The Role of Knowledge and Perceived Level of Self-Efficacy on Junior Division Teachers'

Implementation of Physical Literacy in Ontario

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ABSTRACT

The *Ontario, Health and Physical Education, Grades 1-8* (HPE) curriculum policy document identifies physical literacy as a key component of the overall vision and goal of the subject. Teachers play a primary role with the implementation of the HPE curriculum policy document and as a result can significantly influence a student's overall physical literacy journey. The release of the HPE curriculum policy document in 2010 provided a definition of physical literacy for elementary teachers in Ontario, which has remained consistent since that time. However, there is limited data on how school boards, schools, and teachers have implemented physical literacy within the context of the Ontario HPE curriculum. This research explored the role that junior division (Grades 4-6) teachers' knowledge of physical literacy and perceived levels of self-efficacy for teaching HPE has on their implementation of physical literacy within their classroom. Using a mixed methods design, this study examined how junior division teachers' ($n = 35$) perceived levels of self-efficacy and knowledge of physical literacy influenced their ability to implement physical literacy within the classroom program. Participants completed an online survey and eight individuals participated in individual interviews for this study. Two main findings related to implementation of physical literacy were that: (a) teachers indicated a need for resources/supports and accessed them from several sources; and, (b) teachers reported several barriers for both implementation of HPE along with others that were more specifically related to COVID-19 protocols. These results have implications for how teachers in schools can be supported with the implementation of physical literacy in order to provide quality learning opportunities that contribute to a student's physical literacy journey.

Key words: physical literacy, self-efficacy

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1: Introduction

According to Robinson, Randall, and Barrett (2018) the concept of physical literacy was first introduced, in relation to health and physical education (HPE), over 80 years ago (p. 288). In the last three decades, the concept has been reintroduced and refined, most notably by Margaret Whitehead (Whitehead, 1993), who is considered to be a pioneer in physical literacy (Cairney, Kiez, Roetert, & Kriellaars, 2019, p. 79). Whitehead defined physical literacy as "appropriate to each individual's endowment, physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to maintain physical activity throughout the lifecourse" (Whitehead, 2010, p. 11-12). Whitehead's definition has added clarity to the idea of physical literacy by articulating the elements of motivation, confidence, and competence within a range of environments and throughout an individual's entire life. This renewed definition of physical literacy, based on Whitehead's theorizing, has set the tone for the discussion, debate, and exploration that has occurred over the past three decades. Within the concept of physical literacy, the term "literacy" is central, and its selection was deliberate. As Whitehead (2001) argued: "literacy has been chosen in preference to 'mastery' or 'competence', as the 'literacy' can be seen to connate the holistic and interactive nature of this human attribute" (p. 128). Moreover, the use of the term literacy aligns with many current educational priorities related to literacy being emphasized across many education systems nationally and internationally.

Since Whitehead's original work, research related to physical literacy continues to evolve and emerge across Ontario, Canada and around the world, and across physical education and sports systems. For example, Edwards, Bryant, Morgan, Cooper, and Jones (2019) and Hastie and Wallhead (2015) have studied the philosophical underpinnings of physical literacy, arguing that these conceptualizations are important but often neglected in physical education practice.

Similarly, Whitehead (2010) and Durden-Myers, Whitehead, and Pot (2018) have examined the educational values and purposes associated with physical literacy, demonstrating explicit connections to broader educational concepts. Additionally, Green, Roberts, Sheehan, and Keegan (2018) explored the journey metaphor connections to physical literacy, finding that physical literacy is not simply a set of skills that can be acquired, instead it is an individual journey that is unique to each individual.

Across these and other studies, it is clear that an understanding of the meaning of physical literacy and the practices needed to implement physical literacy within the school setting can contribute to each student's physical literacy journey. In particular, the role of teachers is paramount. When "teachers possess knowledge in physical literacy, they can maximize opportunities to engage students in diverse ways" (Stoddart & Humbert, 2017, p. 2). Being able to apply and connect the instructional approaches, teaching strategies, and assessment and evaluation practices used by a classroom teacher with the definition and purpose of physical literacy may support a more consistent and aligned approach to the implementation of physical literacy.

While the increase in physical literacy research has led to more widespread uptake of the concept and its philosophy, this range of research has, at the same time, resulted in inconsistencies as "independent research groups currently operationalize the construct differently" (Edwards, Bryant, Keegan, Morgan, & Jones 2017, p. 113). This has ultimately led to a lack of agreement and clarity in the overall definition and how to implement physical literacy. Among several factors, this results in a lack of consistent direction on how teachers implement physical literacy within the school setting, leading to questions about the value of physical literacy in children's education.

Statement of Research Problem

This thesis research is framed by several problems related to the implementation of physical literacy in Ontario. The first research problem is the different levels of knowledge and experiences that junior division teachers have in HPE, and which influences their understanding and implementation of the *Ontario Health and Physical Education, Grades 1-8* curriculum. People for Education's *2018 Annual Report on Schools* identified that only "53% of elementary schools report having a health and physical education (H&PE) teacher" (People for Education, 2018, p. 19). This report also highlighted the high percentage of generalist teachers teaching HPE within elementary schools in Ontario. This high percentage of generalist teachers may result in a range of knowledge, qualifications, and experiences related to teaching the *Ontario Health and Physical Education, Grades 1-8* curriculum and implementing the goal of physical literacy, particularly when most generalist elementary teachers in Ontario receive limited engagement with HPE in their teacher education programs or in continuing professional development (Truelove, Johnson, Burke, & Tucker, 2019). This is problematic as "non-PE [physical education] specialists reported lower levels of confidence, enjoyment, preparation, and knowledge and fewer PD [professional development] opportunities than PE specialists" (Mandigo et al., 2004, p.98).

To better understand the many factors that influence a junior division teacher's ability to implement physical literacy, including those listed by Mandigo et al. (2004), this study will explore the impact of teacher self-efficacy for teaching HPE and implementing physical literacy. For the purpose of this research study the definition of self-efficacy that will be used is based on Bandura's early work defining self-efficacy. Self-efficacy is based on an individual's belief about their ability to carry out actions successfully and effectively. These beliefs help to

"determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes. They include cognitive, motivational, affective and selection processes" (Bandura, 1994, p. 1). The use of teacher self-efficacy will help to identify areas that influence a teacher's belief in their ability to successfully implement physical literacy; "teacher efficacy is believed, theoretically, to influence teachers' performance (e.g., instructional practices, motivating styles, pedagogical beliefs, effort), which in turn affects student outcomes such as motivation and achievement" (Duffin, French, & Patrick, 2012, p. 828).

The second problem is the lack of agreement regarding the meaning of physical literacy. Over the past three decades there has been an emergence of new and refined definitions, differing opinions regarding the philosophical underpinnings, and a variety of rationales for embracing physical literacy. In Ontario, the definition of physical literacy was first introduced in the *Ontario Health and Physical Education, Grades 1-8* curriculum policy document in 2010. Since then, the definition of physical literacy in Ontario's education sector has remained consistent. In the *Ontario Health and Physical Education, Grades 1-8* curriculum document the definition of physical literacy is based on that offered by Mandigo, Francis, Lodewyk, and Lopez (2009) who state:

> 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 to and respectful of themselves, others, and their environment

(p. 28, 2009).

Although this definition is attributed to Mandigo et al. (2009), it is also based on Physical and Health Education Canada's (PHE Canada) definition released in 2009 in the *Position Paper: Physical Literacy for Educators*, and which incorporates and draws from key elements originally developed by Whitehead (1993; 2001). This PHE Canada position paper provided a definition and direction for education systems and curriculum policy documents across Canada.

Since 2010, new definitions for physical literacy have emerged in Canada and around the world. These included both the International Physical Literacy Association's definition released in 2014 and Canada's Physical Literacy Consensus Statement released in 2015. ParticipACTION provided the leadership to develop Canada's Consensus Statement in collaboration with "organizations from the physical activity, public health, sport, physical education, and recreation sectors" (Tremblay et al., 2018, p. 1). Although there are many similarities in the definitions being used, there are still inconsistencies and these inconsistencies have created confusion within the education sector. The definitions being used lack specific information about the purpose, philosophical underpinnings, and connections to current policy directives. This lack of information can impact a teacher's ability to fully understand the definition and make the connections necessary to the implementation of physical literacy within their school and classroom setting. The *Ontario, Health and Physical Education, Grades 1-8* curriculum provides the definition of physical literacy as well as policy direction related to required student learning, instructional approaches, teaching strategies, and assessment and evaluation specific to HPE. However, there is a lack of clarity and direction provided to make the necessary connections

between each of these areas to support a teacher's implementation of physical literacy within their classroom program.

Purpose of the Study

The revised *Ontario Health and Physical Education, Grades 1-8* curriculum policy document identifies physical literacy as part of the overall vision and goal for all learners in HPE for Grades 1 to 8 (Ontario Ministry of Education, 2019, p. 6-7). Since the release of the *Ontario Health and Physical Education, Grades 1-8* curriculum in 2010, the policy document has provided a consistent definition of physical literacy for elementary teachers in the province. However, there is limited data on how school boards, schools, and teachers implement physical literacy within the school and classroom settings in Ontario. As Stoddart and Humbert (2021) argue: "As the development of physical literacy is an expected outcome of many physical education curricula in Canada, it is important for teachers to understand the concept to help their students develop physical literacy" (p. 752). The purpose of this study is to examine the role that a teacher's knowledge of physical literacy and their perceived level of self-efficacy have on the implementation of physical literacy within their classroom program.

Research Questions

Based on addressing the problem statements and research purpose outlined above, this study will explore the questions: *(1) What are Ontario junior division teachers' knowledge of physical literacy (as outlined in provincial curricula) and levels of perceived self-efficacy for teaching HPE?* and *(2) Does their (a) knowledge of physical literacy and (b) perceived level self-efficacy for teaching HPE influence their ability to implement physical literacy as part of their HPE program?*

Research Context

The elementary school setting in Ontario school boards provides consistent policy direction related to both the implementation of the *Ontario Health and Physical Education, Grades 1-8* curriculum and the definition of physical literacy. Additionally, the structure of the school day provides for regular and routine opportunities for students to explore, learn, practice, and demonstrate the skills and strategies related to physical literacy. This includes time each day for unstructured outdoor physical activity time during recess, a requirement for students to participate in 20 minutes of Daily Physical Activity during instructional time, and regularly scheduled HPE classes. The *Ontario Health and Physical Education, Grades 1-8* curriculum identifies the important contribution learning in HPE makes to a student's overall physical literacy development: "the knowledge and skills acquired in health education and physical education form an integrated whole that relates to the everyday experiences of students and provides them with the physical literacy and health literacy they need to lead healthy, active lives" (Ontario Ministry of Education, 2019, p. 6). In order for teachers to effectively contribute to this outcome they must first understand what physical literacy means. As Stoddart et al. (2017) argue: "due to the important role that schools play in the overall development of children, it is vital for teachers of physical education to understand physical literacy" (p. 4). The philosophy of the *Ontario Health and Physical Education, Grades 1-8* curriculum is stated in the introductory section of the curriculum policy document and highlighted by Five Fundamental Principles:

> (1) Health and physical education programs are most effective when they are delivered in healthy schools and when students' learning is supported by school staff, families, and communities.

(2) Physical activity is the key vehicle for student learning.…

(3) Physical and emotional safety is a precondition for effective learning in health and physical education.

(4) Learning in health and physical education is student-centred and skill-based.

(5) Learning in health and physical education is balanced, integrated, and connected to real life.

(Ontario Ministry of Education, 2019, p. 9-10).

These principles can be used to help guide the design, planning, and implementation of the curriculum within a teacher's classroom program. To support the physical literacy journey of a student, educators should be applying the definition of physical literacy provided at the beginning of the curriculum policy document to each of the relevant areas within the curriculum (e.g., Fundamental Principles, Learning Expectations Assessment and Evaluation).

Conceptual Framework

This research is framed by constructivism and phenomenology. Consistent with a constructivist approach, by conducting this research I am "seek[ing] to capture diverse understandings and multiple realities about people's definitions and experiences" (Patton 2015, p. 122). Having worked in both the school and school board setting, I have gained a personal understanding of how schools are made up of individuals with a variety of knowledge, expertise, and lived experiences. These areas can influence how a junior division teacher approaches the implementation of philosophical and pedagogical concepts like physical literacy and can impact their perceived level of self-efficacy to support the physical literacy journey of the students in their classroom. Consistent with a phenomenological approach, in this research I sought to better understand how each participant "makes sense of experience and transform experience into

consciousness, both individually and as shared meaning" (Patton 2015, p. 115). Acknowledging each teacher's experiences helped me to better understand their personal context and provided a starting point for me to better understand the factors that influence the implementation of physical literacy within their classroom program. Using the definition of physical literacy from the *Ontario Health and Physical Education, Grades 1-8* curriculum provided a consistent construct for participants to communicate the factors that inform and influence their experience.

Overview of Procedures and Methodologies

In this research I used a mixed-method approach that includes a combination of quantitative and qualitative research methods to collect data at a given point in time. I used a quantitative online survey to help identify each participant's experiences, knowledge of physical literacy and their perceived level of self-efficacy related to HPE and physical literacy. The data collected was used to provide a more comprehensive understanding of the relationship between each participant's context. Eight participants were randomly selected from the online survey to participate in more in-depth qualitative interviews that enabled me to look at the participant's implementation of physical literacy within their classroom.

Data were collected over an eight-week period and included two phases. In Phase one I collected quantitative data using an online survey (see Appendix A for online survey). Participant recruitment ($n = 35$) was done using the online networks of the two Ontario HPE subject associations, the Ontario Physical and Health Education Association (Ophea) and the Ontario Association for the Support of Health and Physical Education (OASPHE). In Phase two I randomly selected 8 participants from the participants from phase one that indicated an interest in participating in a follow-up one-on-one interview. Upon participant confirmation, semi-structured one-on-one interviews were conducted (see Appendix B for Interview Guide). The

purpose for phase two was to collect more in-depth, qualitative information related to the factors that have influenced each participant's ability to implement physical literacy within their classroom setting.

Significance of the Study

Analysis of the data collected from this study contributes to the base of information available to support the understanding of the factors that may influence the implementation of physical literacy within the elementary *Ontario, Health and Physical Education, Grades 1-8* curriculum at the local and provincial level. At the local level this research can help to identify factors that may influence a teacher's ability to implement the HPE curriculum and more specifically contribute to a student's physical literacy journey. This research can also contribute to the work of school board leaders in effectively supporting junior division teachers with the implementation of the *Ontario Health and Physical Education, Grades 1-8* curriculum. The key learnings from this study could also be used to better understand the influence that a teacher's perceived level of self-efficacy has on their ability to effectively implement the HPE curriculum. At the provincial level, this study can contribute to the body of research related to physical literacy. This can help school boards to better understand the current areas that can potentially influence the implementation of physical literacy within a Junior division classroom program. Junior division teachers have a unique opportunity to influence the physical literacy journey of students within the school setting and this research study has the potential to contribute to developing a better understanding of the factors that influence implementation.

This research will "offer perspective and encourage dialogue among perspectives rather than aiming at singular truths and linear predictions" (Patton, 2015, p. 684). The key learnings from this research will be available to be shared (locally, regionally, provincially) to support the

broader dialogue regarding how perceived levels of self-efficacy and knowledge of physical literacy can influence a teacher's ability to implement the *Ontario, Health and Physical Education, Grades 1-8* curriculum and support the physical literacy journey of students within the school setting.

Personal Lived Experience

My lived experiences have contributed to the knowledge I bring to this study as both my professional and personal experiences have shaped my understanding of the policies, programs, priorities, and research that guide the Ontario education system, the development and implementation of curriculum policy, and the roles and responsibilities of educators. Throughout my 30-year professional career, I have held many roles and responsibilities related to the development and implementation of curriculum policy documents, including the *Ontario Health and Physical Education, Grades 1-8* curriculum as well as the policies and programs related to Safe and Healthy schools.

I have a broad range of experience working in schools, school boards, for not-for-profit organizations, and at the Ministry of Education. At the school level, I was an elementary classroom teacher with responsibilities for the planning and delivery of many areas of the curriculum. As a curriculum consultant at a school board, my responsibilities included: the planning and implementing of curriculum policy documents, including the HPE curriculum, providing strategic advice to senior school board leaders; and leading resource development and professional learning opportunities for elementary and secondary school teachers and administrators. During this time, I was also an active member, and leader, of the provincial subject associations for HPE, including the Ontario Physical and Health Education Association (Ophea) and the Ontario Association for the Supervision of Physical and Health Education

(OASPHE) now named the Ontario Association for the Support of Physical and Health Education.

My professional experiences have also included working at the Ontario Ministry of Education where my areas of responsibility included: contributing to and leading the development and implementation of provincial policies, programs and priorities connected to Healthy School and curriculum. I have also contributed to and led many projects that required an understanding of the complexities that make up Ontario's education system. Additionally, I have been involved in the development of many cross-ministry and interministerial policies and programs. Throughout my professional career I have developed expertise in the development and implementation of policies related to the HPE curriculum. I have also contributed to the establishment, development, and implementation of Ontario's Healthy Schools approach to support effective implementation of health-related topics within the school setting. These experiences have provided me with a unique perspective that allows me to combine the theory from my research with my experiences and expertise within the Ontario education sector.

With my extensive background in the areas of the development and implementation of the *Ontario Health and Physical Education, Grades 1-8* curriculum it is important for me to recognize and identify my personal bias related to this topic. I have a strong belief in the importance for educators to know the contents of the curriculum policy document and use it within the planning, implementation and assessment and evaluation of their subject area. This transfers into a belief that all educators teaching HPE should know and understand the meaning of physical literacy and how to effectively implement physical literacy within their classroom program. I also believe in the importance of an individualized approach to teaching HPE that includes all students and provides all students with opportunities to participate, learn, and

achieve success. Finally, I also believe that all teachers should have access to quality resources/supports to assist with implementation of their classroom program.

Organization of the Thesis

The thesis is organized into five chapters. In the first Chapter I provided an overview of physical literacy and identified several problems related to its research and practice in Ontario. Additionally, I outlined the purpose of the research study, explained the research context, conceptual framework, my lived experiences, and defined key terms. In Chapter Two I explored the definitions of physical literacy, including the definition currently in the *Ontario Health and Physical Education, Grades 1-8* curriculum, and how physical literacy was being used in different jurisdictions around the world. From there I outlined the key elements of physical literacy including the philosophical underpinnings, the value and purpose, and the journey metaphor. Additionally, I looked at the elements that support implementation of physical literacy within the HPE curriculum, including the school setting, instructional approaches and teaching strategies, and assessment and evaluation. The second part of Chapter Two explored the construct of self-efficacy looking specifically at teacher self-efficacy and the measures used and the application to HPE teachers. In Chapter Three I examined the methodology and methods of this thesis, which was using both qualitative and quantitative research. This chapter outlined the data gathering procedures, the research instruments and protocols used, and the strategies used to maintain credibility, trustworthiness, and ethical behaviours. In Chapter Four I presented the qualitative and quantitative findings of the research specific to the knowledge of physical literacy, perceived level of self-efficacy, and implementation of physical literacy. In Chapter Five I explored the implications to theory and research, the potential implications for practice, and the areas for future research based on the findings of the study.

CHAPTER 2: Literature Review

The successful implementation of physical literacy within a HPE curriculum is both complex and dependent on many factors. To support teachers with the successful implementation of physical literacy there is a need for "a holistic framework that can support the integration and infusion of physical literacy into physical education programs" (Gleddie & Morgan, 2021, p. 32). In this chapter I review the literature and explore three broad, potentially inter-related, themes including: defining and conceptualizing physical literacy, the instructional strategies that support implementation, and a teacher's perceived level of self-efficacy to implement physical literacy within their HPE program.

Defining Physical Literacy

Since the early 1990s, a time in which Dr. Margaret Whitehead (Whitehead, 1993) reintroduced the concept of physical literacy, there have been many variations of physical literacy discussed within the sport, education, and health sectors. Some of the differences found in the definitions used can be attributed to "different institutions [and jurisdictions] having different purposes and philosophies[;] the way in which physical literacy is defined varies from institution to institution" (Corbin, 2016, p. 16). For example, the differences between the definitions used within the education and sport settings are often a result of differences in the goals and philosophies of each sector. One element that has remained consistent in the definitions across each sector is the influence of Whitehead's philosophical framework for physical literacy, as her work "permeates the conceptual definition of physical literacy" (Cairney, Clark, Dudley, & Kriellaars, 2019, p. 84). Although Whitehead has defined physical literacy in various iterations, there are several common elements across all her work. For that reason, I use the definition she provided in the book *Physical Literacy: Throughout the*

Lifecourse (2010), which is one of her fairly recent key works: "As appropriate to each individual's endowment, physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to maintain physical activity throughout the lifecourse" (Whitehead, 2010, p. 11-12). The majority of the research articles I reviewed used Whitehead's definition or at least drew from several of its key principles and ideas. A systematic review of physical literacy research conducted by Edwards, et al. (2017) identified that, "the majority of studies (70%) adopted a "Whiteheadian" definition of physical literacy" (p. 126). For example, Whitehead's definition is also used by the International Physical Literacy Association (IPLA) as she has been a significant contributor to the establishment of the IPLA and their work. The current IPLA definition for physical literacy paraphrases Whitehead (2010) and is: "the motivation, confidence, physical competence, knowledge, and understanding to value and take responsibility for engagement in physical activities for life" (International Physical Literacy Association, 2017).

Physical Literacy Across Jurisdictions

Although the concept of physical literacy was reintroduced in the United Kingdom (U.K.) only a short time ago, "physical literacy is no longer a U.K. concept but instead transcends continents, cultures and many global populations" (Durden-Myers, Whitehead, & Pot, 2018, p. 308). Many jurisdictions around the world have used physical literacy policy directives to highlight the importance of physical activity within the education sector (Whitehead, Durden-Myers, & Pot, 2018, p. 252). However, many of these jurisdictions have approached the definition and implementation of this concept in different ways. A global report on physical literacy conducted by the Aspen Institute (2015) identified that England, Canada, and Wales had

the most established physical literacy initiatives. The report identified the importance of a national organization taking the lead on physical literacy.

