall, 2009). Teachers are responsible for implementing this as part of their curriculum; however, alternative priorities and a lack of resources can often make this difficult (Patton & McDougall, 2009). This policy was introduced in 2005 and is stated as a curriculum expectation, yet it is not happening on a daily basis in schools.

Physical activity is touted as incredibly important in children and adults alike. Activity levels in children can be predicative of activity levels in adults, further proving that instilling these behaviours in children can be beneficial for one’s entire life (Dennison et al., 1988). New initiatives like DPA in Ontario display the need for more physical activity in the classroom, but with other pressures to implement strong literacy and numeracy programs, as well as demands on other curriculum areas, this mandatory activity is not actually being completed in all classrooms (Dwyer et al., 2003).

**Background of Researcher**

Starting with pre-school and working my way through elementary, secondary, and post-secondary, I have learned many ways to cope with the demands of school. In stressful times I found physical activity beneficial in coping with everything that was happening.

When I was in elementary school, I had physical education class almost daily, participated in sports outside of school, and often rode my bike to get around. Even in high school, when Phys. Ed. was no longer required, I enrolled every year, from grade 9 to 12. Progressing to university, classes became more stressful and a sedentary lifestyle is easy to adapt. I learned quickly that to maintain a healthy physical state in addition to a healthy emotional state, I needed to make time to move.
Sometimes it was making time for me; going for a long run by myself to clear my head, or even debate concepts for the next midterm. Sometimes it was making time for friends; attending a Zumba class together, or going skating on freshly attended ice. No matter how the activity occurred, I always found when I returned to my work I felt calmer, more levelheaded, and could focus more easily on the task at hand.

If students are only getting their physical activity in at recess and during DPA, that’s on average 45 minutes a day spent doing moderate-to-vigorous physical activity, which may actually seem respectable. But that doesn’t include weekends, days they decide not to play at recess, or classrooms that do not integrate DPA into their daily schedule. The sixty minutes recommended for proper growth and development used to actually be ninety minutes in an attempt to make it more attainable. Is this more attainable, and are children getting enough on a daily basis?

But what if students are never introduced to various avenues of physical activity at a young age? What if they do not know that riding their bike or dancing with friends can alleviate stressors and actually end up making them happier and more productive? If we do not expose students to various types of physical activity at the elementary level, they may not develop healthy habits as they grow into adults. This is why I am so interested in discovering more about physical activity and physical literacy in children. If we can persuade teachers that physical activity will allow them more time in the classroom, perhaps they will be more likely to implement strategies like DPA. And if they implement these strategies regularly, children will develop strong positive associations to physical activity, and be able to make healthy choices for the rest of their lives.
DPA may seem like a silly concept that takes 20 minutes of valuable curriculum time, but what if educators could change their perspective, and understand they are instilling life lessons to students by developing healthy habits and creating positive emotional states? What if implementing these 20 minutes a day could help your students become more focused and avid learners during the time you are teaching? So much time is wasted in a day in a classroom between transitions, inattention, and lack of focus. DPA may be the solution teacher’s need in their classrooms to create a positive and healthy environment.

**Purpose of Study**

The purpose of this study is to investigate teacher practices and perceptions of the DPA program in elementary classrooms. From this, the benefits and barriers can be assessed and next steps can be looked at for improving this program and making it an attainable goal for teachers in Ontario. Through data collected via interviews from teachers with varying levels of expertise and experience, trends can be evaluated and future implications can be discussed. This knowledge will help Ontario teachers in implementing successful DPA program for the future, and provide children with appropriate amounts of physical activity to promote healthy and lifelong physical literacy.

From this study, I hope to gain an understanding an awareness of how DPA looks in current classrooms across the GTA. As a new teacher, I have not been in a position to fully understand the challenges that exist in schools, and how schools perceive the program. Through this study, I can develop a deeper understanding of the DPA program, and will further improve my practice as I look to enter the workforce.
Research Questions

The principal research question is "what are elementary school teachers’ perceptions and experiences with the DPA program?"

The following questions will support the principal research question:

1. How much time each week do elementary school teachers allow for physical activities for their students?

2. What training have elementary school teachers received in regards to physical activity in the classroom, and how comfortable are they leading physical activities with the class?

3. What are elementary school teachers’ perceptions of the benefits and challenges of providing time for students to participate in physical exercise?

4. What is the nature of the physical activities implemented by elementary school teachers?

5. To what extent do elementary school teachers connect the curriculum to the physical activities they implement in their class?

Overview

Chapter 1 includes the introduction to the study, including my involvement and background, the purpose of the study, and research questions. Chapter 2 moves in to a literature review, providing background research to inform the reader of definitions and any research that has been done related to this field. Chapter 3 highlights the methodology and procedure involved in this study, including detailed information about data analysis and limitations. Chapter 4 highlights who the participants are in the study, and the data that was generated through interviews with these participants. Chapter 5 concludes the
paper with implications from this data, connections and trends observed, future research recommended, and next steps for teachers. A list of appendices and references follow to support the paper.
Chapter 2- Literature Review

For the purpose of this research study, the topics in this literature review will address physical activity’s impact on health, academic success, and social success. In addition to this, successful physical education interventions will be examined.

Definitions

Often physical fitness and physical activity are difficult to define, and across studies have varying definitions (Chomitz et al., 2009). It is important to examine a few different definitions, as well as to note commonalities between definitions across studies. It is imperative to think of physical fitness and physical activity as gradients or ranges, rather than absolutes, as no individual is ever completely unfit and inactive.

