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Marking Physical Literacy or Missing the Mark on Physical Literacy? A Conceptual Critique of Canada's Physical Literacy Assessment Instruments

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ABSTRACT

Margaret Whitehead first introduced the concept of physical literacy over 20 years ago. Since that introduction, physical literacy has been gaining in popularity within many Western physical education and sport contexts. This is particularly true within Canada, where physical literacy has been embraced by two of the nation's most notable national physical education and sport organizations (i.e., Physical and Health Education Canada, Canadian Sport for Life). As physical literacy has been generating interest and action by these organizations, they, and others, have been quick to also seek methods by which to measure it. However, it is our observation that despite the promises and possibilities of physical literacy resources, initiatives, and programs, Canada's most accessible physical literacy assessment instruments are wanting for focused and direct contemplation. In this article, we offer a conceptual critique of the physical literacy assessment instruments being developed for and practices being encouraged within Canadian school communities. Our contemplations consider three physical literacy assessment instruments, and they are focused, principally, upon usability, trustworthiness, and fidelity to Whitehead's conception of physical literacy. We conclude that the instruments differ in their ease of use and usefulness, some are lacking, markedly, with respect to trustworthiness, and some fail to capture physical literacy as Whitehead intended it. Finally, in light of these conclusions, we offer suggestions for future practice and inquiry.

KEYWORDS

physical literacy; assessment; physical education; pedagogy

In 2001, Margaret Whitehead (2001) invited an open debate on the concept of physical literacy—a term that, until then, had been used intermittently without being subject to any serious challenge. Since that time, the term “physical literacy” has gained in popularity within many Western physical education and sport contexts (Dudley, 2015; Spengler, 2015), especially as it relates to curriculum and curricular revisions (Lloyd, 2011). Evidence of this popularity is plentiful, especially within North America. For example, the United States' Society of Health and Physical Educators (SHAPE) America (2016) has recently revised its national physical education standards. In these revisions, the term “physically literate” has replaced the term “physically educated”—as though they were synonyms. Similarly, Canada's Physical and Health Education Canada (PHE Canada) has developed a number of educational resources related to physical literacy that are meant to support provincial/territorial physical education curricula. However, at the same time that physical literacy has been gaining in popularity, analyses and critiques have

been largely absent. Particularly given that Whitehead herself invited such challenge, we see this as an observably undesirable scenario.

In this article, we offer a conceptual critique focused not upon physical literacy itself but, rather, focused upon the physical literacy assessment instruments that are intended for use by Canadian teachers. Though some researchers (almost exclusively within other nations) have attempted to assess physical literacy with existing validated research instruments (within entirely research-based settings), we place our focus upon physical literacy assessment instruments in use within Canadian classrooms. So, while we acknowledge the limited research literature associated with physical literacy-related assessments in a more global context (e.g., Northern Ireland's use of the McCarron Assessment of Neuromuscular Development [MAND], Scotland's use of the Test of Gross Motor Development [TGMD], and Wales's use of the School Sport Survey [Giblin, Collins, & Button, 2014; Spengler, 2015]), herein our concern is with the

physical literacy assessment instruments meant to be utilized by Canadian teachers. Moreover, our contemplations consider the three most common physical literacy assessment instruments within Canada, and they are focused, principally, upon usability, trustworthiness, and fidelity to Whitehead's conception of physical literacy.

While we have been intrigued to see competing physical literacy assessment instruments introduced into Canadian school communities, we have also been dismayed by ignorance, rejection, and/or wholesale acceptance of them with little-to-no substantive dialogue, questioning, or critique. Consequently, we are hopeful that our conceptual critique might motivate others to (re)consider the(ir) use of physical literacy assessment instruments. Moreover, we also suggest that such (re)consideration is especially in order if physical education teachers are to aspire to Whitehead's (2001) conception of physical literacy. With this hope and suggestion, we are also inviting our colleagues within higher education to join in this venture of challenging some questionable practices and taken-for-granted assumptions related to the assessment of physical literacy. That is, we invite others to consider our perspective so that they may also take pause and wonder aloud if these sorts of assessments are indeed marking physical literacy or missing the mark on physical literacy.

Physical literacy, defined?

The origins and foundations of physical literacy

After spending several decades involved in the fields of physical education, physical activity, and sport, Whitehead (2010b) became increasingly concerned with a number of personal and professional observations: the increasing number of people who elected to not engage in active pursuits after high school, leading to increased sedentary behavior; increased obesity rates and increased stress-related conditions; a focus on literacy and numeracy in schools, often at the expense of time spent in movement activities; and a movement toward high-performance athletes and athletics creeping into physical education settings. Convinced of the significance and value of physical activity for all individuals, she directed her focus of inquiry upon schools of philosophy. This focus eventually reinforced her view "that movement and our embodied dimension play a crucial role in life as we know it" (Whitehead, 2013b, p. 22). Whitehead (2010b, 2013a) recognized that new ways of thinking about the body and the importance of activity for all were needed. As a result,

she introduced the physical literacy concept in 1993 (Whitehead, 1993).

Relying upon the writings of existentialists and phenomenologists, physical literacy was founded upon two interrelated constructs: monism and embodiment (Whitehead, 2007). Monism is the belief that the body and mind are one and cannot be separated. It refutes dualistic notions of the body: "every time we use the word 'body' we are all but affirming a dualist approach to our human condition. It is principally the identification of embodiment-as-lived that has fuelled the development of the idea of physical literacy" (Whitehead, 2004, p. 2). Embodiment-as-lived, as a monist belief, refers to the interconnected and inseparable nature of all our capabilities; all thoughts, feelings, and movements are intricately connected. To further clarify the distinction between the two views of the body, understand that the body as object is a Cartesian dualist belief (see Descartes, 1970) whereby the body and mind are separate and the body is viewed "as a mere mechanistic entity (e.g., a thing to be worked out, drilled through repetitive practice, or molded into shape) and the mind is understood as will, cognitions, and emotions that can be addressed separately from the body" (Lloyd & Smith, 2014, p. 227).

Monism is a foundational belief of philosophers working in the schools of existentialism and phenomenology. According to existentialists (e.g., see Sartre, 1957), humans create themselves/become who they are through interaction(s) with the world in which they live. One mode of interacting with the world, and thus contributing to the potential to enrich our lives, is through our embodied dimension. From the moment we are born, humans experience the world through movement. We begin to move, and we are attracted to movement from birth. We start with reflexive movements, and we eventually learn to crawl, walk, and run. We make sense of and learn about the world and ourselves through movement. We climb, touch, feel, and manipulate objects in our surroundings. In doing so, we come to know the world and ourselves within it. According to Whitehead (2010a), "combining monist and existential views we can describe the individual as an indivisible entity comprised of reciprocally enriching modes of interacting with the world" (p. 3).

Phenomenologists, who are largely concerned with perception and lived experience, describe the meaning of these interactions with(in) the life-world (Merleau-Ponty, 1962). We perceive/make sense of/interpret all interactions based on all our previous experiences. With each new interaction we assimilate, modify, build upon, accommodate, and/or merge the new incoming interaction/knowledge with our previous

knowledge and understanding. Because we all have different interactions and experiences, and the ways we interpret these interactions are personal, we all create a slightly different world for ourselves. This world and our understanding of it will change as we continue to interact and interpret our interactions. Whitehead (2004) summarized this understanding by stating that physical literacy is not a skill “but a disposition to use experience, understanding and abilities to interact effectively with the world” (p. 4).

Whitehead's (initial and evolving) concept of physical literacy

One of Whitehead's initial definitions of physical literacy was as follows: “*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*” (2010b, p. 5). More recently, Whitehead (2016) has adopted the International Physical Literacy Association's definition (or vice versa): “physical literacy is the motivation, confidence, physical competence, knowledge, and understanding to value and take responsibility for engagement in physical activities for life” (ParticipACTION et al., 2015, para. 3). With this evolving concept, Whitehead further suggested a number of favorable outcomes made possible by a physical literacy orientation. These include identifying the intrinsic value of physical activity, overcoming the need to justify physical activity as a means to an end, and justifying the notion that physical activity is for all abilities.