In England, the home of Dr. Whitehead, the International Physical Literacy Association (ILPA) is leading the advocacy work focused on physical literacy. This group was "formed with the purpose of providing guidance, clarity, and consistency regarding physical literacy" (Shearer et al., 2018, p. 238). Work in this area in the U.K. was initiated through the "*Sporting Future: A New Strategy for an Active Nation*" (Shearer et al., 2018, p. 239). This strategy was established by Sport England as they identified physical literacy as a key performance indicator for their 2016-2021 strategy. The performance indicator focused on "increasing the percentage of children achieving physical literacy" (Shearer et al., 2018, p. 239). Through this initiative, a multi-sector partnership involving Sport England, Youth Sport Trust, Association for Physical Education, Sports Coach U.K., County Sports Partnership Network was established and "created a Primary School Physical Literacy Framework that detailed the role of school physical education, extracurricular activities and competitive sports" (Shearer et al., 2018, p. 239). The definition of physical literacy used for this initiative was "the motivation, confidence, physical competence, knowledge and understanding that provides children with the movement foundations for lifelong participation in physical activity" ("Association for Physical Education", n.d.). This definition was similar to but not the same as, the IPLA's definition.

In the United States the defining of physical literacy for the education sector was led by the Society of Health and Physical Educators (SHAPE America, 2015). This work led to significant changes in the National Standards and Grade Level Outcomes for Kindergarten to Grade 12 Physical Education. In 2014, SHAPE America included physical literacy as part of the goal of physical education using the definition that originated in Canada: "physical literacy is the

ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person" (Mandigo, Francis, Lodewyk, & Lopez, 2012). In 2015 SHAPE America updated the definition to "the ability, confidence and desire to be physically active for life" (SHAPE America, 2015). During this same period, "the term 'physically educated' was replaced by 'physically literate' in the National Standards and Grade Level Outcomes for Kindergarten to Grade 12 Physical Education (Shearer et al., 2018, p. 241). These changes introduced new terms and concepts within the education sector, the "substitution and interchangeable use of physical education for physical literacy has led to 'definition blurring'" (Shearer et al., 2018, p. 241).

Australia's approach was significantly different to those in other contexts. In 2016, a research team recruited by the Australian Sport Commission produced "a physical literacy definition, standards framework, assessment guidelines, and implementation guidelines" (Shearer et al., 2018, p. 241) for Australia. This resulted in four defining statements for physical literacy instead of one definition. The Australian Physical Literacy Framework, developed by Sport Australia, takes a holistic approach focused on helping "Australians at every stage of life develop and maintain positive physical activity behaviours and delivers physical, psychological, social, and cognitive health and wellbeing benefits" (Sport Australia, 2019, p. 5). Even with the emerging of these defining statements, there was little reference to physical literacy in the 2015 Australia-wide curriculum for HPE. Instead, there was:

> … strong alignments between particular interpretations of physical literacy and
>
> aspects of the Health and Physical Education curriculum; for example, the aim of
>
> the curriculum is to provide the basis for developing knowledge, understanding,

and skills for students to lead healthy, safe and active lives (Shearer et al., 2018, p. 241).

Physical Literacy in Canada

Whitehead's research and influence has significantly contributed to the definition of physical literacy that is currently being used across Canada. There are many national, provincial, and territorial organizations using the term physical literacy, with varying meanings and interpretations. Two of the leading national government-funded organizations working to promote physical literacy across Canada are Canadian Sport for Life (CS4L) and Physical and Health Education Canada (Shearer et al., 2018, p. 240). The influence of CS4L is worth noting, as it has been recognized as an influential leader in Canadian physical literacy policy and practice. According to the Aspen Institute (2015), in Canada, physical literacy leadership is made up of "a cadre of loosely organized, if like-minded academics and sport leaders that collaborate under the umbrella of Canadian Sport 4 Life" (p. 26). In 2015, a national Consensus Statement on Physical Literacy was established in order to "provide clarity for the development of policy, practice and research" (Shearer et al., 2018, p. 240). The definition of physical literacy developed through the consensus statement was "the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activity for life" (Canadian Sport for Life, 2017). This definition included and highlighted the three core domains identified by Whitehead (2013): the affective, physical, and cognitive domains. CS4L also identified a fourth domain, that being the behavioural. This definition has since become part of the CS4L policy. In addition, it is being used to inform Physical and Health Education Canada's broader work and has been used to support the policies, resources, and approaches of many national organizations.

The same approach has not transferred to the provincial education systems, resulting in several areas of inconsistency. Provincial HPE curriculum policy documents across Canada provide varying approaches and levels of information regarding physical literacy and continue to include different terminology and definitions. As stated by Robinson, Randall, and Barrett (2018):

> While a Canadian consensus has been (somewhat) achieved, this occurred well after curricular and institutional policies were founded upon earlier conceptions of physical literacy, conceptions that when introduced blurred PE [physical education] teachers' understandings of both physical literacy and PE (p. 290).

Despite there being blurred lines around definitions across provinces, there may be some clarity *within* provinces. Since 2010, the *Ontario Health and Physical Education, Grades 1-8* curriculum policy document has included a consistent definition of physical literacy. This definition references the work done by Physical and Health Education Canada that provided direction to support a consistent understanding of physical literacy and to help guide the implementation of physical literacy within the education sector. The *Ontario Health and Physical Education, Grades 1-8* curriculum defines physical literacy as:

> Individuals who are physically literate move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy 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 that are both beneficial to and respectful of their

whole self, others, and their environment (Ontario Ministry of Education, 2019, p.

7).

Complexity of the Definition

The definition of physical literacy is complex, and the understanding and agreement of

how physical literacy should be implemented continues to be discussed and debated. Stoddart,

Humbert, Kerpan, Cameron, and Kriellaars (2021) argue that "although many have identified the

importance of physical literacy, the complexity of the concept has made development and

implementation difficult" (p. 9). Some of the complexities are a result of the different ways the

term has been used. This includes physical literacy being used to replace "physically educated"

in order to justify the inclusion of physical education within the school day and emphasize the

"academic credibility for PE [physical education]" (Robinson et al., 2018, p. 290). In addition,

the purpose of physical literacy is also being debated, as "different approaches to physical

literacy have emphasized an inherent, ongoing potential to learn and develop through movement

(process), which has been contrasted against some kind of current physical literacy status

(product), which is presented as a desirable level of being physically literate" (Shearer et al.,

2018, p. 243). To add complexity to the debate, some jurisdictions and organizations choose to

"define a physically literate person as opposed to defining physical literacy" (Shearer et al.,

2018, p. 243).

Alternatively, the use of the concept of physical literacy can also be seen as a valuable

and successful strategy for jurisdictions, providing renewed emphasis on the importance of

physical literacy within a quality physical education program. In 2002, the United Nations

identified the importance of literacy, and "affirmed that literacy is crucial to the acquisition of essential skills that enable people of all ages to address the challenges they may face in the future" (Dudley & Cairney, 2021, p. 5). The acknowledgment that literacy is a foundational construct for learning was exploited by some in physical education, based on an assumption that the physical literacy concept might help physical education gain credibility within the education sector. Building on this momentum, in 2015, the UNESCO *Quality Physical Education (QPE) Guidelines for Policy Makers* highlighted that "physical literacy is the foundation of a quality physical education agenda" (Dudley & Cairney, 2021, p. 8).

These international events have encouraged the use of terminology that resonates within the education sector to gain renewed emphasis and focus on the importance of physical education within the school setting. It is hoped by some that aligning with the strategies being used to move other subject areas (like Mathematics and Language Arts) forward will also increase the emphasis and priority placed on physical education.

Philosophical Underpinnings

Understanding the philosophical underpinnings of the physical literacy concept and its definition can influence how individuals implement physical literacy within various settings. Within an educational setting, it is important for HPE teachers to understand the characteristics that contribute to physical literacy and how they can potentially connect to the broader learning goals in order to be able to more fully implement physical literacy within their classroom (Shearer et al., 2018, Stoddart & Humbert, 2017).

Whitehead's definition of physical literacy is "strongly situated within a monist philosophical tradition; that our embodied dimension is integral to who we are and in no way is it merely a servant to our intellect" (Hastie & Wallhead, 2015, p. 132). To authentically

operationalize physical literacy, educators must first understand and embrace and value a holistic approach to education. "Physical literacy is derived from the philosophical concepts of monism, phenomenology, and existentialism" (Shearer et al., 2018, p. 237). The monistic approach that underpins Whitehead's definition is based on "the belief that the body and mind are one and cannot be separated" (Robinson & Randall, 2017, p. 41) and involves "multiple dimensions in constant collaboration" (Whitehead et al., 2018, p. 254). This perspective aligns with both the existentialist's beliefs "that humans create themselves as they interact with the world" (Whitehead et al., 2018, p. 254) and the phenomenological beliefs that "individuals are formed through their experiences of these interactions and suggest that perception, through our embodied nature, forms unique perspectives" (Shearer et al., 2018, p. 237). Research also highlights the connection between physical literacy and holistic human development: "any practice based on physical literacy means that there is a full appreciation of the embodied dimension in human development and the human condition" (Pot, Whitehead, & Durden-Myers, 2018, p.248).

Understanding the philosophical underpinnings of physical literacy is an important step towards a more holistic approach to implementation of physical literacy within the educational setting. Developing a better understanding of the philosophical underpinnings of physical literacy can help ground the pedagogical strategies and assessment and evaluation practices used by teachers. Whitehead's definition of physical literacy provides insights into:

> …how the construct of physical literacy is likely to manifest as a result of the learning students undertake during formal education programs" and that using a specific instructional model (for example Teaching Games for Understanding) alone will not "support the multidimensional (cognitive, affective, and

psychomotor) and interactive nature of the physical literacy construct (Dudley,

2015, p. 237).

The physical literacy construct requires an understanding and belief that "each person's physical literacy is conceived to be quite unique and almost impossible to compare with another person's development (past or present). In order for teachers to support the physical literacy journey of students they need to understand that "physical literacy is not a skill but a disposition to use experience, understanding, and abilities to interact effectively with the world" (Robinson & Randall, 2017, p. 42). Despite several arguments that identify the importance of educators embracing and maintaining the focus on the philosophical underpinnings, "the current trend in practitioner-focused literature is to avoid explaining PL [physical literacy] at all, or to over-simplify, stripping out much of the holism inherent in Whitehead's definitions" (Jurbala, 2015, p. 373).

Understanding the Value and Purpose

Understanding and embracing the philosophical underpinnings of physical literacy can provide teachers with increased clarity around the value and purpose of physical literacy within their classroom and the school setting. Whitehead et al. (2018) argued that coming to see value in physical literacy should be the first step for a teacher to engage with it "prior to capturing evidence or empirical research in practice to provide substance, education professionals must first be convinced of the value of fostering of physical literacy within their educational practice" (p. 252).

Researchers often identify physical activity, physical education, sport, and more recently physical literacy, as the possible solution for many societal problems, including health concerns, academic shortfalls, and social issues. As Whitehead et al. (2018) suggest: "it is disappointing

that for many years in the Western world, physical activity has been seen only to have value as a means to other ends" (p. 253). In such a context, the value and importance placed on physical activity has often been based on a dualistic perspective, "the value given to our embodied dimension in education and life management generally focuses on 'its' role as an instrument in work, elite sports participation and health maintenance" (Whitehead, 2010, p. 10). It is important to recognize that much of education's history is based on a dualistic mindset focused on improving academic achievement:

> … traditional approaches to education are based on a Cartesian view of the world
>
> in which physical activities (e.g., physical education, school sports) have the
>
> purpose to refresh the mind for the so-called cognitive areas of the curriculum
>
> (e.g., mathematics, science, geography) (Pot et al., 2018, p. 247).

This type of belief and research can influence how a teacher values and views HPE and physical literacy. Education systems in many jurisdictions are prioritizing "core" subject areas, like Mathematics and English. Placing a higher priority on certain subject areas, particularly those that are perceived as domains "of the mind", forces teachers to either minimize the importance of the other subject areas or find ways for the other subject areas, such as HPE, to contribute to a student's success in the prioritized areas. This can result in losing sight of the unique contribution each subject area provides to the development of a child. A subject like HPE can provide students with more holistic opportunities for learning that are an essential part of a student's education experience; "developing the embodied potential of students has values in its own right" (Pot et al., 2018, p. 248).

Individual journey

Embracing the philosophical underpinning of physical literacy and the holistic nature of the concept requires a belief that physical literacy is an individual journey and not simply a set of skills that can be acquired. The ILPA developed a journey metaphor that proposed many different ways of reaching the same destination and recognized that "each learner in movement and physical activity contexts may chart their individual journey, but no two will be alike" (Green, Roberts, Sheehan, & Keegan, 2018, p. 272). The concept of an individual journey is not unique within the education context, as individual pathways to learning in many subject areas are unique and require differentiated strategies and approaches to be meaningful for each student. This journey also requires educators to embrace and support a holistic approach to the multiple dimensions of a student's development to be consistent with the holistic and monistic nature of physical literacy.

In summary, Whitehead not only re-introduced the concept of physical literacy but more importantly "recast the construct within a particular perspective (existentialism)" (Cairney, Kiez, et al., 2019, p. 79). This recasting underpinned the definition of physical literacy within a monistic philosophy, a holistic view of the individual where the mind and body acted as one. This new conceptualization shifted the focus of physical literacy to be more holistic in nature and the "fostering [of] people's pleasure in being active and so adding to their quality of their life" instead of being "limited to improving physical health, and movement skills" (Pot et al., 2018, p. 250). In the following section, I turn attention to how the definition and conceptualization of physical literacy has led to challenges in how it is implemented by teachers in schools.

Implementation within the Education Sector

In the second theme I explore several key elements that support the implementation of physical literacy within the education sector. The school setting provides unique opportunities to support the physical literacy journey of students:

> … schools reach a heterogeneous population and have the potential to have a significant impact on all children, particularly those who are not afforded the opportunity to develop their physical literacy through extracurricular PAs [physical activities] such as organized sport, or who lack support from their families or communities for PA engagement (Law et al., 2018, p. 76).

In this section I explore pedagogies and practices that teachers use within the school setting that can influence the implementation of physical literacy, namely: (a) instructional approaches and teaching strategies and (b) assessment and evaluation practices that contribute to a student's physical literacy journey.

School Setting

The school setting provides for a range of formal and informal opportunities for students to be physically active:

> … within the context of a healthy school, the health and physical education curriculum provides all students with the skills and strategies they need to participate in a wide variety of physical activities. A supportive school environment will provide opportunities for students to continue their learning either in the school, at home, or in the community" (Ontario Ministry of Education, 2019, p. 61).

The school setting is uniquely equipped with structures such as dedicated time for students to be physically active (e.g., physical education, intramurals, interschool activities) and qualified

teachers to provide instruction. These areas are consistent with the recommendations identified in the Berlin Declaration that was established at the first World Summit on Physical Education that took place in 1999. One area identified at this Summit was "good quality physical education depends on well-qualified educators and scheduled time within the curriculum, both of which are possible to provide even when other resources like equipment are in short supply" (Penny, Brooker, Hay, & Gillespie, 2009, p. 422).

Although dedicated time for formal physical education instruction is consistently identified as a priority, the frequency and amount of time provided in schools across Ontario and Canada varies significantly. This is important because "physical education is the formal time available for teachers to impact on children and provides the environments that allow an individual's physical literacy to develop" (Green et al., 2018, p.274). Having qualified teachers provide HPE instruction provides students with the opportunity to learn from individuals with an understanding of child development and a knowledge of how to establish and maintain a supportive learning environment. This can result in a holistic learning environment that can support the affective, physical, cognitive, and behavioural development of each student. Educators can further impact the quality of the learning experiences for students when they are aware of, understand, and appreciate their own personal physical literacy journey. According to Flemons, Diffey, and Cunliffe (2018):

> …this form of reflective practice, underpinned by the philosophical teachings of monism, existentialism, and phenomenology, provide the foundation for the concept of physical literacy as a critical starting point to identity what good pedagogical practice in the teaching of PE [physical education] looks like (p. 302).

Instructional Approaches and Teaching Strategies

Implementation of physical literacy is a complex process that "requires physical educators to connect theory and practice and understand how motivation can be nurtured and sustained" (Whitehead et al., 2018, p. 257). The instructional approaches and teaching strategies that support the implementation of physical literacy are extensive but key approaches include: establishing a positive and safe learning environment, using an individualized approach that engages learners, the use of a variety of instructional strategies focused on meaningful learning experiences, and designing opportunities that address the students' physical, affective, cognitive, and social domains.

The establishment of an environment where students feel safe and supported requires the teacher to consider the learning environment, climate, and their relationship with both the class and individual students (Pot et al., 2018, p. 249). It also requires the teacher to provide students with opportunities for challenges that move them beyond their area of comfort in order for them to "find success, confidence, and mental resiliency within the PE [physical education] classroom" (Ferkel, Razon, Judge, & True, 2017, p. 261). It is also important for teachers to establish a learning environment that aligns with the philosophical underpinnings of physical literacy in a way in which students will view "PE [physical education] as a place where they are being educated in a secure environment and where there is oneness of body and mind as they interact with a wide variety of activity contexts" (Flemons et al., 2018, p. 304). Stoddart and Humbert (2021) highlighted that "by creating a safe and positive learning environment [for students] to develop mastery of the three learning domains, teachers can help their students move forward on their physical literacy journey" (p. 742). Another important element of instructional approaches and teaching strategies is a teacher's ability to work holistically with students;

teachers should focus on "foster[ing] learners' capacities such as responsibility, independence, empowerment and agency so that they are able to make decisions about the kind of life they want to pursue and are able to make informed choices" (Almond & Whitehead, 2012, p. 66).

Effective planning is another element that can support an educator's ability to provide meaningful learning experiences. In 2017, the IPLA identified physical literacy attributes in order to help provide "clear guidance as to how physical literacy can be fostered in PE [physical education] lessons by explicitly planning for the three essential elements embedded within the concept: affective, cognitive, and physical" (Flemons et al., 2018, p. 306). During the planning process it is essential for educators to consider instructional approaches that engage all learners and meet their individual needs. Educators need to recognize and "appreciate that children have different starting points in different activities…this means that the activities should be differentiated" (Pot et al., 2018, p. 248). Engaging students in the planning process and providing students with increased voice within lessons increases the meaning for students and allows for a more authentic approach for students. Providing students with increased autonomy within their physical education program requires teachers to "possess the confidence to allow learners to take responsibility for their own actions, moving away from teacher-led activities" (Flemons et al., 2018, p. 300).

In addition to generic pedagogies (e.g., planning, student-teacher relationships) that teachers can use to support physical literacy implementation, there are also more specific instructional approaches and teaching strategies that teachers use to implement physical literacy within a physical education curriculum. Despite calls for physical literacy to become a pedagogical model (Kirk, 2013), it is important to remember that physical literacy is "not a pedagogical model but is the overall aim of work in PE [physical education]. However, some

pedagogical models of teaching can be useful in promoting aspects of physical literacy"
(Flemons et al., 2018, p. 301). Focusing on teaching strategies that "resonate with an individual,
enable ready participation, and offer success can develop a real appreciation of the value of
physical activity from a personal perspective" (Whitehead et al., 2018, p. 258). Meaningful
learning experiences encourage more students to be physically active and allow more students to
see themselves within the experiences offered, the "types of activities offered in PE [physical
education] can create a more even playing field and therefore encourage the engagement of all
children" (Flemons et al., 2018, p. 305).

When designing a physical education program, it is important to be aware of the strengths
and needs of the students in the class. This includes aligning the activities that will be included
with the individual needs and interests of the students as, "physical educators must re-evaluate
their intentionality towards what they want and need to accomplish in their classroom" (Ferkel et
al., 2017, p. 261).

The final element is to embed opportunities for students to think about different elements
of a physical activity during participation. Encouraging students to think more deeply about the
physical activities offered will help students develop a more complete understanding of the
activities; "reasoning from a monist perspective also means that thinking about the game, goal
setting, motivation, and culture should be appreciated in the physical education lessons" (Pot et
al., 2018, p. 247). In order to authentically embed physical literacy within the physical education
program, teachers should not only identify the types of activities that will support a student's
physical literacy journey but should also consider the instructional strategies they will use to
implement them as "pedagogies need to be compatible with helping learners to get on the inside
of an activity, to learn and appreciate what it can offer, and to make informed decisions about the

kind of purposeful physical pursuits that will enrich their lives" (Almond & Whitehead, 2012, p. 69). Effective instructional approaches and teaching strategies can have a significant influence on the physical literacy journey of students and can contribute to the development of the knowledge, skills, and attitudes needed to support lifelong participation and enjoyment.

Assessment and Evaluation

Assessment and evaluation is another pedagogical element that can influence the implementation of physical literacy. The design and implementation of assessment and evaluation processes is complex and "the complex nature of the physical literacy poses a real challenge for practitioners to operationalize an assessment system" (Green et al., 2018, p. 272). In order to approach the assessment and evaluation of physical literacy in a way that is consistent with its meaning and philosophical underpinnings, it is important to explore the "holistic, integrating, and integrated nature of physical literacy and espouse an approach that rejects the notion of normative standards for ipsative judgments, thus reflecting the nature of physical literacy as it was intended" (Greene et al., 2018, p. 7).

The term "charting progress" has been used by the IPLA to describe an approach to assessment and evaluation. The use of this terminology highlights that, students "have their own personal potential and must be respected as unique" and that the assessment strategies that teachers use must "be in the form of charting the progress each [student] is making on their personal and unique journey to becoming physically literate" (Whitehead, 2010, p. 158). Important considerations for teachers to assess and evaluate the physical literacy journey of a student include: a shared understanding of the meaning and components of physical literacy, an awareness of the student's physical literacy journey, opportunities and processes for students to provide and receive feedback and chart their progress. It is important for teachers to provide

students with "a variety of opportunities to develop and enhance various characteristics consistent with the development of physical literacy and to receive formative feedback on their individual journey towards becoming physically literate" (Mandigo, Lodewyk, & Tredway, 2019, p. 136). In Canada, an emphasis has been placed on the assessment of physical literacy. This has resulted in many competing assessment tools, focused on different components of physical literacy, for different purposes (Gu et al., 2019). Research by Longmuir et al. (2016) also highlighted the issue "that there are few valid and reliable assessments that encompass the broad range of components that contribute to physical literacy" (p. 29).

