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The embodied nature of physical literacy: interconnectedness of lived experience and meaning

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Physical literacy is centered on developing human embodied potential through productive embodied interactions with the world. Based on the holistic view of human-nature interactions with the world in which the embodied dimension is the focus are crucial for realizing human potential and promoting human flourishing (Durden-Myers, Whitehead, & Pot, 2018b). Referring to the human physical dimension as “the body” in discussing physical literacy perpetuates a dualist, body-as-object approach. The notions of human embodiment or the human embodied dimension are preferred, as these encompass both our body as an instrument, sometimes referred to as the living body, and our body as the perceptuomotor dimension of being, sometimes referred to as the lived body. The lived body is often overlooked, as this mode of the body, while having an ongoing and significant role in human existence, contributes to human life principally at a preconceptual level (Pot, Whitehead, & Durden-Myers, 2018).

Western society has traditionally considered and emphasized “the body” as a disposable tool, machine and object and not necessarily promoted or valued the body as lived; there are numerous examples of this neglect from both the present day and throughout history. The Western dualist legacies of our past continue to divorce mind from body, nature from culture and reason from emotion (Williams & Bendelow, 1998). The exploration of human embodiment has therefore been difficult to approach as a direct result of these forced dualistic dichotomies. In this respect, a better understanding of human embodiment requires a more integrated and monist approach. Physical literacy looks to move beyond the view that our body is just a disposable tool and instead embraces the notion of an integrated whole that is the very fabric through which we perceive and experience the world. Physical literacy aims to develop human embodied potential through productive embodied interactions with the world, and central to this is lived experience and meaning or sense making.

This article aims to discuss the nature of embodiment in relation to physical literacy with particular attention given to the interconnectedness of embodiment, lived experience and meaning. Furthermore, we propose that embodiment, lived experience and meaning can be used to unpack the concept of physical literacy. This unpacking of physical literacy requires a shift in phenomenology in practice. In sum, we suggest using post-intentionality through practice to centralize physical literacy as a fundamental tenet in physical activity. This article adopts the definition of physical literacy offered by the International Physical Literacy Association (IPLA, 2017): “The motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life.”

Pillars of physical literacy

Physical literacy is a concept that aims to promote lifelong engagement in physical activity for all. It recognizes the value of physical activity and movement in developing a strong sense of embodied self. Embodiment is an integral aspect of human nature, which should be nurtured in a variety of contexts to stimulate the perception, interaction and reflection of oneself within the world. Corbin (2016) highlighted that many scholars purport physical literacy to be a relatively new term that has become more widely used in the last few years, having grown in popularity. However, Corbin (2016) argued that physical literacy is not a new term, and instead suggested that references were made to physical literacy as early as the 1900s. McCloy also discussed the notion of physical literacy in two articles in the late 1950s (McCloy, 1957a, 1957b), but these early uses of the term were being used as an alternative to the term “physically educated.” This is, however, not the contemporary meaning of the term today. The term was reintroduced by Margaret Whitehead in 2001 (Whitehead, 2001) with a renewed meaning.

The contemporary concept of physical literacy is informed by three predominant philosophical schools of thought: monism, existentialism and phenomenology. Together these pillars intersect to reveal the true nature of physical literacy by documenting nuances through physical activity. Philosophical concepts are well documented in physical literacy literature (Durden-Myers, Green, & Whitehead, 2018a; Pot et al., 2018; Whitehead, 2001, 2010). However, the intersectionality of embodiment, lived experience and meaning (central to the philosophical schools of thought identified within physical literacy) has been limited.

Physical activity for lifelong learning requires a physical literacy practice to negotiate the evolving nature of meaningful narratives that include lived experience and embodiment through lifeworld interactions. These interconnected pathways can be located at the intersectionality of phenomenology in practice and physical activity. This article attempts to position phenomenology in practice through three major tenets of physical literacy and post-intentional methodological phenomenology. Figure 1 illustrates the interconnected and intersection concepts in discussion.

