



**Implementing Physical Literacy: Exploring New Teachers’
Early Experiences in Health and Physical Education**

Lauren Tristani

Department of Kinesiology and Health Science
York University
Toronto, Ontario
Canada

Jessica Fraser-Thomas

Department of Kinesiology and Health Science
York University
Toronto, Ontario
Canada

Lauren Tristani is a PhD candidate at York University in the department of Kinesiology and Health Science. Extending from her Master’s work, her doctoral research focuses on training teachers to facilitate effective and inclusive physical education for students with disabilities.

Jessica Fraser Thomas is an Assistant Professor in the School of Kinesiology and Health Science at York University. Her research focuses on children and youths’ development through sport with particular interest in positive youth development and psychosocial influences.

Abstract

School health and physical education (H&PE), alongside school-based interventions can be a vehicle to enhance children's health and development (Reiner et al., 2013). Physical literacy (PL) was introduced into Ontario's H&PE curriculum, to raise program quality and provide students with the competence and confidence to engage in varied PA over the life course (Ontario Ministry of Education, 2010). The purpose of this study was to examine new H&PE teachers' early experiences in relation to PL, specifically focusing on their education/training, perceptions, and implementation of PL in school settings. Ten new specialized H&PE teachers engaged in semi-structured interviews, which were analyzed, informed by a grounded theory approach (Corbin & Strauss, 2008). Results suggest various breakdowns within three major educational components (i.e., formal teacher education, curriculum, and teaching practicum), hindering the successful implementation of PL. Practical implications and future directions are discussed through the lens of the three aforementioned themes.

Key words: physical activity, curriculum, teacher education, Ontario

Résumé

L'éducation physique et à la santé en milieu scolaire accompagnée d'interventions au niveau de l'école peut contribuer à l'amélioration de la santé des enfants et à leur développement (Reiner et al., 2013). Le concept de littératie physique a été inséré dans le curriculum d'éducation physique et santé de l'Ontario, pour améliorer la qualité de ce programme tout en amenant les élèves à développer leurs compétences et leur confiance pour ainsi les inciter à s'engager dans diverses activités physiques tout au long de leur vie (Ontario Ministry of Education, 2010). Le but de cette recherche est de décrire les premières expériences de nouveaux enseignants d'éducation physique et santé de ce concept de littératie physique, plus spécifiquement leur parcours éducatif et formation à l'enseignement, leurs perceptions et leur mise en oeuvre du concept en milieu scolaire. De nouveaux enseignants (10) d'éducation physique et santé ont répondu à des questions dans le cadre d'une entrevue semi-structurée; leurs réponses ont été analysées à l'aide de l'approche de théorisation ancrée (Corbin et Strauss, 2008). Les résultats font apparaître diverses incohérences entre les trois éléments de la formation des enseignants (formation universitaire; programme scolaire; stages en formation à l'enseignement) qui nuisent grandement à la mise en oeuvre de la littératie physique dans le programme scolaire. Les implications pratiques et des orientations futures seront discutées en lien avec ces trois éléments.

Mots clés: activité physique; curriculum; formation à l'enseignement; Ontario

Introduction

In recent years, there has been a marked decline in children's fitness levels, coupled with rapid increases in occurrences of overweight and obesity (Deckelbaum & Williams, 2001; Tremblay et al., 2010), with approximately one third of children and youth in Canada (aged 2-17) considered overweight or obese (Peirson et al., 2015). This is particularly concerning given associations between childhood obesity and negative physical and psychosocial health consequences (Deckelbaum & Williams, 2001; Sanders, Han, Baker, & Cobley, 2015). Further, there is a rising trend of death due to chronic illnesses (Ontario Agency for Health Protection and Promotion, 2012). Consequently, there is interest in addressing these health concerns at earlier developmental stages.

A growing body of literature proposes that there is a positive relationship between the acquisition of fundamental movement skills and motor skill proficiency, and habitual physical activity (PA) participation (Lubans et al., 2010), and that PA and health behaviours established at a young age track into adulthood (e.g., Telama, et al., 2005). Moreover, movement related competence has been suggested to be a primary factor related to PA and sport participation (Stodden et al., 2008). As such, PA has the potential to act as a preventative measure to stave off future incidence(s) of illness and chronic disease (Reiner, Niermann, Jekauc, & Woll, 2013; Twisk, Kemper, & Van Mechelen, 2002).

Various intervention strategies have been both proposed and examined in relation to combating the childhood obesity crisis, and enhancing overall health across the life course (Waters et al., 2011). The current literature is replete with research that identifies the school as an important and economical channel for PA interventions (Brown & Summerbell, 2009; Norris, et al., 2015). School-based interventions, alongside school Health and Physical Education (H&PE), have the potential to improve children and youths' long-term health through exercise, while creating lifestyle patterns of regular PA (McGoey et al., 2015). Most recently, physical literacy (PL) has been viewed as a promising potential combative strategy to the current health crisis among young people, leading to a push to promote PL within compulsory education (Murdoch & Whitehead, 2010).

The concept of PL first emerged in the mid-1990s (Whitehead, 2001); however, the concept was rapidly popularized, and often misunderstood or misrepresented. In 2014, the International Physical Literacy Association (IPLA) revisited the definition of PL, proposing PL as "the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life" (Whitehead, 2013, p.1). The IPLA proposed four essential and interconnected elements within this definition: (a) motivation and confidence; this affective element refers to an individual's enthusiasm for, enjoyment of, and self-assurance in adopting PA, (b) physical competence; this physical element focuses on an individual's ability to develop movement skills and patterns, in different intensities and durations, (c) knowledge and understanding; cognitive elements of PL include an individual's ability to identify qualities that influence movement, understand health benefits of PA, and appreciate safety considerations of PA, and (d) engagement in PA for life; this behavioural element refers to individuals taking responsibility for PL by choosing to be active in meaningful challenging activities on a regular basis.