Whitehead (2010b) has also articulated the core attributes (or symptomatic behaviors) of physical literacy. These include motivation, confidence and physical competence, and fluent interaction within a range of environments. Motivation is indicated by a positive attitude toward (and a desire to participate in) activity because it is viewed as a positive and rewarding experience. Confidence and physical competence are related to the belief in one's own ability to effectively use and apply a variety of general, refined, and specific movement patterns. Fluent interaction within a range of environments refers to the ability to effectively and efficiently adapt one's movements as required by the environment(s).

Additional attributes are developed as these core attributes are acquired. These additional attributes include sense of self and self-confidence, self-expression and communication with others, and knowledge and understanding. Sense of self and self-confidence speak to the physically literate individual possessing a feeling

of self-assurance that results from one's appreciation of one's own abilities or qualities. Self-expression and communication with others are evidenced by the ability to express oneself non-verbally, sense what others are feeling, and respond appropriately. In doing so, individuals are able to build strong relationships with those they interact with daily. Knowledge and understanding refer to possessing an awareness of one's embodiment such that one can accurately reflect, describe, and evaluate one's movement abilities and make suggestions for enhancement. Lastly, physically literate individuals understand how movement influences one's overall health and wellness.

Physical literacy in Canada: Conceptions within physical education and sport

PHE Canada

PHE Canada has been Canada's premier professional organization for physical education teachers for over 80 years (PHE Canada, 2016a; Robinson & Randall, 2016). In 2009, PHE Canada released a physical literacy position paper, authored by notable Canadian scholars Mandigo, Francis, Lodewyk, and Lopez, titled “Physical Literacy for Educators.” This position paper recognized that physical literacy was beginning to play an important and foundational role in many education and sport policies in Canada, and it, consequently, aimed to bridge a significant gap between the two sectors (Mandigo et al., 2009). The authors offered the following working definition of physical literacy: “individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person” (Mandigo et al., 2009, p. 6). PHE Canada has since revisited and revised its definition, now suggesting, “individuals who are physically literate move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the development of the whole person” (Francis, Johnson, Lloyd, Robinson, & Sheehan, 2011, p. 2).

Canadian Sport for Life (CS4L)

Canadian Sport for Life (CS4L) is a national movement meant to “improve the quality of sport and physical activity in Canada through improved athlete training and better integration between all stakeholders in the sport system” (CS4L, 2016b, para. 1). CS4L has developed a popular and influential physical literacy model; this model has been adopted, in whole or in part, by most of Canada's National Sport Organizations (NSOs). It is noteworthy that CS4L's (n.d.) “Developing Physical Literacy: A Guide for Parents of

Children Ages 0–12” begins with somewhat familiar and alarmist language:

Childhood obesity and rising inactivity among children threatens the future health of Canada, and the problem needs to be addressed NOW if we are to prevent a generation of children from growing up with chronic health problems. ... Therefore, to create an active and healthy population ALL Canadian children need a sound foundation of movement and sport skills to build on later in life; and this foundation is called Physical Literacy. (p. 4)

In line with this introductory caution and solution, CS4L’s (n.d.) initial definition of physical literacy privileged fundamental movement skills and sport skills:

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

More recently, CS4L has refined its definition, now offering, “physical literacy is developing fundamental movement skills, leading to fundamental sport skills in various decision-making situations in a variety of environments” (2016a, para. 1). Finally, it is important to add that CS4L also now recognizes four competencies of physically literate individuals. These include motor abilities; confidence, competency, and creative abilities in multiple environments; movement application and analysis abilities; and decision-making abilities (CS4L, 2016c).

Canadian consensus

Upon consideration of Whitehead’s definition of physical literacy alongside differing (and at times overlapping) definitions by others—including by PHE Canada and CS4L—it is clear that initial consensus was noticeably absent. To this observation, sector leaders within Canada recently joined together to draft a shared definition, hoping that such an act might provide greater clarity for the development of policy, practice, and research related to physical literacy. Together, these sector leaders (which included both PHE Canada and CS4L) adopted the International Physical Literacy Association’s definition. This definition also includes four essential and intertwined elements: motivation and confidence—ffective; engagement in physical activities for life—behavioural; knowledge and understanding—cognitive; and physical competence—physical. These elements are reflective of and overlap with Whitehead’s (2010b) attributes/symptomatic behaviors of physical literacy.

Physical literacy’s “dissenting” perspectives

Recognizing the possibility for confusion caused by the existence of many physical literacy definitions influencing physical education, we, as others, welcomed efforts at establishing some sort of consensus. Notwithstanding these differences and efforts, we, unlike some others, also welcome the comments and positions of those who very cogently challenge physical literacy as it is defined and/or taken up by some. Following, then, is a brief account of some of these challenges—offered by McKenzie and Lounsbery (2016) and McCaffrey and Singleton (2013).

McKenzie and Lounsbery (2016) recently observed that SHAPE America’s replacement of “physically educated” with “physically literate” came “without widespread consultation within the physical education profession...or extensive marketing research” (para. 2). They suggested that students (as well as their physical education teachers) would have been much better served if SHAPE America’s adoption of the term, or concept, was done only after a much more consultative process. McKenzie and Lounsbery suggested that—if anything—“physically literate” differs from “physically educated” in that it encourages an increased focus upon cognitive outcomes (read: sedentary) at the expense of a continued focus upon psychomotor ones (read: active). This suggestion implied that something fundamentally central to physical education—movement—is necessarily attributed less importance when “physically literate” replaces “physically educated.” McKenzie and Lounsbery also lamented the lack of consensus among international physical literacy experts regarding what constitutes physical literacy. They, like others, questioned why “physically educated” was effectively replaced by “physically literate,” without any notable critique or criticism of the original label (Lounsbery & McKenzie, 2015).

McCaffrey and Singleton (2013), despite evidently admiring Whitehead’s (2010a) notion of physical literacy, provided a clear and compelling critique of other “brands” of physical literacy. For example, they problematized both CS4L’s and the Ontario government’s competency-based models. Asking, “can one teach for competence without introducing the possibility of incompetence?” (p. 7), McCaffrey and Singleton really offered one of the few Canadian critiques of these competency-based models. Notwithstanding that this alone presents a serious diversion from Whitehead’s (2010a) initial intentions, these other sources also fail to make mention of, or ascribe any meaningful attention to, the notions of embodiment and monism. To these observations, McCaffrey and Singleton have concluded that such decidedly different interpretations of physical literacy can have significant consequences upon the teaching and learning of physical education.

Assessing physical literacy

Lundvall (2015) is one of few (see also McCaffrey & Singleton, 2013; Tompsett, Burkett, & McKean, 2014) to have recognized that there is an obvious tension that exists when physical literacy is subject to summative evaluations. Suggesting, “crucial questions, or conflicts, arise when an abstract concept such as physical literacy is put into the educational context for learner mastery” (2015, p. 116), Lundvall has posited that efforts to assess mastery of physical literacy in its entirety are often both misguided and questionable. Skepticisms about the assessment of physical literacy, Lundvall has added, are “around the legitimacy of whether the ideals expressed in the concept, such as empowerment, embodiment, values, identities, beliefs, and social relatedness, should be assessed as mechanically” (p. 116).

Giblin et al. (2014) have suggested that, currently, there exists no “robust empirical tool for evidencing skill learning in the physical movement component of [physical literacy]” (p. 1177). Still, and recognizing that physical literacy is a multidimensional construct—having behavioral, psychological, and physical components—rather than a unidimensional one, a number of assessments have been developed and implemented in the West with the intention of measuring (and, generally, quantifying) physical literacy. Again, as previously mentioned, few (if any) of these assessment instruments have been created for teachers to use in their regular physical education teaching practice. Limitations of these batteries are somewhat obvious to physical literacy scholars and have been previously identified (Giblin et al., 2014). They relate, for example, to the reliance upon assessments meant for entirely different purposes and/or that focus upon a single dimension (e.g., the TGMD’s focus upon gross motor skills). That is, most of these assessments only attend to physical competence, thus failing to also attend to physical literacy’s other essential elements.