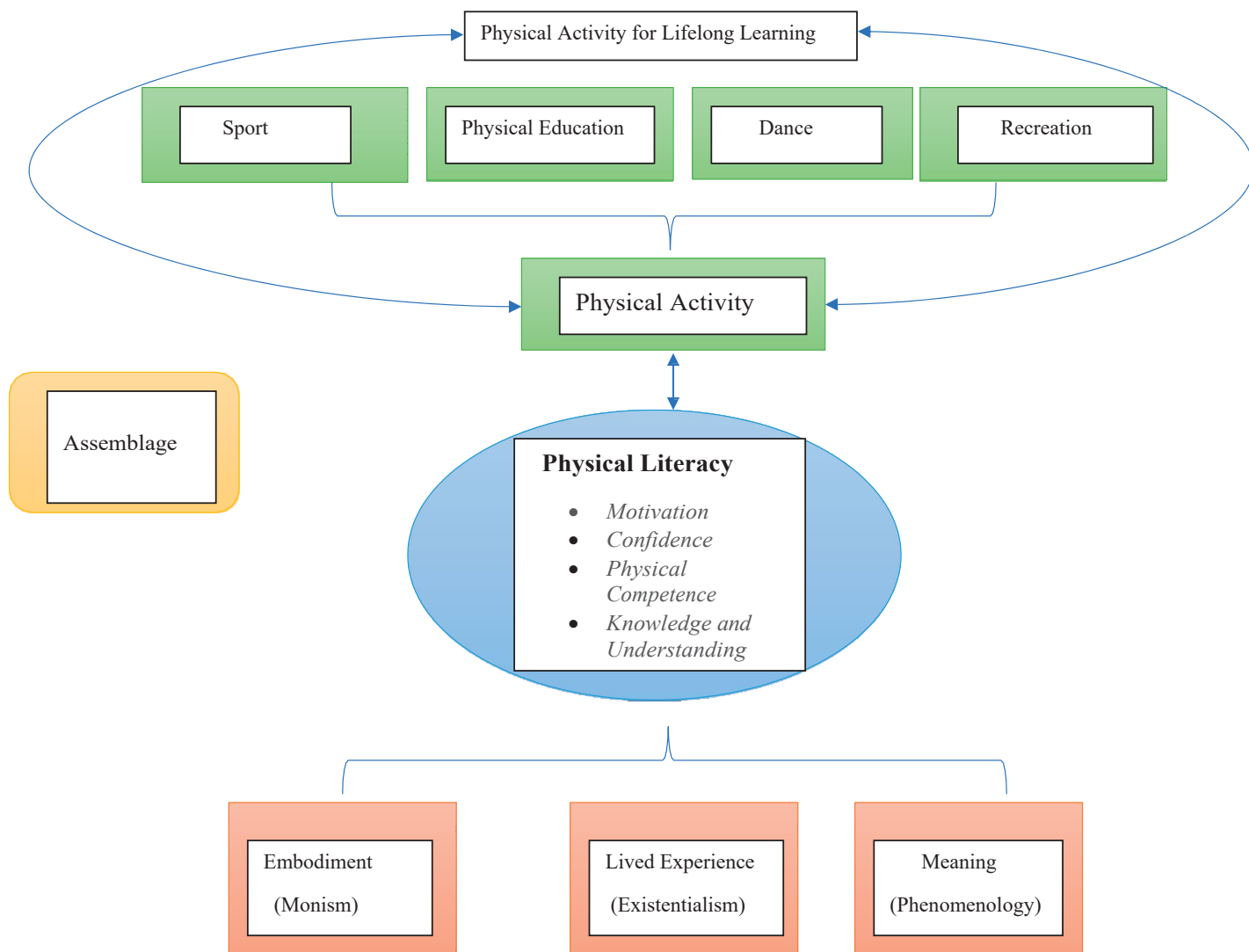


Figure 1.
Interconnected and intersectional physical literacy concepts

Monism is a theory that espouses reality as a whole (without independent parts; Stubenberg, 2016). A monist position rejects a Cartesian dualistic view that separates body from mind and person from surroundings. Although monism recognizes the existence of the different dimensions of the human condition, these different dimensions cannot be understood as separate from each other. For instance, thinking, feeling, moving and talking are interwoven and can all be considered embodied (Whitehead, 2001). Therefore, the term “body” in this article denotes a holistic, integrated, all-encompassing *moving* experience in the lifeworld.