In order for a teacher's assessment and evaluation practices to connect with the definition and philosophical underpinning of physical literacy, teachers need to embrace the personal and holistic nature of a student's journey. This approach requires teachers to look for, explore, and embrace strategies and tools that will focus on the multiple dimensions of a student's physical literacy development (physical, affective, cognitive, and behavioural). This may require teachers to use "creative, nonconventional methods of measuring/assessing physical literacy" (Green et al., 2018, p. 272). Many assessment and evaluation tools that have been developed prioritize the importance of a specific area of physical literacy instead of looking at a student's journey more holistically. For example, Green et al. (2018) suggest:

> …the focus on only fundamental movement skills does not align with the holistic
> nature of physical literacy, and the attachment of numbers as a means of
> assessment against benchmarks also fails to consider the individual ipsative nature
> of charting progress on a physical literacy journey (p. 274).

Developing authentic assessment and evaluation practices for physical literacy requires a student-centred approach, providing students with ongoing information and allowing them to

take increasingly more ownership for the development and direction of their journey. This process also needs to consider that "learners need to be involved in a range of environments and experience meaningful interactions within these contexts to promote the development of a strong embodied sense of self" (Pot et al., 2018, p. 247). A student's cumulative physical activity experiences help to inform where they are at in their journey. The experiences provided as part of the physical education program as well as the other opportunities provided within a school setting are all considered areas that can contribute to and influence the physical literacy journey of students. One of the biggest challenges is establishing a process to monitor and track an individual student's progress. Especially when "progress in physical literacy is increasingly being understood as a dynamic and nonlinear phenomenon, for which conventional linear measurement assumptions would be inappropriate" (Green et al., 2018, p. 272).

Teacher self-efficacy is a factor that could play a significant role in the implementation of physical literacy in the HPE curriculum. Establishing a better understanding of teacher self-efficacy may contribute to the successful implementation of the HPE curriculum, the effectiveness of a teacher's instruction, and can be "a critical step in helping children become more active, and healthy" (Martin & Kulinna, 2003, p. 220). In the following section I consider the construct of self-efficacy and its role in examining the implementation of physical literacy.

Self-Efficacy

Self-efficacy has a strong connection to an individual's motivation for action, as well as their beliefs and behaviours. To better understand self-efficacy, one must be aware of the foundational theories that support this concept. Social cognitive theory is said to be "the origin of self-efficacy beliefs, their structures and functional properties, their diverse effects, the processes through which they work, and how to develop and enlist such beliefs for personal and social

change" (Bandura, 2012, p. 13). Social cognitive theory helps to frame "how the self operates by using different sources of information that are interpreted, and then that interpretation encourages certain thoughts and actions that feed back into the self's understanding" (Greene, 2018, p. 31).

Many differing constructs have been identified related to motivation that can impact an individual's ability to carry out an action successfully and effectively. These include: "self-efficacy, autonomous or controlled motivation, goal orientations, and enthusiasm" (Holzberger, Philipp, & Kunter, 2013, p. 774). Bandura identified that self-efficacy differs from other motivation constructs as it focuses on an individual's "belief in the capabilities to carry out a desired course of action in the service of valued goals" (Zee & Koomen, 2016, p. 61). The belief in one's abilities helps to differentiate self-efficacy from the other constructs as "there is a marked difference between possessing knowledge and skills and being able to use them well under diverse circumstances, many of which contain ambiguous, unpredictable, and stressful elements" (Bandura, 2012, p. 24).

Research on self-efficacy has contributed to a better understanding of the complexities that influence how an individual carries out actions. Self-efficacy beliefs are multi-dimensional, focused on specific areas of action that are "more context specific (i.e., task- and situation-specific)" (Holzberger et al., 2013, p. 774) and impact an individual's "cognitive, motivational, affective, and decisional processes" (Bandura, 2012, p. 13). As a result, individuals with high self-efficacy are often characterized as being able to focus more on tasks and put forth more effort and exhibit less stress than individuals with lower-self efficacy" (Gencay, 2009, p. 224).

Teacher Self-Efficacy

The concept of self-efficacy has been applied to many settings to better understand an individual's ability to carry out a wide range of job-related actions. One area that has been impacted by research related to self-efficacy has been teaching. Researchers have examined the influence and impact of teacher self-efficacy in many different areas, including instructional quality, teaching effectiveness, well-being, and burnout. Research on teacher self-efficacy originated during Bandura's early self-efficacy work in the late 1970s. The scope and focus of research in the education sector continues to expand. "Teachers' efficacy is an interest that extends across different educational issues, disciplines, and educational settings around the world. As a result, it is important to the success of educators and the schools they work" (Martin & Mulvihill, 2019, p. 195). Exploring the concept of teacher self-efficacy is an important part of understanding the characteristics that contribute to a teacher's instructional approach and teaching strategies, as "investigations into the scale of the relationship between teachers' psychological characteristics – such as self-efficacy and personality – and effectiveness would lead to a better understanding of the pathway to effective teaching and positive student outcomes" (Klassen & Tze, 2014, p. 61).

Another important aspect of understanding teacher self-efficacy is being aware of the multidimensional constructs, especially since the "major determinants of the choices teachers make are their self-efficacy judgements" (Martin & Kulinna, 2003, p. 220). Researchers have found a positive association between a teacher's self-efficacy and the areas that support a teacher's ability to implement a quality instructional program. For instance, "teacher efficacy is believed, theoretically, to influence teachers' performance (e.g., instructional practices, motivating styles, pedagogical beliefs, efforts)" (Duffin et al., 2012, p. 828). Understanding the

concept of teacher self-efficacy can provide a deeper understanding of the elements that teachers use to successfully implement curricula within the classroom setting, including a teacher's instructional quality and effective teaching. "[Self-efficacy] is at the heart of what teachers are able to do in their classrooms, and it is at the heart of their ability to continue to do it" (Martin & Mulvihill, 2019, p. 201).

Measures of Teacher Self-Efficacy

There have been many instruments developed to help measure teacher self-efficacy. Based on Bandura's research, there are four dimensions that are commonly identified and that contribute to an individual's self-efficacy, namely "performance accomplishments, vicarious experiences, forms of social persuasion, and physiological/emotional indexes" (Martin & Mulvihill, 2019, p. 196).

Researchers have identified some common qualities of instruments that contribute to the successful measurement of the multidimensional nature of teacher self-efficacy. One quality is to establish a scale that provides respondents with a range of selections to fully express their beliefs: "scales that use only a few response options are less sensitive and less reliable because they omit differentiating information" (Streiner & Norman, 1989 as cited in Bandura, 2012, p. 16). The second quality is to focus on the specific roles and responsibilities of a teacher to ensure the respondents are able to identify and respond to questions that identify a specific task and situational aspect of their teaching. As a result, "global self-efficacy instruments should be avoided and instead instruments specifically designed to assess a given construct comprehensively should be used" (Bandura, 1997 as cited in O'Neil & Krause, 2019, p. 1292). One additional quality is to ensure the questions that are asked, allow the participants to respond based on their personal experiences and beliefs. This can be done by making *'I'* the object in

each sentence and making the verb *'can'* or *'be able to'*. This allows the respondents to focus on their mastery experiences that are connected to their personal competence (Skaalvik & Skaalvik, 2007, p. 612).

Many teacher self-efficacy instruments have been developed, each with a specific purpose, format, construct, and scale. One of the initial instruments used to measure teacher self-efficacy was developed in 1976, as part of the Rand report. The purpose of that study was to examine how "efficacious teachers contributed to the success of a reading program used in Los Angeles schools" (Pruski et al., 2013, p. 1136). The instrument used two reflective prompts and included a five-point Likert scale. A second instrument that has been used is the Teacher's Sense of Efficacy Scale (TSES). This was a 24-item questionnaire that used a nine-point Likert scale to examine "three dimensions: instructional strategies, classroom management, and student engagement" (Skaalvik & Skaalvik, 2007, p. 613). A more recent instrument that has been developed to measure teacher's self-efficacy in the teaching process is the *Teaching Process Self-Efficacy Levels of Teachers Scale* (Korkmaz & Unsal, 2016). This scale used a 5-point Likert scale with a scale of 1 – never to 5 – always. This instrument consisted of 23 items divided into four dimensions and was proven as valid and reliable (Korkmaz & Unsal, 2016, p. 73). Since this instrument was recently developed, the teaching processes identified, although generic, are current and align with good pedagogy in a junior division classroom.

Instruments focused on specific subject areas have also been developed to measure teacher self-efficacy. One of the early subject specific instruments was the Science Teaching Efficacy Belief Instrument for in-service teachers (STEBI-A) and pre-service teachers (STEBI-B). These instruments "attempted to keep the constructs of teacher self-efficacy and outcome expectancy distinct to facilitate evaluation of both" (Riggs & Enochs, 1989, p. 7). Another

subject specific instrument is the Physical Education Teachers' Physical Activity Self-Efficacy (PETPAS). The focus of this instrument was "to assess physical education teachers' self-efficacy for teaching classes in which their students were engaged in high levels of physical activity" (Martin & Kulinna, 2003, p. 219). This instrument explored the themes of: students, space, time and institution, using sixteen questions and an eleven-point Likert scale asking respondents to select a point between 0 and 100%.

Several limitations connected with the use of self-efficacy instruments have also been identified within the education setting. One limitation that has presented a challenge is the fact there is "no single measure of self-efficacy with a single valid coefficient" (Bandura, 2012, p. 15). This is problematic as it has required researchers to continually search for an accurate measure for self-efficacy resulting in the emergence of a variety of constructs with differing scales. Additionally, there is a lack of consistency in the research on self-efficacy as "the construct has been conceptualized and measured differently by different researchers" (Skaalvik & Skaalvik, 2007, p. 611). One additional limitation that has been identified is balancing the complexity of the construct with the ability to measure it within a study. Some researchers have tried to reduce the number of dimensions that are measured during their research studies. This approach has been identified as problematic as teacher self-efficacy is a complex, multidimensional concept that needs a multidimensional scale that measures the variety of tasks and demands that teachers are asked to perform (Skaalvik & Skaalvik, 2007, p. 613).

Self-Efficacy in Physical Education

Although there are many instruments that measure teacher self-efficacy there is limited research focused on teacher self-efficacy within the HPE curriculum as "few researchers have examined the self-efficacy of physical education teachers" (Martin & Kulinna, 2003, p. 220).

The research that has been conducted related to the self-efficacy of physical education teachers has identified promising connections between self-efficacy and the implementation of specific HPE tasks. Martin and Kulinna (2014) identified that:

> … teachers who feel efficacious about providing students with high physical activity levels in their classes with supportive program goals, such as promoting physical activity, fitness, and health, will be more likely to do so, compared to teachers who are less efficacious and do not view physical activity, fitness, and health program goals as important (p. 289).

Additionally, research on the development of a teacher self-efficacy scale identified the importance of including the specific areas that potentially can influence a teacher's practice, in order to "reflect the complexity of teaching PE [physical education]" (Humphries, Hebert, Daigle, & Martin, 2012, p. 286).

Although the findings related to teacher self-efficacy in HPE appear to be encouraging, it is challenging to apply one of the physical education instruments to this research study. The Physical Education Teaching Efficacy Scale is multidimensional and uses a broad scale. However, the questions use the National Association of Sport and Physical Education (NASPE) standards/outcomes as the foundational source of their measure and because the instrument is developed for the specific purpose of using it in the United States, it limits the use of this tool within the Ontario context. The second instrument is the Physical Education Teachers' Physical Activity Self-Efficacy Scale (PETPAS) developed by Martin and Kulinna (2003). This instrument only focuses on lessons with a high degree of physical activity. This is problematic as the scope of this tool is too narrow and will not measure a more comprehensive implementation

of a HPE curriculum. In taking all these issues into account, the final choice about which self-efficacy instrument to use in this research is addressed in Chapter 3.

Summary

There have been great strides to move towards increased alignment and coherence of how the concept of physical literacy is defined and implemented within the education sector. However, it is important to recognize the level of understanding that teachers have of physical literacy and explore factors that may influence the successful implementation, including a teacher's perceived level of self-efficacy. As the definition of physical literacy continues to evolve, new research related to physical activity and physical literacy continues to emerge. As school priorities continue to shift there is a need to ensure educators have a shared understanding of what physical literacy means, the professional practice that can help to effectively implement physical literacy within their classroom, and the beliefs and behaviours that will contribute to the successful implementation; "high-quality PE [physical education] can be achieved when the curriculum, pedagogy and assessment are successfully integrated and aligned" (Bryant, 1977 cited by Edwards et al., 2019, p. 126).

In the following chapter I provide an extensive description and justification for the methodology and methods used in this thesis research.

CHAPTER 3: Methodology and Methods

This research study used an explanatory sequential mixed-methods design. This design started with an initial online survey followed by a semi-structured individual interview with a small sub-group of randomly selected individuals that took part in the online survey. One of the benefits of a sequential mixed-method design is that it provided opportunities to triangulate the quantitative and qualitative data collected. The interview questions allowed me to probe deeper into the participants' knowledge of physical literacy, their perceived level of self-efficacy, and ability to implement physical literacy within their classroom program than if I relied on the survey alone.

The research design for this research study, like that of phenomenology, is focused on "carefully and thoroughly capturing and describing how people experience some phenomenon – how they perceive it, describe it, feel about it, judge it, remember it, make sense of it, and talk about it with others" (Patton, 2015, p. 115). The phenomenon of interest for this study is physical literacy, as defined in the Ontario, *Health and Physical Education, Grades 1-8* curriculum. More specifically, the role that a junior division teacher's knowledge of physical literacy and perceived level of self-efficacy has on their implementation of physical literacy. This research combines the themes and elements related to physical literacy and self-efficacy identified through the literature review with the policy direction related to physical literacy provided by the *Ontario Health and Physical Education, Grades 1-8* curriculum.

In this research study I used two distinct research instruments. The first research instrument was an online survey (see Appendix A for Online Survey), that allowed me to collect quantitative data focused on four areas:

- demographic information about the participant, including information to ensure each participant met the prerequisites to participate in the study;

- the participant's knowledge and implementation of physical literacy;

- the participant's perceived level of self-efficacy; and

- an opportunity for the participant to volunteer to participate in the one-on-one interview process.

The survey was developed using the Qualtrics survey development software. This research instrument contributed to the gathering and analysis of data specific to a junior division educator's ability to implement physical literacy within their HPE program.

The second research instrument was an interview guide (see Appendix B for Interview Guide) used during the semi-structured individual interviews. This research instrument provided the structure necessary to ensure a consistent set of questions were asked to each individual, while also providing enough flexibility to explore specific topics more thoroughly depending on the areas of focus that emerged during the interview. This approach offered me "flexibility in probing and determining when it is appropriate to explore certain subjects in greater depth, or even to pose questions about new areas of inquiry that were not originally anticipated" (Patton, 2015, p. 442).

I used a purposeful sampling technique focused on a homogeneous sample. All participants for this study were junior division teachers currently teaching in Ontario and using the *Ontario, Health and Physical Education, Grades 1-8* curriculum. For this research study, data was collected from 35 individuals through an online survey and 8 individuals through the interview process.

Data Gathering Procedure

The data gathering procedure occurred over an eight-week period and included two phases. In each phase I collected data that contributed to, and informed, the overall research question. The first phase included the communication, completion, and initial analysis of the online survey and occurred between week one and week four. The second phase focused on the scheduling and conducting of the one-on-one interviews, between weeks five and seven and the development and sharing back of transcripts with the interview participants during week eight.

Eligibility Requirements

To be eligible to participate in this research study, individuals were required to read the Letter of Invitation and agree to the statement in the Consent to Participate Form at the beginning of the online survey. The Letter of Invitation provided information regarding the purpose of the study and the prerequisites to participate. The Consent to Participate Form provided more specific details regarding the components of the study, the potential risks and benefits associated with participation, the voluntary nature of the study, the strategies that were used to maintain confidentiality, information regarding the publication of results, and information regarding ethics clearance. Participants were required to affirm their consent to participate in the research study prior to accessing the online survey. Additionally, participants were required to meet the pre-requisite questions (i.e., teaching in an Ontario school, in the junior division, and be responsible for teaching HPE) in the Demographic section of the online survey. According to the Ontario Ministry of Education's open data on the number of elementary and secondary schools by school board/school authority for 2019-20, there were 3,967 publicly funded English and French Language elementary schools, with a majority including at least one junior division (i.e., Grades 4 - 6) classroom (Ontario Ministry of Education, 2021). Junior division educators eligible to

participate in this study ranged from educators responsible for teaching HPE to their own class or a small number of classes with responsibilities for teaching all or almost all other subject areas to educators responsible for teaching only HPE to all, or almost all, of the classes in a school, or within several schools. I did not use the classifications of "generalist" or "specialist" to describe the educators that participated as it was difficult to find a consistent definition to support these classifications and to include changes in those classifications over time.

To participate in the individual interview process, individuals were required to meet the initial requirements to participate in the online survey, as well as to indicate an interest in participating in the interview process on the final section of the online survey. A maximum of eight individuals were identified to participate in the one-on-one qualitative interviews. Although limiting the number of one-on-one interviews to eight was necessary to meet the time commitment of the study, it still provided the depth and context necessary. The triangulation of data, using the research identified through my literature review, the survey data and the open-ended interviews help to provide the rigour needed to ensure the data is credible.

Phase 1: Online Survey

At the beginning of week one, the online survey was communicated using existing channels and networks from the two Ontario subject associations for Health and Physical Education: Ophea and the Ontario Association for the Support of Health and Physical Education (OASPHE). The information was communicated through electronic platforms (i.e., Ophea's Twitter account, OASPHE's Blog) and included an invitation to all interested junior division educators currently teaching HPE in Ontario to participate in the online survey. A reminder was sent out at the beginning of week two to encourage and remind about participation in the online survey. The completion rates for the online survey were monitored over the course of the first

two weeks. Based on a lower-than-expected level of completion rate at the end of the second week (20 completed online surveys and six individuals interested in participating in the interviews), I determined that the online survey would stay open for one additional week (week three) to encourage additional responses for the online survey.

At the beginning of week three both subject associations reposted the invitation through their electronic platforms. The final response numbers at the end of week three were 45 individuals that started the online survey with 35 that completed the entire survey. Of the 10 individuals that did not complete the survey, seven did not agree to the initial consent question and the remaining three did not complete enough of the online survey questions (i.e., responding to questions in each of the first three sections) for their responses to be eligible to be included in the study. Of the 35 participants that successfully completed the online survey, 12 indicated an interest in taking part in the one-on-one interview process.

In the fourth week I focused on the selection process for the one-on-one interviews. The unique five-digit code, generated as part of the online survey, was used to randomly select the individuals that would participate in the individual interviews. From the 12 individuals that expressed an interest in the online survey, eight were randomly selected using a free online randomizer tool (i.e., www.random.org). The selection was done by inputting all 12 unique codes into the randomizer tool and then generating a ranking list of all the codes. The individuals with the first eight codes on the generated list were selected to participate in the one-on-one interviews.

Phase 2: Individual Interviews

At the end of week four, the eight potential participants were sent an email inviting them to participate in a one-on-one interview during week six or seven. The invitation outlined that the

interviews would take approximately 30-minutes, that they would be audio recorded to generate a transcript, and that they would receive a copy of the transcript to review after the interview was complete. All eight individuals agreed to participate in the interview process. During week five, a follow up email was sent to each interested participant requesting the individuals to select a date and time for the 30-minute interview and to identify whether they would like to participate in the interview over the phone or through a video conference (i.e., using Zoom). Each individual was also provided with the list of questions that were going to be asked to review prior to the interview session.

During weeks six and seven all interviews were conducted using Zoom video meeting platform. Each interview was audio recorded and, after the completion of the interview, I transcribed the interviews verbatim and reviewed for accuracy. A follow up email was sent during weeks seven and eight to each participant with a copy of their transcripts from the interview to review to ensure all information was accurately reflected. Participants were given one week to review the transcript and indicate any edits or concerns. The one-on-one interview process was used to help to affirm the information provided on the online survey as well as contribute to a deeper understanding of factors that influence a teacher's ability to implement physical literacy in their classroom.

Research Instruments and Protocols

Online Survey

In the first phase of this research, I used an online survey tool to collect quantitative data on the demographics and background information of each participant specific to: teaching experiences and feelings, knowledge and implementation of physical literacy, and perceived level of self-efficacy. The survey questions used for the demographic data and background

information section established the criteria for participation in the research study as well as provided additional information regarding each participant's feelings regarding physical literacy throughout their life. Additionally, the questions that were used specific to physical literacy and self-efficacy were based on existing survey tools that had been previously used in other studies. The survey questions were reviewed and adapted to align with the Ontario education context as well as the teaching of HPE.

Demographic and Background Questions

The first section of the online survey contained questions that enabled me to collect demographic data and background information. This data was used to help determine if each participant met the minimum eligibility to participate in the research study as well as to provide additional information to better understand the context of each participant's responses. The first area focused on the number of years of experience for the participants. This included three components: (a) the participant's overall years teaching, (b) years teaching in the junior division, and (c) years teaching HPE. The second area was the participant's current teaching assignment, this area included: the type of school system they taught in (i.e., Catholic, Public, Independent); the division(s) they taught (i.e., primary, junior, intermediate), and; the subject area(s) they were responsible for teaching. The third area of focus was the participant's feelings towards physical education and physical literacy. This area examined: each participant's feeling towards physical education when they were a student in the junior division; as a teacher in the junior division, and; information regarding their own personal physical literacy journey.

Physical Literacy Questions

The participant's knowledge and implementation of physical literacy was measured using a survey developed by Stoddart and Humbert (2017). This survey had eight items that focused on

different components of physical literacy. Three items from the survey focused on an individual's knowledge and practice related to physical literacy as well as whether the provincial curriculum adequately addressed physical literacy. Two items were focused on resources, both the resources needed to support implementation and where an individual accessed these resources. One item focused on barriers teachers faced, and the final two items addressed communication with parents and community initiatives related to physical literacy. After a review of the questions, all eight of the original survey questions were included. One item was changed to focus on how well the definition of physical literacy in the *Ontario, Health and Physical Education, Grades 1-8* curriculum aligned with the participant's definition, and the questions with menu options were modified to include options that aligned with the Ontario context. Additionally, a new question was added under the barriers section that focused specifically on the impact COVID-19 restrictions had on a participant's ability to implement physical literacy in their classroom. The original study by Stoddart and Humbert (2017) that used the survey did not identify reliability coefficients for the survey questions. However, in later research, they did find that "teachers of physical education (specialists and generalists) had a partial understanding of physical literacy, and many teachers were uncertain about how to develop physical literacy withing their physical education classes" (Stoddard & Humbert, 2021, p. 744).