Definition of Physical Fitness

Being physically fit has been defined as, “the ability to carry out daily tasks with vigor and alertness, without undue fatigue, and with an ample energy to enjoy leisure-time pursuits and meet unforeseen emergencies” (Caspersen, Powell, and Christenson, 1985). Caspersen, Powell and Christenson (1985) also add that physical fitness has two related components: health-related fitness, and skill-related fitness. Health-related fitness focuses on endurance, strength, body composition, and flexibility, while skill-related fitness emphasizes agility, balance, coordination, speed, power, and reaction time (Caspersen, Powell, & Christenson, 1985). Often when assessing physical fitness in studies, researchers tend to focus on health-related fitness components, as they are more vital to overall health verses athletic ability (Fedewa & Ahn, 2011).
Definition of Physical Activity

Physical activity has four key components: bodily movement via skeletal muscles, results in energy expenditure, energy expenditure varies continuously from low to high, and is positively correlated to physical fitness (Caspersen, Powell, & Christenson, 1985). Furthermore, exercise is defined with the same four components, and adds that it is planned, structured, repetitive body movement, and an objective is to improve or maintain physical fitness components (Caspersen, Powell, & Christenson, 1985).

Physical activity is often coded and defined in different ways. Some physical activity can be categorized as resistance/circuit training, aerobic training, physical education programs, or perceptual-motor training (Fedewa & Ahn, 2011). Other physical activity may be coded through portions of daily life, such as at school, at work, or leisure (Caspersen, Powell, & Christenson, 1985). Beyond this, physical activity could be divided down further into total physical fitness, development, strength, flexibility, and cardio (Fedewa & Ahn, 2011). Lastly, the total amount of hours and frequency of physical activity is another important variable when assessing physical activity within studies (Fedewa & Ahn, 2011).

When looking at a meta-analysis completed by Fedewa & Ahn in 2011, the majority of research designs focused on aerobics of physical education programs, with medium-to-large groups, performing physical activity on average 3 times a week, with a mix of focused between strength, cardio, and total fitness (Fedewa & Ahn, 2011)

Purpose of Physical Education

Physical education in Ontario Elementary Schools is, “the education of young people in the use and knowledge of the body and its movement” (Green, 2008). It is a wider
concept than simply sports, and can effectively educate students about participation, teamwork, and their own body.

Physical education has various purposes and benefits in the classroom, beyond just providing an opportunity for students to exercise. There is practical knowledge that many individuals need to know, such as rules of various sports or how to perform simple movements such as throwing and catching (Green, 2008). Furthermore, there is also a social component, teaching students to work with and bond with other students transcending cultures (Green, 2008). Additionally, students that may not excel in traditional school subjects may find reprieve and acceptance in physical education.

Definition of Daily Physical Activity

Daily Physical Activity has several requirements that are in place from the government to ensure that quality and safe physical activity is occurring across Ontario in schools. DPA must occur during instructional time every school day, consisting of a warm-up, cool-down, and at least twenty sustained minutes of moderate to vigorous activity (Ontario, 2005). It must be adaptable to all students, including those with special needs (Ontario, 2005). Furthermore, Policy No. 138 dictates that all students in grades 1 to 8, including students with special needs, be provided with opportunities to participate in a minimum of twenty minutes of sustained moderate to vigorous activity each school day during instructional time (Ontario, 2005).

Physical Activity and Health

Risks

Physical inactivity is linked to cardiovascular disease, diabetes, colon and breast cancer, obesity, hypertension, bone and joint diseases, and depression (Warburton, Nicol, &
Bredin, 2006). Being physically active is actually associated with a greater than 50% reduction in risk to these conditions (Warburton, Nicol, & Bredin, 2006). It is clear that exercise can prevent serious life-threatening illnesses.

Decreasing sedentary behaviours at a young age can only instill healthy habits for the future. Aerobic exercise and/or dynamic resistive training can improve the oxygen transport system, endocrine function, and reduces depression and mental stress (Sothern et al., 1999).

**Recommendations**

To see optimum health benefits, some key recommendations for child and youth physical activity are: increasing physical activity by progressing to over 90 minutes a day (60 minute moderate, 30 minute vigorous), perform varying types of physical activity in periods of at least 5-10 minutes to work on endurance, flexibility, and strength, and reduce sedentary time such as watching TV (Janssen & LeBlanc, 2010). Canada, the US, UK, and Australia only recommend 60 minutes per day, down from the previous 90 minutes (Janssen & LeBlanc, 2010). Sporadic activity is less effective than lengthy bouts; at least 5-10 minutes at a time is the best way to improve fitness (Mark & Janssen, 2009).

**Physical Activity and Academic Success**

**Standardized Testing and Physical Fitness**

If physical activity is being incorporated into curriculum time, some educators may wonder if there is a correlation between fitness and academic success. There is a statistically significant positive correlation between fitness and standardized test scores in Mississippi (Blom et al., 2011). Fitness in this case was measured through a Fitnessgram,
developed by Cooper Institute for Aerobic Research, which has six components including actual physical action and BMI (Blom et al., 2011).

Another study performed in Massachusetts with 2127 grade 4-8 students found a statistically significant relationship between fitness and academic achievement (Chomitz et al., 2009). Though this correlation exists, they are careful to state that a causal relationship could not be identified (Chomitz et al., 2009). Moreover, the odds of passing the standardized mathematics and English tests increased as the number of fitness tests passed increased (Chomitz et al., 2009). As standardized tests are often the government's way to show successful academic achievement, this correlation is incredibly valuable.

Furthermore, there is a negative correlation between fitness test scores and school absences (Blom et al., 2011). This means that the more physically fit students are, the less likely they are to miss classes and important concepts that can help further their learning. They could be attending more classes for various reasons; perhaps physical fitness is keeping students healthier and preventing them from catching viruses. Or it is possible students are more motivated to attend school when they are more physically fit, and are able to do fun activities every day to get them moving with their classmates. Or perhaps students of higher fitness have higher self-efficacy, and believe in their skills and the importance of school. No matter what the reason, a student attending more classes is highly beneficial to their learning.

Recommendations

Looking at these two studies, we can see there is value to physical activity, and it can have an impact on academic achievement. But this does lead to some questions: What type
of physical activity is optimal to achieve the best results? How many times a week, and for how long should these bouts of activity last to see the best academic achievement?