Who we are, how we look and feel, what we do, our relations with others, our hurdles, struggles and aspirations, the organisations we belong to, and our understanding of the social world, are all features of the politics of the body. In other words, we are embodied in every aspect of our everyday experiences. (Hargreaves & Vertinsky, 2007, p. 8)

Monism acknowledges that movement is an embodied experience. Giummarra et al. (2008) described embodiment as a complex phenomenon that extends from self-embodiment to the normal area of influence of body parts. Embodiment also includes the different ways in which we understand and experience temporal-spatial access (or lack thereof) to the world (Merleau-Ponty, 1996; Polanyi, 1964). Taylor, Lord and Bond (2009) stated that the effects of embodiment are evidenced in how individuals move and position their bodies in space and time and how they utilize,

approach and demonstrate avoidance behaviors. The concept of embodiment is grounded in the philosophical works of Merleau-Ponty (1996), Patočka (1998), and Polanyi (1964) and was expanded by Hawkins (2010) and Hopsicker (2009), among others (Block & Weatherford, 2013). Gill (2000) described embodiment as the axis of all tacit knowing, which in turn is the matrix of all explicit knowing. What Gill described is the significance of our motile capability as the very vehicle through which individuals observe, interact with and respond to the world around them. Therefore, developing an embodied sense of self will engender a richness to the perception, observation, interaction and individual expression within the world.

The meaningful connectedness that a singular body conceives is evolving. Often the sense of evolving happens with clarity, and at other times it is positioned in the gnarliness of living (Vagle, Clements, & Coffee, 2017). This assemblage (Nail, 2017) becomes an embodied experience that communicates a post-intentional conception. What becomes available to the body is the manifestation of the social and the possibilities of the intending (Dhillon, 2017). The embodied nature of physical activity, the intentionalities, is the material. This material can be recorded as physical literacy, an “embodied living out of analysis” (Vagle, Clements, & Coffee, 2017, p. 436). Embodied literacy through physical activity is an attunement process whereby the *knowledge incubator* (the body) recognizes both insights and limitations. This is all encompassing of one’s experiences, histories and locations (Dhillon, 2017).

Existentialism asserts that individuals create themselves as they live and interact with the world around them (Whitehead, 2001). The richer and the more varied these interactions, the more fully the human being realizes its potential (Merleau-Ponty, 1968a). This view is closely related to a monist view of the human condition as being inseparable from the world. This means that actions can never be understood (and learned/taught) without a reference to the context in which they are performed. As such, interacting with the world is a continually changing phenomena, as no two contexts are ever the same (Pot, Whitehead, & Durden-Myers, 2018). Lived experience upon reflection is lifeworld research. In the context of physical activity, bodies become knowledge incubators, varying contextually, often signaling phenomena in its situatedness. Physical literacy finds itself in the middle, entangled as a knowledge incubator, recording the nature of desires, concepts, contexts and histories (Vagle, Clements, & Coffee, 2017). Histories are intertwined because experience experiences itself. Through vision and movement, the body (as Merleau-Ponty explained through indirect ontology) references the invisibility of the lived-body’s situatedness and totality of experience (Merleau-Ponty, 1968b). Physical activity therefore has an interconnected embodied nature that gives meaning to the lived experience.

Physical activity positions meaning and lived experience through multimodal lifeworld literacy (Dhillon et al., 2019). Lived experience is informed by a constantly moving existential self. Movement patterns transcend boundaries culturally (Perpener, 1995), adding personalized narratives and meaning (Bond & Deans, 1997; Bond & Stinson, 2000; Brown & Payne, 2009; Lai Keun & Hunt, 2006; Nilges, 2004; Stinson, 1988). In the context of the naturalistic viewpoint of physical education (Rovegno & Kirk, 1995), lifeworld experiences are the interconnectedness between a lived body and an embodied mind and can be defined as a “ready-to-go. physical go-cart” (Sheets-Johnstone, 2015, p. 37). Sheets-Johnstone (2015) suggested educators explore spatial and temporal relationships to question concrete realities. Temporal space structures exist through the kinetic nature of movement and embodiment (Dhillon, 2017). The intersectionality of interpretation derives from the manifestations of temporality and spatiality. Thus interpretation of lived experience is an insight into supposed reality. Reality and experience are alike, personifying experience of awareness of the world (Bulhof, 1980; Dhillon, 2017).