Self-Efficacy Questions

Many of the existing survey tools available to measure teacher self-efficacy were either generic in nature (i.e., focused on overall teaching), intended for use with for other subject areas/disciplines (i.e., English, Science), or were specific to HPE, however, they did not align specifically with the focus of this research study (i.e., connected to the Ontario curriculum,

focused on junior division HPE). As a result, the *Teaching Process Self-Efficacy Level of Teachers Scale* (Korkmaz & Unsal, 2016) was used as this survey tool met a number of the conditions for a self-efficacy measurement tool identified in my literature review. These conditions included: using a scale that provides enough variance for participant's selections (Bandura, 2012), including specific roles of the subject for participants to respond to (O'Neil & Krause, 2019), and using questions that prompted responses from personal experience (Skaalvik & Skaalvik, 2007). This survey tool fulfilled two of the three conditions and the third condition was able to be fulfilled by adapting the questions to focus specifically on HPE and physical literacy.

Nineteen of the twenty-three items from the original survey as well as the 5-point Likert scale were included in this research study. Four items from the survey were eliminated due to a lack of applicability to the Ontario teaching context (i.e., questions focused on classroom strategies instead of strategies that can be used in a physical education program). Each of the nineteen items included in the survey were modified for subject clarity (i.e., to contain references to teaching HPE), however the question focus was not altered. This approach was intended to help participants focus their responses specific to their self-efficacy related to their overall HPE teaching experience. Based on the research done by Korkmaz and Unsal (2016) during the development of this scale, the questions, dimensions, and overall survey were considered to be reliable: "When internal consistency results are considered, the first dimension is 0.86; the second dimension is 0.82; the third dimension is 0.74; the fourth dimension is 0.72; and the overall dimension score is 0.92" (p. 80).

One-on-One Interviews

The purpose of the semi-structured one-on-one interviews was to more deeply explore, through qualitative questions, how each individual's knowledge of physical literacy and perceived level of self-efficacy influenced their ability to implement physical literacy, as part of their classroom HPE program. Consistent with a phenomenological approach, the interview process focused on "in-depth interviews with people who have directly experienced the phenomenon of interest; that is, they have 'lived experience' as opposed to secondhand experience" (Patton, 2015, p. 115). The interview phase provided an opportunity for a participant to expand, explain, and provide personal anecdotes regarding the factors that may have impacted these areas within their personal and professional life.

Interview Questions

The interview questions used during this research study were designed to explore the areas that impacted an individual's implementation of physical literacy within their HPE program. The questions focused on each participant's knowledge of physical literacy and the impact they have on a student's physical literacy journey, the importance of physical literacy within the classroom program, the self-efficacy strategies that impact implementation, the impact the participants make, and the impact COVID-19 restrictions have had on implementation. The questions were open-ended and allowed for participants to provide examples, stories, and anecdotes about the implementation of physical literacy in their classroom, school, and more broadly within their personal life.

Data Analysis

Once all data was collected, I proceeded with the data analysis process for both the online survey data and the individual interview data. The analysis of the quantitative data collected on

the online survey was conducted in four phases. The first phase was to confirm and organize the data that was collected using the Qualtrics survey development software. Once the online survey closed, I reviewed all the data captured in the Qualtrics survey development software to ensure that each participant completed questions from all four parts of the survey (i.e., invitation, demographic, physical literacy, self-efficacy). This was the prerequisite for a participant's data to be included in the research study. If participant data did not meet this requirement the data was deleted from the overall data file. After this was complete a new file that included only data that was eligible for this study was saved. The second phase was to identify the descriptive data that was available from each individual question, including the standard deviations (SD) and mean (M) values for relevant questions. The third phase was to export the data from Qualtrics to Excel to conduct further analysis. The data from each section was reviewed and questions that allowed participants to select more than one item were reviewed and each of the participant's selections was given a value of 1. This allowed the number of selections for multiple choice questions to be analysed not only for which items were selected but also for how many of the selections each participant chose. Additionally, the mean values for a series of questions from the same category (e.g., for an entire dimension of self-efficacy) were calculated to analyse multiple questions from the same theme. Finally, for questions with nominal variables (e.g., "yes", "no") or ordinal variables (e.g., positive, neutral, negative) numeric values were used (e.g., yes = 1, no = 0) to compare responses across a number of questions. The participants' overall knowledge and implementation of physical literacy was calculated using a scale where the participants that indicated yes to both questions were categorized as high, the participants that answered yes to one of the two questions were categorized as medium, and the participants that answered no to both questions were categorized as low. The fourth phase was to import the summary excel data

into SPSS to analyse items for normality and scales for internal consistency (alpha) reliability. If these are statistically satisfactory, computation will ensue of bivariate (Pearson) correlations between the scales along with independent samples t-tests assessing differences in self-efficacy as a function of level of physical literacy knowledge or type and level of implementation. For example, responses from the knowledge of physical literacy questions were compared to the data from self-efficacy to see if there were significant bivariate correlations and fluctuation by physical literacy knowledge and levels of implementation (i.e., resources/supports, barriers, home/community).

The second part of the data analysis process focused on the qualitative data from the individual interviews and took "an organic approach to coding and theme development" (Clarke & Braun, 2017, p. 297). The thematic analysis approach used included a six-step process "to identify patterns within and across data in relation to participants' lived experience, views and perspectives, and behavior and practices" (Clarke & Braun, 2017, p. 297). The first phase of this process was to become familiar with the qualitative data provided during the interviews and establish initial classification categories that could be used to conduct an initial sort of the content from all eight transcripts. The second phase focused on coding the data using the five initial classification categories. These categories included: physical literacy – definition 1 (from the HPE curriculum), physical literacy – definition 2 (beyond the HPE curriculum), physical literacy – implementation, self-efficacy, and other. The other category captured any potentially relevant information that was in the transcripts that did not fit into one of the four classification categories. This was done using Excel by putting the broad classification categories across the top and inserting the verbatim text into the cells underneath the appropriate headings. Individual data was identified through using eight different coloured text fonts (e.g., Participant one – Red,

Participant two – Green). The third phase of data analysis was to read through the content in each of the classification categories to determine if there were themes that could be identified. During this phase many themes emerged including for category one – physical literacy definition one (HPE curriculum) the four components of the physical literacy definition (i.e., affective, physical, cognitive, behavioural), for self-efficacy the four domains (i.e., individual differences, planning, the method-technique variety, competencies in using different activities) emerged, and specific areas related to implementation (e.g., learning conditions, teaching strategies, instructional approaches, assessment and evaluation, barriers) also emerged during this process. This was done by placing a corresponding alpha letter in front of the verbatim text in the Excel document. Once this was complete the fourth phase of the data analysis process began. This was to review each of the themes to ensure there was enough information to support each of the themes. The fifth phase was to develop an understanding of the themes that emerged and to connect and name the themes based on the five initial themes identified and any additional themes that emerged. Once this phase was completed it was compared to the quantitative data that was collected to see if there were any consistent themes or trends that could be connected to strengthen each of the areas of the research study.

Credibility and Trustworthiness

Maintaining a high degree of credibility and trustworthiness is an important consideration in the research design process. Ensuring that I am aware of, and have identified, my personal bias is an important starting point. This included strategies to identify differing opinions throughout the research design process, development of research instruments, and the data collection and analysis process. "All credible research strategies include techniques for helping the investigator become aware of and deal with selective perception, personal biases and

theoretical predispositions" (Patton, 2015, p. 58). This was done through initially identifying my personal bias in this study, seeking out opportunities to check my personal bias at different times throughout the study (i.e., during advisory committee meetings, and doing periodic self-checks of bias in my work especially during the transcribing and analysis of the data collected).

Additionally, this study took place during the COVID-19 pandemic. Since March 2020, teaching and learning has been interrupted and impacted in many ways including, on more than one occasion, a transition from in-school learning to remote learning for extended periods of time. This shift has resulted in many challenges related to the implementation of curriculum policy documents. Fully implementing the *Ontario Health and Physical Education, Grades 1-8* curriculum both in-school, and remotely with COVID-19 restrictions, has provided many challenges for junior division educators. COVID-19 restrictions have required teachers to use a combination of synchronous and asynchronous instructional strategies at different points in time throughout the school year, and to plan modified lessons as the space, equipment, and activities available were constantly changing throughout the year. These realities may have impacted the experiences of educators and may have limited a participant's personal experiences related to implementing the *Ontario Health and Physical Education, Grades 1-8* curriculum and physical literacy. As a result, this study included one question in the online survey and one question on the one-on-one interview portion that asked participants how COVID-19 restrictions related to HPE had impacted their ability to implement physical literacy within their classroom programs.

Ensuring a transparent process was an important component of this research study. This included ensuring all participants were well informed throughout the research study. This was done at different points of the study: initially, participants were provided with an outline of the study when they accessed the survey through the Letter of Agreement and Consent to Participate

Form. Both items provided an overview of the components of the survey, the timing, the voluntary nature of the survey, and the responsibilities required for participation. This same information was also reinforced through the communication tools used to invite interested participants to take part in the individual interviews. During the one-on-one interviews, participants were also reminded of the components of the study, the voluntary nature of their participation, and their ability to withdraw at any time.

Ethical Behaviour

One of the key ethical issues considered was each participant's respect for privacy and confidentiality (Patton, 2015, p. 343). Ensuring that the confidentiality of all personal information and each participant's privacy was maintained throughout the research study was the highest priority. To protect the confidentiality of each participant, the online survey limited the amount of personal information required. The participant's name and email address were only collected if the participant volunteered to participate in the one-on-one interview process or was interested in receiving a copy of the final report. Also, upon completion of the online survey, participants were randomly assigned a code that was unique to this study. Analysis of the online survey data only used this unique code. A participant's personal information provided for the purposes of participating in the interview process or receiving a final research report was extracted from the data and kept in a separate file and not connected back to any data analysis process. For the one-on-one interviews, the unique codes were used to randomly identify the eight participants that were invited to participate in the interview process. The unique codes of these individuals were connected back to the personal information in order to contact the participants via email and invite them to participate in the interview process. Throughout the interview process the use of any personal information was minimized (e.g., name, school, school

board) as well as any personal information was kept confidential. During the transcription of the interview, unique codes and neutral pronouns were used to maintain confidentiality. In the final report the five-digit unique codes were replaced by alphabetic identifiers (i.e., A, B, C) for each of the eight participants for simplicity in the descriptive feedback.

Respecting the participants of the study was another important ethical issue. It was important to ensure that the research study did not disturb or disrupt the professional practice of the participants in any way while this research was taking place. It was essential to maintain the trust and support of the participants throughout the process. This was done through trying to maintain an open line of communication and a shared understanding of the process, timing, and steps throughout the study. Strategies to provide communication materials for educators participating in the study, being flexible to meet the needs of the participants to participate, and ensuring that any changes or updates to the process were communicated in advance to all participants.

Building opportunities for the data collected to be shared with the participants was another important part of the research study process. The transcripts from the one-on-one interviews were shared with each participant after the interview took place. The participants had the opportunity to review their transcript for accuracy and completeness. Another strategy to ensure the data was shared back with the participants was to provide an opportunity for participants to identify if they would like a copy of the final report. This option was included on the online survey and resulted in 21 of the 35 participants requesting a copy of the final research report.

In the following chapter, I present the results of the thesis research. Specifically, I present analysis of the quantitative and qualitative data.

CHAPTER 4: Results

As outlined in the previous chapters, this research study used an explanatory sequential mixed-method design to examine the research questions: *(1) What are Ontario junior division teachers' knowledge of physical literacy (as outlined in provincial curricula) and levels of perceived self-efficacy for teaching HPE?* and *(2) Does their (a) knowledge of physical literacy and (b) perceived level self-efficacy for teaching HPE influence their ability to implement physical literacy as part of their HPE program?*

Demographic Data and Background Information

Demographic data and background data were collected during the online survey and during the interview process. The first area of demographic data and background information that was collected was an overview of the number of years each participant had been teaching (see Table 4.1). The first question focused on a participant's overall teaching experience. Most of the individuals that participated in the online survey ($n = 28$: 80.00%) indicated they had been teaching for over 10 years. Of this group, 13 (37.14%) taught for 11-15 years, 7 (20.00%) taught for 16 to 20 years and 8 (22.86%) taught for 20+ years. The second question focused on a participant's teaching experience in the junior division. More than half of the participants ($n = 21$: 60.00%) had been teaching in the junior division for over 10 years with 13 (37.14%) participants that had taught for 11-15 years. However, this group also had 10 (28.57%) participants that had only taught for 1-5 years. The third question focused on the participant's years of experience teaching HPE. More than half of the participants ($n = 19$: 54.29%) indicated they had been teaching HPE for 10 years or less. Similar to the participants' years of experience in the junior division, a high percentage of participants ($n = 13$: 37.14%) identified teaching for five years or less.

Table 4.1

Years of Teaching Experience

Years of Experience:	1-5 years		6-10 years		11-15 years		16-20 years		20+ years	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Teaching	5	14.29	2	5.71	13	37.14	7	20.00	8	22.86
Teaching in the Junior Division	10	28.57	4	11.43	13	37.14	4	11.43	4	11.43
Teaching HPE	13	37.14	6	17.14	9	25.71	4	11.43	3	8.57

NOTE. *n* = 35 for all participants.

The second area of demographic data and background information collected focused on the teaching responsibilities of the participants. All (*n* = 35: 100.00%) of the participants indicated they taught in a publicly funded school board in Ontario (i.e., Public, Catholic). Data were not collected about which specific type of school board teachers taught in (i.e., Public, Catholic, Private). Although all 35 participants taught in the junior division (grades 4-6), many participants also identified being responsible for additional grades and divisions. Table 4.2 shows that 11 (31.43%) participants taught only in the junior division, either in only one class or a variety of classes within the division. The remainder of participants taught in the junior division as well as in at least one other division in the school. For example, a teacher might teach in the primary division (i.e., grades 1-3) or intermediate division (grades 7-10). This included 8 (22.86%) participants that taught in one additional division, 10 (28.57%) participants that taught in two additional divisions, and 5 (14.29%) participants that taught in all four divisions in their school.

Table 4.2

Divisional Teaching Experience

Grade Levels	*n*	%
Junior Division, only one grade	9	25.71
Junior Division only, more than one grade	3	8.57
Junior Division plus one additional Division	8	22.86
Junior Division plus two additional Divisions	10	28.57
Junior Division plus three additional Divisions	5	14.29

NOTE. *n* = 35 for all participants.

The third area of demographic data and background information examined the subject area responsibilities for the participants. All (*n* = 35: 100.00%) of the participants that took part in the online survey taught HPE in some capacity. However, the additional teaching responsibilities beyond HPE differed significantly. As shown in Table 4.3, there was a relatively equal distribution of the data between those participants that taught only HPE (*n* = 11: 31.43%), those that taught HPE plus an additional one or two subject areas (*n* = 11: 31.43%), and those that taught HPE plus more than five additional subject areas (*n* = 12: 34.29%). The only outlier was one (2.86%) participant that taught HPE plus an additional three to four other subject areas.

Table 4.3

Subject Teaching Responsibility

Subject Area Responsibilities	*n*	%
HPE only	11	31.43
HPE and 1-2 additional subject area	11	31.43

HPE and 3-4 additional subject areas	1	2.86
HPE and 5 or more additional subject areas	12	34.29

NOTE. $n = 35$ for all participants.

The final area of the demographic data and background information section collected information on each participant's feelings towards physical education and physical literacy during different life stages, specifically regarding their: (a) experiences as students in schools and (b) physical literacy journeys across the lifespan, and (c) experiences as teachers. Participants were asked to respond to these questions on a 3-point Likert scale, with 3 being positive, 2 being neutral, and 1 being negative. As outlined in Table 4.4, a high percentage of participants responded by expressing positive experiences in all three stages (i.e., students, physical literacy journeys, and teachers). The highest positive response rate was the participants' feelings toward teaching junior division HPE with 32 (91.43%) participants, second was having positive feelings towards participating in HPE as an elementary school student with 30 (85.71%) participants, followed by having positive feelings towards their own personal physical literacy journey with 24 (68.57%) participants indicating a positive response. Although there was a high positive response in this area, approximately a third of the participants ($n = 11$; 31.43%) identified either a neutral or negative feeling towards their own physical literacy journey.

Table 4.4

Personal Feelings

	Positive	Neutral	Negative

Personal feelings towards:	*n*	%	*N*	%	*n*	%
… participating in HPE class when you were in elementary school	30	85.71	5	14.29	0	0.00
… your personal physical literacy journey	24	68.57	10	28.57	1	2.71
… teaching Junior Division (Grades 4-6) HPE	32	91.43	3	8.53	0	0.00

NOTE. *n* = 35 for all participants.

Summary of Demographic Data and Background Information

The data collected related to the demographic data and background information of the participants helped to better understand the backgrounds of the individuals that participated in the research study and provided increased context to the responses in both the online survey and the one-on-one interviews. Based on the data and information from this section, the individuals that participated in the online survey appear to be a heterogeneous group. In the area of years experience, the overall demographic data showed a wide range of years teaching experience between the participants (Table 4.1). The distribution of the years of experience for the individuals that took part in the online survey were relatively close with 14 (40.00%) participants with <10 years, 13 (37.14%) with 11-15 years, and 8 (22.86%) with >16 years experience. The second area focused on each participant's current teaching assignment, including the type of school board, division(s), and subject area responsibilities. The data identified that all participants (*n* = 35: 100.00%) were from publicly funded school boards in Ontario. This was an important detail because this indicates that all the participants in the study use the *Ontario*

Health and Physical Education, Grades 1-8 curriculum policy document for HPE in their classroom and are guided by the same definition of physical literacy that is provided within the curriculum. The data regarding the division(s) and subject area(s) taught was examined together to identify the teaching assignment for each individual participant. Based on this review, three distinct categories were evident. The first was participants that only taught in the junior division with responsibilities for the majority or all subject areas (five or more), the second was participants that taught in multiple divisions and taught multiple subject areas, and the third was participants that only taught HPE in multiple divisions. The breakdown for these categories was fairly evenly distributed with 12 (34.29%) participants teaching in the junior division with responsibilities for the majority of subject areas, 12 (34.29%) participants responsible for multiple divisions and multiple subject areas, and 11 (31.43%) participants responsible for only HPE in multiple divisions. The third area focused on the participants' feelings towards HPE and physical literacy when they were a student, currently as a teacher, and as part of their own physical literacy journey. This data was broken down into three categories: the highest response rate ($n = 22$: 62.86%) was participants that responded positive to all questions, next highest response rate ($n = 8$: 22.86%) was participants that responded positive to two of the three questions, followed by the lowest response rate ($n = 5$: 14.29) for participants that responded positive to one or zero questions. Overall, the demographic data and background information for the participants represented a relatively even distribution of years of experience and teaching assignment. Participants' background information related to their feelings towards HPE and physical literacy were weighted more towards "Positive" feelings. These categories were used to help provide context to better understand the background of the participants that took part in the research study.

The individuals that participated in the interview process shared a strong viewpoint regarding the influence that demographic data and background information, such as the amount and type of teaching experience, can have when teaching HPE in the junior division. For example, Participant G highlighted "I think in elementary school, it's very tricky, because generalist teachers teach phys. ed and that's overwhelming to them" and Participant F reinforced the characteristics needed in the teachers that are teaching HPE "we need people that have rich histories in positive physical experiences, to be leading our youth into a better pattern for the future". Participant D expressed the importance of having "someone qualified teach phys ed". The interviewees also reinforced the positive ratings of their feelings towards HPE and physical literacy throughout their life. For example, Participant F identified the role that HPE teaching played in their elementary experience, saying: "in my elementary school years, my intermediate teacher, that was their background, so there was a role model there who knew what they were doing and made phys. ed fun". Participant C highlighted the importance of their attitude in motivating students to be physically active: "I love being active, I love sport, I love being outside. So when somebody says, I don't want to do this, I'd rather go and sit in front of a TV. I'm like, why?". Participant H identified the importance of knowing what physical literacy means, "I think it's incredibly important to know what's going on when it comes to physical literacy".

Knowledge of Physical Literacy and Self-Efficacy

In this research study, I examined two potential factors that could contribute to the implementation of physical literacy within a junior division teacher's HPE program. The first factor was knowledge of physical literacy, as outlined in the *Ontario Health and Physical Education, Grades 1-8* curriculum, and the second an individual's perceived level of self-efficacy related to teaching HPE. Data were collected using two sources: an online survey that

collected quantitative data and a one-on-one interview that collected more detailed qualitative data from a select number of participants.

Knowledge of Physical Literacy

The online survey included two questions to gain a better understanding of each participant's knowledge of physical literacy using the definition provided in the *Ontario Health and Physical Education, Grades 1-8* curriculum policy document as a reference point. The first element focused on how each participant's personal definition of physical literacy aligned with the definition provided in the curriculum and the second focused on whether participants felt their program supported the development of physical literacy in the students they taught (see Table 4.5). The results of the online survey showed that the majority of participants felt that they possessed knowledge of physical literacy in both elements; 32 (91.43%) participants believed the current definition of physical literacy in the *Ontario Health and Physical Education, Grades 1-8* curriculum is consistent with what physical literacy means to them, and 33 (94.29%) participants indicated their teaching in HPE supports the development of physical literacy in the students they teach.

Table 4.5

Knowledge of Physical Literacy

	Yes		No	
	n	%	*n*	%
1. Keeping in mind the physical literacy definition from the Ontario, HPE, Grades 1-8 curriculum: Does the	32	91.43	3	8.57

definition adequately reflect what physical literacy means to you?				
2. Keeping in mind the physical literacy definition from the Ontario, HPE, Grades 1-8 curriculum: Does your teaching develop physical literacy during physical education?	33	94.29	2	5.71

NOTE. $n = 35$ for all participants.