Fedewa and Ahn compiled a meta-analysis in 2011, focusing on the effects of physical activity and physical fitness on children’s achievement and cognitive outcomes. They looked at 59 studies from 1947-2009, mostly taking place in the USA. Based on the research analyzed, the greatest effect of physical activity programs was largest when small-group interventions were conducted (Fedewa & Ahn, 2011). Furthermore, physical activity occurring three times per week exerted the strongest effect on children’s academic success (Fedewa & Ahn, 2011). In fact, the largest effect from physical activity was on children’s math achievement, followed closely by IQ and reading achievement (Fedewa & Ahn, 2011).

Physical activity can have a serious impact on a child’s academic success. Teachers can assist with this by implementing such interventions as the Daily Physical Activity program.

**Physical Activity and Emotional Benefits**

Often when discussing benefits of physical activity, the focus is on the benefits of physical fitness. An equally important aspect of physical activity is the emotional benefits. Physical activity can enhance self-esteem, improve moods while reducing anxiety, increase resilience to stress, and improve sleep (Fox, 1999). With up to 20% of children suffering mild mental health problems, and as many as 10% experiencing moderate or severe mental health issues, physical activity could be an important key to helping children today (Fox, 1999).
Anxiety and Depression

Literature shows there is a moderate effect on reducing anxiety after youth perform aerobic exercise, with similar results for sustained exercise programs over several weeks (Calfas & Taylor, 1994; Fox, 1999). With so many students experiencing anxiety in the classroom, and particularly when it comes to tests or performances, providing students with an opportunity to exercise aerobically could cause a decrease in the anxiety these students experience.

Additionally, it was found that increased vagal activities lead to an increase in production of anti-pain and anti-depression neurotransmitters (such as serotonin) and a decrease in stress hormones (Field, 2012). When participating in an organized yoga routine, there was a significant decrease in depression and anxiety - even more so than with aerobic activity alone (Field, 2012).

Self-esteem

Self-esteem is the confidence in one’s abilities or self-worth. This trait is incredibly important for children to possess, as it can increase resiliency and motivation (Whitehead & Corbin, 1997). When physical activity is properly introduced, children can reap positive benefits of increased self-esteem and motivation (Whitehead & Corbin, 1997).

Ebbeck and Weiss (1998) found that physical activity programs could increase self-perception of competence, which therefore has a positive impact on self-esteem. In fact, the higher children perceive their competence, the greater the impact was on their self-esteem as well (Ebbeck & Weiss, 1998).
Though self-esteem and exercise can be linked, there is some mixed data on the subject. It is likely that some children find the correlation to competence, as shown by Ebbeck and Weiss, but others may need further intervention to improve their self-esteem.

Attention

Whether a student is suffering from an attention disorder or not, focus and attention from children is an important variable when assessing benefits. There are often risks when working with ADHD students, as they are at more risk for movement skill difficulties and have poor levels of physical fitness (Harvey & Reid, 2003). That means it is incredibly important to discover a successful way to implement a physical education program with those suffering with attention disorders. Children suffering from attention disorders such as ADHD can also benefit more from yoga or tai chi than aerobic exercise; the long sessions with focus and concentration are hypothesized to be the factor that causes this (Field, 2012). Additionally, exercise interventions can benefit inhibitory control in students (Tsai, 2009).

Physical Education Implementation

Benefits to physical education and sport can be viewed in terms of children's development in five different ways; physical, lifestyle, affective, social, and cognitive (Bailey, 2006). Regular participation in physical activities is associated with longer and better quality of life, as well as reduced risk of many different diseases (Bailey, 2006). Through building basic foundational movement skills, children will become more confident and able to continue these movement skills into adulthood (Bailey, 2006).
There are many barriers standing in the way of a successful physical education program. The benefits far outweigh the difficulties, and it is nothing that can’t be overcome through a properly implementing physical education strategy.

In a two-year study by Sallis et al. (1997), the effects of an experimental physical education program were proven to see benefits in students. When a physical activity intervention was run by professionals, or by specially trained teachers, these students spent more time being physically active than a control group (Sallis et al., 1997). In addition to this, girls in the experimental groups were superior in abdominal strength, endurance, and respiratory endurance (Sallis et al., 1997).

Furthermore, a research review by Trost (2007) shows that more time spent on physical education or school-based physical activity programs did not negatively affect academic performance. In fact, in some cases more time in physical education lead to an increase in standardized test scores and improved grades. (Trost, 2007). It is possible that the improved academic behaviour and achievement could be related to enhanced concentration skills and classroom behaviour (Trost, 2007).

Another intervention conducted in the southwest United States for a year saw positive results in time spent on physical activity (Kulinna et al., 2012). Curriculum adjustments, new teachers or aides, professional development, scheduling, teacher collaboration, structured recess, and facility and equipment additions are just some of the factors that were adjusted to see success (Kulinna et al., 2012). Not only was there an increase in time spent being physically active, but there was also a decrease in absences or nurse visits by students (Kulinna et al., 2012).
There are many positive examples of physical activity interventions, and as teachers in Ontario we need to seek these examples to understand how we could better implement DPA within our schools.
Chapter 3- Methods

Introduction

This research study is designed to examine the government’s Healthy Schools Plan and the addition of a daily 20 minutes of physical activity in elementary school classrooms. This qualitative research study compares case studies of four different teachers, and therefore, four different classrooms. These teachers are all located in the Greater Toronto Area (GTA), and range from teaching grade one to grade six. Interviews were conducted with four teachers that meet the criteria, to assess their experiences in implementing DPA, the barriers they must overcome, the need for pre-service and continuing teacher training, and the benefits or drawbacks they see from DPA in their classroom.

Procedure

The primary source of data is the aforementioned four interviews with teachers regarding their experience with Daily Physical Activity in their classrooms. A series of interview questions were developed for an informal interview with these teachers, designed to understand what causes teachers to choose to implement DPA in their classroom or not, and what successes or drawbacks do they experience from this implementation. According to past literature, there are many barriers to the implementation of physical activity in Toronto. This research was conducted prior to the new curriculum being released in 2010. It is interesting to assess the comparison to barriers experienced then, and the obstacles being experienced by teachers now. The interview questions for data collection are located in Appendix A.
Participants

Four teachers were recruited through my own teacher network, focusing on the various GTA school boards. Each participant implements DPA in their classroom to a slightly different degree, offering varying viewpoints on how DPA can be integrated into classrooms, and the positives or negatives of such.