Phenomenology is closely aligned to existentialism and proposes that every individual experiences the world from a unique perspective, as every individual has had their own unique experiences that color their perception (Husserl, 1991; Whitehead, 2010). Phenomenologists argue that there is no objective perception, as perception is always in the eye of the beholder. In line with this thinking, interactions with the world will also be unique to the individual. Phenomenologists highlight that the embodied dimension should be understood as a perceptuomotor facility enabling the individual to gather information as well as initiate actions. This gathering of information from previous interactions, therefore, are informed by past experiences, present surroundings/contexts, and future possibilities. Thus interactions and, moreover, the nature of those interactions, whether positive, negative, meaningful or meaningless, will leave an imprint on an individual and color the individual’s view of the world from his or her own unique perspective (Pot et al., 2018).

Phenomenology can be used as a methodology to gain first-person experience by being with phenomena (Dhillon, 2017). Intentionality, the connectedness, is meaningful as it engages in relations that circulate (knowledge incubation). Intentionality describes the individual and the lifeworld structure, giving meaning to phenomena (Vagle, 2014). Intentionality is therefore an “inseparable connectedness between subjects...and objects...in the world” (Vagle, 2014, p. 27). Post-intentionality refers to the fleeting nature of knowledge through its partial and evolving nature (knowledge incubation). Pursuing this line of flight (Vagle & Hofsess, 2014) positions physical literacy through the ebb and flow of activity. Physical literacy therefore becomes the making and unmaking of physical activity. Phenomena through physical activity creates varying intensities, eluding, leaking and flowing (Dhillon et al., 2019). Physical literacy could be understood through multiplicity and lines of flight (Deleuze & Guattari, 1987) because it is entangled, moving and never rooted. Furthermore, the positionality of physical literacy may be considered through the

nature of knowledge incubation that which is constantly evolving.

Physical literacy becomes a significant factor, an assessment point for understanding, accessing and evaluating diverse experiences of diverse community members (Dhillon et al., 2019; Winnick & Poretta, 2016; Yun & Beamer, 2018). Assessment also provides an opportunity to further question the incubation of knowledge and capture key markers of physical activity experiences. The mismatching of physical activity and physical literacy can also be explored at this juncture, especially in the context of exceptional abilities. Diverse, inclusive physical education classrooms contain unique types of movement expressions and experiences related to physical activity/education. At this juncture, prior learning frameworks of the body through knowledge incubation questions the concept of “lifelong.” Yun and Beamer’s (2018) inquiry into adapted physical education shed light on the nuances of physical activity in relationship to persons with (dis)abilities — particularly, redefining the boundaries of meaningful movement experiences within the profiles of those with (dis)abilities. Lifelong learning from unconventional educational pathways (experiences in refugee camps, cultural diversity and lifeworld) found in creative movement (Dhillon et al., 2019) is also an example of physical literacy that is located outside the norms of structured physical education. Both these examples suggest that individuals unpack physical literacy in many different ways and require physical activity opportunities to coexist for further learning to take place.

In sum, community members who are diagnosed with cerebral palsy, autism or quadriplegia (Winnick & Poretta, 2016) access movement opportunities by different means. Space and equipment are manipulated in different ways, therefore changing pathways and accessibility. Communal activities manipulate space, promote movement opportunities, and seek to connect the “physical” to promote lifelong learning. This re-engagement happens through prior learning structures (knowledge incubation) stored through physical literacy. Collectively, this development of physical and motor fitness within movement patterns suggests that physical literacy records the exceptional abilities of individuals who require an adapted form of conventional physical activity.