Summary of Knowledge of Physical Literacy

Both sources of data collected highlighted a high level of participant knowledge regarding the definition of physical literacy, as outlined in the *Ontario Health and Physical Education, Grades 1-8* curriculum. During the interview process, when participants were asked about what physical literacy meant to them, all interview participants ($n = 8$) provided responses that included all or a majority of the components of the definition provided in *the Ontario, Health and Physical Education Grades 1-8* curriculum (i.e., competence and confidence in multiple environment; motivation and ability to engage with different movement forms; ability to engage in a variety of movement forms, and; skills to make healthy choices). For example, the participants highlighted the importance for students to "move with competence and confidence in a wide variety of physical activities in multiple environments" (Ontario Ministry of Education, 2019, p. 7). Participant G highlighted their belief that "the term physical literacy just means students have the skills to be confident in a variety of activities" while Participant B expressed that physical literacy was "developing the students' knowledge and confidence, to be able to use a wide variety of skills and strategies and tactics to help them succeed in a wide variety of activities".

The second component of the physical literacy definition focuses on a student's "motivation and ability to understand, communicate, apply, and analyze different forms of movement" (Ontario Ministry of Education, 2019, p. 7). This component also showed a consistent response in the individuals that participated in the interviews. Participant A identified the importance of "communication, the relationships, the attitude, ownership, self motivation that they [students] want to be active" while Participant B shared how "most kids will always come motivated and ready to play, all you got to do is direct that energy". Participant C also connected this component more broadly to teaching subjects like Mathematics, saying: "if you're trying to teach math, the better you understand the ins and outs of it, the better you're able to kind of jump on things. To have a deeper understanding of a throwing motion, and how to break it down, then you're able to meet kids at their own starting points, regardless of their age, or grade, and then just allow them to carry on with their own continuum".

The third component of the physical literacy definition focuses on the student's ability to "demonstrate a variety of movements confidently, competently, creatively and strategically across a wide range of health-related physical activities" (Ontario Ministry of Education, 2019, p. 7). The awareness of this component was also strongly supported by the interviewees' responses, with Participant B highlighting the importance for students to be able to "use a wide variety of skills and strategies and tactics to help them succeed in a wide variety of activities" and Participant E identifying the importance of a student developing "the skills to be confident in a variety of activities or a variety of things, equipping them with basic skills and movements so that they are competent to pursue activities".

The final component of the physical literacy definition from the curriculum focused on developing "the skills [that] enable individuals to make healthy, active choices" (Ontario

Ministry of Education, 2019, p. 7). The majority of participants also communicated this component during the interview process. Participant E highlighted the importance of HPE in developing longer-term habits: "like phys. ed is the one thing where the habits they develop when they're young, they're going to keep that going. And if they have a positive experience, they're going to keep that, but also the flip side is, if they have a negative experience early on, they keep that going as well". Participant F highlighted the connection between providing a wide variety of opportunities and the students applying that to new activities: "I'm going to provide you with the experiences where you feel you're comfortable enough to try something new".

Although the individuals that participated in the one-on-one interviews demonstrated what I consider to be a very thorough knowledge of physical literacy based on the definition outlined in the *Ontario Health and Physical Education, Grades 1-8* curriculum, their responses did not connect to some of the foundational components from the physical literacy research. One gap that existed was the connection to the monistic philosophical underpinnings of the physical literacy definition (Pot et al., 2018, p. 248). Participants also did not directly identify the importance of viewing students holistically when implementing physical literacy within the school setting. Instead, most of the interviewees identified physical literacy as an element more closely connected to a student's participation in a specific subject, like HPE, instead of a more holistic approach to learning across multiple environments and settings inside and outside of school. One exception was Participant C, who did identify a connection between literacy in Language and physical literacy, saying: "when I think of physical literacy, I think of the fundamentals of movement, kind of like the ABCs are in writing and reading and then physical literacy is kind of the ABCs of learning how to move, how to be efficient, how to play sports, in the long term - movement in general". Most of the individuals that participated in the interviews

did communicate that implementation of physical literacy should reflect an individualized approach, connecting implementation to the analogy of a journey. Participant D highlighted this approach by outlining: "I think physical literacy has to be sort of journey, but it's also you know, it takes a village" while Participant H acknowledged the role they play in the student's journey: "I can take them from JK right up through to grade seven/eights, teaching phys ed, and contribute to that journey".

Perceived Level of Self-Efficacy

The second contributing factor used for this study was each participant's perceived level of self-efficacy teaching HPE. The definition of self-efficacy used for this study was "the self-perception of teachers resulting from observations throughout the educational period or their opinions about their own competence" (Korkmaz & Unsal, 2016, p. 73). Questions related to self-efficacy in the online survey were divided into four dimensions: individual differences (8 items), planning (5 items), method-technique variety (3 items), and competencies using different activities (4 items). The self-efficacy dimensions were rated on a 5-point Likert scale, with "1" indicating a participant performs an action never and "5" indicating a participant does the action "always". Out of the four dimensions of self-efficacy, the two dimensions that participants rated highest were individual differences (M = 4.31, SD = 0.42) and planning (M = 4.27, SD = 0.43). The two self-efficacy dimensions that participants rated lower were the method-technique variety (M = 3.85, SD = 0.39) and the competencies in using different activities (M = 3.87, SD = 0.37). I present an analysis of participant responses according to each dimension in Tables 4.6-4.9 in the following sections.

The mean perceived level of self-efficacy for each participant for all four dimensions (scales) as well as the overall mean across all four dimensions ranged between low (M < 3.00),

medium (M between 3.00 and 3.99), and high (M ≥ 4.00) on a 5-point scale. The Cronbach alpha reliability coefficient was used to determine scale reliability for each dimension of self-efficacy. For dimension one (Individual Differences) and dimension two (Planning) the reliability coefficients were .75 and .64 respectively, both at an acceptable (>.60) level. The alpha reliability coefficients for dimension three (Method-Technique Variety) and four (Competencies) were unsatisfactory (-.23; .49) signaling low consistency of participants' responses to each of these scales so they were discarded from any comparative analysis for this research study. The descriptive results for each self-efficacy, knowledge, and implementation scale and/or item along with the supporting qualitative data will be used instead to develop a more in depth resolution of the research questions.

For dimension one of self-efficacy, Individual Differences, the individual participant's means ranged from M = 3.00 to M = 4.88 with six (17.14%) participants rating at a medium level and 29 (82.16%) rating a high level. For dimension two, Planning, the mean ranged from M = 3.40 to M = 5.00 with seven (20.00%) participants rating a medium level and 28 (80.00%) participants rating a high level. For dimension three, Method Technique Variety, the mean ranged from M = 3.33 to M = 4.33 with 20 (57.14%) participants rating a medium level and 15 (42.86%) participants rating a high level. For dimension four, Competencies Using Different Activities, the mean ranged from 2.88 to M = 4.33 with 2 (5.71%) participants rating a low level, 15 (42.86%) participants rating a medium level, and 18 (51.43%) rating a high level. The overall mean for all four self-efficacy dimensions for each participant ranged from M = 3.38 to M = 4.61 with 11 (31.43%) participants with a medium level rating and 24 (68.57%) participants with a high-level rating.

Individual Differences

As shown in Table 4.6, the actions within the individual differences dimension that scored the highest ratings included beginning the lesson after establishing the students' attention (M = 4.80, SD = 0.55), emphasizing effective student participation (M = 4.63, SD = 0.54), and the participants using their voice and body language throughout their lessons (M = 4.49, SD = 0.55).

Table 4.6

Individual Differences

Item #	Item	Mean (SD)
1	I begin health and physical education classes after establishing student attention.	4.80 (0.55)
2	I emphasize effective student participation during health and physical education classes.	4.63 (0.54)
3	I try to use my voice tone and body language effectively throughout the learning-teaching process in my health and physical education classes.	4.49 (0.55)
4	I help students gain self-confidence during health and physical education classes through activities that make students feel comfortable.	4.43 (0.65)
5	I try to ask questions during health and physical education classes directed to comprehending the subject.	4.26 (1.14)
6	I help the students acquire various social emotional skills (e.g., stress management and coping, critical creative, problem solving) through activities in the health and physical education class.	4.17 (0.74)
7	I check the readiness levels of students before beginning a health and physical education class.	3.94 (0.83)

| 8 | I do not move to the next area in health and physical education without giving feedback or making corrections. | 3.80 (0.71) |

NOTE. $n = 35$ for all participants. Mean was calculated out of five.

The self-efficacy category of individual differences highlighted the importance of establishing a positive and safe learning environment. The components of self-efficacy in this category are consistent with the literature review related to the importance of establishing the learning conditions necessary to implement physical literacy. The actions within the individual differences section related to the establishing the attention of students at the beginning of the class (Item #1), providing opportunities for students to participate effectively (Item #2), and using voice and body language to establish and maintain control in a HPE class (Item #3), and making sure the students are ready to participate (Item #7) all contribute to the establishment of a positive and safe learning environment. The importance of this was also communicated through the individual interviews. For example, Participant A highlighted the importance of establishing this type of environment before the students come into the class: "when I start my class, I hold the door and as the kids come in, I greet them". Participant C identified the importance of taking an individualized approach: "I think you really have to be able to adapt to the group you have - I've even had two classes of the same age group, same grade, and there's just a different mentality in the class". The individual differences category also focused on helping students to gain confidence (Item #4), and increase comprehension related to topics related to HPE and physical literacy (Item #5). This area was also supported by the individuals that took part in the interview process. Participant E highlighted the importance of helping students to develop "self esteem, self confidence, kids learning about themselves, kids learning about their bodies, those are things that they're going to keep with them forever". Participant C stated the importance of

using the "gymnasium and having that as a constant space for kids to recognize and understand what's happening when they're in that space". Additionally, Participant B identified the importance of taking an individualized approach where "you let them [students] play, and you add in your skills and your knowledge and your social-emotional".

Planning

The actions within the planning dimension with the highest ratings were focused on increasing student motivation (M = 4.37, SD = 0 .59), establishing a learning environment where students can express themselves (M = 4.31, SD = 0.67) and connecting the students' acquisition of knowledge and skills with their daily life (M = 4.31, SD = 0.62). Participant responses to the five items in the planning dimension are presented in Table 4.7.

Table 4.7

Planning

Item #	Item	Mean (SD)
1	I arrange activities during health and physical education classes for increasing student motivation.	4.37 (0.59)
2	I try to create a setting during health and physical education classes where the students can express themselves freely.	4.31 (0.67)
3	I try to relate student acquisition of knowledge and skills during health and physical education classes with daily life.	4.31 (0.62)
4	I arrange student acquisition of knowledge and skills during health and physical education classes so that they can convey them to their actual life.	4.23 (0.68)
5	I arrange activities during health and physical education classes according to the needs and expectations of students.	4.14 (0.72)

NOTE. *n* = 35 for all participants. Mean was calculated out of five.

       One of the key areas of focus in this dimension was actions that focused on motivating students and meeting their individual needs. The action of motivating students to participate in HPE (Item #1) and establishing an environment where students can express themselves freely (Item #2). These areas were also identified in the literature review as elements that contribute to the learning conditions of the classroom. The interview participants also highlighted these areas as key elements. Participant D outlined the importance planning plays with implementation, "when you look around, you can tell it's [HPE lessons] been planned out". Participant C highlighted the importance of focusing on motivation as a key component of the classroom program: "I think the bigger piece that I try to do is the motivation to be active". Participant A also highlighted the importance of encouraging students to develop motivation to be physically active: "it's also more the communication, the relationships, the attitude, ownership, self motivation that they want to be active". The second area of focus in this category was the importance that the physical activities that students were engaged in were both connected to their real life (Item #3) and connected to lifelong physical activity journey (Item #4). Participant G highlighted that "switching the thinking that our program should be based on physical literacy and active movement and lifelong activity is super important" and Participant B reinforced the importance of physical education for student development now and in the future: "what we're learning today, we can use for the rest of our lives to make sure that students are gaining success to get them interested and to make sure that they want to be active for the rest of their lives".

The Method-Technique Variety

As shown in Table 4.8, of the three items within the method-technique variety dimension, the one that had the highest rating was trying to use a variety of methods and techniques as part of the participants' program in HPE (M = 4.29, SD = 0.51).

Table 4.8

Method-Technique Variety

Item #	Item	Mean (SD)
1	I try to use learning-teaching strategies, methods and techniques during health and physical education classes appropriately.	4.29 (0.51)
2	I carry out activities during health and physical education classes that develop creative thinking.	3.86 (0.64)
3	I use information and communication technologies (computer, projection, the internet) during health and physical education classes.	3.40 (1.12)

NOTE. n = 35 for all participants. Mean was calculated out of five.

This was also consistent with the responses from the interviewees, as half of the participants identified this as an important component. Participant B highlighted the importance of using "a wide variety of skills and strategies and tactics to help them [students] succeed in a wide variety of activities". This action was also reinforced by Participant C who stated "you can't just teach in one way, or even if you do, you're going to hit a plateau with the individual people anyways. So having been able to have different techniques taught in different ways, is going to one help you reach more students". These statements align with the importance of using a variety of teaching-learning strategies that were identified in the literature review in Chapter 2.

Competencies in Using Different Activities

As shown in Table 4.9, under the dimension of competencies in using different activities the highest rated action out of the four provided was the importance of using time effectively during the HPE class (Item #1: M = 4.83, SD = 0.45).

Table 4.9

Competencies Using Different Activities

Item #	Item	Mean (SD)
1	I think that effective use of time during health and physical education classes is important.	4.83 (0.45)
2	For an effective teaching process, I begin health and physical education classes with an interesting introduction.	3.66 (0.63)
3	I strive for students to obtain information from different sources during health and physical education classes.	3.54 (0.69)
4	I use an inquiry model and help students acquire information with their own effort during health and physical education classes.	3.46 (0.65)

NOTE. $n = 35$ for all participants. Mean was calculated out of 5.

The importance of using time effectively also was expressed by the majority of the individuals that participated in the interview process. The response from Participant B highlighted the importance of using time effectively so students can have maximum opportunities to participate "for me it's time, I have to make sure that within the time limits that I have, that every kid has been given the opportunity to learn, to practice, and to reflect and then try again". While Participant C identified the importance of minimizing the time that is taken away from students

being physically active during lessons, "the time to take equipment out and put equipment away, like on a regular basis can take away from time that can be used in a better way". The other three items in this category were all rated significantly lower by the participants. This included starting classes with an interesting introduction (Item #2), having students obtain information from different sources during class (Item #3), and using an inquiry approach during HPE (Item #4).

Summary of Perceived Level of Self-Efficacy

The four dimensions used to measure a participant's perceived level of self-efficacy were individual differences, planning, method-technique variety, and competencies in using different activities. Each category identified a number of specific actions that support the implementation of the classroom program in HPE. The mean average for each participant ranged from M = 3.00 to M = 4.88 for dimension 1, M = 3.40 to M = 5.00 for dimension 2, M = 3.33 to M = 4.33 for dimension 3, and M = 3.00 to M = 4.75 for dimension 4. The overall participants' perceived level of self-efficacy in this study was between M = 3.38 and M = 4.61.

As outlined in the literature review, self-efficacy has a strong connection to an individual's motivation for action. One of the common themes that was identified throughout the interview process was each participants' strong commitment and motivation to making sure physical literacy was implemented within the HPE program, even when COVID-19 restrictions were in place. Participant D highlighted the importance of finding new ways to think about implementation of their classroom program, "I think it really had us think outside the box and figure things out" while Participant F felt confident in the changes that were needed as a result of COVID-19 restrictions, "I didn't panic over it…I knew that I had a repertoire of things".

Additionally, the research highlighted that individuals with high levels of perceived self-efficacy are able to focus more on tasks and exhibit less stress when implementing classroom

programs (Gencay, 2009, p. 224). For example, Participant D outlined their ability to adjust and plan quickly, identifying "that planning is important, but it's also being able to change and do different things depending on the scenario that's happening" and Participant A highlighted the importance of always focusing on knowing and understanding the needs of the students, "I think that's so important just to know the differences of what they [students] want to do, what they can do, what motivates them to set goals, or to become more physically literate".

The third area highlighted in the literature review was how the multi-dimensional construct of self-efficacy can positively impact a teacher's choices and judgement (Duffin et al., 2012, p. 828). This was seen in many of the individual responses during the interviews. Participant A highlighted their commitment to learning and sharing being a significant influence through "going to many workshops, doing lots of different experimenting, and talking with other colleagues about physical literacy" and Participant B outlined the importance of letting the students lead based on their individual needs, "I want to see choice of equipment I want to see choice of activities, I want to hear questioning about why this works and why it didn't work".

Summary of Knowledge and Self-Efficacy

In this section, I presented analysis of data from the two potential contributing factors identified in this study: a participant's knowledge of physical literacy and their perceived level of self-efficacy for teaching HPE. Overall, participants consistently rated their knowledge of physical literacy high. Most participants ($n = 31$: 88.57%) agreed with the two questions pertaining to their knowledge of physical literacy on the online survey, the first being if the definition of physical literacy in the *Ontario Health and Physical Education, Grades 1-8* curriculum was consistent with their definition and the second whether their teaching was able to develop physical literacy in their students.

Implementation of Physical Literacy

The final area of the research focused on a junior division educator's ability to implement physical literacy as a part of the HPE program. The components used to measure the implementation of physical literacy were based on a modified version of the survey questions used in *Physical Literacy is…? What Teachers Really Know* (Stoddart & Humbert, 2017). The questions included topics related to the resources/supports needed, barriers that impacted implementation (including COVID-19 restrictions), and connections between the participant, the home and community. The one-on-one interviews asked participants more specific questions about what the implementation of physical literacy looks like, the factors that impact implementation, and the extent a participant felt these factors contributed to a student's physical literacy journey.

Resources/Supports

The first area related to the implementation of physical literacy focused on a participant's use of resources/supports. This area included two components: (a) the types of resources/supports participants needed to support implementation and (b) where the participants accessed resources from. The first component asked participants to select all the resources/supports that they needed, from a list of six items, to effectively develop physical literacy in their students (see Table 4.10). The mean number of resources (out of 6) that participants identified that they needed to support implementation was $M = 4.23$. The resources/supports identified by the participants were very closely rated, with the top resources/supports being: activity ideas ($n = 30$: 85.71%), professional development opportunities ($n = 29$: 82.86%), and assessment tools ($n = 27$: 77.14%).

Table 4.10

Resources and Supports

Item #	Resources/Supports	*n* (%)
1	Activity Ideas	30 (85.71)
2	Professional Development Opportunities	29 (82.86)
3	Assessment Tools	27 (77.14)
4	Online Resources	23 (65.71)
5	Lesson Plans	21 (60.00)
6	Video Demonstrations	18 (51.53)

NOTE. *n* = 35 for all participants.

The second component of this category focused on the source from where participants accessed these resources/supports from. This information is shown in Table 4.11.

Table 4.11

Access to Resources

Item #	Resources/Supports	*n* (%)
1	Ophea	33 (94.29)
2	PHE Canada	22 (62.86)
3	School Board	19 (54.29)
4	OASPHE	16 (45.71)
5	School	11 (31.43)
6	Online searches (google, websites, social media channels)	7 (20.00)

NOTE. *n* = 35 for all participants.

There were six items included in the response, and participants could choose as many as appropriate. The six items focused on accessing resources/supports either from the participants'

school or school board, or from the subject associations that represented HPE, including Ophea, OASPHE and PHE Canada. Finally, there was also an opportunity for participants to identify other locations they accessed resources/supports. The most common source for accessing resources/supports for participants was through the subject associations representing HPE, with 34 participants (97.14%) identifying at least one subject association in their response. The participants' identified Ophea most frequently ($n = 33$, 94.29%), followed by PHE Canada ($n = 22$, 62.86%) and OASPHE ($n = 16$, 45.71%). More than half ($n = 19$, 54.29%) of the participants identified accessing resources/supports from their school board with a much lower number of participants (11, 31.43%) identifying that they accessed resource/supports from the school. Finally, 7 (20.00%) participants identified that they accessed resources/supports through other areas. The primary areas identified by participants were through online sources (e.g., google searches, websites, and social media channels) or through professional interactions with colleagues.

The majority of the interview participants did not mention the specific resources/supports they needed to implement physical literacy. In the few instances where it was mentioned, participants highlighted the use of Ophea's resources and the importance of connecting with other teachers. Participant G indicated that they used Ophea's resources to directly support the implementation of their HPE program: "So I try to use the Ophea success criteria posters so that kids always have the ability to refer back to see if they are performing the skills correctly or what they need to do to adjust their technique for themselves". Participant E highlighted the importance of having a network to share resources/supports and how this can sometimes offset some financial barriers: "helpful colleagues, at different schools, sharing resources, sharing supplies, because, you know, a lot of the limitations come down to school budgets". The

individuals interviewed did provide more frequent comments when it came to where they accessed resources/supports. Consistent with the data from the online survey, subject associations for HPE were identified frequently during the interview process. Participant H highlighted the importance of organizations like "Ophea, OASPHE, and the provincial bodies" and opportunities to "hit their seminars and their annual general meetings" to get information and access resources/supports. Participant E also highlighted the importance of accessing organizations like Ophea because the resources are up to date "getting resources from colleagues, because the resources are good, but they haven't really caught up, they haven't really caught up with, [resources from] like Ophea" while Participant B highlighted the importance of colleagues: "I leaned on the phys. ed teachers on Twitter…and throughout our board. We would create and share between each other stuff that was working".

An additional theme that was identified in the interviews regarding resources/supports needed to support the implementation of physical literacy within the HPE program was the importance of having the support of a school administrator. This theme was not included in the online survey selections and was not identified by participants in the "Other" category. The individuals that highlighted this area identified the importance of the school administrator believing in the importance of HPE and providing support through funding and time. Participant C identified that "administration support is huge. If you have an administrator who believes in the importance of physical literacy and just activity in general, that helps overall with your scheduling, and ability to do a lot of those extracurricular things as well" and Participant G highlighted the importance of the administrator to provide adequate funding to support the program, "[The administrator] gives me a pretty substantial budget, to buy the equipment that I feel my students need to help them experience a variety of activities".

Barriers to Implementation

The second area related to the implementation of physical literacy was an examination of the barriers that impacted a participant's ability to implement physical literacy as part of their HPE program. The first component focused on the general barriers impacting implementation, with eight barriers provided on the online survey. Participants were asked to identify as many barriers as they felt impacted upon their practice (i.e., up to eight). This information is presented in Table 4.12.