The criteria I used to select participants were two-fold. First, the participant had to be a teacher in a Greater Toronto Area school. Secondly, the teacher must be an elementary school teacher, preferably in grades one to six.

Data Collection and Analysis

Data was collected through interviews with the selected and consenting research participants. All responses were transcribed word-for-word, allowing no potential data to be missed from the interviewees. I offered to meet individually with each teacher for approximately 30 minutes, and received some data through email correspondence as well.

After transcribing the data, the information was coded into a table to allow for clear themes to emerge that can be discussed.

Ethical Review Procedures

All participants have signed a consent form, which clearly states the purpose of study, and for what purpose the data is being collected and analyzed. Appendix B is a copy of the consent form for participants. All participant privacy and anonymity is assured.

There should not be any ethical issues, as only those who desired to participate and sign the consent form willingly were included in the study. Participants are aware of the purpose of this study, and the study is designed to not intentionally affect their personal or professional lives.
Limitations

There are several limitations to this research, including time restraints and small sample sizes. Due to the time constraints, only a certain number of participants could be interviewed. This was problematic, as with a larger sample size the results could have had larger variations, and lead to different themes. In addition to this, there were constraints from the Master of Teaching program timelines. More time would have allowed for a deeper investigation to occur, with extended conversations, a more comprehensive literature review, and a greater analysis of findings.
Chapter 4- Findings

Introduction

In this chapter, I present findings based on four interviews conducted from October 2014 to January 2015. All four interviewees had varying experiences with the Daily Physical Activity program, and have provided valuable insight to how the program is viewed in GTA schools.

The interview questions allowed a deep discussion, delving deep into the positives and drawbacks of the DPA program. Through analysis, four key themes emerged due to the participants’ honest sharing, varied experiences, and wealth of knowledge. These themes that appear to impact the success and implementation of DPA are: teacher attitudes and school culture, types of physical activity, curriculum connections, and barriers to DPA. As seen in the literature review, physical activity is an important aspect of healthy growth and development in young people. These themes bring us one step closer to discovering what needs to be done to successfully implement this program to benefit students for years to come.

Participants

The four participants that were selected for this study are all located within the Greater Toronto Area. Below is a short description of their teaching history and background. Note all names are pseudonyms.

Felicia is our first participant, and she has been teaching for 20 years in the Toronto District School Board (TDSB), and is currently in a grade six classroom. She has had opportunity to teach kindergarten through grade six. Her timetable currently has two 30-
minute periods a week schedule for Physical Education (Phys. Ed.), leading to Felicia being responsible for implementing DPA three times a week.

The second teacher, Andrew, is on his 25th year teaching. He actually began as a secondary school science teacher, teaching in this panel for twelve years. After moving to the elementary panel, he has taught grades four, five, and eight, though he is currently with a grade five class in a portable as part of the Peel District School Board (PDSB). All students in the school get two 40-minute periods a week for Phys. Ed, leading to Andrew being responsible for DPA three times a week.

The third participant, Angela, has taught grades one to six over the last 28 years, but is presently teaching a grade 1/2 split in the Toronto Catholic District School Board (TCDSB). She is a unique participant as she is the only one currently teaching in the primary division. This is evident immediately even with the number of periods of Phys. Ed. a week; her students have three 30-minute periods, resulting in Angela being in charge of implementing DPA two times a week.

Our final participant, Kassandra, contrasts with the other participants she is an occasional teacher with Dufferin-Peel Catholic District School Board (DPCDSB). This is her first year in a Long Term Occasional (LTO) placement, with a grade 5/6 split, though as an occasional teacher she taught the full range of kindergarten to grade eight. She is a trained Phys. Ed. teacher, as this was her teachable in her teacher education program. All schools are consistent in PCDSB with two 40-minute periods of Phys. Ed. a week, resulting in Kassandra being responsible for leading DPA three times a week.
Teacher Attitudes and School Culture

Teacher Attitudes

When interviewing participants, it became evident that they all had strong opinions about the DPA program and how it was being implemented. It was apparent when talking to Felicia, Andrew, and Angela that they believed students sit too much, and teachers need to do what they can to get them moving. Andrew builds in short 5-minute activity breaks to help students focus and clear their minds. Angela and Felicia just try to be flexible with their schedules, noting if students’ are restless and providing them with opportunities to move. Kassandra, likely due to her Phys. Ed. background, feels confident in organizing and implementing regular DPA, though when curriculum times get busy, she finds it is the first thing to get put aside.

Teacher Confidence

Not surprisingly, teachers have varying levels of confidence when it comes to implementing DPA. Felicia states, “I don’t think it’s fair that I’m teaching gym when I don’t know enough about it.” This highlights that it isn’t just a confidence issue for oneself, but it’s the confidence in the ability to teach a specialized subject. Building on this, Angela states, “I implement the same activities because of lack of space, time, equipment, and it is what I am comfortable with.” All four of the teachers interviewed alluded to the importance of formal training for DPA, including Kassandra, who has a teachable in Physical Education. Due to this lack of training, there appears to be a certain comfort level that exists with certain activities, and the willingness to push it off to the side appears to be more prevalent.
Another tell of teacher confidence in implementing DPA is their thoughts on the amount of Phys. Ed. periods a week. Felicia, Andrew, and Angela all believe that hiring a full time Phys. Ed. teacher to implement DPA is one of the better options out there. They would prefer someone fully qualified be implementing these activities, instead of it being another responsibility on the homeroom teacher.

School Culture

When asked about their school’s focus, none of the participants highlighted DPA, or even their Physical Education program. Andrew and Felicia both mention numeracy to be a key focus as a board mandate, whereas Angela highlights present school initiatives to be student leadership and self-advocacy, and Kassandra notes her school is focused on becoming an eco-school. The closest mention to a physical education focus is Kassandra mentioning intramurals as another focus for the school. Though this is not DPA, it does display the school’s commitment to getting students moving.