Physical and Health Education (PHE) Canada currently operates from an earlier definition of PL, describing individuals who are physically literate 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” (PHE Canada, 2013b, para. 1); however, PHE Canada also endorses the IPLA’s (2014) definition. In 2015, the Ontario Ministry of Education released new elementary and secondary Health and Physical Education (H&PE) curricula¹; these curricula introduced PL, in line with Whitehead’s (2007) recommendation of the “nurturing and establishment of PL” (p. 287) as an underpinning goal of educational institutions. One leading expert suggested that Ontario’s new H&PE curricula offered “possibly one of the most sophisticated H&PE programs in the world” (Mandigo, 2012, October 20, para. 2) as it was believed to have the potential to raise the quality of H&PE (Ontario Ministry of Education, 2010) and enhance health, by providing students with the skills and confidence to become and remain active for life (McKean, 2013).

Physical literacy (PL) – as described in both PHE Canada’s (2013b) definition, and the IPLA’s (2014) definition - draws upon a holistic notion concerned with both physical and psychosocial wellbeing, and has become a part of the H&PE discourse over the past several years, with increasing interest focused upon incorporating its concepts into educational practices (Mandigo, Francis, Lodewyk, & Lopez, 2009). Jurbala (2015) likens the sequence of PL to reading, in that one must first begin by, “gathering and conceptualizing, generating and internalizing meaning, and *writing*, making an expressive, externalized response” (p. 375). Essentially, PL depends upon individuals developing the necessary tools, scaffolding and progressing through skill acquisition, understanding and applying how to make appropriate decisions regarding PA, and ultimately learning how to adapt PA to their surrounding environment, with consideration to physical, psychological, and social dimensions. Thus, PL provides individuals the opportunity to build competence and confidence in their fundamental movement skills, which in turn leads to increased self-esteem and enjoyment, which subsequently positively effects engagement (Barnett et al., 2009). In this way, the school environment has the potential to move the student beyond the acquisition of traditional PE requirements, or current PA guidelines; rather PL allows an individual to create and foster lifelong health behaviours (IPLA, 2014).

Despite growing interest in school-based PL in Canadian curricula, Canadian H&PE programs do not appear to be optimally promoting PL. For example, Canada’s 2016 ParticipAction Report Card indicated a D+ score in areas relating to PL, revealing that less than 50 percent of Canadian children are achieving the recommended “levels of physical competence, knowledge, motivation and daily behaviours needed for a physically active lifestyle” (p. 29). Moreover, ParticipAction (2016) reported that only 7% of school aged children and youth regularly take a minimum of 12,000 steps per day (i.e., the equivalent of meeting the PA recommendations in Canada’s 24-Hour Movement Guidelines for Children and Youth; Canadian Society for Exercise Physiology, CSEP, 2016). Further, in 2014, Active Healthy Kids Canada reported that only “55% of Canadian school administrators had a fully implemented policy for daily PE” (p.56), stating “a gap remains between the existence of policies and programs and their implementation by schools” (p.58). Similar challenges have been outlined internationally;

¹ The Ontario Ministry of Education released a new elementary (i.e., Grades 1-8) H&PE curriculum in 2010, which included the concept of PL; however, due to public apprehensions surrounding sexual health material, the curriculum was withdrawn approximately three months after being issued (Ophea, 2012). In 2012, the Ontario Ministry of Education released an interim version of the 2010 elementary H&PE curriculum, which was utilized until the 2015 (revised) version was released. Given issues surrounding the release of the elementary H&PE curriculum, the new secondary (i.e., Grades 9-12) H&PE curriculum was not released until 2015.

Marshall and Hardman (2000) found that although requirements for H&PE programs existed in 92% of surveyed countries, implementation in accordance with guidelines occurred in only 71% of cases.

As such, further research is required to explore PL's theoretical and practical implementation through H&PE curricula and teaching practices. Pre-service teachers provide an appropriate lens through which to explore these issues, as teacher education has been shown to impact teaching quality and student outcomes (Kirk, 2005; Musset, 2010). Modifying teachers' initial education is a successful avenue to increase their effectiveness, and subsequently, positively influence students' achievements (Darling-Hammond, Holzman, Gatlin, & Heilig, 2005). Further, the teaching practicum, where new teachers engage in practical experience, is noted as a critical component of the learning process (Beck & Kosnik, 2002). Consequently, new teachers bridge the gap between theory and practice within a relative short time frame, through their teacher education and practicum experiences.

Purpose and Rationale

Although school-based H&PE programs have the potential to facilitate healthy physical and psychosocial development (McGoey et al., 2015), it has been argued that programming is less than optimal (AHKC, 2014). When emerging concepts such as PL are built into new curricula (in part to address program failings) it is important to understand the pre-service education, implementation, and learning processes accompanying these introductions. As such, the purpose of this study was to examine new H&PE teachers' early experiences in relation to PL, with a specific focus on their pre-service teacher education, perceptions, and implementation of PL into school settings. Specifically, this study (a) examined the education and training of new specialized H&PE teachers (i.e., intermediate and senior level) received in relation to PL, (b) explored new H&PE teachers' perceptions of PL, and (c) gained an understanding of how new H&PE teachers implemented the concepts of PL into school H&PE settings. It should be noted that several key developments occurred in a short time frame following data collection for this study (i.e., a new (IPLA, 2014) definition of PL was outlined, Ontario's revised elementary and new secondary (2015) H&PE curricula were released, and new pre-service teacher education protocol was implemented in Ontario, beginning in September 2015 (Ontario College of Teachers, 2013, June 20); however, findings of this study speak more broadly to the challenging processes of integration of a new concept into curricula, with a focus on the important interconnected roles of pre-service teacher education, learning, and practices, subsequently offering insight into more effective means for such processes to occur.

Method

Research Design

Grounded theory involves the generation and discovery of theory (Glaser, 2001). This study was informed by a grounded theory approach, allowing for the exploration of integral social relationships and behaviour(s) where there had been little exploration (Corbin & Strauss, 2008; Crooks, 2001). This study design facilitated detailed exploration into new teachers' early experiences through education and introduction into the teaching profession, using a systematic set of data collection and analysis procedures, in turn allowing for the emergence of a preliminary model of understanding. Specifically, this study allowed for the identification of emerging relationships between new teachers' education, and offered implications for practice.