Table 4.12

Barriers to Implementation

Item #	General Barriers	*n* (%)
1	Time allocated for physical education classes	28 (80.00)
2	Accessing appropriate and sufficient equipment	16 (45.71)
3	Lack of opportunities for professional development	11 (31.43)
4	Access to facilities (school & community) for students to participate in physical activities	10 (28.57)
5	Time to prepare to teach physical education	8 (22.86)
6	The concept of physical literacy is unclear	6 (17.14)
7	Other (HPE and physical literacy being identified as a priority)	4 (11.43)
8	Accessing resources (print, web, etc)	3 (8.57)

NOTE. *n* = 35 for all participants.

Participants identified a mean of 2.51 barriers that impacted their ability to implement physical literacy. Time allocated for physical education class (Item #1) was rated higher than any of the other barriers listed, with 28 participants (80.00%) identifying it as the top barrier. None of the other barriers listed were identified by more than half of the participants. Other frequently

reported barriers related to accessing appropriate and sufficient resources (16, 45.71%), lack of professional development (11, 31.43%), and accessing facilities (10, 28.57%).

As well as being reported frequently in the survey, time allocated for students to participate in physical education programs was a consistent topic identified by most of the interview participants. Participant B shared the need for more time: "If I had more time with them, the more time I'd be able to do stuff with give them opportunities to learn to succeed and to grow" while Participant E highlighted both the need for more and the importance of teachers maximizing their time with the students: "a lot of times kids might have phys. ed, maybe three times a week, depending on the schedule. The onus is on the teacher to make sure they are getting their activity minutes in every day".

The second component focused on the barriers specific to COVID-19 restrictions that impacted a participant's ability to implement physical literacy as part of their HPE program. Survey results are presented in Table 4.13.

Table 4.13

COVID-19 Barriers

Item #	COVID-19 Barriers	*n* (%)
1	Lack of opportunities for students to participate in health and physical education classes	22 (62.86)
2	Lack of resources	19 (54.29)
3	Lack of school/school board support	10 (28.57)
4	Lack of consistent messaging	9 (25.71)
5	Lack of parents/guardian support	6 (17.14)

| 6 | Other (impacts related to students being online such as access to space, access to equipment, HPE specialists being reallocated) | 6 (17.14) |

NOTE. *n* = 35 for all participants.

Results from the online survey indicated that 31 (88.57%) participants felt that COVID-19 restrictions had impacted their ability to implement physical literacy. The online survey listed six barriers: five were specific barriers related to COVID-19 restrictions and a sixth provided an option for participants to identify additional barriers not included in the survey. Participants identified a mean of 2.06 out of the 6 items related to COVID-19 as barriers to implementation. The barriers that participants identified as being most impactful included the lack of opportunities for students to participate in HPE classes (n = 22: 62.86%), the lack of resources to support implementation specific to COVID-19 (n = 18: 51.57%), and lack of school/school board support (n = 10: 28.57%). One additional area of response was in the category of Other, where participants identified barriers that included the reallocation of health and physical education teachers within the school to other subject areas, the teaching of HPE online, and students not being able to use equipment. Consistent with the overarching barriers, time was also highlighted in the context of COVID-19. Participant E highlighted the additional tasks and routines that had to be taken into consideration during a physical education class that contributed to the lack of time: "just those little things you know, 20 kids washing their hands. That's almost 10 minutes down - line up a kindergarten class there is half your class". This perspective was also shared by Participant G: "It [COVID-19 protocols] made the structure of my class so different because I had to figure out what they were going to do at the end of the class that I could safely supervise but also sanitize equipment for the next class as nobody has that much equipment". Participant C

also highlighted COVID-19 implementation barriers related to equipment: "when we were in the school, just all the restrictions around equipment, were tough, it felt very restrictive. Either we didn't have enough for everybody, or you had enough for one class. But then you couldn't do it with the next class. So, it affected that, that planning flow".

The second COVID-19 specific barrier frequently identified by participants was the lack of variety teachers were able to provide in their program. Participant C highlighted the limited number of activities they were able to include in their program: "we tried to do a variety of activities, it was basically fitness and yoga, but we tried to do some hand-eye coordination, stuff like juggling, sock tosses, and using paper balls and soft balls and trying to do that kind of stuff" and Participant F highlighted the importance of adding variety to the program, especially during COVID-19 restrictions "shifting the mindset of what phys ed needs to be… we need to do things that are not as traditional". One additional barrier that was identified was the qualifications and skills of the teachers that were responsible for teaching HPE, as some schools and school boards had shifted to having teachers in elementary schools be responsible for teaching their own class to limit the number of teachers students were in contact with. Participant H expressed concerns with the approach school boards were taking regarding teacher assignments: "pulled the itinerant teachers right out of phys. ed" and Participant E reinforced this position "Instead of the two people or specialists [teaching HPE] have two or three people who are really comfortable. They only have a couple classes".

Home and Community Connections

The third area of focus related to the implementation of physical literacy was the awareness and engagement between the students' homes and the broader community. Data from this area of focus is provided in Table 4.14.

Table 4.14

Home and Community

Item #	Category	Yes *n* (%)	No *n* (%)
1	Do parents discuss physical literacy with you?	2 (5.71)	33 (94.29)
2	Are you aware of community initiatives that promote physical literacy?	14 (40.00)	21 (60.00)

NOTE. *n* = 35 for all participants.

The first component in this section, the home, looked at whether the parents of students discussed physical literacy with the teacher (participant) and the second component focused on the community and whether the teacher (participant) was aware of any physical literacy initiatives going on in the community close to the school. Based on the data from the online survey, only 2 (5.71%) participants identified that they discussed physical literacy with the parents of students. A higher number of participants indicated that they were aware of community initiatives related to physical literacy (*n* = 14: 40.00%). Overall, only one (2.86%) participant was aware of, and engaged with, both the home and community.

The responses from the individuals that participated in the interview process told a very different story. The majority of the interview participants identified the importance of the home and the role of the parents as an important strategy to support the effective implementation of physical literacy within HPE. This feeling was highlighted by Participant H's approach to "educate the parents and educate the kids at the same time about physical literacy". Participant B highlighted the opportunity to connect the learning in the HPE program with the home: "when

they [students] come back from summer vacation. And they say I got to play pickleball, it was a little different because of.... But they said we got to play that, and we made our own four square at home". While the individuals that took part in the interview process did not provide many comments regarding the community, Participant A identified an understanding of the importance "I would love to have more support from the community".

Summary of Implementation of Physical Literacy

The first area of focus for the implementation of physical literacy within the HPE program was the resources/supports participants needed to support implementation and how the participant accessed them. The first component focused on the resources/supports participants needed to support implementation and included six choices (see Table 4.10). The mean number of resources selected by participants was M = 4.23 indicating participants needing a high number (≥ 4 selections) of resources needed. The second component examined how the participants accessed their resources/supports and included six choices (see Table 4.11). The mean number of sources selected by participants was M = 3.17 indicating participants used a medium number (> 2 and < 4 selections) of sources to access resources. The second area of implementation of physical literacy within the HPE program was the participants' ability to manage the barriers related to implementation, including those related to COVID-19 restrictions. The number of barriers that each participant identified for this area was divided into three categories low (≤ 2 barriers), medium (> 3 and ≤ 4 barriers), and high (> 4 barriers). The mean number of barriers identified for the regular HPE program was M = 2.51 and specific to COVID-19 restrictions was M = 2.10. These both indicated that participants were experiencing a medium number of barriers during implementation.

The third area of implementation for physical literacy within the HPE program that was explored was the participants' ability to engage and connect with the home and community programs. After a review of these data, participants were divided into three groupings: participants that responded yes to both the home and school ($n = 1$, 2.86%), participants that responded yes to either the home or school ($n = 20$, 57.14%), and third, participants that responded no to both the home and school ($n = 14$, 40.00%).

Finally, the individuals that participated in the interview process communicated a strong belief that the effective implementation of their HPE program contributed to a student's physical literacy journey. Each individual interviewed articulated the significance of the role they played as a HPE teacher. For example, Participant D felt that it was "crucial for us, phys. ed teachers, to make sure they're [students] exposed to a lot of things" to support a students' physical literacy journey. Participant F highlighted that: "as phys. ed teachers, we have a significant role to play" while Participant G reinforced the longer-term impact "I hope it's a huge impact, that they get to build on their skills every year, for their whole elementary career".

Chapter Summary

The data from the research study was limited in determining a statistical correlation between a participant's knowledge of physical literacy and their perceived level of self-efficacy with their ability to implement physical literacy within their classroom. Based on the limited variance in responses from participants in knowledge and implementation of physical literacy, the low sample size for quantitative analysis of the online survey data, and the low alpha reliability of two of the four self-efficacy scales, the analysis of associations and differences between self-efficacy, knowledge, and implementation of physical was not performed in this study. However, there were still strong trends within the descriptive data for each scale and/or

item along with the supporting qualitative data that could be used to help develop a more in depth understanding relative to the objective of this study that could be summarized as:

- participants demonstrated a strong understanding of the definition of physical literacy as provided in the *Ontario Health and Physical Education, Grades 1-8;*

- participants' self-efficacy for teaching HPE and its four dimensions (as reflected in their mean values) were similar;

- participants indicated a need for a high number for resources/supports (M = 4.23 out of 6) and were accessing them through a medium number of sources (M = 3.17 out of 6);

- participants experienced a medium number of barriers for both implementation of HPE (M = 2.50 out of 8) and more specifically related to COVID-19 protocols (M = 2.10 out of 6); and

- individuals that participated in the interview process shared a consistent belief that the effective implementation of their HPE program significantly contributed to a student's physical literacy journey.

CHAPTER 5: Discussion and Implications

The purpose of this research study was to examine the role that a teacher's knowledge of physical literacy and their perceived level of self-efficacy have on the implementation of physical literacy within their classroom program. The policy requirements for the implementation of the *Ontario Health and Physical Education, Grades 1-8* curriculum are consistent for all junior division educators in Ontario and provide the definitions and direction for the implementation of physical literacy. The specific research questions for this study were: *(1) What are Ontario junior division teachers' knowledge of physical literacy (as outlined in provincial curricula) and levels of perceived self-efficacy for teaching HPE?* and *(2) Does their (a) knowledge of physical literacy and (b) perceived level self-efficacy for teaching HPE influence their ability to implement physical literacy as part of their HPE program?* Based on these questions, in this chapter, I discuss the interpretations of the key findings identified in chapter four, the potential implications for research and practice, as well as the limitations of the study and potential opportunities for future research.

There were five interconnected themes identified and discussed in chapter four and that represent the main findings from this thesis research:

(1) participants demonstrated a strong understanding of the definition of physical literacy as provided in the *Ontario Health and Physical Education, Grades 1-8;*

(2) participants' self-efficacy for teaching HPE and its four dimensions (as reflected in their mean values) were similar;

(3) participants indicated a need for resources/supports and accessed them from several sources;

(4) participants identified a relatively low number of barriers for both implementation of physical literacy (and, by extension, HPE) and more specifically related to COVID-19 protocols; and

(5) participants showed a consistent belief that the effective teaching of HPE program contributed to a student's physical literacy journey.

Addressing the Research Questions

The following research questions have guided this research study and provided a consistent foundation to organize and analyse participant data related to their knowledge of physical literacy, their perceived level of self-efficacy, and the implementation of physical literacy within junior division classroom teachers' HPE program. Below I address each of the research questions in relation to the data from this study.

Research Question #1

What are Ontario junior division teachers' knowledge of physical literacy (as outlined in provincial curricula) and levels of perceived self-efficacy for teaching health and physical education?

Knowledge of physical literacy. The definition of physical literacy used for this research study came from the *Ontario Health and Physical Education, Grades 1-8* curriculum. This definition is consistent for all junior division teachers across Ontario. In chapter two and using work from Whitehead (2013) and Mandigo et al. (2009), I showed that the definition of physical literacy included four key elements: the components of the definition being used for the educations sector (i.e., affective, physical, cognitive, behavioural), the philosophical underpinnings, the values and purpose associated with physical literacy, and the journey

metaphor. In my analysis of junior division teachers' knowledge of physical literacy, the online survey data showed:

- a majority of the participants (n = 32/35; 91.43%) agreed that the current definition of physical literacy used in the Ontario curriculum document is consistent with what physical literacy means to them; and

- a majority of the participants (n = 33/35; 94.29%) agreed that their teaching in HPE supports the development of physical literacy in the students they teach.

Although there was (what I consider to be) a high knowledge of physical literacy based on the definition outlined in the *Ontario Health and Physical Education, Grades 1-8* curriculum, the responses from the individuals that participated in the interview process did not include some of the more foundational principles related to physical literacy outlined in the literature review. For example, one gap that existed was how participants could articulate the philosophical underpinnings of physical literacy. The foundation of Whitehead's definition of physical literacy was based on monistic philosophic traditions (Hastie & Wallhead, 2015, p. 132) and focused on teaching the whole child (Robinson & Randell, 2017, p. 41). Yet, based on the results of the interviews, many interviewees identified physical literacy as an element connected to a student's participation in HPE instead of a more holistic approach to learning across multiple environments and settings inside and outside of school.

A second gap that existed in participants' responses was the breadth of understanding of the value and purpose specific to physical literacy. Based on the range of examples that were provided throughout the interview process it showed that individuals implementing physical literacy view benefits from a range of philosophical perspectives, and this can potentially

influence how an individual approaches physical literacy within their classroom program and the outcomes or benefits that they are trying to achieve.

A third area of physical literacy that was identified during the interview process was the journey metaphor. The individuals that participated in the interviews embraced the journey metaphor and highlighted the importance of ensuring each student's journey as unique and specific to their own individual needs (Green et al., 2018). The participants connected the journey metaphor to the important benefit of student participation in a HPE program. In their view, HPE provided opportunities for students to connect their learning with the things that students could do beyond the school setting as well as developing skills and interest that can support a student's lifelong participation in physical activity.

Perceived level of self-efficacy. The definition of self-efficacy used for this study was "the self-perception of teachers resulting from observations throughout the educational period or their opinions about their own competence" (Korkmaz & Unsal, 2016, p. 73). The construct for self-efficacy used was also developed by Korkmaz and Unsal (2016) and contained four dimensions: individual differences, planning, method-technique variety, and competencies using different activities. In the literature review in chapter two, I identified how self-efficacy contributes to a teacher's ability to effectively implement curriculum within their classroom program (Gencay, 2009, p. 224). The construct of self-efficacy is multi-dimensional and includes a wide range of actions that are clustered under broad dimensions that make up self-efficacy (Holzberger et al., 2013, p. 774). In this research study participants rated the actions within each dimension and that provided an overall (grand) mean of each participant's self-efficacy for teaching HPE, along with a mean score in each of its four scales. In my analysis of junior division teachers' knowledge of self-efficacy, the online survey data showed:

- individual participants rated their (grand) mean of perceived level of self-efficacy between medium (M = 3.38/5) and high (M = 4.61/5).

- the participants' overall means for the self-efficacy dimensions of individual differences (M = 4.31/5) and planning (M = 4.27/5) were rated high, while the dimensions of method-technique variety (M = 3.85/5) and competencies using different activities (M = 3.87/5) were rated medium.

- a wide range was evident between the specific actions within three of the four dimensions: for individual differences the mean ranged from 3.80 to 4.80, for planning the mean ranged from 4.14 to 4.37, for method-technique variety the mean ranged from 3.40 to 4.29, and for competencies using different activities the mean ranged from 3.46 to 4.83.

The quantitative survey results revealed a wide range, suggesting some inconsistency within two of the four scale ratings of actions (i.e., method-technique variety and using different activities). This highlighted the complex nature of the rating scale and the challenge of measuring a context-dependent construct in the HPE setting rather than in more classroom-based educational domains. In addition, the results of the interview process also showed that individuals had a difficult time articulating and differentiating between the four dimensions of self-efficacy, indicating that the four dimensions were interconnected.

The two self-efficacy dimensions that participants rated high were individual differences and planning. Many of the specific actions for these two dimensions were consistent with both the direction provided in the section titled "Considerations for Program Planning in Health and Physical Education" in the *Ontario Health and Physical Education, Grades 1-8* curriculum, as well as in the literature review provided in chapter two. Specific actions rated highly by

participants in the individual differences domain included: starting lessons once you have the student's attention, and emphasizing student participation (Pot et al., 2018). These areas were also highlighted during the interview process, as the individuals consistently mentioned these two actions. In the planning dimension, participants highly rated the specific areas of using activities that encourage motivation from students and providing opportunities for students to express themselves freely (Almond & Whitehead, 2012). These two areas were also consistently communicated through the interview process with the participants highlighting the important role they play in encouraging and motivating students to participate in physical activity as part of their HPE program.

One of the gaps to determining a participant's level of perceived self-efficacy was determining how to identify if a participant had a low, medium, or high level of self-efficacy. This resulted from a range of possible measures that emerged. This included a participant's overall (grand) mean of self-efficacy, the mean level of self-efficacy for one or more of the individual dimensions, and a participant's responses for each specific action within an individual self-efficacy dimension.

A second gap that was identified resulted from the individual interviews. Throughout the interview process, participants had a difficult time differentiating between the specific dimensions of self-efficacy and expressed difficulty in separating specific actions from different dimensions. A few participants identified that they found the dimensions interconnected and when determining which dimensions had the biggest impact on their ability to implement physical literacy, they had a hard time identifying just one area.

Research Question #2

> *Does their (a) knowledge of physical literacy and (b) perceived level self-efficacy for*
>
> *teaching health and physical education influence their ability to implement physical*
>
> *literacy as part of their health and physical education program?*

The data from the research study was limited in determining a statistical correlation between a participant's knowledge of physical literacy and their perceived level of self-efficacy with their ability to implement physical literacy within their classroom. Based on the limited variance in responses from participants in knowledge and implementation of physical literacy, the low sample size for quantitative analysis of the online survey data, and the low alpha reliability of two of the four self-efficacy scales, the analysis of associations and differences between self-efficacy, knowledge, and implementation of physical literacy was not performed in this study. However, there were still strong trends within the descriptive data along with the supporting qualitative data that could be used to help develop a more in-depth understanding of the implementation of physical literacy.

Teachers are responsible for assessing and evaluating the overall and specific expectations in the *Ontario Health and Physical Education, Grades 1-8* curriculum and these indirectly connect with the overall physical literacy goal in the curriculum. The challenge of making a connection was evident in the interview process as the individual responses did not include a lot of detail or focus on the element of assessment and evaluation. The online survey questions focused on three contributing factors that help support a teacher's ability to implement physical literacy. These included: use and access to resources/supports, the barriers teachers experience implementing physical literacy, and the influence of home/community connections.

While the individual interviews focused on the strategies used to implement physical literacy within the participant's classroom setting. The online survey data highlighted that:

- participants accessed a high number of resources (M = 4.23/6) and accessed them through a medium number of sources (M = 3.17/6).

- Participants identified a medium number of barriers related to implementation (M = 2.50/8) and a medium number of barriers specific to COVID-19 restrictions (M = 2.10/6).

- a low number of participants (5.71%) discussed physical literacy with parents and a medium number (40.00%) were aware of community programs that supported physical literacy.

Based on the results from the individual interviews, participants identified using a wide range of strategies to implement physical literacy as part of their HPE program. When describing the strategies they were using, participants often made connections with the broader implementation strategies they were using to implement their overall HPE program. Direction from the *Ontario Health and Physical Education, Grades 1-8* curriculum encourages teachers to use a wide range of instructional approaches, teaching strategies, and assessment and evaluation practices that meet the individual needs of students (Ontario Ministry of Education, 2019, p. 55-56). Also identified in the literature review in chapter two, when implementing physical education teachers are encouraged to use strategies that differentiate learning opportunities for students (Pot et al., 2018, p. 248) and provide students with increased autonomy (Flemons et al., 2018, p. 300). The individuals that participated in the interview process identified a high number of contributing factors that influenced and impacted their ability to implement physical literacy. Many of the areas identified were interconnected and complex, while some of the areas that

impacted the implementation of HPE the participants felt were beyond their control (e.g., school board and school related decisions).

One gap that emerged from the individual interviews regarding the implementation of physical literacy was the area of assessment and evaluation. This area was identified in chapter two as an important component related to the implementation of HPE. Although there was a noticeable absence of responses focused on assessment and evaluation, the majority of the participants did highlight the importance of approaching physical literacy as a journey and to focus on the journey being individualized for each student. As such, it may be difficult to identify ways to assess physical literacy in ways that authentically represent the journey metaphor.

Implications and Recommendations for Practice

Three interconnected strategies were generated from this research study that could potentially impact the effective implementation of physical literacy within the junior division classroom program in Ontario. These strategies include: (1) providing educators with opportunities to learn more about the holistic definition of physical literacy and how it can be applied more broadly beyond the implementation of HPE, (2) enhancing the tool used to measure self-efficacy to support the implementation of physical literacy within the junior division classroom that makes connections to the HPE, and (3) embracing the journey metaphor for the implementation of physical literacy to support teachers in their personal journey to develop the knowledge, skills and attitudes to implement physical literacy within their classroom program. I discuss these three strategies in the following sections.

Expand Understanding of Physical Literacy

Throughout this research study there appeared to be a disconnect between a participant's knowledge of the definition of physical literacy found in the *Ontario Health and Physical Education, Grades 1-8* curriculum and their understanding of the philosophical underpinnings and purpose behind the meaning of physical literacy. It is important to understand the interconnected elements that make up the definition of physical literacy in order to effectively implement physical literacy within the classroom setting "as all elements of physical literacy are essential and interconnected, the focus must be on operationalising the holistic concept of physical literacy" (Stoddart & Humbert, 2021, p. 754). As a result, the disconnect between the elements of physical literacy (i.e., affective, physical, cognitive, behavioural) outlined in the curriculum and the deeper understanding of the meaning of physical literacy may contribute to teachers not seeing the broader connections to their classroom program and the overall student learning experience. Providing opportunities for teachers to explore the deeper meaning of physical literacy and make connections between the philosophical underpinnings may promote a more comprehensive understanding of the purpose of physical literacy and how it can connect more holistically to student learning in their classroom program.

Enhance Self-Efficacy Tools

The use of the construct of self-efficacy in this research study provided participant level data that helped to better understand how the frequency of specific actions could potentially impact an individual's ability to implement physical literacy as part of their HPE program. The use of a self-efficacy construct could potentially assist in helping to developing a better understanding of the complex and individual nature associated with effective implementation of a subject area, in this case, HPE. As there is so much variability around the concept of

implementation, there could be more specific research done to examine effective implementation practices, the connections between self-efficacy actions and tools, the potential impact of these practices on student learning, and strategies to implement these strategies within the context of the junior classroom setting to assist teachers with examining and refining their personal practice. Based on the results of this thesis research, I agree with Stoddart et al. (2021) that "more empirical evidence is beneficial to further understand how teachers impact their students' physical literacy development" (p. 10).