Whitehead (2010a) has acknowledged the importance of physical competence but has also readily noted, “this attribute alone can never be the sole constituent of physical literacy” (p. 44). She has reiterated this point more recently, stating, “this [physical] competency on its own does not constitute physical literacy” (Whitehead, 2013b, p. 30). She has further recognized the challenges associated with “assessing” physical literacy, suggesting, “charting progress is more appropriate than assessment” (p. 48). In writing about physical literacy and physical education, Whitehead (2013b) has explained that physical literacy is an individualized “personal journey,” proposing that any assessment should be in relation to one’s own

previous assessment. She leaves no ambiguity in this regard: “there is no reference to benchmarks or comparison with others” (Whitehead, 2013b, p. 45).

Despite the tensions that exist related to assessing physical literacy, many continue to suggest that the measurement of physical literacy is the “missing piece” (e.g., see Tremblay & Lloyd, 2010). An effective assessment instrument enables one to observe and quantify or qualify “performance” against pre-determined and defined criteria. In assessing physical literacy, what criteria are to be assessed? We know that many Canadian institutions have adopted a common definition of physical literacy. One of the purposes of Canada’s physical literacy consensus statement is “to promote the value of physical literacy and preserve the integrity of the concept” (CS4L, 2014). Based on the discussion above, and respecting both Whitehead’s (2010b) work and Canada’s Physical Literacy Consensus Statement, we believe an effective physical literacy assessment instrument should address physical literacy’s four elements: affective, behavioral, cognitive, and physical (see Figure 1).

The four “target” areas for assessing physical literacy

Affective (Motivation and confidence)

Motivation is described in the consensus statement as “enthusiasm for, enjoyment of, and self-assurance in adopting physical activity as an integral part of life” (ParticipACTION et al., 2015, para. 3). An assessment instrument should thus provide evidence that individuals

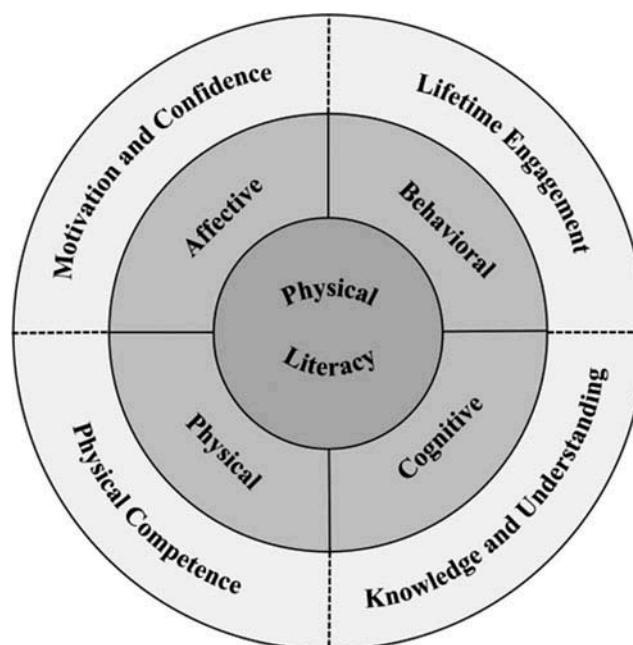


Figure 1. Physical literacy elements.

want to be physically active. Confidence is described as the belief in one's own abilities. Additionally, Whitehead (2010a) emphasizes the ability to demonstrate fluent self-expression through non-verbal communication and to engage in perceptive and empathetic interactions with others.

Behavioral (Lifetime engagement)

An assessment instrument must recognize that lifetime participation in physical activity is the goal of physical literacy. Physical literacy is a journey—a *personal* journey based on one's own abilities and interests. It is a journey that is meant to occur continuously over the lifespan. There is no standardization or endpoint to being physically literate. As the consensus statement suggests, this involvement is meant to include “a range of meaningful and personally challenging activities” (ParticipACTION et al., 2015, para. 3).

Cognitive (Knowledge and understanding)

Knowledge and understanding as described in the consensus statement are related to the ability to identify and express the essential qualities that influence movement, understand the health benefits of an active lifestyle, and appreciate appropriate safety features associated with physical activity in a variety of settings and physical environments. Staying true to Whitehead's (2010b) position related to this aspect of physical literacy, this component moves beyond the ability to simply recite a list of familiar health benefits that can be gained from participation in physical activity. Rather, it is concerned with individuals possessing a sound sense of their own abilities and an understanding about what they can do to improve upon their own personal physical literacy—both their physical abilities and their understanding of their own current state of health and wellness. Thus, a physical literacy assessment instrument must include a measure of an individual's knowledge and understanding as described herein.

Physical (Physical competence)

Physical competence is described in the consensus statement as “an individual's ability to develop movement skills and patterns, and the capacity to experience a variety of movement intensities and durations” (ParticipACTION et al., 2015, para. 3). An assessment instrument should thus provide a picture of the individual's varying movement skills and patterns. Staying true to Whitehead's notion of this aspect of physical literacy, an individual should also have the ability to demonstrate effective and efficient adaptive movements required by the environment; an individual should also be able to do so in a range of

environments (the consensus statement simply assumes this transferability will occur).

Physical literacy assessments in Canada

A recent global scan of physical literacy revealed that Canada has made more “progress” than any other nation with respect to physical literacy assessments (Spengler, 2015). Presently, three physical literacy assessment instruments enjoy a somewhat privileged status within Canadian school communities (CS4L, 2014). These include PHE Canada's *Passport for Life*, CS4L's *Physical Literacy Assessment for Youth (PLAY)*, and the Healthy Active Living and Obesity Research Group's (HALO) *Canadian Assessment of Physical Literacy (CAPL)*.

Making sense of multiple assessment instruments

All three of the organizations that created these physical literacy assessment instruments suggest that they are appropriate for use by physical education teachers. Two of them (*Passport for Life*, *CAPL*) are explicit in this regard. Though *PLAY* does not similarly include this explicit suggestion or recommendation, representatives from CS4L have been presenting *PLAY* as a tool for physical education teachers at provincial and national physical education conferences and professional development sessions. Considering the overview of these three physical literacy assessment options for physical education teachers presented in Table 1 (and, again, note there are also others), it would certainly be understandable for many physical education teachers to feel hesitant, confused, or overwhelmed by the possibilities.

Differences (and similarities) exist with respect to targeted ages/grades, applications, assessment categories, assessment measures, performance descriptors, and assessment time and materials. These differences make it difficult for physical education teachers to know what is most appropriate for their own teaching contexts. Indeed, without an overview of information related to all three assessment instruments (as is provided in Table 1), physical education teachers would be left without much needed direction. Consider, for example, that grade 1 teachers could use *PLAYfun* (for some students) but not *Passport for Life* or *CAPL*. Similarly, teachers looking to assess living skills could use *Passport for Life* or *CAPL* but not *PLAYfun*. Lastly, teachers without assistants to help with assessments might do well to use *Passport for Life* but would seemingly struggle to use *PLAYfun* and, especially, *CAPL*.

Table 1. Notable attributes of common Canadian physical literacy assessments.