Context and Participants

At the time of data collection, during the summer of 2013, there were several factors affecting the climate among Ontario educators. Specifically, Ontario was facing an overabundance of teacher graduates, causing a surplus and putting a strain on the job market (McIntyre, 2011; Ontario College of Teachers, 2012). Additionally, Ontario's H&PE educators were operating from a difficult position with regard to curriculum. While a new elementary H&PE curriculum integrating concepts of PL had been released in 2010, concerns were raised related to the content pertaining to sexual health presented in the document, and full implementation of the curriculum was halted. Following modifications, an interim edition of the elementary H&PE curriculum was released in 2012, but a new secondary school curriculum had not yet been released, leaving secondary schools operating from the 1999 secondary H& PE curriculum, which did not include the concept of PL. Lastly, educators motioned to strike in the fall of 2012, and while the bill was repealed in January of 2013, some tensions remained between the government and school officials, resulting in many teachers withholding duties performed outside of the classroom (i.e., extracurricular activities), which resumed only in late March of 2013 (Abarbanel, 2013; Lawes, 2013; Rushowy & Furguson, 2013).

Given the aforementioned issues, many new teachers were reluctant to participate in the study. The final sample included 10 (n=6 male; n=4 female) new H&PE specialist teachers. H&PE specialists were targeted, as they were assumed to have greater knowledge of concepts related to PL. Because elementary teachers are trained as 'generalists' during their teacher education, all recruited teachers were trained at the Intermediate/Senior (i.e., Grades 7-12) level. Participants had graduated from four different Faculties of Education in the province of Ontario during the three years prior to data collection (i.e., between 2010-2013). We aimed to recruit within this window (i.e., graduation since 2010) given concepts of PL were gaining growing prominence within education around this time (i.e., PHE Canada (2013b) offered a definition of PL, Ontario's (2010) H&PE's elementary curriculum included the concept of PL.) All but one participant met this criterion; however he/she was nonetheless included, as he/she showed considerable awareness of PL concepts within the context of the curriculum and pre-service teacher education. At the time of data collection, Education programs in Ontario were eight months in duration, prior to a change to the 16-month program in September 2015 (Ontario College of Teachers, 2013, June 20). Participants' ages ranged from 23 to 27 years (M = 25 years). None of the 10 participants held a full time position within a school board at the time of data collection; two participants were on supply teaching lists (and doing occasional supply teaching at across grade levels), and one was on the waitlist for a supply list. The remaining seven participants were at that time working outside of the teaching profession, due to the poor job climate and lack of available job opportunities. All participants were continuing their education by taking Additional Qualification (AQ) courses through the Ontario College of Teachers, and held part-time jobs in various disciplines (i.e., some unrelated to teaching). Each participant was assigned a pseudonym to maintain anonymity.

Data Collection

Following ethical approval from the affiliated institution, participants were recruited through snowball sampling, whereby the researcher collected data from a few members within a defined population, then asked those individuals to provide information to locate other members of the population (Noy, 2008). All participants were provided with an overview of the research project and were required to complete a consent form.

Participant information questionnaire. Initial participant information was gathered through a two-page descriptive questionnaire that pertained to participants' demographic information and education background. Sample questions included, "At what university did you attain your teaching degree?" and "In what year did you graduate?" Information was also gathered to ensure participants met the study criteria (e.g., "What are your current teaching qualifications?" and "What is your first teachable?"). Furthermore, open-ended questions were used to inform and create a more robust interview guide. Examples included, "List some of the key strengths of your Teachers' College experience" or conversely, "List some of the key challenges you faced during Teachers' College".

Semi-structured interviews. Participants engaged in semi-structured interviews, which allowed for deep exploration of experiences (Drever, 1995) and provided useful data among a small sample size, while still allowing for in-depth thematic analysis (Alvarez & Urla, 2002). The flexible nature of semi-structured interviews also allowed the researcher to make thought provoking interjections, facilitating further explanation of the interviewees' arguments to emerge (Drever, 1995). The interview guide was created following a review of the literature in fields related to PE, PL, teacher training, and child and youth PA and development (e.g., Green & Thurston, 2002; Makopiulou & Armour, 2011; Mandigo, et al., 2009). Additionally, in developing the guide, the primary research engaged in discussions with numerous stakeholders within the field of education, including current and retired H&PE teachers, a high school principal, and a superintendent of education, all of whom offered unique perspectives regarding H&PE, and subsequently, helped inform and pilot the interview guide to assure optimal relevance. Piloting of the guide resulted in minor revisions to questions, including the inclusion of more colloquial language and terminology. The final interview questions focused on three key areas, aligning with the three main purposes of the study. First, participants were asked about their experiences throughout the education and training process, particularly in relation to PL (e.g., "Tell me about your experiences in Teacher's College. What were some of the major focal points of your H&PE classes?"). Second, questions focused on new teachers' perceptions of PL and how they understood and operationally defined the concept (e.g., "What is your understanding of PL?" "What does it mean to be physically literate?"). Third, questions focused on how PL was integrated in a classroom/gymnasium setting, particularly throughout their teaching placements/practicums (e.g., "Tell me about your learning throughout your teaching placement(s)." "(How) were concepts of PL integrated within your placement?")

Interviews were conducted in person ($n = 7$) or via telephone ($n = 3$) and ranged in duration from 45 to 90 minutes. Telephone interviews were used for individuals that were more geographically dispersed; telephone-based interviews have been used extensively in qualitative research, offering a well-supported alternative to in-person interviews (Novick, 2008). Interviews were scheduled at the convenience of the participants at a neutral location, between July and September 2013.

Data Analysis

Each interview was audio recorded and transcribed verbatim, with minor editing done in order to clearly and accurately communicate the full intended meaning (e.g., filter words such as "um" and "uh-huh" were removed) (Weiss, 1994). Data was analyzed through a multi-step practice used to develop and derive theory (Corbin & Strauss, 2008), commencing immediately following collection, to ensure interplay between the data collection and analysis processes (Corbin & Strauss, 2008). First, transcripts were read and re-read to assure integrity. Throughout

this process, open coding was used to identify concepts and uncover properties and dimensions within the data (Corbin & Strauss, 2008). Line-by-line examination of transcripts facilitated the creation of descriptive, multi-dimensional categories that formed a preliminary framework for analysis. Specifically, text was divided into meaningful pieces of information known as meaning units. Words, phrases and events that appeared to be similar in meaning were grouped into the same category. Responses aligned with the primary objectives of the study concerning how (a) teacher education introduced and taught concepts pertaining to PL, (b) PL was understood and how (c) this understanding translated into later stages of implementation.