Within this research study high levels of perceived self-efficacy were associated with a participant using more resources and identifying fewer barriers to implementation, including those barriers specifically related to COVID-19 restrictions. The development of a self-efficacy tool specific to the implementation of physical education and more specifically connected to physical literacy could help to provide teachers with a better understanding of the dimensions and actions they feel confident in, those that are emerging, and those that may require additional focus or development. There are many potential benefits associated with the development of a tool that can be used to measure teacher self-efficacy more consistently. The benefits would include being able to use evidence to support specific areas of impact within a classroom program and support the broader understanding of areas where individuals need professional support. Additionally, this could be used as a self-reflection tool to help inform an individual's professional practice.

Many of the existing tools available to use were either generic in nature (i.e., focused on overall teaching), intended for use with for other subject areas/disciplines (i.e., English, Science), or were specific to HPE, however, they did not align specifically with the focus of this research study (i.e., connected to the Ontario curriculum, focused on junior division HPE). This created a

need to modify an existing research tool to meet the needs of this study. This research study used the *Teaching Process Self-Efficacy Level of Teachers* scale that was developed by Korkmaz and Unsal (2016) that focused on more generic teaching actions. The questions were modified to align with the specific tasks related to HPE and the implementation of physical literacy. Additionally, it was challenging to isolate the measurement of implementation as it related to physical literacy as physical literacy is an overall goal of the *Ontario Health and Physical Education, Grades 1-8* curriculum and does not connect to the knowledge or skills identified as part of the student learning expectations. As a result, each participant's level of self-efficacy was measured through the knowledge and skills related to the implementation of their physical education program.

Embracing the "Journey" Metaphor

The journey metaphor resonated with the individuals that participated in the interview process of this research study. There was an overall understanding and acceptance of using this approach when discussing the implementation of physical literacy within their classroom program. The participants of the research study embraced the individual nature of the journey metaphor and highlighted the importance of having students engaged throughout the implementation process as well as ensuring student learning was focused on students achieving success based on their individual strengths and areas of need. Based on this connection, there may be an opportunity to align with this same metaphor with the implementation of physical literacy. The use of a journey metaphor could help teachers gain a better understanding that there are multiple ways of implementing physical literacy within a classroom program. This could also assist in teachers taking a more learner-centred approach to understanding the definition and strategies to implement physical literacy and increase their commitment to a lifelong approach to

implementation, instead of a "specialist" and "generalist" approach that is currently present in the Ontario education system when talking about the implementation of specific subject areas. Creating a culture shift in how teachers and administrators view physical literacy, and the diverse ways individuals can gain increased knowledge and skills, could help increase connections to previous experiences and increase the confidence of teachers to be able to implement physical literacy within their classroom program.

Implications and Recommendations for Future Research

After reviewing the findings and discussion from this research study there are three areas of potential future research. These included: (1) exploring how a more diverse range of knowledge of physical literacy and perceived levels of self-efficacy impacts a teacher's ability to effectively implement physical literacy, (2) exploring how a more holistic view of the definition of physical literacy impacts how teachers view their knowledge of physical literacy and how they rate their ability to implement physical literacy within the classroom program, and (3) exploring the development of a self-efficacy tool focused specifically on the dimensions and actions related to HPE implementation. I discuss these three areas in the following section.

More Diverse Participants

The first area of potential future research could focus on exploring the results of this research project using a more diverse range of participants. The participants in this research study primarily rated themselves as having high knowledge of physical literacy and a high level of perceived self-efficacy. This provided a challenge in determining how each participant's level knowledge of physical literacy and perceived level of self-efficacy impacted their ability to implement physical literacy. Finding a heterogenous grouping of participants, for example an elementary school or grouping of elementary schools within a region, could potentially expand

the range in which participants rated their knowledge of physical literacy and their level of self-efficacy. Using a more diverse group of participants would help to better understand the impact of the two conditions of this study on the overall implementation.

Expand Definition of Physical Literacy

The second area of potential future research could focus on exploring how providing participants with a broader definition of physical literacy would impact their level of knowledge. This research study used the definition currently in the *Ontario Health and Physical Education, Grades 1-8* curriculum. This definition includes the four key elements currently found in definitions of physical literacy (Whitehead, 2013; Mandigo et al., 2009); however, it does not include any information regarding the philosophical underpinnings and purpose of physical literacy (Hastie & Wallhead, 2015, Robinson & Randall, 2017, Whitehead et al., 2018). Including these additional areas in the definition could potentially provide participants with a more complete understanding of what physical literacy means and how it applies to the broader concept of implementation of student learning within HPE as well as beyond. Using an expanded definition helps to maintain the integrity of the definition as originally intended and provides participants with more elements to consider when measuring their understanding and ability to effectively implement.

Enhanced Self-Efficacy Tool

The third potential area of potential research could focus on the development of an enhanced self-efficacy tool that can be used to measure the effective implementation of physical education and more specifically physical literacy. The self-efficacy tool used in this research project was taken from a previous research study focused on the generic implementation of curriculum in a classroom program and modified to meet the specific purpose of this research

study. The absence of a current tool to measure implementation in physical education and physical literacy creates a challenge in determining how impactful the actions within the self-efficacy tool used would be to support the implementation of physical education within each participant's classroom program. The elements that make up effective implementation are complex and interconnected; developing a construct to help identify the actions that are supported by evidence that can support an individual's effective implementation of physical literacy would support the short- and longer-term measurement of physical literacy implementation. This approach would also help to build a more consistent approach to identifying and measuring effective implementation within HPE implementation and beyond.

Limitations

There were four limitations that were identified during the research study. The first two areas focused on the individuals that participated in the research study: (1) the overall number of participants that volunteered to participate in the online survey and (2) the lack of diverse representation within the individuals that participated in the interview process. The other two areas focused on the topic of physical literacy: (3) the areas of implementation that were addressed by the survey questions and (4) the participants' overall rating of physical literacy.

The first limitation was the overall number of participants that volunteered to participate in the research study. The online survey had significantly fewer participants than originally anticipated. Although a minimum number of participants was not identified at the outset of the research, it was anticipated that there would be more than 35 participants that successfully completed the online survey. The low number of overall participants impacted the study in a few different ways, including a limited ability to access a more diverse range of perspectives and the ability to validate the data provided throughout the online survey. The low number of

participants in the study may have resulted from only distributing the online surveys through the HPE subject association networks or as a result of the survey being distributed close to the end of the school year, during a time when teachers across the province were teaching remotely due to COVID-19 restrictions. The online survey took a voluntary response sample approach that allowed for any individuals meeting the specific criteria to participate. The criteria required to participate may have also been a barrier for individuals to participate as the survey may have been perceived by potential participants as only for HPE teachers. Throughout the recruitment phase of the research study the uptake was low and additional recruitment strategies were implemented, such as leaving the survey open for an additional week and posting additional reminders through the communication channels of HPE subject associations. Although I was able to access the anticipated number of individuals to participate in the one-on-one interviews the participants that responded ended up being a very homogenous group. The eight individuals that participated in the interview process were not representative of the larger population of HPE teachers in the province; instead, they had more years of experience, more focused time teaching HPE, and higher personal feelings towards HPE and physical literacy. This may have been a result of the increased accountability during an interview process related to a specific topic. All eight participants that agreed to participate in the interview were confident and provided examples and anecdotes from years of teaching experience. This level of comfort in the topic of physical literacy may have been a contributing factor in volunteering to participate, while individuals with a lower comfort level may not have felt confident in a more personal setting. The make up of the interview participants, shifted the type of data that could be drawn from the interviews as it was not from a wide range of perspectives but more from a grouping of individuals with similar backgrounds and experiences.

The second limitation was related to the concept of physical literacy used throughout the study. The initial limitation was that there was very little differentiation between the participants' knowledge of physical literacy. Using the definition of physical literacy from the *Ontario Health and Physical Education, Grades 1-8* curriculum helped to provide a consistent understanding of what physical literacy means across all participants in the study. However, almost all participants responded positive to both knowing the definition, and it being consistent with their definition of physical literacy. This made it very difficult to explore the research question as the one characteristic that was being examined had an almost unanimous positive response. This overly high rating from participants could have been due to accessing participants through subject associations from HPE and as a result the general level participant was already in some way connected to HPE more directly than an educator with more limited involvement with HPE. Alternatively, the scale used to respond to the questions regarding the participants' knowledge of physical literacy was 'yes' and 'no' potentially a better strategy would have been to use a wider range scale to capture this data and see more diversity in responses. Finally, the areas of implementation that were examined were not as fulsome as the areas that were identified in the literature review as this study used a previously developed and validated survey to collect data related to physical literacy. The questions that were used highlighted some areas of implementation however the three areas examined did not provide as complete a picture as could have been established.

Conclusion

The effective implementation of the *Ontario Health and Physical Education, Grades 1-8* curriculum provides students with the knowledge and skills to develop their physical literacy to "lead healthy active lives" (Ontario Ministry of Education, 2019, p. 6). As a result, the potential

impact of effectively implementing physical literacy within the HPE program is significant. Exploring evidence-informed factors that potentially impact the implementation of HPE within a classroom setting is an important part of developing a more comprehensive understanding of the types of strategies needed to support educators with the implementation. Positively impacting the quality of implementation within a teacher's HPE program can potentially transfer to improved student learning across the entire subject area and potentially influence a student's physical literacy journey.

Five themes were generated from this research study: (1) participants demonstrated a strong understanding of the definition of physical literacy as provided in the *Ontario Health and Physical Education, Grades 1-8;* (2) participants' self-efficacy for teaching HPE and its four dimensions (as reflected in their mean values) were similar; (3) participants indicated a need for a high number of resources/supports and accessed them through a medium number of sources; and (4) participants experienced a medium number of barriers for both implementation of HPE and more specifically related to COVID-19 protocols. One additional theme that emerged from the individuals that participated in the interview process was: (5) a consistent belief that the effective implementation of their HPE program significantly contributed to a student's physical literacy journey. Each of these themes helps to better understand a participant's knowledge of physical literacy, their perceived level of self-efficacy and their overall ability to effectively implement physical literacy within their classroom HPE program.

A high number of participants in this study rated themselves as having a high knowledge of physical literacy based on the definition provided within the *Ontario Health and Physical Education, Grades 1-8* curriculum as wells as a high level of perceived self-efficacy. The findings related to implementation of physical literacy were multidimensional and interconnected

and identified a number of potential opportunities to explore. Going forward, the data from this research study could be used to explore the use of an expanded definition of physical literacy that includes the philosophical underpinnings and the purpose behind physical literacy. This would potentially allow junior division educators to make connections to their HPE programs as well as more broadly to the overall classroom program. Additionally, exploring a self-efficacy tool that could be used specifically for HPE would also help to encourage the use of evidence informed practices within the classroom program to support the implementation of physical literacy. Going forward there is a potential opportunity to be able to develop tools to measure the effective implementation of physical literacy within the classroom program. This can be done through the use of a more holistic definition of physical literacy, enhancing tools used to measure a teacher's level of perceived self-efficacy, and embracing the journey metaphor for not only the acquisition of physical literacy knowledge and skills but for a teacher's implementation of physical literacy.

References

Almond, L., & Whitehead, M. (2012). Translating physical literacy into practice for ALL

    teachers. *Physical Education Matters*, *3*, 67–70.

    http://blogs.ubc.ca/ubcpe/files/2014/09/Translating-PL-into-practice-for-teachers-Fall-

    2012.pdf

Aspen Institute. (2015). Physical literacy in the United States: A model, strategic plan, and call

    to action. PhysicalLiteracy_AspenInstitute.pdf

Association for Physical Education. (n.d.). *Primary School Physical Literacy Framework*.

    https://www.afpe.org.uk/physical-education/wp-

    content/uploads/Physical_Literacy_Framework_Final.pdf

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), Encyclopedia of human

    behavior, *4*, 71-81. New York: Academic Press. (Reprinted in H. Friedman

    [Ed.], Encyclopedia of mental health. San Diego: Academic Press, 1998).

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of*

    Management, *38*(1), 9–44. https://doi.org/10.1177/0149206311410606

Cairney, J., Kiez, T., Roetert, E. P., & Kriellaars, D. (2019). A 20th-Century narrative on the

    origins of the physical literacy construct. *Journal of Teaching in Physical Education*,

    38(2), 79–83. https://doi.org/10.1123/jtpe.2018-0072

Cairney, J., Clark, H., Dudley, D., & Kriellaars, D. (2019). Physical literacy in children and

    youth – a construct validation study. *Journal of Teaching in Physical Education*, *38*(2),

    84-90.

Canadian Sport for Life (CS4L). (2017). Physical literacy definition.

    https://physicalliteracy.ca/physical-literacy/

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, *12*(3), 297–298. https://doi.org/10.1080/17439760.2016.1262613

Corbin, C. (2016). Implications of physical literacy for research and practice: A commentary. *Research Quarterly for Exercise and Sport*, *87*(1), 14–27. https://doi.org/10.1080/02701367.2016.1124722

Dudley, D. (2015). A conceptual model of observed physical literacy. *The Physical Educator*, *72*(SI), 236–260.

Dudley, D., & Cairney, J. (2021). Physical literacy: Answering the call for quality education and sustainable development. *Prospects (Paris)*, *50*(1-2), 5–11. https://doi.org/10.1007/s11125-020-09512-y

Duffin, L., French, B., & Patrick, H. (2012). The teachers' sense of efficacy scale: Confirming the factor structure with beginning pre-service teachers. *Teaching and Teacher Education*, *28*(6), 827–834. https://doi.org/10.1016/j.tate.2012.03.004

Durden-Myers, E., Whitehead, M., & Pot, N. (2018). Physical literacy and human flourishing. *Journal of Teaching in Physical Education*, *37*(3), 308–311. https://doi.org/10.1123/jtpe.2018-0132

Edwards, L., Bryant, A., Keegan, R., Morgan, K., & Jones, A. (2017). Definitions, foundations and associations of physical literacy: A systematic review. *Sports Medicine (Auckland)*, *47*(1), 113–126. https://doi.org/10.1007/s40279-016-0560-7

Edwards, L.C., Bryant, A.S., Morgan, K. Cooper, S-M., & Jones, A.M. (2019). A professional development program to enhance primary school teacher's knowledge and operationalization of physical literacy. *Journal of Teaching in Physical Education*, *38*(2), 126-135.

Ferkel, R.C., Razon, L.W., Judge, L.W., & True, L. (2017). Beyond "fun": The real need in physical education. *The Physical Educator*, *74*, 255-268.

Flemons, M., Diffey, F., & Cunliffe, D. (2018). The role of PETE in developing and sustaining physical literacy informed practitioners. *Journal of Teaching in Physical Education*, *37*(3), 299–307. https://doi.org/10.1123/jtpe.2018-0128

Gleddie, D., & Morgan, A. (2021). Physical literacy praxis: A theoretical framework for transformative physical education. *Prospects (Paris)*, *50*(1-2), 31–53. https://doi.org/10.1007/s11125-020-09481-2

Gencay, O. (2009). Validation of the physical education teachers' physical activity self-efficacy scale with a turkish sample. *Social Behavior and Personality*, *37*(2), 223–230. https://doi.org/10.2224/sbp.2009.37.2.223.

Green, N., Roberts, W., Sheehan, D., & Keegan, R. (2018). Charting physical literacy journeys within physical education settings. *Journal Of Teaching In Physical Education*, *37*(3), 272–279. https://doi.org/10.1123/jtpe.2018-0129

Greene, B. (2018). *Self-Efficacy and Future Goals in Education* (First edition). Taylor and Francis. https://doi.org/10.4324/9781315523019

Hastie, P. A., & Wallhead, T. L. (2015). Operationalizing physical literacy through sport education. *Journal of Sport and Health Science*, *4*(2), 132–138. https://doi.org/10.1016/j.jshs.2015.04.001

Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology*, *105*(3), 774–786. https://doi.org/10.1037/a0032198

Humphries, C., Hebert, E., Daigle, K., & Martin, J. (2012). Development of a physical education teaching efficacy scale. *Measurement in Physical Education and Exercise Science*, *16*(4), 284–299. https://doi.org/10.1080/1091367X.2012.716726

International Physical Literacy Association. (2017). Definition of Physical Literacy. International Physical Literacy Association (physical-literacy.org.uk)

Jurbala, P. (2015). What is physical literacy, really? *Quest (National Association for Kinesiology in Higher Education)*, *67*(4), 367–383. https://doi.org/10.1080/00336297.2015.1084341

Kirk, D. (2013). Educational value and models-based practice in physical education. *Educational Philosophy and Theory*, *45*(9), 973–986. https://doi.org/10.1080/00131857.2013.785352

Klassen, R., & Tze, V. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review*, *12*, 59–76. https://doi.org/10.1016/j.edurev.2014.06.001

Korkmaz, F., & Unsal, S. (2016). Developing the scale of teacher self-efficacy in teaching process. *European Journal of Educational Research*, *5*(2), 73–83. https://doi.org/10.12973/eu-jer.5.2.73

Law, B., Bruner, B., Scharoun Benson, S.M., Anderson, K., Gregg, M., Hall, N., & Tremblay, M.S. (2018). Associations between teacher training and measures of physical literacy among Canadians 8- to 12-year-old students'. *BMC Public Health, 18*(Suppl 2), 75-85.

Longmuir, P. E., Gunnell, K. E., Barnes, J. D., Belanger, K., Leduc, G., Woodruff, S. J., & Tremblay, M. S. (2018). Canadian assessment of physical literacy second edition: A streamlined assessment of the capacity for physical activity among children 8 to 12 years of age. *BMC Public Health*, *18*(2), N.PAG. https://doi.org/10.1186/s12889-018-5902-y

Mandigo, J., Francis, N., Lodewyk, K., & Lopez, R. (2009). Physical literacy for educators. *Physical & Health Education Journal*, *75*, 27–30.

Mandigo, J., Lodewyk, K., & Tredway, J. (2019). Examining the impact of a teaching games for understanding approach on the development of physical literacy using the passport for life assessment tool. *Journal Of Teaching In Physical Education*, *38*(2), 136–145. https://doi.org/10.1123/jtpe.2018-0028

Mandigo, J., Thompson, L.P., Spence, J.C., Melnychuk, N., Schwartz, M., Causgrove Dunn, J., … & Marshall, D., (2004). A descriptive profile of physical education teachers and related program characteristics in Alberta. *The Alberta Journal of Educational Research*, *50*(1), 87-102.

Martin, L., & Mulvihill, T. (2019). Voices in education: Teacher self-efficacy in education. *The Teacher Educator*, *54*(3), 195–205. https://doi.org/10.1080/08878730.2019.1615030

Martin, J., & Kulinna, P. (2003). The development of a physical education teachers' physical activity self-efficacy instrument. *Journal of Teaching in Physical Education*, *22*(2), 219–232. https://doi.org/10.1123/jtpe.22.2.219

O'Neil, K., & Krause, J. (2019). Physical education teacher education faculty self-efficacy toward educational technology. *The Physical Educator*, *76*(5), 1287–1305. https://doi.org/10.18666/TPE-2019-V76-I5-9107

Ontario Ministry of Education. (2019). *The Ontario curriculum grades 1-8: Health and physical education*. http://www.edu.gov.on.ca/eng/curriculum/elementary/2019-health-physical-education-grades-1to8.pdf.

Ontario Ministry of Education. (2021). *Number of Elementary and Secondary Schools by School Board/School Authority.* Number of elementary and secondary schools by school board/school authority - Datasets - Ontario Data Catalogue

Patton, M. (2015). *Qualitative research & evaluation methods : Integrating theory and practice* (4th ed.). Sage Publications Ltd.

People for Education. (2018). The new basics for public education, *People for Education annual report on Ontario's publicly funded schools 2018*. https://peopleforeducation.ca/wp-content/uploads/2018/06/AnnualReport18_Web.pdf.

Pot, N., Whitehead, M.E., & Durden-Myers, E.J. (2018). Physical literacy from philosophy to practice. *Journal of Teaching in Physical Education*, 37(3), 246-251.

Pruski, L., Blanco, S., Riggs, R., Grimes, K., Fordtran, C., Barbola, G., …Lichtenstein, M. (2013). Construct validation of the self-efficacy teaching and knowledge instrument for science teachers-revised (SETAKIST-R): Lessons learned. *Journal of Science Teacher Education*, *24*(7), 1133–1156. https://doi.org/10.1007/s10972-013-9351-2

Robinson, D.B., Randall, L., & Barrett, J. (2018). Physical literacy (mis)understandings: What do leading physical education teachers know about physical literacy. *Journal of Teaching in Physical Education*, *37*(3), 288-298.

Robinson, D.B., & Randall, L. (2017). Marking physical literacy or missing the mark on physical literacy? A conceptual critique of Canada's physical literacy assessment instruments. *Measures in Physical Education and Exercise Science*, *21*(1), 40-55.

Society of Health and Physical Educators (SHAPE) America (2015). Physical Literacy in Physical Education/ SHAPE America

Shearer, C., Goss, H. R., Edwards, L. C., Keegan, R. J., Knowles, Z. R., Boddy, L. M…. & Durden-Myers, J., (2018). How is physical literacy defined? A contemporary update. *Journal of Teaching in Physical Education*, *37*(3), 237-245. https://doi.org/10.1123/jtpe.2018-0136.

Skaalvik, E., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, *99*(3), 611–625. https://doi.org/10.1037/0022-0663.99.3.611

Sport Australia. (2019). Australian physical literacy framework. *Australian Sports Commission*. The Australian Physical Literacy Framework (sportaus.gov.au).

Stoddart, A. L., & Humbert, M. L. (2017). Physical literacy is...? What teachers really know. *PHEnex Journal = Revue PhénEPS, 8*(3). http://proxy.library.brocku.ca/login?url=https://search-proquest-com.proxy.library.brocku.ca/docview/2336248971?accountid=9744

Stoddart, A. L., & Humbert, M. L. (2021). Teachers' perceptions of physical literacy. *The Curriculum Journal*, *32*(4), 741-757.