Types of Physical Activity

Outdoors

All four participants highlight how they enjoy taking their students outside on nice days to allow for some physical exercise. Team activities such as soccer, ultimate frisbee, or basketball are popular choices when venturing outside, again with every participant stating this is as an activity they enjoy doing for DPA with their students, but only when the weather is favourable.

Felicia notices that her students don’t always need an organized team sport to enjoy their time outside. She can just take her students outside and they enjoy free play on the
jungle gym, or they will run around in the schoolyard and get their heart rates up in this way. Felicia values free choice activities that don’t focus too closely on specific sport skills. “Things that aren’t too athletic are great for DPA because everyone can do it,” she states.

In contrast, Andrew enjoys more structured DPA activities. He works toward having his DPA hit on curriculum expectations tied to movement skills in the Phys. Ed. documents. He attempted to match his activities with what is happening in their Phys. Ed classes, to further support the learning they do there. Additionally, Andrew is interested in combining DPA with the dance curriculum, so students can get moving and be active while also achieving curriculum goals.

*Classroom Activities*

Classroom activities are more challenging than outdoor activities, as there is a significant difference in space allowance. This is noted in the examples of DPA that the four participants provide, as there are many more outdoor examples than indoor activities.

Angela, the primary teacher, finds that dance exercises, aerobics, or Simon Says work well with her class. Notably Felicia, who works with grade six, also finds dance activities to work well within the classroom. She has taught her students to set up the projector and play YouTube videos from the video game Just Dance, and students follow along. “They like to dance, the boys especially like to dance!” These students also play a variation of Simon Says, named Follow the Leader.

*Curriculum Connections*

The most obvious connection to the Ontario curriculum is with Phys. Ed. DPA utilized a lot of the movement skills the curriculum is looking for. Those homeroom teachers that are also responsible for Phys. Ed. for their classes can use DPA time to work
on these skills for students and use it in assessment. Even for students who have a rotary Phys. Ed. teacher, the focus on movement skills can still be integrated as a part of DPA.

Andrew mentions he tried to tie his DPA into what the Phys. Ed. teachers are doing with his students, allowing for a more seamless experience for students. Felicia teaches her class Phys. Ed., and also has this opportunity to tie DPA into the Phys. Ed. curriculum and assessment.

Felicia introduced the idea of dance and drama being incorporated into the DPA program. She finds these are natural subjects where students get to move around anyways. Angela also mentions the only time DPA doesn’t stand on its own is when incorporating into dance and drama. These subjects appear to be a natural fit for DPA, but they aren’t often taught year-round.

Kassandra branches out farther and states that though she has trouble finding resources connecting different subjects to DPA, she does have some that connect certain math strands. Felicia also mentions that she tries to do as much as she can in math to allow students the opportunity to learn while moving.

Finally, Andrew notes that his grade five team plans various trips and excursions that tie directly into the curriculum. For example, they go skiing so they are spending the full day being active and hitting on certain Phys. Ed. curriculum expectations.

**Barriers to DPA**

“I don’t know how to fix DPA…. because it isn’t working as well as it should be.”

Felicia stated this during her interview, highlighting the fact that though many teachers see that it isn’t working, they have a hard time narrowing down exactly what the problem is an
how they can go about fixing it. Below are five key barriers that were identified by some or all of the participants in this study.

*Time*

Teachers seem to have a hard enough time fitting in all the curriculum expectations expected of them, let alone also incorporating 20 minutes of physical activity a day. This is meaning 20 minutes of moderate-to-vigorous activity, in addition to the warm-up and cool-down that is also required. Essentially, it’s giving up a whole period for DPA, which most teachers cannot fathom with all the other curriculum expectations, extra-curriculars, and character education they are providing their students.

Andrew asked around his school regarding DPA, and heard a resounding response that most teachers do not implement it on a regular basis. He states, “the prevailing thought is the amount of time required for DPA would have little effect on student fitness and does not outweigh the time needed for proper instruction.” He believes the greatest impact could come from greater activity at home, and therefore, greater involvement from parents. Over his years of teaching, he is actually seeing the opposite - a decline in parent involvement in both physical and academic development of a child. With every moment being precious in the classroom, not seeing great benefits from this program makes it more difficult to see the value in it.

Andrew also highlights the difficulty in transitions. He claims, “no matter how much time you devote to DPA, any break also requires time to start up, wind down and getting the students back on track.” Students tend to have difficult with transition and focusing on a new task, and asking students to go from something involving a lot of movement and excitement to something more stationary can be problematic at times.
Felicia mentions timing being difficult due to diagnostics and standardized testing, in particular at the beginning of the year. With these additional pressures to get statistics of students, where there is a set deadline, it allows DPA with no real deadline or accountability to fall by the wayside. DPA is easily the first thing pushed to the side, because there are just some things that need to get done.

Countering this, Kassandra notes that she finds it easiest to do at the beginning of the school year, and as things pick up it gets more and more difficult. Typically when she has a lot of curriculum she wants to cover, DPA is the program that gets put to the side.

While other participants have the full twenty minutes in their schedules (whether they actually do it or not), Angela has DPA in her time table for ten minutes after lunch, as this was the only time she had available to schedule it. Not only is she covering the standard Ontario curriculum, but she also has religion requirements to cover. This is just another pressure in addition to other initiatives the school is running.

*Interruptions*

As any teacher knows, interruptions are constant in a school environment. This can throw off routines, and take away from time that is direly needed in the classroom. Felicia mentions that announcements take up time assigned to certain periods, and assemblies can take whole periods. On top of this, the day prior to the interview she experienced a twenty-minute lockdown drill, and if you add the transition time to get back to work after this drill, an entire period was lost.

Angela experiences a different type of problem. Since she only has DPA scheduled for ten minutes after lunch, she has difficulty getting her kids in the classroom and ready to move within that short time. Often after lunch there are issues due to problems from recess
that need to be dealt with. Adding onto this, being with primary grades, during the winter her students take a long time to put on or take off their outdoor winter gear.