Axial coding and selective coding (Corbin & Strauss, 2008) were subsequently used in the analysis process. Through axial coding, data were restructured creating associations and links between categories; ultimately working towards building a conceptual model (Corbin & Strauss, 2008). This step involved not only describing, but also understanding the phenomenon from different perspectives. Finally, selective coding was used to select central categories and formalize relationships to develop a theoretical framework (Corbin & Strauss, 2008), whereby the process of integrating and refining theory involved constant consideration to core categories. The data collection and analysis process continued until a point of theoretical saturation was met, whereby the data did not reveal any new properties or emerging dimensions (Glaser, 2001).

Trustworthiness

In accordance with Shenton's (2004) suggested strategies for ensuring trustworthiness of the research, various methods were utilized. Firstly, "familiarity with the culture participating" (p. 65) was established both through scholastic (e.g., research) and practical (e.g., piloting) terms. Secondly, the primary researcher engaged in debriefing sessions and constructive discussions with a colleague with expertise in pedagogy, children's PA, and qualitative analysis, throughout the course of data collection, whereby discussions concerning the research process, experiences, success and failures, and the primary researchers' own biases and assumptions were brought to light. Lastly, participant transcripts were made available to participants should they choose to review them for purposes of accuracy and fidelity.

Results

Three key themes were identified through the data analysis process, with each participant placing a unique and substantive focus on their experience(s) surrounding these three themes. Specifically, the three central components to new teachers' early experiences surrounding PL were: (a) formal teacher education, (b) curriculum, and (c) teaching practicum. These three components align closely with the primary objectives of the study; they are described and explained through subcategories and associated concepts below.

Formal Teacher Education

This first component on formal teacher education informs objective one, concerning how new teachers were introduced to PL. Teachers spoke extensively about their preparation and teacher education within their Faculties of Education with specific focus on H&PE. New teachers most often noted an insufficient curricular focus, and insufficient time to gain knowledge, resulting in an inadequate exposure to PL within formal setting.

Insufficient curricular focus. Many participants felt that their pre-service teacher education experience did not focus sufficiently on curriculum. As Brian revealed, "To be honest,

I can probably count on one hand the times that we looked at the [H&PE] curriculum during class.” Similarly, Jennifer explained,

We opened the document [H&PE curriculum] from time to time. We looked at what the expectations were for each unit - what the students had to achieve or should be competent in doing... But we never really went over the different ways we can get the same outcome.

Further, a third participant suggested focus was placed instead on classroom management (i.e., organization, diffusing conflict, and administration), at the expense of better curricular understanding, further emphasizing the lack of PL focus.

Insufficient time to gain knowledge and practice. Many of the new teachers also identified time as a limiting factor in both the practical and theoretical settings, suggesting increased time in the program would have allowed them to gain a greater depth of knowledge in terms of literature and research related to H&PE, and more specifically PL, as well as provide them with more time to experiment, implement new ideas, and further develop their teaching skills. As Daniel noted, “I really wish I had more time...More time to learn and practice. I feel like we just skimmed the surface.” Other new teachers expressed their insecurities regarding their ability to translate their knowledge into practice: “The curriculum is a huge document and tells you what should... what needs to be taught... but it doesn’t tell you how” (Andrew). Participants felt they had an inadequate amount of time to become confident in the curricular content, including PL.

Curriculum

Informing the second objective of how PL is understood by new teachers, and closely tied to their experiences in formal teacher education, were teachers’ concerns about knowing, understanding, and applying their H&PE curriculum document. This theme accentuates the gaps both in the learning of PL as well as a lack of evaluation criteria within the curriculum.

Lack of a definition of physical literacy. New teachers often highlighted the lack of a definition of PL in the 1999 version of the secondary school curriculum, which they were working from, resulting in a trickle-down effect to their own understanding and integration of the concept. Christopher highlighted this idea by saying,

[PL] was never discussed extensively... Um, to be honest, I'm not sure of the exact definition but I ... I surmise that PL has to do with um, understanding one’s ability, understanding what is required to be physically active, and if I'm way off the mark, then I'm way off the mark there...”

Further, some participants discussed a disjointed focus between teaching “traditional” sports and facilitating PL, which ultimately caused difficulty in their perceptions of the definition; “I think the understanding of PL is lost” (Daniel). Participants also struggled to legitimize PL to non-H&PE specialists without a clear definition. As Michael argued, “other teachers need to know this [PL] is just as important as learning to read;” yet he and others suggested they struggled to promote PL within educational contexts.

Disjointed elementary and secondary curricula. New teachers (who were H&PE specialists at the secondary level) spoke about difficult circumstances surrounding PL’s fragmented introduction across the elementary (i.e., Grades 1-8) and secondary (i.e., Grades 9-12) H&PE curricula. As Michael said, “[PL] is not in the [1999 secondary school] curriculum so we aren’t quite sure what it looks like at the high school level.” Another participant revealed concern pertaining to the discontinuity, “We took a look at both [elementary and secondary

H&PE curricula]... It's pretty similar but some things [i.e., PL] are missing from the high school curriculum... We [elementary and secondary H&PE teachers] need to all be on the same page" (Christopher).

“Creative” integration of physical literacy. Although many participants had only a vague idea of PL, numerous believed that the curriculum had such great depth that they could adapt and modify units to incorporate PL principles. Nicole said, “You can add PL. Its pretty much in line with what we teach now anyways. We can change the way we word instructions or how a drill is performed to have it more reflect it [PL].” Michael furthered this point saying, “We put our own spin on things. If we want to add PL in there we could find a way.” For example, Daniel described the process of teaching students the components of movement, in line with his understanding of fundamental movements, which he aligned with PL:

If you can train them to recruit their muscles properly, then if down the line something happens and they get pushed, or anything, you know if they're able to tumble the right way or move the right way, then they're helping themselves.