Assessment tool	Passport for Life	PLAY (PLAYfun)	CAPL
Organization	PHE Canada	CS4L	HALO
Ages/Grades	Grades 3 to 12	Ages 7+	Ages 8 to 12
Applications	Formative assessment in (physical) education; engagement and awareness	Program evaluation and research; formative assessment, screening, surveillance, engagement	Advocacy, monitoring and evaluation; surveillance
Assessment categories	Fitness skills, movement skills, active participation, living skills	Competence, comprehension, and confidence (related to 18 movement tasks)	Physical competence (32%), daily behavior (32%), knowledge and understanding (18%), motivation and confidence (18%)
Assessment measures	Objective measures (using four-staged rubrics) for fitness skills and movement skills; self-reports for active participation (without performance measures) and living skills (using four-staged rubrics)	Objective measures (using two- and four-staged rubrics) for competence and comprehension; objective measures (using an analytic rating scale) for confidence	Objective measures (using four-staged rubrics) for physical competence (based on a battery of fitness assessments and anthropometric measurements), daily behavior (based on daily step count and self-reported moderate to vigorous physical activity [MVPA] and sedentary time); self-reports for knowledge and understanding and motivation and confidence (based on questionnaire responses)
Performance descriptors	Fitness skills, movement skills, and living skills: performance is labelled as “Emerging,” “Developing,” “Acquired,” or “Accomplished” Active participation: performance is not measured but information related to diverse activities and environment is summarized	Competence: performance is labelled as “Developing” (which includes “Initial”—0 to 25% and “Emerging”—25 to 50%) or “Acquired” (which includes “Competent”—50 to 75% and “Proficient”—75 to 100%) Comprehension: performance is labelled as “Prompt,” “Mimic,” “Describe,” or “Demo” Confidence: performance is labelled as low, medium, or high Undefined (estimated to be at least four class periods)	Physical competence, daily behavior, knowledge and understanding, motivation and confidence: performance is labelled as “Beginning,” “Progressing,” “Achieving,” or “Excelling”
Assessment time (for one assessor with one class)	Three class periods	Undefined (estimated to be at least four class periods)	Four class periods
Assessment materials	Activity space (e.g., gymnasium); balls and cones, computers with internet access	Activity space (e.g., gymnasium); balls, cones, and sticks	Activity space (e.g., gymnasium); balls and cones; anthropometric tools (e.g., scale, measuring tape, callipers)
Targeted assessors	Physical education teacher or generalist teacher	Trained professionals (e.g., sport and recreation practitioners, physical education teachers)	Physical activity professionals, CAPL-trainer appraisers, physical education teachers ¹

¹CAPL suggests a minimum of two assessors are necessary—one female and one male.

It is also noteworthy to consider that where there is agreement on an assessment category (e.g., [fundamental] movement skills), performance descriptors fail to use the same terminology (see Table 2). Consequently, depending on the assessment instrument chosen, the “lowest ranked” students could have their movements labelled as “emerging,” “developing,” “initial,” or “beginning,” while the most advanced movements would be labelled as “accomplished,” “acquired,” “proficient,” or “excelling.”

Such variability in performance descriptors certainly would confuse anyone trying to accurately label students’ movement skills with the appropriate term. These three assessment possibilities, by no means, have a shared

target population or audience, nor do they share assessment categories, measures, or performance descriptors. Yet, they all purport to assess the same thing—physical literacy. This is both puzzling and significant.

Given these observations, below we consider, more closely, these three organizations’ physical literacy assessment instruments. This consideration is meant to be a conceptual critique. To focus this critique, we have directed our attention to the resources’ usability, trustworthiness, and fidelity to the concept of physical literacy. By “usability,” we mean the degree to which we believe a resource is user-friendly to physical education teachers and applicable to their practice. That is, we are commenting on the resources’ ease of use and usefulness. By “trustworthiness,” we mean the degree to which a resource is able to present and make claims related to credibility and objectivity (here we purposely use these terms and concepts in place of positivistic notions of reliability and validity). Our comments here, then, draw upon two sources: trustworthiness claims made by the resources themselves and

Table 2. Movement skill (and other skill) descriptors for common Canadian physical literacy assessment instruments.

Passport for Life	Emerging	Developing	Acquired	Accomplished
PLAY (PLAYfun)	Developing		Acquired	
	Initial	Emerging	Competent	Proficient
CAPL	Beginning	Progressing	Achieving	Excelling

trustworthiness claims (or implementation studies) presented in peer-reviewed literature. By “fidelity to the concept of physical literacy,” we mean the degree to which the assessment instruments align with both Whitehead’s concept of physical literacy (Capel & Whitehead, 2013; Whitehead, 2010b) and Canada’s Physical Literacy Consensus Statement (which has been endorsed by PHE Canada, CS4L, and HALO—the three organizations who developed the assessment tools under review). More specifically, we review the assessment instruments based on the degree to which they address the affective, behavioral, cognitive, and physical elements of physical literacy. A summary of our fidelity observations is included in Table 3.

Passport for Life

Usability

Developed by PHE Canada, *Passport for Life* is primarily a formative assessment tool that is meant to be used within the education sector—by teachers responsible for teaching physical and/or health education. *Passport for Life* is intended to be administered at the beginning and end of each year/term. Some initial class time is required for the teacher to set up class accounts and for students to complete the online student profile and join the class. This is required for both teachers and students to access the assessments. Clear online videos outlining the processes required to register students and use the assessment tools are readily available.

The physical assessments appear to be easy to set up, explain, administer, and assess. Teachers can record the students’ assessment results immediately on an iPad/computer or via a printable handout. If they choose the printable handout, they will have to transfer the results to each student’s individual account. This could prove to be time consuming. It is suggested that class assessments could be completed within three class periods; this seems to be a reasonable estimate. One movement assessment and one survey assessment could be completed in one class period. However, if students and the teacher are filling out the assessments via paper (not online), the time required will be greatly increased, especially if the teacher is assessing more than one class.

Output results for the various assessments allow for both individual student results and class results. This enables the teacher to either tailor particular lessons to individual students or to the class as a whole. Additionally, the results are separated into categories (fitness skills, movement skills, active participation, living skills), allowing the teacher to easily see areas where students may be in need of further instruction. A very useful aspect of this assessment instrument is the fact

that there are measures for three different grade ranges: 3 to 6, 7 to 9, and 10 to 12—allowing the teacher to select an assessment appropriate for their students.

Trustworthiness

The *Passport for Life* resource makes no substantial claims about the trustworthiness of its assessment tools. The directions for the student online surveys (used to assess active participation and living skills) do caution: “Do not complete both surveys consecutively in the same session. The responses become less valid if a large number of questions are answered in one session” (PHE Canada, 2016b, para. 1). However, other than this lone suggestion about the tool being a valid one (when administered with this careful attention), no other trustworthiness claims are made. Though it is possible that the battery of assessments may be borrowed from other validated measures, no such information is provided. Given this omission, we, and others, might wonder how, for example, it is that the core strength assessment and performance criteria (this is one of three fitness skills assessment tasks) are the same for students in grades 3 to 12. Similarly, one might wonder about how the time-aligned performance standards for the cardiovascular endurance assessment (a four-station circuit) were determined. Remembering that two of these assessment tools are student online surveys (active participation and living skills) and two are teacher-administered assessments (fitness skills, movement skills), there are four different categories of tools that would be greatly improved by such trustworthiness information. It is also important to recognize that PHE Canada (2014) very clearly explains that *Passport for Life* is meant to be used as a formative assessment tool rather than as a summative assessment one (i.e., as an evaluation). This is important because one might reasonably not expect trustworthiness claims to be as important for a formative assessment tool.

Upon searching the literature, we found no trustworthiness claims (or implementation studies) specifically related to *Passport for Life*.

Fidelity to Whitehead’s physical literacy

Passport for Life assesses movement skills, fitness skills, active participation, and living skills. The movement skills and fitness skills tests are obviously geared toward reaching the physical competence attribute. The two student surveys are an attempt to address the other attributes.

Passport for Life’s instructional guidelines suggest that before teachers hand an assessment back to students, they be reminded that “student performance has been compared to a standard of physical literacy in

Table 3. Instruments' fidelity to physical literacy's elements.