*Space*

Getting a student’s heart rate up to a moderate or vigorous rate can be challenging, especially when in a confined space. Lack of space to safely and properly implement DPA was a common theme amongst all interview participants.

Felicia had a unique problem in that she teaches at an open concept school. Due to this, any common spaces that actually do have enough room border on many other classrooms, meaning it would have to be nearly silent DPA. She mentions that going outdoors obviously provides enough space, but you can’t bring music or any other technology outside. Not to mention, in Canada the weather is not always ideal. Angela agrees with this statement, mentioning that her schoolyard ices easily making it impossible to do physical activity in the winter outdoors.

Andrew also experiences a unique problem that the others teachers do not. He is located in a portable. He states, “space is also an important consideration, especially in portables, which can be really cramped for space meaning a teacher is restricted in the types of activities that can be done (especially those that will have a greater physical impact).” He is really getting to the meaning of DPA, and how getting students’ heart rate up is an important aspect of it. Kassandra also follows this mindset, stating that her room is just too small to get her children doing movements without crashing into one another.

Andrew and Felicia both mention the use of the gym for DPA as something that would be helpful, but currently isn’t possible. Felicia’s school has over 500 students, yet only one small gym for them to use. Andrew also says the gym at his school is always being
used for Phys. Ed., making it not possible to use it for any other activities from classrooms.

Teacher Training

All four participants mention that more detailed teacher training would allow for better implementation of DPA. Felicia has many desires for training, including just seeing some good warm-ups or cool-downs to have a variety to select from when doing DPA with the class. Further to this, a list stating ten great ways to do DPA that is easy to understand and accessible would allow for a simpler time introducing the activities, and someone coming in to demonstrate these options are something Felicia feels would make a great difference to her program. She finds students can get bored of the same activities, and she needs a good variety at her disposable to keep them interested, but she has never been trained in this. Angela resonates with this, finding that she doesn’t have many options to get her students’ moving and needs more ideas to keep things interesting. Though Angela was provided with a DPA manual, she find the space in the classroom and her access to equipment make these games impossible to play.

In addition to being trained to implement DPA, Felicia makes a point about being trained to differentiate this instruction. “I can't really differentiate my DPA because I barely know what I will task the kids to do in the first place,” she claims. Felicia also provides the example of a student on crutches. She asks, "what do you do for that student for DPA?"

Andrew loves many team sports, and is quite physically active himself. This being said, he still feels that more formal training would allow him to better implement a DPA program. He suggests having qualified teachers in for lunch-and-learns, or for other professional development sessions to be offered to better his awareness and knowledge of the program. Building on this, Andrew proposes a designated teacher or committee be
responsible for DPA, providing more professional development as well as to have someone to be accountable to.

Kassandra has a Phys. Ed. teachable, yet still had much to say on the subject of training for DPA. She believes in the connections between curriculum content and DPA, and feels if there were resources connecting math or language to DPA, more teachers would get behind the program. Andrew also feels strongly about connecting DPA to the curriculum, suggesting that dance instructors come in during DPA time to properly do both activities together at once.

**Conclusion**

With four very different participants providing information on their experience with DPA, there is a wide variety of information to dissect. Even with their ranging backgrounds, we see many connections and correlations across all of their practice which strongly show there are certain factors that need to change to strengthen the DPA program.

Though this study has its limitations, this information is hypothesis generating, allowing us to delve deeper into how DPA is currently being implemented in schools, and how it can be developed further or improved for future.
Chapter 5- Discussion

Introduction

As mentioned in my introduction, I am doing this research to help teachers engage students in physical activity, increase their physical literacy, and allow them to empower their students to be life-long learners in terms of movement skills. I am passionate about providing all people with the ability to improve their physical and mental well being, and I do believe DPA can be a part of that in schools.

Through this research, many connections were drawn between all the participants, and therefore, between DPA programs across the GTA. This wide range of participants offered such a breadth of experience and knowledge, though of course are not representative of all GTA teachers; likely represent other teacher’s experience on a larger scale.

I am lucky to have been provided the resources to complete this research project. Through talking to Felicia, Andrew, Angela, and Kassandra, I have developed a deeper understanding of teacher and school attitudes when it comes to DPA. Furthermore, I also realize the barriers that teacher’s face when in comes to implementing DPA in the classroom. Only through asking these questions and receiving candid answers can we get to the bottom of the true inadequacies with the DPA program, and start to make adjustments to our practice.

When examining these implications for practicing teachers, as well as education communities, we will again look across the themes highlighted in the findings: teacher attitudes and school culture, types of physical activity, curriculum connections, and barriers to DPA.
Teacher Perspectives on Daily Physical Activity

Implications for Practice

Teacher Attitudes and School Culture

When observing teacher attitudes, all of the participants appeared to be in support of the program. They understood the general objectives, and could describe benefits to the program. Despite this, they all still struggled with implementing DPA successfully on a regular basis.

Remember that according to Ontario policy, students are required to get 20 minutes a day of sustained moderate-to-vigorous physical activity every day, through physical education classes or other activities lead by a teacher (Ontario, 2005). This is a policy that all teachers in Ontario need to be following, yet note that even when stating their own positive experiences with the program, the chances of all students experiencing an increased heart rate for twenty full minutes is very slim. For example, thirty students playing with one ball in a large field... are all students actively participating? During Simon Says, are they actually moving quickly enough to warrant calling it physical activity?

Teachers’ definitions of DPA need to be adjusted, or they need to be reminded of the specific aims of the program. They understand the benefits and the general ideas, but the specifics are lost in translation. We are speaking about twenty sustained minutes of physical activity, in addition to a warm-up and cool-down. This means more than twenty minutes need to be put aside to meet the full requirements of the program.

Furthermore, all four participants seem to be hesitant in relation to their implementation of DPA. This confidence issue could be approached through providing additional training to teachers; this obstacle will be addressed later on in this discussion. Another way to solve this issue would be to provide quality daily Phys. Ed. classes, allowing
those highly trained in a proper environment to be the ones implementing this regular activity.

