

Physical Literacy Matter(s): An Ontological Reframing of Ambient Conditions

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ABSTRACT

Physical literacy (PL) has gained significant traction across education, sport, recreation, and public health, yet many people still struggle to understand or recognize it in their everyday movement experiences. This paper argues that the challenge is not primarily theoretical but communicative: PL is often presented in ways that obscure its everyday presence. Drawing on Whiteheadian thought and metaphor theory, we reframe PL as both consequential and constitutive, something that matters and may be understood as matter. We propose PL as an ambient condition of human life, continually lived through embodied engagement with the material world. Using the metaphor of matter in three states: solid, liquid, and gas, we illustrate PL's philosophical integrity, contextual fluidity, and often unseen, difficult-to-articulate nature. We conclude with an integrated model and principles for communicating PL while preserving conceptual rigor and broadening access, resonance, and connection with the concept.

KEYWORDS

Physical literacy; metaphor; language; ontology; knowledge translation; lifespan

Physical literacy (PL) is now firmly embedded within contemporary discussions of movement, education, health, sport, and recreation (L. Durden Myers, 2026b). Over the last decade, it has been adopted in policy frameworks, curricular documents, health promotion strategies, and community initiatives across multiple countries, often as a concept supporting movement and physical activity participation with lifelong health, well-being and human flourishing (Cairney et al., 2019; Dudley et al., 2017; E. J. Durden Myers et al., 2018; Shearer et al., 2018). This global and multisectorial traction is significant, suggesting that PL has moved beyond niche philosophical conversation and into the practical vocabulary of systems charged with supporting human development across the lifespan. At the same time, uptake has not yielded conceptual settlement. Rather, the more widely PL has circulated, the more visible its definitional plurality, interpretive instability, and uneven translation into practice have become (Bailey, 2022; Edwards et al., 2017; Hyndman & Pill, 2018; Young et al., 2020).

This tension has become a recurring feature of PL scholarship. Researchers have shown that the concept is frequently misunderstood, differently operationalized, and at times reduced to partial or instrumental formulations that sit uneasily alongside its philosophical roots (Harvey & Pill, 2019; Jurbala, 2015; Robinson et al., 2018). L. Durden Myers (2026a) argues that “maintaining the balance between pluralism

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and embracing flexibility in both cultural and interdisciplinary interpretation, while maintaining philosophical/conceptual alignment is imperative” (p. 619). In other words, PL is simultaneously prominent and elusive. It is discussed widely, but not always understood deeply (Bailey, 2022; Robinson et al., 2018). It is endorsed institutionally, but often experienced publicly as abstract, technical, or externally imposed (Dudley et al., 2017; Harvey & Pill, 2019). This is not a minor communicative inconvenience. If PL is intended to support meaningful engagement in movement across the lifespan, then the distance between its theoretical intent and its everyday intelligibility matters.

The purpose of this conceptual essay is to reframe PL as an ambient condition of embodied life and to examine whether the metaphor of matter can make that condition more publicly intelligible without weakening its philosophical integrity. The paper begins from a problem of articulation rather than an assumed failure of conceptual substance. The challenge is not simply that PL needs better promotion, clearer implementation, or more consistent measurement, although each of these may have value. Rather, it is that PL has too often been framed within institutional locations, as a curricular outcome, intervention target, policy objective, or object of assessment, rather than explicitly connected to the ordinary movement experiences through which it is lived (Harvey & Pill, 2019; Lundvall & Gerdin, 2021; Ovens & Enright, 2021; Robinson et al., 2018). To address this issue, we advance an ontological reframing: PL may be understood not only as something that matters, but productively as matter, in relationship with ambient environmental conditions and intertwined with human embodied intentionality. This is not a literal claim that collapses PL into physical substance. It is a conceptual move intended to make visible how PL is lived continuously through bodily negotiation with material, social, and existential conditions.

We approach the paper as a conceptual essay (Jaakkola, 2020), intended to encourage critical consideration of, and sustained questioning about how PL is understood and communicated. It brings two sensitizing literatures into dialogue: Whiteheadian and related PL scholarship, which positions human movement as embodied, relational, lifelong, and irreducible to narrow performance outcomes (Pot et al., 2018; M. Whitehead, 2010, 2019; M. E. Whitehead et al., 2018), and metaphor theory, which explains how abstract ideas often become thinkable through more familiar experiential domains (Botha, 2009; Cameron, 2003; Lakoff & Johnson, 1980; Thibodeau et al., 2017). The conceptual process involved identifying the articulation problem in PL scholarship; mapping the properties of solid, liquid, and gas onto distinct functions of PL; interrogating where these mappings preserve or strain PL’s philosophical commitments; and synthesizing the resulting relationships into an ecological model and principles for articulation. This is not a systematic review or an empirical analysis; the literatures are used purposively to construct, challenge, and refine the proposed reframing.

Three questions served as a means to guide our thought processes: (1) How might PL be ontologically reframed as an ambient condition of embodied life? (2) What does the states-of-matter metaphor illuminate, and potentially obscure, about PL’s stability, contextual expression, and everyday visibility? and (3) What principles follow for communicating PL without sacrificing philosophical integrity? The argument proceeds from PL’s ontological foundations and ambient character, through the three metaphorical states, to an integrated model and implications for scholarship and practice.