Lack of curricular assessment and evaluation criteria. Participants expressed frustration regarding lack of direction in assessment and/or evaluation of PL within the curriculum, suggesting there were no measurement tools for PL. “Sure! [PL is] a great concept but how can I tell if a student is making progress...getting better?” (Amanda). As Daniel emphasized, “My job is to evaluate progress. I love watching a student get better, improve. But with PL, it's not clear [from the curriculum] what I am looking for so I can't help my students.”

Teaching Practicum

Finally, in line with the third objective of the study, new teachers spoke extensively about their experiences trying to translate PL theory into their own practice. While the aim was for new teachers to reflect on all of their teaching experiences, they focused almost exclusively on their experiences within teaching practicum placements, given their limited experience as employed teachers (i.e., at the time of data collection, only 2 of the 10 were regularly teaching - as occasional teachers). This theme highlights the participants' challenges within the classroom.

Weak fundamental movement skills. New teachers' first challenge seemed to be rooted in students' weak fundamental and basic movement skills. According to PHE Canada's (2010) definition of PL, the confidence that accompanies a PL individual, is closely related to their competence in fundamental movement skills (i.e., body management, locomotion, object control); however, it appeared that many youth were entering secondary H&PE with limited PL foundations. As Michael said, “It feels like we are teaching from scratch. Some kids come to high school and can't shoot or pass a ball ...They don't have skills to build on.” These movement discrepancies often resulted in teaching challenges, as new teachers found they were grossly modifying lesson plans to teach rudimentary skills, and foregoing other aspects of the curriculum that involved more complexity or increased intricacy (e.g., group play, more advanced games, sport-specific activities). Sarah expressed her frustration saying, “Sometimes my lesson plans go out the window in September because I get a batch of students that just don't have the skills.”

Associate teachers' approach to content delivery. While most new teachers spoke positively about associate teachers' (i.e., practicum teaching supervisors) mentorship role in supporting them and providing them with appropriate feedback, some also expressed concerns about their associate teachers' approach to content delivery. Brian said, “... the mentor teachers that I was paired with - great teachers - but, you know, stuck in their ways. Taught things their way - the way they've been teaching it for 10 to 15 years.” New teachers often expressed a desire

to implement new approaches or content (i.e., PL), but some were hesitant or even fearful to challenge the status quo. Participants expressed their tendency to both accept and embody current practices instead of integrating new ideas, "...every unit and every component just seemed to flow together. Was it innovative or anything? No, but it worked" (Nicole).

Perpetuated sport-based physical education. In line with findings outlined above, participants commented on the perpetuated sport-based PE program, whereby classes were conducted in a very traditional manner which entails units built around specific sports, skills and technique taught and practiced in isolation, and often concludes with a game whereby the skills are practiced within context. As Daniel described, "For instance, basketball. There's basketball drills, learning how to dribble, doing lay-ups, proper technique in taking foul shots, learning the rules, three seconds in the key, travelling, double dribbling – all before we actually engage into a game." New teachers commented on this in relation to a lack of change in curricular approach around PL. "The [H&PE] classroom seems to be the same year after year. The students see typical sports, practice, and then make teams and play the game" (Daniel). "Some things especially related to the health units have really evolved since I was in high school. But the gym aspect doesn't seem to be going through the same changes or evolution" (Andrew). Although participants were fairly critical of this sports-based approach, it is interesting to note that none offered substantive suggestions as to how to further enhance current programming.

Assessment and evaluation. Given new teachers' concerns regarding the curriculum's lack of guidelines to assess PL within the curriculum, it follows that they also struggled to assess and evaluate concepts of PL in their teaching practice. These challenges were further accentuated by the Ministry of Education's focus on observable and measureable learning outcomes (Després, Kuhn, Ngirumpatse, & Parent, 2013). Daniel asked, "How do you explain to a parent that their child is physically literate? Children, parents, and even other teachers understand grades - grades alone." Furthering this notion, Brian spoke to the need for standardized criteria in order quantify evaluation, "How can I deem that a student is meeting the requirements [of PL]? If I can't answer those questions, I can't teach it. I need to put a grade on their report card." New teachers did however share an optimism that if applied in an effective manner, PL had the potential to allow the teacher to view the student and his/her progress more holistically; they believed PL would facilitate H&PE's move away from the sport-based model of teaching and evaluating, to focus instead on students' progress. Sarah outlined the current predicament with regard to evaluating skill or ability versus progress:

Some students come into class with talent so what I can teach them and the gains they make over the semester may be small in comparison to the student who isn't the best athlete and increases their fitness test by a lot. That doesn't mean that each student isn't making progress - just the progress is different...

Christopher also emphasized the value of assessing progress saying, "This [PL] isn't math. It isn't black or white, right answer or wrong. This is moving and growing and becoming proficient."

Discussion

PHE Canada (2013b) has suggested that PL can only occur when quality H&PE programs are in place – and that quality programs must "provide students with the knowledge and skills necessary to develop a positive attitude toward PA..." (PHE Canada, 2017, para. 5). However,

the findings outlined above make the reader keenly aware of a lack of consistency and potential lack of emphasis on PL within the current structure.

Towards a Model of New Teachers' Experiences Integrating Physical Literacy

A model presenting new teachers' experiences integrating PL is presented in Figure 1, providing an overview of how the concepts and themes are interrelated. In developing our model, our findings were analyzed, compared, and understood within the context of past H&PE and pre-service teacher education research and theory. In sum, interplay between the formal teacher education, curriculum, and teaching practicum suggest that various breakdowns were occurring, hindering the successful integration of PL in practice. Our findings are in line with Cohen and Ball's (1999) work, which revealed the existence of a dynamic relationship between curriculum, teacher, and student. Specifically, they noted the importance of each element and their interconnectivity in the educational success, given each cannot operate independently. Our proposed model outlining interactions between teacher education, curriculum, and teaching practicum may inform future processes whereby teachers are being prepared and trained to integrate new concepts into curricula.