	CAPL	Passport for Life	PLAY
Affective	-Worth 18% of the overall physical literacy score. -Assessed via a questionnaire. -Self-expressions and non-verbal communication are not addressed.	-Addressed via the Living Skills questionnaire. -The Living Skills questionnaire specifically asks about the individual's ability to interact with others. This is the only assessment instrument that addresses interactions with others	-Motivation is not addressed (it is assumed that if the individual has competence and confidence in the skills assessed, they will be motivated to participate). -Confidence is addressed, though weakly. After observing and scoring the motor task, the assessor is asked to "indicate whether the child had low, medium or high confidence when performing the task" (p. 6). -Self-expressions and non-verbal communication are not addressed.
Behavioral	-Worth 32% of the overall physical literacy score. As with all categories, the physical literacy label assigned (beginning, progressing, achieving, or excelling on one's physical literacy journey) is based on norms for each age group (8–12 years). -The manual states that regardless of label assigned, "there is always room for improvement, as physical literacy is a lifelong journey" (p. 15). -Assessed via tracking steps taken over a seven-day period as well as scores from questions asking about sedentary time and engagement in MVPA.	-Lifetime journey is addressed. Suggestion is made that the assessments be administered at least twice per year, preferably at the beginning and end. The 'check-in' assessment is designed to track progress across testing sessions. -Active Participation questionnaire attempts to capture the range of activities and the environments in which the individual participates in physical activity.	-The element of physical literacy being a personal journey is addressed. The instrument is intended to "track progress," and there is a tracking sheet available for recording scores over multiple assessment dates. The tracking form is for the 18 tasks addressed in the instrument only. An inventory sheet that includes a list of 95 possible activities plus room to add others is also available. Individuals check those activities they have participated in regularly over the past 12 months. The inventory sheet is not scored, nor is it included as part of the physical literacy assessment score. The <i>PLAYself</i> instrument is designed to be used by individuals to track and assess their own physical literacy. The instrument is a scored questionnaire, asking questions about the environment in which activities are engaged in (gymnasium, in and on the water, on ice, on snow, outdoors, and on the playground).
Cognitive	-Worth 18% of the overall physical literacy score. -Assessed via a questionnaire asking questions about physical activity and screen time guidelines, definitions of cardiorespiratory fitness and muscular strength and endurance, the meaning of being healthy, safety gear when participating in activity (e.g., when you should wear a helmet), how to improve skill and fitness, and preferred leisure time activity.	-The Living Skills questionnaire captures the degree to which students understand the health benefits of an active lifestyle, how they feel about their own abilities, and their current state of health. -The Post Assessment Goal Setting element of the assessment asks students to identify how they can improve on their results. -Safety and identifying qualities that influence movement are not directly addressed.	-Knowledge and comprehension are not addressed as intended. Comprehension is judged via the degree to which the individual understood the task to be completed. If the individual completed the task as intended, they are assumed to have "comprehended" the task. If they need a "prompt," or they need to see someone else complete the task first ("mimic"), or they require additional descriptions or a demonstration, they are assumed to have not fully understood the task, and it is noted on the assessment sheet. -The <i>PLAYself</i> tool asks 12 questions meant to assess the individual's self-efficacy. Additionally, individuals can agree or disagree that they possess an appropriate level of fitness to participate in desired activities.
Physical	-Worth 32% of the overall physical literacy score. -Measured via a standardized PACER test, obstacle course, grip strength, BMI percentile, waist circumference, and flexibility (sit and reach test). -The obstacle course testing fundamental movement skills (1- and 2-foot jump, slide, catch, throw, skip, and kick) attempts to have individuals demonstrate their use of the skills in a dynamic environment and adjust their movements according to the environment.	-Addressed via the three fitness assessments (balance/dynamic stability, core strength, and cardiovascular endurance) and the three movement skill assessments (locomotor, throwing and catching, kicking/punting). -The movement skill assessments combine skills (e.g., throw and catch, or run, side shuffle, and back pedal). The assessments force individuals to demonstrate their ability in a game-like or play-like context; this appears to be an attempt to have individuals demonstrate their use of the skills in a dynamic environment so that they may adjust their movements according to the environment. -This is the only instrument where the assessments increase in complexity for each grade range to note the increased ability that is expected with age and experience.	-Physical competence is addressed: The instrument assesses 18 different fundamental and sport-related skills. Individuals are scored on the degree to which their performance matches pre-set criteria. -A variety of movement intensities and durations is not addressed: Intensities and durations of the assessments are all short in duration and are all anaerobic in nature. With respect to settings, all assessments are to be carried out either in a gymnasium or on a playing field. The intention of these criteria is that individuals can adapt their movements to different environments (on land, in water, on snow/ice, and in the air). -Adapting to the environment is not addressed. The assessments are closed tasks of individual skills. -The <i>PLAYself</i> instrument allows the individual to self-report those environments where they feel competent participating (gymnasium, in and on the water, on ice, on snow, outdoors, and on the playground).

their age group not to each other!” (PHE Canada, n.d.). On this point, Whitehead (2013b) was very clear that comparisons to any benchmarks are inappropriate. Moreover, it is also clear to us that such a statement in *Passport for Life* still suggests that students’ scores are compared to their peers—albeit within a much larger population pool—rather than an external criterion-based benchmark. However, and to be fair, PHE Canada specifically states the purpose of the assessment is for students to get a sense of their current abilities for improvement purposes. In this regard, *Passport for Life* is certainly in line with Whitehead’s (2013b) view that each is on a “personal physical literacy journey” (p. 45) based on one’s own endowment. In this respect, assessments and reassessments are to be used to track (self) progress. Promisingly, the guidelines are specific in suggesting that the results should not be used as part of a student’s grade.

The inclusion of a variety of questions asked on the two surveys (active participation and living skills) allows one to gauge where the students are with respect to their feelings of competence, motivation to participate in a wide variety of movement activities in different environments, their sense of self and self-confidence, their ability for self-expression and communicating with others, and their knowledge and understanding. In addition, part of the *Passport for Life* process involves reflection on the results of all four of the assessments. Through a series of guided questions, students are encouraged to reflect on the results, to comment on their results in relation to their own understanding of the results and their personal circumstances, and to think about ways in which they can improve their results in the future. If administered and used appropriately, the student surveys enable one to gauge motivation and student confidence and check for knowledge and understanding of current activity levels and the varying activities and environments students participate in (and how they can extend their current participation into other areas with other people and in other environments). The assessments have been developed to attempt to address the broad meaning of physical literacy. By reviewing Table 3, one may appreciate how the *Passport for Life* assessment instrument appears to address all but a section of one of the criteria.

Physical Literacy Assessment for Youth (PLAY)

Usability

Developed by CS4L, *PLAY* includes a number of different tools that are meant to enable program evaluation and research in education or sport programs. These tools

include *PLAYfun*, *PLAYbasic*, *PLAYself*, *PLAYparent*, *PLAYcoach*, and *PLAYinventory*. *PLAYbasic* and *PLAYfun* are meant to only be administered by trained professionals (including coaches and physical education teachers). *PLAYfun* requires the assessor be a “trained professional” (someone who has a background or training in movement analysis). The test assesses 18 different fundamental and sport-related skills. The assessment can be completed online or via paper. Online assessment requires that all students be enrolled electronically into the system.

Individual assessments of each child are required, and the *PLAY* website (www.play.physicalliteracy.ca) suggests that each assessment will take approximately 10 to 20 minutes, depending on the number of children being assessed. The assessments are relatively basic, and a physical education teacher could potentially move through two assessments per class. If the teacher was looking for a physical literacy score and administered the entire test, it would be extremely time consuming. Additionally, the test is designed for students aged 7 and up and, noting the range of abilities that should be present in students, aged 7 to 15, one has to question the value of the physical literacy score a student could possibly attain. Does a score of 55% (competent) mean a 7-year-old and a 15-year-old would be equally physically literate? Teachers may find the use of subset scores more useful.

Trustworthiness

Though no claims are made about trustworthiness, the *PLAY* resource details the expertise associated with CS4L. Influenced by some of Canada’s long-term athlete development (LTAD) program’s most notable leaders (e.g., Richard Way, Istvan Balyi, and Colin Higgs), Dean Kriellaars (an identified expert) developed the *PLAY* tools. The *PLAYfun* also indicates that because the resource involves the assessment of different skills, the evaluator must have some education in movement and motion analysis (e.g., National Coaching Certification Program-certified coaches, athletic therapists, recreation practitioners). Though it is not explicitly suggested, it would seem that these directions are meant to be heeded if the assessments are to be reliable and valid. Though text resources do not make explicit mention of trustworthiness, developer Dean Kriellaars (in an online video available on YouTube) suggests the tools have undergone a rigorous process to ensure face, content, test-retest, and interrater reliability (see Sport for Life, 2014); in this video, he also explains that the tools have *very good* validity and *excellent* reliability—though we are unclear about what this means.