Physical literacy in practice

Lynch and Soukup (2016) provided a historical trajectory of contested definitions associated with the term “physical literacy” (Harvey & Pill, 2019). Lynch and Soukup (2016) sought to explore participants’ experiences and perspectives of physical literacy. Here research found that “practitioners are confused” and that “there is and will continue to be a lost identity” (p. 18). Furthermore, Edwards et al. (2016) concisely analyzed the operational challenges of defining physical literacy. The consensus to distinguish physical activity from physical literacy was a constant. In sum, these authors concluded a need to generate measurable differences that record meaningful participation. “Seventy percent of the articles” (p. 121) analyzed suggested that physical literacy should adopt a “Whiteheadian” perspective.

Whitehead’s initial motivation to develop the concept of physical literacy was focused on four main principles. First, her interest in the philosophical writings of existentialism and phenomenology gave significant support for the centrality of embodiment in human existence, and thus elevated the argument toward embodiment as fundamental to human life (Whitehead, 2010). Second, despite the overwhelming evidence including the philosophical writings mentioned above regarding the importance of embodiment for human existence, movement development was considered secondary to language, numeracy and social development within early childhood (Whitehead, 2010). Third, physical literacy could be used to address the growing drift away from physical activity as part of everyday lifestyle, particularly in developed countries. Physical literacy could also serve as the means to elevate the value that physical activity has in enriching life, throughout the life course (Whitehead, 2010). Finally, there was a growing concern about the general direction that physical education was taking in many developed countries, including the UK, which judged by Whitehead placed too much emphasis on high-level performance and elitism within physical education (Whitehead, 2010).

It is evident that physical literacy finds itself within the framework of physical activity. Therefore, physical literacy can be located at the edges and margins of any form of physical activity because it is personalized through meaningful interactions in the lifeworld. Physical activity requires attentive bodies to become the basis of analysis through lifeworld experiences and moments (Vagle, Clements, & Coffee, 2017). To reiterate physical literacy is expressed through the senses of the bodies situated temporality and spatiality (Vagle, Clements, & Coffee, 2017). The interpreted instability that bodies produce is profoundly fleeting. Physical literacy records these nuances as a disruption in an ever-changing environment. In the context of activity, physical literacy becomes the vibrant instrument delving into multiple lifeworlds. Vagle, Clements, and Coffee (2017) and Durden-Myers et al. (2018b) both emphasized the need to refocus and embrace this interconnectivity through mind and body. Vagle, Clements, and Coffee (2017) expressed this interconnection as an assemblage situated around multiplicity and lines of flight (Deleuze & Guattari, 1987). Physical literacy is therefore an assemblage, leaking, eluding and fleeing. The nature of this assemblage is not rooted but travels, multiplies and molds. This transcendence flows from one experience to another, utilizing the intentionality of past and present, never bound to environment, culture, location or time.

Meaningful experiences

The “one basic assumption” (Press & Freire, 1974, p. 12) suggests individuals can transform their world. Critical voices in pedagogy are significant to accessible education (Croston & Hills, 2017). Meaningful connections are found in the giving of voice which develops deep connections with self and others through the process of crafting physical activities within physical education (McCaughy et al., 2006). Learning creates interconnectedness between community, family and the individual. A physically literate person understands learning through personal meaning (Bond & Stinson, 2000; Nilges, 2004). On the contrary, marginalization often represents a resistance or tension to the status quo. Resistance to the status quo manifests in passive responses to structures often impeding acculturation processes (Dhillon, 2017). The acculturation process is imperative to marginalized communities and knowledge makers (social scientists) who continue to create pathways to liberation. Physical literacy explores opportunities to interrogate marginalized narratives. Physical activity offers insight into restrictive natures associated with this learning. Physical literacy within activity contain cultural codes that reflect experiences (Dhillon, 2017). Thus marginalization is often a personal experience which is felt through lifeworld interactions. Each interaction becomes an assemblage, often unearthing tensions.