Curriculum. Firstly, it appears that the root of many of the challenges in the effective integration of PL tied back to issues of the curriculum. A prominent finding of this study is that new teachers had a poor understanding of the concept of PL, and this appeared to be largely due to the lack of a clear working definition of PL within the 1999 secondary curriculum, from which new teachers were working at time of data collection. This challenge was further accentuated by the patterns of release of new curricula documents. Specifically, while a new elementary H&PE curriculum that included concepts of PL was released in 2010, this document was quickly retracted and full release of a revised elementary and new secondary curriculum was held off until 2015 - leading to an extended period of disjointed curricula. New teachers also had concerns about the structure and content of the 1999 secondary curriculum document they were working with, and how to best integrate more current concepts such as PL (further discussed below). Cohen and Ball (1999) emphasize the influence and impact that curriculum has on instruction, asserting the importance of new teachers' introduction and familiarity with the curriculum and its content.

Formal teacher education. Building upon the findings related to curriculum, come notions associated to teacher training and preparation within Faculties of Education. New teachers expressed concerns regarding insufficient or non-comprehensive education in PL, despite PL being an emerging focus of H&PE curricula; they did not feel they were being provided with suitable baseline knowledge or resources to adequately understand PL. Part of this problem may have been a result of disconnect between teacher preparation experiences delivered by Faculties of Education and curricular documents delivered by Ministries of Education. While participants outlined that PL was being discussed in their specialized H&PE teacher qualification course, they suggested the breadth and depth were limited, given the lack of operational definition in the secondary level H&PE curriculum at the time of data collection.

These findings may be explained in part by the increased pressure on teacher education and preparation programs in recent years (Darling-Hammond, 2006). During the late twentieth century, reforms in teacher education programs facilitated a shift from primarily knowledge based to greater practical training (Kitchen & Petrarca, 2014). Subsequently, concerns were raised regarding adequate time spent in formal education settings acquiring theoretical knowledge (Kleickmann et al., 2013), which in part led to the doubling of Ontario Faculties of Education

programs' length from 8 to 16 months beginning in 2015 (Ontario College of Teachers, 2013, June 20). Newer programming is said to involve prolonged time within the practicum environment and an enhanced focus on pertinent curricular topics (i.e., mental health, technology, and special populations) (Ontario College of Teachers, 2013, June 20). Further, while it has been argued that although a standards-based structure may seem imperative to ensure teacher quality and the legitimization of the profession, this frequently does not translate into PE contexts (e.g., Kloeppe, Hodges-Kulinna, & Cothran, 2012). While it is evident that teacher education and teacher training programs are imperative to raising education quality, there is a significant gap in understanding how H&PE teachers can be effective in guiding students to achieve outcomes such as PL. It has been recommended that more extensive pre-service training or professional development take place in order to ensure teacher quality and the integration of key developmental concepts (i.e., PL) (McKenzie & Lounsbury, 2013).

Teaching practicum. The context in which breakdowns in PL integration were most evident was in practice. New teachers expressed difficulties integrating PL within their teaching placements due to unfamiliarity with the definition, leading to a subsequent disconnect in subject matter and teaching approach. In addition, associate teachers were often unclear about concepts of PL and failed to lend knowledge or mentorship to new teachers. Subsequently, new teachers most often described adopting traditional teaching methods and approaches as demonstrated by their associate teacher. These findings are supported within the realm of education literature, as the teaching practicum has been found to play a significant role in the pre-service education process (Beck, & Kosnik, 2002). Further, research has shown associate teachers have the potential to demonstrate power and control over their student teachers, perpetuating traditional teaching methods that may be dated or lack innovation (Russell, McPherson, & Martin, 2001; Clarke, Triggs, & Nielsen, 2014). New teachers' fear of making changes in the classroom and challenging the "status-quo" acted as a detriment in the evolution of H&PE and development or progression of teaching style(s). Given the quality and success of the practicum is dependent on the role and effectiveness of the supervising teacher (Koerner, Rust, & Baumgartner, 2002), there is a need to study potential power relationships within H&PE teaching practicum, and how to optimize a positive learning environment for pre-service H&PE teachers.

Additionally, the sports-based H&PE approach seemed particularly problematic, as participants suggested this approach could in fact hinder students who were not athletically inclined. Indeed, the sport-based approach is not in line with the tenants of PL, as it hinders opportunities for students to develop and build upon fundamental movement skills, while often failing to provide them with opportunities to practice and scaffold these skills, moving from basic to more complex. Ennis (1996) reported that within such a traditional culture of H&PE, students are profiled based on sport-related skillfulness, and in turn provided greater opportunities and prestige within the classroom. Sport-based PE may also be detrimental to lifelong enjoyment of PA (Ennis, 1996) - by stifling opportunities for PL, students are less likely to development competence and subsequent confidence through engagement in a wide variety of PA. Instead, an optimal PE environment should focus on the development of motor skills and movement proficiency, enhancing students' affective beliefs in their capabilities, ultimately increasing the likelihood of their habitual and lifelong PA and/or sport participation (Lubans et al., 2010; IPLA, 2014). As such, it appears that associate teachers may have unintentionally been doing an injustice to incoming educators, by placing them in a similar cycle whereby H&PE and sport become synonyms, with more innovative and multidimensional approaches to teaching PL pushed aside.

Also of interest were findings that new teachers often found creative and innovative ways to integrate concepts of PL into the predominantly sports-based curriculum. This finding may have initially appeared to offer promise for the integration of PL moving forward, given the ease with which new teachers appeared able to integrate concepts of PL, as well as their eagerness to do so. However, this finding actually raised significant concerns, given new teachers admitted to having only limited understanding of PL. Specifically, new teachers appeared to have over-simplified interpretations of PL, which failed to acknowledge the important interconnections between movement competence and confidence, movement environments, and individuals' motivation to engage in various forms of PA (IPLA, 2014; PHE Canada, 2013b). In order to ensure both quality and continuity of PL's integration, it is essential that PL be integrated effectively within practical settings, and for this to occur, each component of the education system must work in unison in order to achieve student success, given the interplay between teacher and curriculum (Cohen & Ball, 1999).