Upon searching the literature, we found no trustworthiness claims (or implementation studies) specifically related to *PLAY*.

Fidelity to Whitehead's physical literacy

According to the CS4L *PLAYfun Workbook* (Kriellaars, Kozera, & Robillard, 2013), "People who are physically literate have the competence, confidence and motivation to enjoy a variety of sports and physical activities" (p. 4). To this end, the primary focus of CS4L's suite of *PLAY* tools is upon the assessment of physical competence, more specifically, a series of fundamental, balance, stability, and body control skills. CS4L positions physical literacy as one of 10 key factors influencing long-term athlete development and as "the cornerstone of both participation and excellence in physical activity and sport" (Way, Balyi, Trono, Harber, & Jurbala, 2014, p. 23), the assessment is primarily concerned with the development of skills (see Table 3).

At the conclusion of the assessment, a student is left with a physical literacy score. Teachers, parents, and coaches are encouraged to routinely assess to track progress. There is an attempt to assess confidence and comprehension, but it is weak at best. In the 5 to 10 seconds a student performs a task, the assessor is expected to "indicate whether the child had low, medium or high confidence when performing each task" (Kriellaars et al., 2013, p. 6). A student is considered knowledgeable if she/he completes the task without requiring a prompt, demonstration, or further instructions. A *PLAYinventory* is available whereby students check off the activities they regularly participate in outside of school. The coach or teacher could use the tool to encourage participation in other activities. This checklist is not scored. The *PLAYself* tool can also be used to assess self-efficacy, competence, and activity environments. At its core, the *PLAY* tools mainly focus on the assessment of fundamental movement skills, which, as previously indicated by Whitehead (2010b), although important, should not be the primary focus of a physical literacy assessment.

Canadian Assessment of Physical Literacy (CAPL)

Usability

Developed by HALO in response to the observation that "no aggregate assessment of physical literacy exist [ed]" (Tremblay, 2012, p. 166), *CAPL* is branded as the "first comprehensive protocol that can accurately and reliably assess a broad spectrum of skills and abilities that contribute to and characterize the physical literacy of a participating child" (HALO, 2014, para. 1).

The *CAPL* instructions state that the tests are to be administered by a *CAPL* examiner, so teachers will have to complete the training program (this can be completed in person or online). The biggest drawback to its use in a physical education environment is the time commitment (the manual suggests four class periods) and the fact that for at least one of the tests (the obstacle course), two assessors are required, preferably one male and one female. In many school physical education programs, especially at the elementary level, there is only one physical education teacher. At the middle or junior high level, there is a greater chance that two teachers will be available. However, for both to be available for assessment it is likely to mean that they will have to combine their classes, thus increasing student numbers and the length of time to complete the assessment. For the classroom teacher, this assessment instrument is likely to be overwhelming. In particular, during the obstacle course—which students are expected to perform in less than 30 seconds—the second assessor must observe for and make a judgment on 14 different skills. It is possible that calculating and recording scores could frustrate teachers, especially when calculating for missed scores.

For those that take the time to ensure they are adequately certified to administer the test and have the required one male and one female assessor, they will find the lengthy assessment manual very thorough and relatively easy to follow. Additionally, those physical education programs with wired gymnasiums and access to portable electronic devices may find the ability to record student data electronically beneficial. The two questionnaires (used to measure student knowledge and motivation to participate in activity) can be completed electronically or by hand and can be completed in the gymnasium while waiting for a turn or while in a classroom. After all testing has been completed and the results compiled, the student is left with a physical literacy score and labeled as beginning, progressing, achieving, or excelling.

Trustworthiness

The *CAPL* manual for test administration explains that it can "reliably assess a broad spectrum of skills and abilities that contribute to and characterize the physical literacy of a developing child" (HALO Research Group, 2013, p. 6). It also explains that over 100 researchers and practitioners informed the development of the resource. Though the stated goal is to "ensure that the outcomes from [the] assessment accurately and reliably reflect a child's current physical literacy level" (HALO Research Group, 2013, p. 6), the manual also clearly explains that the *CAPL* will change through revisions as

new data becomes available. It is also clear the CAPL's four categories of physical literacy (physical competence, daily behavior, knowledge and understanding, motivation and confidence) include some assessment batteries that had been previously validated (e.g., PACER shuttle run, pedometer-measured step count).

Upon searching the literature, we found trustworthiness claims specifically related to CAPL. Longmuir (2013) and Longmuir et al. (2015) have suggested the feasibility, validity, and reliability of the CAPL have been established through multiple cycles of data collection with over 2,000 students. Most recently, Francis et al. (2016) have researched a revised CAPL model, finding that physical activity/fitness experts believed the overlapping domains for assessment were appropriate, and the objectively measured domains (e.g., daily behavior) have higher relative importance.

Fidelity to Whitehead's physical literacy

The objective nature of the HALO assessment is dualistic, treating the body as an object that is meant to achieve acceptable levels of performance on a pre-determined scale. This is in opposition to the acceptance of monism, which is the foundation upon which concept of physical literacy is based.

Fitness assessments are a very large part of the HALO assessment. Interestingly, Whitehead (2010a, 2013b) spends very little time addressing fitness. In fact, "fitness" is not an entry in the indexes of either of Whitehead's two primary texts on physical literacy (see Capel & Whitehead, 2013; Whitehead, 2010b). A chapter is devoted to physical literacy and obesity (Gately, 2010) in *Physical Literacy Throughout the Lifecourse* (Whitehead, 2010b); however, the chapter provides a general overview of obesity, suggesting the physical literacy of overweight and obese children is limited, and encourages the development of positive attitudes, beliefs, motivation, and physical competence as a way to encourage the improvement of overweight and obese children's physical literacy.

In writing about the HALO assessment, Tremblay (2012) stated, "physical literacy is deemed to have four core domains: a) physical fitness (cardio-respiratory, muscular strength and flexibility), b) motor behaviour (fundamental motor skill proficiency), c) physical activity behaviors (objectively-measured daily activity), and d) psychosocial/cognitive factors (awareness, knowledge and understanding" (pp. 167–168). Almond (2013) critiqued this statement by stating,

I find these claims difficult to accept because they fail to address some of the key features of physical literacy, such as making decisions about the role of purposeful

physical pursuits in people's lives, the role of agency and empowerment, learning to take responsibility and how young people (as well as adults) come to value these pursuits (which may be central to maintaining an active lifestyle). The current list represents a lack of understanding about physical literacy (Whitehead, 2013) and represents a Canadian perspective that has some major limitations. (p. 85)

He continued, "assessment of physical literacy in Tremblay's article appears to focus on a narrow range of specific items in which researchers have objective assessment procedures" (Almond, 2013, p. 85). On these observations, we are in agreement.

Concluding observations, thoughts, and future directions

The marks are in: Assessments of physical literacy assessments

Given the complexities of this critique, we thought it would be prudent to provide a very clear summary of our conclusions. While we would have favored using physical literacy assessment language to "rate" each of the three physical literacy assessments (in each of the three areas previously described), we know that such a task is nearly impossible—given the lack of uniformity in language use. For example, and as previously mentioned, we were lost as to what term might be best to indicate the lowest or highest scores. So, instead of using the language from any one instrument, we have settled upon a "star" system. That is, one star would be the lowest level—much like emerging, developing, initial, or beginning. Similarly, four stars would be the highest level—much like accomplished, acquired, proficient, or excelling. Consider, then, our summary ratings of three areas for these physical literacy assessment instruments (see Table 4).

Usability

We recognize each group's attempt to make the assessment instruments as easy as possible to use (e.g., all are available to be assessed online with an electronic device, data can be imputed immediately, the program computes a "score" automatically). However, for the physical education teacher, all assessment tools would be time consuming, and many teachers would likely question the usefulness of the results, especially when considered against the amount of time that would be required to complete the assessments. Noting that the scores from the physical literacy assessment instruments should *not* be used for report card purposes, and that physical education teachers would still have to conduct ongoing assessments of curricular outcomes, they may consider the time commitment for an assessment that they perceive as having little applied use to be too much

Table 4. Usability, trustworthiness, and fidelity of physical literacy assessments.