Physical literacy records an experience as a lived body. It instills intention that is ever present, perpetually, through lifeworld movement. The body, a place of temporary containment, shifts intentionally (Purser, 2018) as it becomes objectified in space through kinesthetic awareness (Sheet-Johnstone, 2009). This body becomes a tool from which to obtain meaning (Catalano & Leonard, 2016). Meanings are captured in motion (Dhillon, 2017) and become immersed in the immediate, “focussed, in-the-movement awareness of the body” (Purser, 2018, p. 47). This movement becomes a frame of reference because the act of motion is accessed through the understanding of thought. An example of this as a form of a physical activity is dance. “Dance is inherently embodied since it always of, with, by, about, and through the body” (Catalano & Leonard, 2016, p. 64).

In sum, critical physical education pedagogy can work toward democratic and transformative education by reviewing the embodied nature of physical literacy within activity. Physical education when repositioned through critical pedagogy is a “cultural critique” (Kirk, 2006, p. 257; emphasis in original). Often, the data gathered on marginalization is found through the literacy of physical activities (Dhillon, 2017). Physical literacy through multimodal learning provides access to marginalized individuals and their diverse movement trajectories. Therefore, physical activity, within curricula (physical education) requires democratic understanding in “the ways meanings ‘come-to-be’ in relations” (Vagle, 2015, p. 602). These in-between spaces must therefore be opened up and contemplated (Vagle, 2015). Discussions can be recorded through exploratory phenomenological methodologies that seek to understand physical literacy. After all, the body in physical activity becomes the object of discovery, portraying the voice through a lived character (Fraleigh, 1996). A lived character often depicted in activities captures in-between spaces (Enright & O’Sullivan, 2012; Vagle, 2015) questioning embodied movement as it records physical literacy.

Implications for practice

Physical literacy represents knowing through multimodal physical activity. The mediation of multimodality captures unique movement vignettes attributing individual characteristics. “Schon’s conception of action-present” (Vagle, Monette, Thiel, & Wester-Neal, 2017, p. 297; emphasis in original) is critical to the understanding of physical literacy. This is because physical literacy is bound by time in a context-driven zone driven by the process of action and reflection. This phenomenology in practice (Vagle, Monette et al., 2017) originates from the tenets of methodological and philosophical underpinnings of phenomenology—specifically, post-intentional phenomenology (Vagle, 2010a, 2010b, 2014, 2015). Physical literacy can be used as a concept of post-reflection to articulate pedagogies. Articulating physical literacy can be grounded in “Deleuzoguatarrian perspectives” (Vagle, Monette et al., 2017, p. 296) because entering the middle is a discovery of the deeply entangled context. Pedagogies occupy key spaces in the production process. One such key space is physical education. Physical literacy-informed physical education practice would feature aspects of monism, lived experience, and meaning as described in Table 1. Bodies become the challenging fortress where they are violated, marked, nurtured, disciplined, honored and celebrated (Vagle et al., 2014).

Vagle (2014) encouraged the crafting of phenomenology through a post-intentional and methodological lens. Vagle (2014) defined post-intentionality as a manifestation, a process of experience and decision-making as it appears in the lifeworld (Dhillon, 2017). Interconnectedness relates to the subjects and objects in the lifeworld. Vagle (2009) referred to phenomenon as “any thing or part of the world ‘as it presents itself to, or, as it is experienced by, a subject’” (p. 587). Using photo-storying to make and unmake productions is an example of post-intentional phenomenological research (Dhillon 2017; Vagle, 2016). Physical activities contain naturalistic components of the lifeworld: sharing space and movement. The treatment of these spaces (gymnasium, dance studios and fields) reflects