Stoddart, A. L., Humbert, M. L., Kerpan, S., Cameron, N., & Kriellaars, D. (2021). PLitPE: an intervention for physical literacy enriched pedagogy in Canadian elementary school physical education classes. *Physical Education and Sport Pedagogy*, 1-17.

Tremblay, M., Costas-Bradstreet, C., Barnes, J., Bartlett, B., Dampier, D., Lalonde, C….& Leidl, R., (2018). Canada's physical literacy consensus statement: process and outcome. *BMC Public Health*, 18(Suppl 2), 1–18. https://doi.org/10.1186/s12889-018-5903-x

Truelove, S., Johnson, A. M., Burke, S. M., & Tucker, P. (2019). Comparing Canadian generalist and specialist elementary school teachers' self-efficacy and barriers related to physical education instruction. *Journal of Teaching in Physical Education*, *40*(1), 10-20.

Whitehead, M. (1993). Physical literacy. Unpublished paper presented at the *International Association of Physical Education and Sport for Girls and Women Congress*. Melbourne, Australia.

Whitehead, M. (2001). The concept of physical literacy. *European Journal of Physical Education*, *6*(2), 127–138. https://doi.org/10.1080/1740898010060205

Whitehead, M. (2013). Definition of physical literacy and clarification of relevant issues. *ICCSPE Bulletin Journal of Sport Science and Physical Education*, *65*, 29-34.

Whitehead, M., (2010). *Physical Literacy: Throughout the Lifecourse*. Routledge. https://doi.org/10.4324/9780203881903

Whitehead, M., Durden-Myers, E., & Pot, N. (2018). The value of fostering physical literacy. *Journal of Teaching in Physical Education*, *37*(3), 252–261. https://doi.org/10.1123/jtpe.2018-0139

Zee, M., & Koomen, H.M.Y. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research*, *86*(4), 981–1015. https://doi.org/10.3102/0034654315626801

Appendix A: Online Survey

INVITATION. Physical Literacy Survey

Dear Teacher,

You are invited to participate in a research study entitled Physical Literacy: Impact of Knowledge and Self-Efficacy on Implementation. The purpose of this research project is to examine the connection between a junior division teacher's knowledge of physical literacy, perceived level of self-efficacy and their ability to implement physical literacy within the classroom setting.

The Principal Investigator of this research is Dr. Tim Fletcher, Associate Professor in the Department of Kinesiology at Brock University, the Co-Principal Investigator is Dr. Jamie Mandigo, Adjunct Professor, Department of Kinesiology at Brock University, and the Principal Student Investigator is Steve Soroko, a Master's student in the Faculty of Applied Health Sciences at Brock University.

To be eligible to participate in this study you must be:
(1) teaching in an Ontario school;
(2) using the Ontario, Health and Physical Education, Grades 1-8 curriculum; and
(3) teaching Health and Physical Education to at least one junior division (grades 4, 5, 6) class.

If you meet these criteria and choose to participate, you will be asked to complete an online survey that will take approximately 15 minutes. The online survey will gather data on your knowledge of physical literacy, as defined in the HPE curriculum, and your perceived level of self-efficacy related to implementing the HPE curriculum. At the end of the online survey you will be asked if you would like to participate in a one-on-one interview. Up to eight individuals will be randomly selected from the participants that indicated interest. This interview will be audio-recorded for transcription purposes. This will take approximately 45 minutes and will take place virtually at a time convenient to you.

If you have any questions or require any additional information, please contact the Principal Student Investigator at the contact information below.

Thank you for your assistance in this project.

Sincerely,

Dr. Tim Fletcher   Dr. James Mandigo   Steve Soroko
Principal Investigator   Co-Principal Investigator   Principal Student Investigator
Email: tfletcher@brocku.ca   Email: jmandigo@brocku.ca   Email: ss04oi@brocku.ca

CONSENT FORM.
Physical Literacy Survey
Monday, June 7, 2021

The Invitation and Consent Form are to inform you of a research study and seek your permission to participate. The purpose of this research study is to examine how an Ontario junior division teacher's knowledge of physical literacy, as outlined in provincial curricula, and perceived level self-efficacy for teaching HPE influence their ability to implement physical literacy as part of their HPE program?

To be eligible to participate in this study you must be:
(1) teaching in an Ontario school;
(2) using the Ontario, Health and Physical Education, Grades 1-8 curriculum; and
(3) teaching Health and Physical Education to at least one junior division (grades 4, 5, 6) class.

WHAT'S INVOLVED
If you meet the criteria above and choose to participate, you will be asked to complete an online survey that will take approximately 15 minutes. The online survey will gather data on your knowledge of physical literacy, as defined in the HPE curriculum, and your perceived level of self-efficacy related to implementing the HPE curriculum. At the end of the online survey, you will be asked if you are interested in participating in a one-on-one interview (during the weeks of June 28 and July 5). From the list of participants that volunteer, eight individuals will be randomly selected to participate in the interview process. Participants will be randomly selected using an electronic randomizer program.

This interview will be audio-recorded using a recording device for transcription purposes. The interview will take approximately 45 minutes and will take place virtually at a time convenient to you. Within 5 days of the interview the participant will receive a copy of the transcript from their interview to review.

Participants will be given 10 days to review the transcript and provide any edits/additions/clarifications necessary. In the case a participant does not return the transcript it will be assumed that the participant is happy with the content of the interview in the form that was provided to them, unless the participant requests to withdraw from the research study.

POTENTIAL BENEFITS AND RISKS
If you participate in this study you will not directly benefit from participation (e.g., there is no payment for participating nor elevation in status or qualification), nor will you be penalized for not participating or withdrawing.

It is anticipated that this type of research will help provide a better understanding of the impact that a teacher's perceived self-efficacy and knowledge of physical literacy will have on their ability to implement it within the classroom setting. There are no known or anticipated risks associated with participation in this study.

VOLUNTARY PARTICIPATION
Participation in this study is completely voluntary and you may withdraw from the study at any time and for any reason without penalty. You can withdraw from the study by either not fully completing the online survey or by emailing the Principal Student Investigator at any point throughout the research study. Should you choose to withdraw from the research study, all the data that has been provided will be deleted and destroyed.

CONFIDENTIALITY
Although it is not possible to guarantee that participation in this study will be anonymous as the Principal

and Co-Principal Investigators as well as the Principal Student Investigator will have access to the data, all personal information will be kept confidential, and participant's privacy will be a high priority throughout the research study.

Online Survey: Upon completion of the online survey, participants will be randomly assigned a code that is unique to this study. Analysis of the online survey data will only use this unique code. A participant's personal information provided for the purposes of receiving a final research report will be extracted from the data and kept in a separate file and not connected back to any data analysis process.

One-on-One Interviews: Personal information provided for the purposes of participating in the one-on-one interviews will be extracted from the data and kept in a separate file that connects the unique code with the personal information of the participant. The unique codes will be used to randomly identify 8 participants that will be invited to participate in the interview process. The unique codes of these individuals will be connected back to the personal information to contact the participants via email and invite them to participate in the interview process. All data collected during the interview process will minimize the use of any personal information (e.g., name and identify of the individual participating) and this information will be kept confidential during the transcription of the interview by using the unique codes and using gender neutral pronouns.

All data collected during this study will be stored on password-protected computers. Data will be kept only until the completion of the research study (approved by Master's advisory committee), after which time any hardcopy documents will be confidentially shredded and electronic files will be permanently erased. All audio data will be transcribed from a digital recording device onto a computer. These audio files will be stored on a password protected computer.

Please note that with your permission, quotations may be used in final reports of the research. Please note that no information will be reported that will render your quotations personally identifiable.

PUBLICATION OF RESULTS
Results of this study may be published in professional journals and presented at conferences to audiences of teachers and researchers. Participants interested in receiving a copy of the final report will be asked to provide their email address in the online survey, alternatively participants can email the Principal Student Investigator directly at (ss04oi@brocku.ca) to be put on a list to receive a copy of the final report and/or executive summary.

CONTACT INFORMATION AND ETHICS CLEARANCE
If you have any questions about this study or require further information, please contact the Principal Investigator or Principal Student Investigator using the contact information above. This study has been reviewed and received ethics clearance through the Office of Research Ethics at Brock University (#20-300). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca.

Thank you for your assistance in this project.
Please keep a copy of this form.

Dr. Tim Fletcher   Dr. James Mandigo   Steve Soroko
Principal Investigator   Co-Principal Investigator   Principal Student Investigator
tfletcher@brocku.ca   jmandigo@brocku.ca   ss04oi@brocku.ca

CONSENT.
I agree to participate in this study. I have made this decision based on the information I have read in this letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

I confirm, my interest in participating in this survey (select one)

Yes   No

 Welcome to the survey!
The survey includes four sections:
Part A: Demographics (6 questions)
Part B: Physical Literacy (9 questions)
Part C: Self-Efficacy (20 questions)
Part D: Wrap Up (3 questions)

- -

PART A: Q1 During the 2020-21 school year, I am teaching in an Ontario (select one)

○ Publicly funded school board (1)

○ School Authority (2)

○ Private School (3)

○ I do not teach in an Ontario school (63)

PART A: Q2 During the 2020-21 school year, I teach the following grade(s) (select all that apply)

☐   Full Day Kindergarten (1)

☐   Grade 1 (2)

☐   Grade 2 (3)

☐   Grade 3 (4)

☐   Grade 4 (5)

☐   Grade 5 (6)

☐   Grade 6 (7)

☐   Grade 7 (8)

☐   Grade 8 (9)

PART A: Q3 During the 2020-21 school year, I teach the following subject(s) (select all that apply)

☐   The Arts (1)

☐   French as a Second Language (2)

☐   Health and Physical Education (3)

☐   The Kindergarten Program (4)

☐   Language (5)

☐   Mathematics (6)

☐   Native Languages (7)

☐   Science and Technology (8)

☐   Social Studies, History and Geography (9)

☐   Other, please specify (10)

Display This Question:

If During the 2020-21 school year, I teach the following grade(s) (select all that apply) != Grade 4
And During the 2020-21 school year, I teach the following grade(s) (select all that apply) != Grade 5
And During the 2020-21 school year, I teach the following grade(s) (select all that apply) != Grade 6
Or During the 2020-21 school year, I teach the following subject(s) (select all that apply) != Health and Physical Education
Or During the 2020-21 school year, I am teaching in an Ontario (select one) = I do not teach in an Ontario school

Thank you for your interest in the study!
Unfortunately, based on your responses, you do not meet one or more of the criteria to participate in this study. The criteria to participate requires: During the 2020-21 school year, participants must be:
(1) teaching in an Ontario school;
(2) using the Ontario, Health and Physical Education, Grades 1-8 curriculum; and
(3) teaching Health and Physical Education to at least one junior division (grades 4, 5, 6) class.

If you would like to review your responses click on the back button (at the bottom of the screen) to review your responses.

Skip To: End of Survey If Thank you for your interest in the study!   Unfortunately, based on your responses, you do not m... Is Displayed
End of Block: SECTION 1: DEMOGRAPHICS

Start of Block: SECTION 1B

PART A: Q4 During the 2020-21 school year, I teach Health and Physical Education to (select the response that most accurately reflects your current teaching assignment)

○ Multiple classes, in multiple schools (2)

○ All/majority of the classes (in multiple divisions), in one school (1)

○ All/majority of Junior Division (Grades 4-6) classes, in one school (3)

○ A few classes (2 or more), in one school (4)

○ Only one class, in one school (5)

PART A: Q5 Including the 2020-21 school year, how many years have you been:

	1-5 years (1)	6-10 years (2)	11-15 years (3)	16-20 years (4)	20+ years (5)
teaching (1)	○	○	○	○	○
teaching in the Junior Division (Grades 4-6) (2)	○	○	○	○	○
teaching HPE in the junior division? (3)	○	○	○	○	○

PART A: Q6 How would you characterize your personal feelings towards:

	Positive (1)	Neutral (2)	Negative (3)	N/A (4)
participating in HPE class when you were in elementary school (1)	○	○	○	○
your personal physical literacy journey (2)	○	○	○	○
teaching Junior Division (Grades 4-6) HPE (3)	○	○	○	○
participating in professional learning related to HPE (4)	○	○	○	○

End of Block: SECTION 1B

Start of Block: SECTION 2: PHYSICAL LITERACY

PART B: PHYSICAL LITERACY

The *Ontario, Health and Physical Education, Grades 1-8* curriculum defines physical literacy as:

Individuals who are physically literate move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy 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 that are both beneficial to and respectful of their whole self, others, and their environment.
Ontario, Health and Physical Education, Grades 1-8, p. 7 (2019)
Reference: Physical and Health Education Canada

PART B: Q1 Keeping in mind the physical literacy definition from the *Ontario, Health and Physical Education, Grades 1-8* curriculum:

	Yes (1)	No (2)
a) Does the definition adequately reflect what physical literacy means to you? (1)	○	○
b) Does your teaching develop physical literacy during physical education? (2)	○	○

PART B: Q2 What resources or supports do you need to effectively develop physical literacy in your students? (select all that apply)

- ☐ Lesson plans (1)

- ☐ Activity ideas (2)

- ☐ Professional development opportunities (3)

- ☐ Assessment tools (4)

- ☐ Video demonstrations (5)

- ☐ Online resources (6)

- ☐ Other, please specify (7) _____

Page Break

PART B: Q3 Where do you get these resources/support? (select all that apply)

☐ School (1)

☐ School Board (2)

☐ Ophea (Ontario Physical and Health Education Association) (3)

☐ OASPHE (Ontario Association for the Support of Physical and Health Education) (4)

☐ PHE Canada (Physical and Health Education Canada) (5)

☐ Other, please specify (6) _____

PART B: Q4 What barriers do you face in developing physical literacy in your students? (Select all that apply)

☐ The concept of physical literacy is unclear (1)

☐ Access to facilities (school & community) for students to participate in physical activities (2)

☐ Time allocated for physical education classes (3)

☐ Time to prepare to teach physical education (9)

☐ Lack of opportunities for professional development (10)

☐ Accessing resources (print, web, etc) (11)

☐ Accessing appropriate and sufficient equipment (15)

☐ Other (please specify) (16) _____

Page Break

PART B: Q5 Beyond the definition of physical literacy, does the current Ontario, Health and Physical Education Grades 1-8 curriculum adequately address physical literacy for teachers?

○ Yes (1)

○ No (2)

Skip To: PART B: Q6 If Beyond the definition of physical literacy, does the current Ontario, Health and Physical Education. = Yes

PART B: Q5a You selected no, what is one area that would assist teachers.

_____

Page Break

PART B: Q6 Do parents discuss physical literacy with you?

○ Yes (1)

○ No (2)

Page Break

PART B: Q7 Are you aware of community initiatives that promote physical literacy?

○ Yes (1)

○ No (2)

Page Break

PART B: Q8 Have COVID-19 restrictions impacted your ability to put the definition of physical literacy into practice/action within your health and physical education class(es)?

○ Yes (1)

○ No (2)

Skip To: PART B: Q9 If Have COVID-19 restrictions impacted your ability to put the the definition of physical literacy i... = No

PART B: Q8a You selected yes, which of the selections below has impacted your ability to put the definition of physical literacy into practice/action? (Select all that apply)

☐   Lack of consistent messaging (1)

☐   Lack of resources (2)

☐   Lack of school/school board support (6)

☐   Lack of opportunities for students to participate in health and physical education classes (3)

☐   Lack of parents/guardian support (4)

☐   Other, please specify (5) _____

Page Break

PART B: Q9 What is the most pressing questions you have about physical literacy as it relates to your Health and Physical Education program?

_____

End of Block: SECTION 2: PHYSICAL LITERACY

Start of Block: PART C - TEACHER SELF-EFFICACY

PART C: TEACHER SELF-EFFICACY SCALE
The questions in this section are designed to gain a better understanding of the kinds of things that can potentially impact a teacher's self-efficacy.

Self-efficacy is based on an individual's belief about their ability to carry out actions successfully and effectively. These beliefs can impact how an individual feels, thinks, and motivates themselves to act.

Rank each question in this section using the 5-point scale provided.

Page Break

PART C: Q1 I emphasize effective student participation during health and physical education classes.

○ 1-Never (1)

○ 2-Rarely (4)

○ 3-Sometimes (5)

○ 4-Often (6)

○ 5-Always (7)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q2 I try to ask questions during health and physical education classes directed to comprehending the subject.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q3 I try to use my voice tone and body language effectively throughout the learning-teaching process in my health and physical education classes.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q4 I begin health and physical education classes after establishing student attention.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q5 I help students gain self-confidence during health and physical education classes through activities that make students feel comfortable.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q6 I do not move to the next area in health and physical education without giving feedback or making corrections.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q7 I check the readiness levels of students before beginning a health and physical education class.

- ○ 1-Never (1)

- ○ 2-Rarely (2)

- ○ 3-Sometimes (3)

- ○ 4-Often (4)

- ○ 5-Always (5)

- -

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q8 I help the students acquire various social emotional skills (e.g., stress management and coping, critical creative, problem solving) through activities in the health and physical education class.

- ○ 1-Never (1)

- ○ 2-Rarely (2)

- ○ 3-Sometimes (3)

- ○ 4-Often (4)

- ○ 5-Always (5)

- -

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q9 I arrange activities during health and physical education classes according to the needs and expectations of students.

   ○ 1-Never (1)

   ○ 2-Rarely (2)

   ○ 3-Sometimes (3)

   ○ 4-Often (4)

   ○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q10 I arrange activities during health and physical education classes for increasing student motivation.

   ○ 1-Never (1)

   ○ 2-Rarely (2)

   ○ 3-Sometimes (3)

   ○ 4-Often (4)

   ○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q11 I try to relate student acquisition of knowledge and skills during health and physical education classes with daily life.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q12 I arrange student acquisition of knowledge and skills during health and physical education classes so that they can convey them to their actual life.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q13 I try to create a setting during health and physical education classes where the students can express themselves freely.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q14 I carry out activities during health and physical education classes that develop creative thinking.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q15 I try to use learning-teaching strategies, methods and techniques during health and physical education classes appropriately.

   ○ 1-Never (1)

   ○ 2-Rarely (2)

   ○ 3-Sometimes (3)

   ○ 4-Often (4)

   ○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

`X→`

PART C: Q16 I use information and communication technologies (computer, projection, the internet) during health and physical education classes.

   ○ 1-Never (1)

   ○ 2-Rarely (2)

   ○ 3-Sometimes (3)

   ○ 4-Often (4)

   ○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

`X→`

PART C: Q17 I strive for students to obtain information from different sources during health and physical education classes.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q18 I use an inquiry model and help students acquire information with their own effort during health and physical education classes.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q19 I think that effective use of time during health and physical education classes is important.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

Page Break

Carry Forward Displayed Choices from "I emphasize effective student participation during health and physical education classes."

X→

PART C: Q20 For an effective teaching process, I begin health and physical education classes with an interesting introduction.

○ 1-Never (1)

○ 2-Rarely (2)

○ 3-Sometimes (3)

○ 4-Often (4)

○ 5-Always (5)

End of Block: PART C - TEACHER SELF-EFFICACY

Start of Block: Section 4: Next Steps

PART D: NEXT STEPS
Thank you for completing the survey.
Your Unique Survey ID# is:${e://Field/UNIQUE_ID}

The next step in the research study will be to randomly select individuals to participate in one-on-one interviews.

Individuals that volunteer to participate in the interviews will be contacted the week of June 28th to let you know whether or not you were selected to participate.

PART D: Q1 I would like to participate in the one-on-one interview portion of this research study.

   ⃝ Yes (1)

   ⃝ No (2)

- -

PART D: Q2 I would like to receive a copy of the final research study.

   ⃝ Yes (1)

   ⃝ No (2)

- -

Page Break

Display This Question:
   If I would like to participate in the one-on-one interview portion of this research study. = Yes
   Or I would like to receive a copy of the final research study. = Yes

PART D: Q3 To participate in the interview process and/or receive a copy of the final report please provide your contact information below.

   ⃝ Name (1) _____

   ⃝ Email Address (2) _____

End of Block: Section 4: Next Steps

Appendix B: Interview Guide for One-on-One Interviews

PART A: WELCOME
- Thank you for agreeing to participate in the one-on-one interview process for this study.
- Before we begin, please confirm the following information you provided on the online survey:
  - Name: [as stated in the data]
  - School Board: [as stated in the data]
  - Grade(s) taught in 2019-20 school year: [as stated in the data]
- I sent you a two-page information sheet for your review prior to the interview along with the questions. Did you receive this information? [Yes / No]
- I want to confirm that you are aware of four elements that were communicated by email when you were informed about participation in the one-on-one interview process. Are you aware that:
  - This interview will be recorded and transcribed?
  - You will have a chance to review the transcribed notes from this interview?
  - The information you provide will be anonymous and nothing will be attributed to you?
  - You have the right to withdraw from the study at any time?

PART B: VERBAL CONSENT
Do you consent to participate in the one-on-one interview? [Yes / No]

PART C: INTERVIEW QUESTIONS
1. What does the term "physical literacy" mean to you?

2. How important is knowledge of physical literacy for a physical education teacher today?

3. If you were to walk into a physical education class that is focused on the development of physical literacy what would you see, hear, feel?

4. Based on your overall teaching experience, what structures and supports have had the greatest impact on your ability to implement physical literacy within your health and physical education classes?

5. Which area do you feel as the biggest impact on your ability to implement physical literacy in your classes? Explain why.
a. Your ability to respond to individual differences
b. Your ability to plan
c. Your ability to use a variety of methods and techniques
d. Your competency to use a wide-range of activities

6. Based on your experience during the 2020-21 school year, implementing physical literacy as part of the health and physical education curriculum.
a. What is one thing that you know now that you wish you knew then?
b. What is one piece of advice you would give a colleague?

c. How has COVID-19 restrictions impacted your ability to implement physical literacy within your class(es)?

7. To what extent do you feel you are able to contribute to the overall physical literacy journey of the students in your class?
a. What is preventing you from making a bigger impact?

PART D: CLOSING
We are at the end of the interview. Thank you for your taking the time to participate in the interview process.

The timing and next steps will be:
- [date] you will receive a follow up email from me with key information and next steps.
- [date] you will receive the transcribed notes by for your review.
- I am hoping you be able to review and return the transcribed notes by [date] – is this timeline realistic? If not, what would be a more realistic date?
- I am anticipating the final review of the data will be completed by [date].

If you have any additional questions or concerns please feel free to contact me at ss04oi@brocku.ca.