Often teachers’ perceptions can be put onto students without them being aware of it. If a teacher has a negative attitude or lacks confidence in DPA or physical activity, will those attitudes and beliefs be passed on to students? Felicia truly believed that her students love to dance, especially the boys. If another teacher were with her class and held the belief that students hate dancing, would that be a popular DPA activity selected by the students?

Finally, schools culture appears to dictate initiatives that happen in the classroom. None of the schools examined have a focus on physical activity of any kind. There appears to be a gap here between actual practice and Foundations for a Healthy School resource developed by the Ministry of Education (2014). This resource states that physical activity is necessary to a healthy school, yet it appears none of these schools have any emphasis placed on it (Ontario, 2014).

*Types of Physical Activity*

The participants mention that they often implement team sports as their DPA activity. With thirty students chasing one ball, are all students truly receiving the physical activity they need to get their heart rate up? Are all students actually engaged in the activity and finding enjoyment in it? Introducing non-traditional games or offering small subsets of games so everyone has a greater chance to play can promote inclusive physical education, and provide opportunities that everyone can enjoy. This can only further promote students becoming lifelong movers, and developing the skills to stay physically
active beyond the classroom. This also further speaks to the need for more teacher training, providing teachers with the resources to implement these non-traditional activities.

As previously stated, the participants highlighted many more outdoor activities than indoors. What can we do to promote in-classroom activities, and allow teachers to feel comfortable doing physical activity in the classroom? One suggestion from my own experience would be to teach the students how to safely and quickly move the furniture in the room. If they can clear the desks in the classroom to create a large open space, suddenly there are many more opportunities for movement within the four walls of the classroom.

Perhaps focusing on outdoor activities even in the winter is another solution. As long as students are dressed appropriately, some truly active and fun activity can happen in the winter. It is important to showcase that being physically active is entirely possible during every season, and DPA can be a fun way to demonstrate that. Traditional Inuit games could be introduced, or simply running and jumping with the resistance of snow can easily get the heart rate up and allow students to enjoy winter once again. Being Canadian citizens we often have a cold climate, and students need to see that it is possible to enjoy the winter and be physically fit through all seasons.

Curriculum Connections

As mentioned in the findings section, a major barrier is time in the school day to do DPA. An obvious solution to this would be having more easy connections between DPA and other curriculum areas, allowing it to be easily connected within the regular schedule. Developing resources that allow for easy connections would make it simpler to implement DPA on a regular basis.
With obvious connections in the dance and drama curriculum, it may make sense to encourage this relationship further by developing additional resources around these subjects. If a teacher staggers the drama and dance units, perhaps this can allow for them to become a regular part of the classroom routine as curriculum subjects, but also as DPA activities.

*Barriers to DPA*

Time appeared to be one of the largest barriers for teachings when implementing DPA. There is not enough time in the day to include DPA in the schedule, especially when considering mandatory curriculum including religion classes for catholic schools, school focus and initiatives, interruptions such as announcements or assemblies, and general difficulty with transitions.

All four participants appeared to be pulled in many directions when attempting to schedule their days. The school board has one mandate, and the actual school has another, and then the teacher themselves hold beliefs that impact how time is spent in the classroom. Three out of four of these participants also had been teaching for many years prior to DPA being introduced. Instead of it always being a part of their routine and their schedules, it was dropped in as another thing to squeeze into their day. Something's got to give since the length of school day has not increased, and often for experienced teachers that will be whatever new initiative is being thrown their way.

It is also highlighted in the findings that it can be very difficult to do DPA at the beginning of the year, as this is a time to set up classroom expectations, get through diagnostic testing, and settle into routines. If DPA is to be a regular part of the classroom, then it should be integrated as part of the routine from the very beginning! Putting an
emphasis on DPA from day one will allow students more buy-in, as well as teachers. Almost everyone thrives when given a routine and they can follow it daily; DPA should be no different. Furthermore, teachers can introduce a “get up and move” station in their room, promoting physical activity in a safe space for students in the classroom, encouraging self-regulation in students and also acts as an accommodation for students with exceptionalities. With this type of space highlighted from the beginning of the year, the function and routine will allow students to take full advantage.

DPA training also stood out as a significant barrier to implementation. Teachers did not feel comfortable introducing this program and implementing it on a regular basis. Even Kassandra, who possesses a Phys. Ed. teachable, stated she would have loved more training regarding DPA. If this program is not being run by the Phys. Ed. team in schools, then all teachers need to receive more thorough training on what exactly the program is so it is integrated properly into schedules allowing for warm up and cool down times. Furthering this, teachers should also be provided with training and resources to allow them to be confident in the program they are running.

One way to provide these resources would be to implement DPA committees within schools, having a few key individuals as point people for the program. These people could then work with individual teachers to provide one-on-one discussions, offer professional development to a team of teachers, or provide examples of successful DPA to help those in the school who need to see the program in action to implement it themselves. This would also provide some measure of accountability, as this committee could be responsible for that as well.
Further Study

These findings and discussion pieces lead to some interesting potential further studies. Only through more research and inquiry can we get to the bottom of why DPA is currently inefficient, and how we can turn it into the program it was developed to be. How can we make students love physical activity, and become physically literate?

Something that prompted this study for me was the exploration of DPA actually providing more time in the classroom for teachers. Is it possible with the chance to move around, socialize, and be a contributing member of the class that students will calm down and focus during learning moments? A quantitative study showing time dedicated to certain subjects and curriculum covered could show teachers that DPA doesn’t take away from curriculum time, but instead can potentially enhance it.

Building on this, it would be interesting to explore how to make movement inside a classroom safer. Movement within the classroom is a large barrier that exists, and to help the DPA program thrive we must find a way to overcome this.