Table 1.
Physical Literacy Assemblage in Physical Education Practice

	Physical Literacy	Physical Literacy Informed Physical Education
Embodiment (Monism)	<p><i>Physical literacy advocates the holistic development of all elements of physical literacy including motivation, confidence (affective), physical competence (physical) and knowledge and understanding (cognitive).</i></p> <p><i>Physical literacy also equally values the body as lived and the living body. And appreciates the value of embodiment as a central tenet of what it is to be human.</i></p> <p><i>Physical literacy tries to steer away from dualistic tones of body as machine and object.</i></p>	<p><i>Physical education lessons, units and schemes of work are constructed using learning objectives that develop equally physical, affective and cognitive outcomes.</i></p> <p><i>Physical education champions the intrinsic and unique value physical activity plays in human and personal development.</i></p> <p><i>Physical education challenges frameworks that are elitist and exclusionary in nature and instead advocates inclusive approaches whereby all can enjoy and make progress.</i></p>
Lived Experience (Existentialism)	<p><i>Physical literacy encourages individuals to experience physical activity in a range of environments. This enables individuals to build a rich and varied movement repertoire and develop a bank of positive meaningful physical activity experiences.</i></p> <p><i>Physical literacy categorizes physical activities into different movement forms and encourages engagement in a range of movement forms.</i></p>	<p><i>Physical education curricula and programmes of study are designed to balance exposure to a range of physical activity experiences whilst spending enough time on activity areas in order to significantly develop motivation, confidence, physical competence and knowledge and understanding.</i></p> <p><i>Physical education provides a range of opportunities to experience a variety of physical activities and movement forms. And is broader than just competitive team games.</i></p>
Meaning (Phenomenology)	<p><i>Physical literacy aims to engender a disposition whereby individuals value and take responsibility for their own engagement in physical activity.</i></p>	<p><i>Physical education encourages students to progressively take ownership and responsibility for decision making within the lesson and encourages autonomy and self-directed exploration of physical activity activities and experiences.</i></p>

the attentive physical nature of life (Gruenewald, 2003). Movement grounds a sense of place and belonging through the exploration of meaning. Unstructured play in a noncompetitive environment is a physical activity that is creative (Christiana, 2014). An assemblage of these recordings through reflexivity is physical literacy. Physical literacy therefore documents the nature of these in-between spaces from an educator's and learner's perspective. Affective moments are found in both these contexts.

Marginalized spaces may indicate a prevalence of inactivity as students move from physical education (school) to physical activity (community). Culturally relevant pedagogy may be an avenue in which to explore physical literacy narratives. Affective pedagogies (Vagle, Monette et al., 2017) are part of one's being that manifest from one's experience. Affective responses record moments of affect through living experiences including those that invoke feelings of harmony, contentment, conflict, confusion, and tension. Intense moments in physical literacy are located within the body. Physical reactions such as racing heartbeat, moving into space, and catching a ball are moments of affect reflecting about, during and a result of physical activity. Physical literacy in the context of pedagogy interrogates affective moments. Teachers embody classroom experiences through their own lived experience. Positive and negative experiences tease out past, present and future pedagogical movements. Teacher candidates therefore need to experiment "through playful lines of flight" (Vagle, Monette et al., 2017, p. 302) in order to explore pedagogical possibilities instead of the limitation that exists in classroom practice and instruction for/in/ around physical literacy. By re-conceptualizing practice as embodied, inquisitive and entangled, teacher candidates can explore what is typical and bring to life what is post-reflexive (Vagle, 2014; Vagle, Monette et al., 2017).

Project-based learning (PBL) is another method/teaching strategy that can provide the mechanism for exploring physical literacy and its manifestations of experiences (Harada et al., 2015). Within that premise, active knowledge building becomes phenomenon-based teaching and learning (Symeonidis & Schwarz, 2016). The centrality of the person and their exploration reclaims learning in respect to pedagogy. In this context, physical literacy is not just an objective for a specific lesson but rather an open exploration of lived experiences of students. By exploring the

lifeworld of students, movement patterns document physical activity. Therefore, physical activity is represented on a continuum whereby physical literacy is evolving and reshaping.

Conclusion

Physical activity must be understood as a holistic embodied experience with lifelong implications. Lifelong participation requires an embodied knowing, a meaningful (Jones et al., 2016) attachment to activity through lived experience. Knowing is achieved by perceptuomotor movement within the lifeworld. The underpinnings of physical literacy (monism, existentialism, phenomenology) are interwoven dimensions, moving through the lifeworld to create and re-create unique individual perceptions (assemblage). Physical literacy proposes that all physical activity must be understood through these lenses in order to achieve lifelong physically active individuals.

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