	Usability		Trustworthiness		Fidelity
	User friendly	Applicable to practice	Self-made claims	Peer-reviewed claims	Fidelity to Whitehead
Passport for Life	★★	★★★★	★	★	★★★★
PLAY (PLAYfun)	★★	★★★★	★★★	★	★★
CAPL	★	★★	★★★	★★★	★★

(especially if one considers the assessments should be completed at least twice to gauge progress). Furthermore, students' performance is observable and thus is open to evaluation, critique, and feedback every time they move. Many physical education teachers can assess, with relative accuracy, their students' motor abilities, especially when they teach each student at least two to three times a week—again further questioning what would be gained from conducting the assessments.

Trustworthiness

While it is nearly impossible to make meaningful sense of self-made trustworthy claims, it is still nonetheless reassuring to know that the creators of some physical literacy assessments recognize the importance of sharing them. So, while we are unable to “see” evidence of such self-made claims (related, for example, to reliability and validity), we might take some of these creators at their word. We might. It is clear that two of the physical literacy assessments include this sort of information. The other one might benefit from doing the same.

With the exception of three publications related to CAPL, we found no peer-reviewed publications reporting on the trustworthiness of these physical literacy assessment resources. Without these, all might reasonably question if the assessments do indeed measure what they are intended to measure and if the tools are able to record accurate results over time and across assessment situations and reviewers. We would suggest that there is plenty of opportunity for growth (read: research) here. If the creators of these resources want teachers (and academics) to “buy in,” then publishing some peer-reviewed data related to trustworthiness could go a long way.

Fidelity

Of all three assessment instruments reviewed, *Passport for Life* appears to be best suited to provide an emerging picture of a student's physical literacy. CAPL and HALO made an attempt to move beyond the assessment of fundamental movement skills with their surveys, fitness testing, and step count; however, the assessments are largely skill- and fitness-based, the intention of which is to have an individual master a specific list of skills, maintain a pre-determined body mass index, or reach a specific number of steps per day.

Additionally, and as noted earlier, motor competence is only one aspect of physical literacy. The *Passport for Life* surveys appear better suited to moving beyond the physical aspect of physical literacy with their attempt to gather a more well-rounded picture of the students' activity levels, motivation, confidence to participate, and perceived competence.

The future of physical literacy assessments

Interestingly, Whitehead (2010b) wrote,

physical literacy offers the opportunity for all involved in promoting physical activity to speak with one voice, to articulate a clear goal, and furthermore, to make a strong case for every pupil to have the opportunity to develop this capability. (p. 164)

However, and as noted by Jurbala (2015) and McCaffrey and Singleton (2013), it appears the notion of physical literacy has been taken up and interpreted differently depending on the main objectives of a particular group (e.g., PHE Canada serves mainly physical education teachers and appears to be more concerned and aligned with a common educational goal of focusing on the holistic development of the student; CS4L is concerned with athlete development and participation in community activity and, therefore, the focus of their work is on fundamental movement skills, leading to more sport-specific skills; HALO, an obesity research group, is understandably focused on activity for the purposes of maintaining healthy weights and, therefore, a focus on general movement ability and fitness in their assessment presents little surprise). Jurbala (2015) suggested that this has led to the development of multiple physical literacy assessment protocols and has caused a confusing scenario for those who wish to understand, teach, and assess physical literacy. We could not agree more.

Others have commented on the existing inability to quantify physical literacy for individuals or for groups (Evans & Davies, 2010; McKean, 2013). Some researchers would want this quantification to be possible. Presumably, they would be especially satisfied with the CAPL or the PLAY, because they do exactly that. Others purposely avoid such quantification. The multiple creators of physical literacy assessment instruments can claim many things, but consensus certainly is not one of them.

Lacking any available critique of these sorts of physical literacy assessments, we were forced to do our own. We are truly hopeful some of our peers within the academe might engage with our content here and provide others and ourselves with additional perspectives. Note, too, that we are not only looking for support of our view. That is, we equally value differing perspectives from others—those that might disagree with our position. We invite all to chime in.

It is also not lost on us that our conceptual critique has its limitations. We readily admit that our position is—as are all positions—a biased one. Despite our honest intentions to take an objective view of these physical literacy assessment instruments, we are not so naïve (and, presumably, neither are readers) to believe that our identities as physical education teacher educators do not influence our vision. Still, we also know that such critical critiques have value, particularly when they are well informed and they challenge unchallenged positions or practices.

Importantly, we also suggest that in addition to continued conceptual conversations, research that focuses on these same instruments is especially timely. Next to none exists, and it is high time that researchers begin to focus their work on physical literacy assessments—particularly given that physical education teachers are, *today*, being encouraged to implement these sorts of physical literacy assessment instruments without a research base whatsoever. We are hopeful others will recognize the value and importance of such research work.

To those who might engage with us on this topic, let us offer two cautions. First, physical literacy is an ever-changing concept. In addition to Whitehead's own evolving conception, others offer alternative or additional possibilities (and, as mentioned, others resist the notion of physical literacy altogether). We do not begrudge these happenings. That is, we are not opposed to such changes in meaning—rightly part of the social construction of physical literacy. Instead, we caution that with these changing conceptions, it can easily seem like we are trying to determine the best assessment instruments for what is functionally a moving target. Second, we suggest others ought to consider the possibility that physical literacy does not necessarily need to be (or can be, or should be) assessed. To some, this may seem heretical. We do not argue that constant and specific feedback to students (including feedback related to physical literacy elements) is problematic. Indeed, this is simply good and necessary pedagogy. However, this notion of marking students' physical literacy by quantifying and labeling it—particularly as it relates to benchmarks or standards—might unnecessarily be missing the mark. Perhaps, in the very act of measuring physical literacy, something is lost.

To this observation, it is essential to ask, "For what gain?" Consider this: other noble life-course pursuits (e.g., of beauty, truth, or joy) do not require measurement. Perhaps physical literacy is the same.

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References

- Almond, L. (2013). Physical literacy and fundamental movement skills: An introductory critique. *International Council of Sport Science and Physical Education (ICSSPE)*, pp. 81–89. Retrieved from https://www.icsspe.org/sites/default/files/bulletin65_0.pdf
- Canadian Sport for Life (CS4L). (n.d.). *Developing physical literacy: A guide for parents of children ages 0 to 12*. Ottawa, Canada: Canadian Sport Centres.
- Canadian Sport for Life (CS4L). (2014). Physical literacy assessment in Canada. *Physical and Health Education Journal*, 80(1), 38–40.
- Canadian Sport for Life (CS4L). (2016a). *Introduction to physical literacy*. Retrieved from <http://canadiansportforlife.ca/resources/introduction-physical-literacy>
- Canadian Sport for Life (CS4L). (2016b). *Learn about sport for life*. Retrieved from <http://canadiansportforlife.ca/learn-about-sport-life>
- Canadian Sport for Life (CS4L). (2016c). *Physical literacy*. Retrieved from <http://canadiansportforlife.ca/ten-key-factors/physical-literacy>
- Capel, S., & Whitehead, M. (Eds.). (2013). *Debates in physical education*. New York, NY: Routledge.
- Descartes, R. (1970). *Philosophical letters* (A. Kenny, Trans.). Oxford, England: Clarendon Press.
- Dudley, D. (2015). A conceptual model of observed physical literacy. *Teacher Education*, 72(5), 236–260.
- Evans, J., & Davies, B. (2010). Family, class and embodiment: Why school physical education makes so little difference to post-school participation patterns in physical activity. *International Journal of Qualitative Studies in Education*, 23(7), 765–784. doi:10.1080/09518398.2010.529473
- Francis, C. E., Longmuir, P. E., Boyer, C., Andersen, L. B., Barnes, J. D., & Tremblay, M. S. (2016). The Canadian Assessment of Physical Literacy: Development of a model of children's capacity for a healthy, active lifestyle through a Delphi process. *Journal of Physical Activity & Health*, 13(2), 214–222. doi:10.1123/jpah.2014-0597
- Francis, N., Johnson, A., Lloyd, M., Robinson, D. B., & Sheehan, D. (2011). *An educator's guide to teaching fundamental movement skills*. Ottawa, Canada: Physical and Health Education Canada.
- Gately, P. (2010). Physical literacy and obesity. In M. Whitehead (Ed.), *Physical literacy: Throughout the life-course* (pp. 83–99). New York, NY: Routledge.
- Giblin, S., Collins, D., & Button, C. (2014). Physical literacy: Importance, assessment and future directions. *Sports Medicine*, 44(9), 1177–1184. doi:10.1007/s40279-014-0205-7