Lastly, there were key challenges surrounding feasibility of assessment and evaluation within teaching practicums. For example, the Ontario Ministry of Education's substantive focus upon observable and measurable results to assess and evaluate (Després et al., 2013) made the lack of a tool to quantify and track progress towards PL extensively problematic. Further accentuating this issue was the diversity of students' skill levels when entering classes, with many students at the very low or limited end of the spectrum – perhaps a reflection of insufficient or ineffective H&PE programming in earlier years. These issues again play back into notions related to the curriculum document, as a clear working definition of PL within curricula would lay the foundation for the development of an appropriate tool for formative and summative assessment.

As Gibbs and Simpson (2004) highlighted, student learning is best supported when instruction and assessment are based on clear learning goals and are differentiated according to student learning needs. Similarly, Tremblay and Lloyd (2010) expressed that “careful measurement will improve the standards, expectations, profile, credibility, and confidence of the profession, leading to more physically literate children” (p. 30). In the summer of 2013 (approximately one year after data collection), preliminary assessment tools emerged to evaluate PL, which continue to be studied and refined. Specifically, the Canadian Assessment for PL (CAPL, 2013), Passport for Life (PHE, 2013a) and the Physical Literacy Assessment for Youth (PLAY, 2013) offer instructional protocol allowing educators to quantify various components of PL (Canadian Sport for Life, 2015). The development of these tools offers a significant landmark, providing educators, coaches, parents, and children with the ability to evaluate PL levels and assess and track progress (Canadian Sport for Life, 2015); however, their practicality and effectiveness within the elementary and secondary educational setting remains a key area of discussion and attention among researchers and practitioners alike.

Robinson and Randall (2016) offered a “conceptual critique” of recently developed measurement tools, based upon three major themes; usability, trustworthiness, and fidelity. While Robinson and Randall commented upon the strengths of each tool, they suggested that when the tools were viewed in conjunction, they were substantively disjointed, and tended to use different PL language to measure different interpretations of PL. Essentially, inconsistencies in interpretations of PL as noted in the findings of this study, remain problematic in the measurement and evaluation of PL. Thus, while evident progress is being made within the realm of PL, particularly on theoretical and conceptual levels (i.e., IPLA 2014 definition), there remain apparent challenges in operationalizing the concept of PL on a more practical level.

Having a weak understanding of PL, coupled with a disorganized approach to evaluation is problematic. A more definitive understanding of the knowledge-practice gap will be imperative to advancing PL within school settings and having PL viewed as a legitimized literacy among non-H&PE teachers.

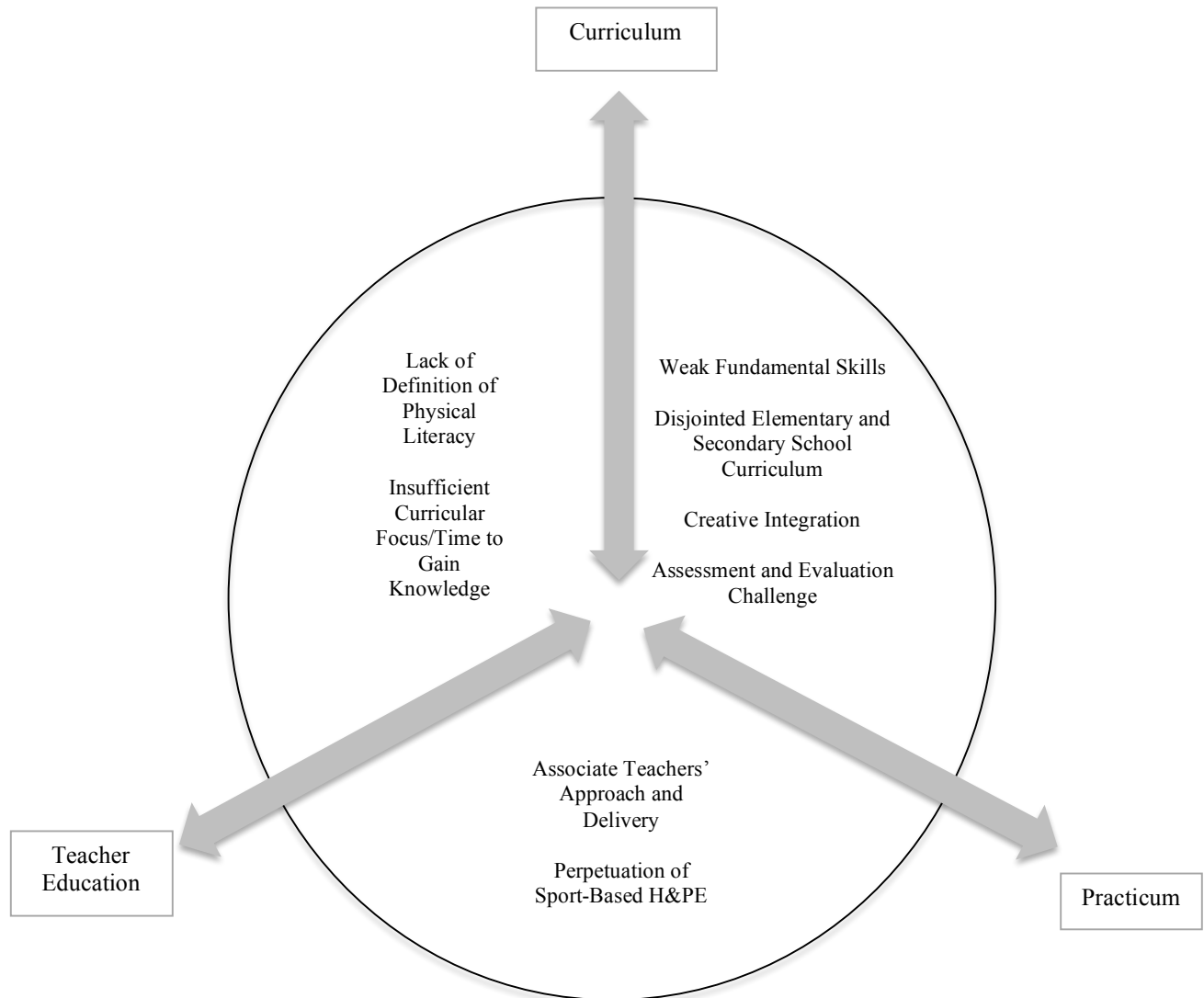


Figure 1. Model of New teachers' Experiences Integrating Physical Literacy

Practical Implications

In sum, study findings suggest that successful integration of PL is heavily reliant on a comprehensive curricular document, which clearly defines and demonstrates PL, alongside complementary formal teaching practices, and practical teaching experience(s). As evidenced within the first component of our model, the adoption of PL in the classroom (i.e., gymnasium or PE context) will continue to be thwarted until a stronger and/or formalized presence is created