Using a qualitative case study, it would be beneficial to find a school that is implementing physical education classes five days a week, effectively eliminating the need for DPA within a regular classroom setting. This was recommended by all four participants at one point or another in their interview, yet is there a school out there that is trying it? If so, we could examine their practices and if it is a successful alternative, start to see if that is the direction physical activity should be going in schools. Toronto District School Board specifically has schools with a focus on physical activity; it would be beneficial to examine their practices and see if they could be extrapolated to other schools in the board.
Pre-service teachers also need to be interviewed to discover what type of training they are experiencing in physical education, but also specifically in DPA. In my personal experience, we received very little education about the DPA program; in fact I recall going into my first practicum not even knowing what it was. As we are the teachers of the future, we need to be going in with this knowledge, or else the program will continue to be pushed aside.

Evaluating teacher confidence and buy-in to the program also may be an interesting road to take. Does teacher confidence or teacher enthusiasm impact student participation? Digging deeper, does the teacher’s background and interests influence what activities are done in the classroom? As researchers and teachers, we need to evaluate just how important the role is that we play when leading this program.

**Conclusion**

You can see that the DPA program has come a long way, yet still has a long journey ahead to be at the caliber the Ministry lays out in its policy. Teachers are doing their best with the training and resources they are provided, and they should be commended for this. Unfortunately, this is not enough to assist our students to becoming healthy individuals. As teachers, we need to help our students see the fun and the benefit in being physically active, and that means teachers need to make it a priority in the classroom; otherwise how else can we expect our students to make it a priority in their lives?

Stewart Kennedy, MD and President of the Ontario Medical Association (2012) states, “obesity is an epidemic in Ontario and we can’t afford to wait any longer before the first steps are taken. The health impact on our children today along with the future health care expenditures to treat obesity related illnesses are too prohibitive. We need action
today. DPA can be one of those measures that starts today to improve the health of children for the future.

Schools also need to evaluate their focus, and include health and well being in their mandates. With the schools supporting teachers, DPA can become a reality. Through providing a focus on health and well being, a committee within schools could be developed to further develop and internally train one another to allow opportunities for shared successes, discussion around obstacles, and increase successful experiences with the program.

Further studies need to be done to genuinely investigate what is happening in schools, and to discover truly successful examples of DPA. Through this, we can find the key to overcoming the significant barriers that exist for teachers, and find a way to make DPA a realistic policy that all teachers can meet.
Appendix A – Interview Questions

The main research question is, “what are elementary teachers’ perceptions and experiences with the DPA program?” To answer this, the following questions have been developed to ask interviewees.

Background Information

1. Tell me about how long you’ve been teaching, what grades you’ve taught, and the culture of your school. [Culture meaning any initiatives strongly focused on]

2. How many physical education periods do students have a week, and for how long? Has this changed since you started teaching?

Time for Physical Activities

3. Approximately how many minutes per day do your students actively participate in physical activity? How much inside your classroom, during physical education class, and at recess?

4. Describe your typical daily classroom schedule. Specifically, does DPA have its own scheduled time or do you fit it in when there is a natural lull in the day?

5. Do you implement DPA in your classroom on a regular basis? Approximately how many minutes per week? Why or why not?

Benefits and Challenges of the DPA Program

6. What benefits do you see from your students having ample time to participate in physical exercise?

8. Overall, do you feel the benefits of DPA outweigh the drawbacks? Why or why not?

Training

9. Do you have any formal training in implementing physical education?

10. How do you feel this training (or lack thereof) has helped or hindered you in implementing DPA?

11. What type of training would benefit teachers in implementing the DPA program?
    Example: ideas for DPA, research supporting DPA, community network, personal physical fitness knowledge, when/where best to do DPA, etc.

12. How do you feel formal training would assist with DPA in the classroom?

Types of Physical Activities

13. What type of physical activities do you implement during DPA? Example: large vs small group activities, low-organized game (tag), instructional, circuit

14. Why do you choose to implement these types of activities?

15. Where does DPA typically take place? Example: classroom, common space, cafeteria or gym, outdoors, etc.

Curriculum Connections

16. Does DPA connect to curriculum in your classroom, or does it act on its own as an activity?
   a. If no, what barriers do you see to connecting DPA to other subjects?
   b. If yes, what benefits do you see to connecting DPA to other subjects?

17. What movement occurs in your classroom excluding DPA or Physical Activity?
    Example: Constant stretching, rotating desks, breaks, etc.
Other

18. Moving forward, how do you see DPA being implemented more successfully?

Appendix B – Consent Form

This consent form is taken from the Ethics Proposal submitted and approved by the University of Toronto for all MT Students.

Date:

Dear ________________________________,

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching student. I am studying teacher implementation of DPA for the purposes of this graduate research paper. I think that your knowledge and experience will provide insights into this topic.

I am writing a report on this topic as a requirement of the Master of Teaching Program. My course instructor who is providing support for this assignment this year is Carolyn Temertzoglou. The purpose of this requirement is to allow us to become familiar with a variety of ways to do research. My data collection consists of a 30 minute interview that will be audio-recorded. I would be grateful if you would allow me to interview you at a place and time convenient to you, outside of school time.

The contents of this interview will be used for my research project, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a research conference or publication. I will not use your name or anything else that might identify you in my written work, oral presentations, or publications. This information remains confidential. The only people who will have access to my assignment work will be my research supervisor and my course instructor. You are free to change your mind at any time, and to withdraw even after you have consented to participate. You may decline to answer any specific question. I will destroy the audio recording after the paper has been presented and/or published, which may take up to five years after that data has been collected. There are no known risks or benefits to you for assisting in the project, and I will share with you a copy of my notes to ensure accuracy.

Please sign the attached form if you agree to be interviewed. The second copy is for your records. Thank you very much for your help.

Yours sincerely,

Nicole Dube
nicole.dube@mail.utoronto.ca
Carolyn Temertzoglou
Carolyn.temertzoglou@utoronto.ca

I acknowledge that the topic of this interview has been explained to me and that any questions that I have asked have been answered to my satisfaction. I understand that I can withdraw at any time without penalty.

I have read the letter provided to me by Nicole Dube, and agree to participate in an interview for the purposes described.

Signature: __________________________________________

Name (printed): _____________________________________

Date: ___________________
Works Cited