- Healthy Active Living and Obesity Research Group (HALO). (2013). *Canadian Assessment of Physical Literacy. Manual for test administration*. Ottawa, Canada: Author.
- Healthy Active Living and Obesity Research Group (HALO). (2014). *About*. Retrieved from <https://www.capl-ecsfp.ca/about/>
- Jurbala, P. (2015). What is physical literacy, really? *Quest*, 67(4), 367–383. doi:10.1080/00336297.2015.1084341
- Kriellaars, D., Kozera, T., & Robillard, B. (2013). *Physical literacy assessment for youth. PLAY workbook*. Victoria, Canada: Canadian Sport Institute—Pacific.
- Lloyd, R. (2011). Awakening movement consciousness in the physical landscapes of literacy: Leaving, reading and being moved by one's trace. *Phenomenology & Practice*, 5(2), 73–95.
- Lloyd, R., & Smith, S. (2014). Physical literacy. In D. B. Robinson & L. Randall (Eds.), *Teaching physical education today: Canadian perspectives*. Toronto, Canada: Thompson.
- Longmuir, P. E. (2013). Understanding the physical literacy journey of children: The Canadian Assessment of Physical Literacy. *International Council of Sport Science and Physical Education (ICSSPE)*, pp. 277–283. Retrieved from https://www.icsspe.org/sites/default/files/bulletin65_0.pdf
- Longmuir, P. E., Boyer, C., Lloyd, M., Yang, Y., Boiarskaia, E., Zhu, W., & Tremblay, M. (2015). The Canadian Assessment of Physical Literacy: Methods for children in grades 4 to 6 (8 to 12 years). *BMC Public Health*, 15(1), 767–778. doi:10.1186/s12889-015-2106-6
- Lounsbery, M. A. F., & McKenzie, T. (2015). Physically literate and physically educated: A rose by any other name? *Journal of Sport and Health Science*, 4(2), 139–144. doi:10.1016/j.jshs.2015.02.002
- Lundvall, S. (2015). Physical literacy in the field of physical education—A challenge and a possibility. *Journal of Sport and Health Science*, 4(2), 113–118. doi:10.1016/j.jshs.2015.02.001
- Mandigo, J., Francis, N., Lodewyk, K., & Lopez, R. (2009). *Position paper: Physical literacy for educators*. Ottawa, Canada: Physical and Health Education Canada.
- McCaffrey, M., & Singleton, E. (2013). Why are we doing this anyway? Physical literacy, monism, and perceived physical competence for Ontario's elementary students. *Physical & Health Education Journal*, 79(3), 6–12.
- McKean, M. (2013). Physical literacy in children—The underpinning competencies? *Sports Medicine & Doping Studies*, 3(2), e135.
- McKenzie, T., & Lounsbery, M. (2016). Physical literacy and the rose: What would Shakespeare say? *Physical Activity Plan Alliance Commentaries on Physical Activity and Health*, 2(2). Retrieved from <http://www.physicalactivityplan.org/commentaries/McKenzie.html>
- Merleau-Ponty, M. (1962). *Phenomenology of perception* (C. Smith, Trans.). London, England: Routledge & Kegan Paul.
- ParticipACTION, Sport for Life Society, the Healthy Active Living and Obesity (HALO) Research Group at the Children's Hospital of Eastern Ontario Research Institute, Physical and Health Education (PHE) Canada, Canadian Parks and Recreation Association, & Ontario Society of Physical Activity Promoters in Public Health. (2015, June). *Canada's physical literacy consensus statement*. Retrieved from http://stage.participaction.com/sites/default/files/downloads/Participaction-CanadianPhysicalLiteracy-Consensus_0.pdf
- Physical and Health Education Canada (PHE Canada). (n.d.). *Teacher's guide. The student passport. Instructional guidelines*. Retrieved from <http://passportforlife.ca/home/teachers-guide/passports/student-passport>
- Physical and Health Education Canada (PHE Canada). (2014). Development of Passport for Life. *Physical & Health Education Journal*, 80(2), 18–21.
- Physical and Health Education Canada (PHE Canada). (2016a). *About us*. Retrieved from <http://www.phecanada.ca/about-us>
- Physical and Health Education Canada (PHE Canada). (2016b). *Student online surveys*. Retrieved from <http://passportforlife.ca/home/teachers-guide/passport-life-assessments/student-online-surveys>
- Robinson, D. B., & Randall, L. (2016). Smooth sailing or stormy seas? Atlantic Canadian physical educators on the state and future of physical education. *Canadian Journal of Education*, 39(1), 1–31.
- Sartre, J.-P. (1957). *Being and nothingness* (H. Barnes, Trans.). London, England: Methuen.
- SHAPE America. (2016). *National PE standards*. Retrieved from <http://www.shapeamerica.org/standards/pe/>
- Spengler, J. O. (2015). *Physical literacy: A global environmental scan*. Washington, DC: The Aspen Institute.
- Sport for Life (2014, April 28). Validity and reliability [video file]. Retrieved from https://www.youtube.com/watch?v=kGNtFJW3_m4&list=PLdbBtUQP_hqwgeCCGJZRktXIVdLys_pGI&index=10&nohtml5=False
- Tompsett, C., Burkett, B., & McKean, M. R. (2014). Development of physical literacy and movement competency: A literature review. *Fitness Research*, 3(2), 53–74.
- Tremblay, M. (2012). Major initiatives related to childhood obesity and physical inactivity in Canada: The year in review. *Canadian Journal of Public Health*, 103(3), 164–169.
- Tremblay, M., & Lloyd, M. (2010). Physical literacy measurement—The missing piece. *Physical and Health Education Journal*, 76(1), 26–30.
- Way, R., Balyi, I., Trono, C., Harber, V., & Jurbala, P. (2014). *Canadian sport for life: Long-term athlete development 2.0*. Vancouver, Canada: Canadian Sport Institute—Pacific.
- Whitehead, M. (2001). The concept of physical literacy. *European Journal of Physical Education*, 6(2), 127–138. doi:10.1080/1740898010060205
- Whitehead, M. (2004). *Physical literacy—A debate*. Unpublished paper presented at Pre-Olympic Congress, Thessaloniki, Greece.
- Whitehead, M. (2007). Physical literacy: Philosophical considerations in relation to developing a sense of self, universality and propositional knowledge. *Sport, Ethics and Philosophy*, 1(3), 281–298. doi:10.1080/17511320701676916
- Whitehead, M. (2010a). Introduction. In M. Whitehead (Ed.), *Physical literacy: Throughout the lifecourse* (pp. 3–9). New York, NY: Routledge.
- Whitehead, M. (Ed.). (2010b). *Physical literacy: Throughout the lifecourse*. New York, NY: Routledge.
- Whitehead, M. (2013a). What is physical literacy and how does it impact on physical education? In S. Capel & M.

- Whitehead (Eds.), *Debates in physical education* (pp. 37–52). New York, NY: Routledge.
- Whitehead, M. (2013b). What is the education in physical education? In S. Capel & M. Whitehead (Eds.), *Debates in physical education* (pp. 22–36). New York, NY: Routledge.
- Whitehead, M. E. (1993). *Physical literacy*. Unpublished paper presented at IAPESGW Congress, Melbourne, Australia.
- Whitehead, M. E. (2016). *International Physical Literacy Association*. Retrieved from <http://www.physical-literacy.org.uk/>