within curriculum documents. Further, a curricular document that incorporates assessment criteria is necessary in order to provide a strong vision regarding student goals and outcomes. A comprehensive vision as to the evolution of PL, through all grade levels is required, so that teachers can structure H&PE programs in such a way that learning objectives can be monitored long term. It appears that curriculum is the crux of many teacher education programs, and without a modernized or cohesive curriculum, Faculties of Education will continue to struggle to provide adequate preparation for new teachers.

As evidenced by the second component of our model, formal teacher education (i.e., within Faculties of Education) offers a period where new teachers have the opportunity to develop strong theoretical knowledge. As such, it is critical that comprehensive and sufficient training programs be provided to new teachers to optimize achievement. Specifically, Faculties of Education must offer and deliver clarity surrounding the concept of PL, in turn facilitating new teachers' learning and navigation of assessment tools. In this way, Faculties of Education can create solid theoretical knowledge of concepts (i.e., PL) and eliminate potential ambiguity.

Lastly, the teaching practicum plays a major role in bridging the gap between theory and practice, as this is when new teachers have the greatest opportunity to apply theoretical understanding of new concepts, such as PL, into practical settings. Associate teachers, along with Faculties of Education, must offer models and examples as to how new concepts can be integrated within classroom (i.e., gymnasium, PE context) settings. Change needs to be both advocated and reinforced by the associate teacher so that there may be an evolution within H&PE. Previous research has shown that teacher candidates are most confident, willing to take risks, and subsequently, open to introducing new concepts when they feel competent in their skills, and feel they are within a safe environment, where feedback is presented in a positive and constructive manner (Kwan & Lopez-Real, 2005). As such, it is during this stage that new teachers have the potential to become familiar with the application of PL and begin honing their assessment techniques. While the structure of the curriculum at the time of data collection posed many challenges for new teachers, they articulated some elements of flexibility within their practicum. This finding highlights that with appropriate understanding of new concepts such as PL, new teachers should be encouraged to introduce new concepts in various fashions, bringing new theory into practice, keeping students both engaged and interested in subject matter.

Collectively, findings as presented in our model highlight numerous breakdowns occurring within the interconnected levels of curriculum, formal teacher education, and teaching practicum, hindering the successful integration of PL in practice. However, we are optimistic that recent substantive changes since the time of data collection, including the 2015 release of the revised elementary H&PE curriculum and new secondary H&PE curriculum in Ontario, coupled with the increase in teacher training time (Ontario College of Teachers, 2013, June 20), and the advancement of PL definitions and measurement and assessment tools (e.g., Canadian Sport for Life, 2015; CAPL, 2013; PHE Canada, 2013a), will lead to more constructive learning experiences for new H&PE teachers, that better inform their knowledge, understanding, and delivery of PL, so that they will in turn be more successful in their integration and implementation of PL. It is unlikely that each component can independently offer optimal outcomes, but rather, that success is contingent on all components aligning with a shared similar vision.

Limitations and Future Directions

Findings of this study offer important insight in advancing our understanding of the integration of a new concept such as PL into practice through the lens of new teachers; however, study limitations and persistent gaps in knowledge must be acknowledged. First, this study investigated the experience(s) of only new teachers from various faculties of education. Due to the study's design, we were unable to explore variation(s) between the Faculties of Education; however, further research should begin to investigate the differences and/or nuances between teacher preparation programs. Moreover, research involving current experienced teachers, education administration (i.e., principals and superintendents), instructors from Faculties of Education, and students would provide additional insight regarding how new and emerging concepts such as PL are introduced, taught, and reinforced. Additionally, research examining how to better support new teachers' education and preparation is also required, given findings suggesting breakdowns in content delivery within teacher education programs. Specifically, research should aim to better understand teacher education program objectives, content delivery, and effectiveness, to discern optimal means of meeting program objectives, and more broadly, whether program objectives align with new teachers' required knowledge and skills once in the classroom. Such research will have the potential to inform where particular gaps exist in the formal H&PE teacher education process, and can perhaps lead to possible ways of overcoming these obstacles. Research must also explore how to better inform mentor teachers of emerging concepts and trends within their field, to in turn facilitate their ability to lend their expertise to new teachers, effectively and creatively integrating new topics. Lastly, future research must continue to explore how PL can be measured across all grade levels, in an effective and practical manner. While a preliminary tool has been introduced, many practical challenges remain, including the absence of an efficient process for assessing students on multiple outcomes (Robinson & Randall, 2016). In addition, longitudinal research will be necessary to assess new tools' effectiveness in changing child and youth physical activity behaviours over time.

This study offered understanding of the training, implementation, and learning processes accompanying the introduction of PL into the H&PE curriculum in Ontario, through the perspectives of new teachers in 2013. It appears that this study was conducted at a key point in time, as findings highlight several significant obstacles to successful integration of PL; however, some of the most fundamental of these obstacles have since been addressed. The study's research design, informed by a grounded theory approach, offers insight into the interrelated components that may lead to successful or less than optimal integration of a new concept such as PL. Moving forward, it will be essential that H&PE structure continue to work to successfully adopt PL as its foundation for teaching and learning. In this way, schools can become a stronger resources and allies in decreasing childhood obesity, chronic disease, and increasing long-term PA.

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