Building on this argument, the paper makes three related contributions. First, it shifts the ontological emphasis from PL as an attainment located primarily in programs and institutions to PL as an ambient condition continually expressed through embodied relations with the world. Second, it offers the states-of-matter metaphor as a heuristic for holding together conceptual integrity (solid), context-sensitive expression (liquid), and diffuse everyday presence (gas) without treating them as developmental stages. Third, it develops a recursive ecological model in which recognition, relevance, and resonance connect philosophical intent, lived experience, and public language. The originality lies not in claiming that PL is literally material, but in using material states to reorganize how its stability, plurality, and communicative elusiveness can be understood together.

Physical literacy matters and is matter

To say that PL matters is relatively uncontroversial within the field. Existing scholarship has already made a compelling case that PL is tied to meaningful movement participation, health, human flourishing, and the capacity to live well through embodied engagement with the world (Cairney et al., 2019; E. J. Durden Myers et al., 2018; M. E. Whitehead et al., 2018). PL matters because it shapes how people come to know themselves and their environments through movement. It matters because confidence, motivation, competence, and embodied understanding influence whether movement is approached as threatening, obligatory, joyful, alienating, sustaining, difficult or possible. It matters because these orientations and experiences accumulate across the lifespan, structuring dispositions, participation patterns, opportunities for belonging, and one's sense of embodiment and agency in relation to the physical world (Cairney et al., 2019; E. Durden Myers & Bartle, 2023; M. Whitehead, 2010). PL is also becoming increasingly adopted by local, national and international organizations the world over, frequently featuring in policy and governance papers and frameworks (Randall et al., 2026). PL can therefore be considered as a significant and poignant framework guiding global conversations and localized provision and opportunities to engage in movement and physical activity opportunities. As such, PL matters. We use the word matters here with a deliberate double meaning. Firstly, PL matters because it is a concept that is occupying space, as an entity that is being materialized the world over. Secondly, PL as matter, in terms of material science, where we have an opportunity to draw similarities between PL being understood as an ambient concept occupying different materials features similar to those of a solid, liquid and gas. PL has constituents (philosophical principles, theoretical framing and definitions) similar to particles (atoms and molecules), can be observed differently according to ambient conditions, and as such, can present as a solid state (definitions, theoretical framework and guiding principles), liquid state (interpretable, contextual and fluid) and as a gas (difficult to observe, fully articulate or invisible). Here, matter functions as an ontological metaphor. It names that which is not merely added to life, but that through which life is negotiated. Bodies do not encounter the world from outside it. They are always already in relation with gravity, temperature, resistance, surfaces, objects, weather, architecture, time, fatigue, and other bodies. Everyday movement, actions such as standing up, climbing stairs, carrying groceries, adjusting posture, pacing effort, navigating pain, or finding one's way through crowded space, are never detached from these conditions. PL, from this perspective, is not best understood as a specialized attainment reserved for sport, schooling, or recreation programming. It is the quality of one's ongoing

embodied relationship with a material world that continually invites, constrains, and shapes action (E. J. Durden Myers et al., 2020; Pot et al., 2018).

Such a view is consistent with the philosophical underpinnings commonly associated with PL. Whitehead's account resists dualist separations of mind and body, person and environment, or movement and meaning (M. Whitehead, 2010, 2019). Pot et al. (2018) likewise argue that the philosophical foundations of PL are not decorative add-ons to the concept but central to how it should be understood in practice. On this basis, PL is not an outcome to be reached once and for all, nor a discrete capacity that appears only in formal movement settings. Rather, it is an ongoing and never-complete process through which embodied persons interpret, negotiate, and respond to the worlds they inhabit (Pot et al., 2018; M. Whitehead, 2010). Thinking of PL as matter therefore reinforces rather than abandons its philosophical roots, foregrounding fundamentality, relationality, and continuous lived presence.

This reframing also helps clarify the lifelong and non-linear character of PL (E. J. Durden Myers et al., 2022). Matter does not disappear because its form changes, and PL does not cease because a person's movement history shifts, stalls, narrows, or is radically reconfigured. Across the lifespan, people encounter progression, regression, interruption, adaptation, and renewal. Illness, disability, injury, aging, care work, migration, altered environments, and changing social expectations all reshape how movement is lived and what becomes possible. Yet none of these transitions place a person outside PL; they alter the conditions through which PL is expressed (Carl et al., 2024; M. Whitehead, 2010). A material metaphor thus helps resist final-state thinking. It emphasizes that PL is always in process, always responsive to circumstance, and always bound up with how human beings continue to inhabit and make sense of movement in changing worlds (E. J. Durden Myers et al., 2018; M. Whitehead, 2010).

The paradox of an ambient concept

If PL is as fundamental and pervasive as this account suggests, an important paradox follows. How can a concept that is lived so continuously remain so difficult to recognize? People move every day. They adapt to terrain, surfaces, social demands, bodily signals, changing energies, and shifting environments. They learn what feels possible, what feels risky, what requires effort, and what invites confidence. In this sense, PL is not rare or occasional. It is ambient. It sits in the background of daily existence, not because it is unimportant, but because it is so deeply woven into ordinary life, including what it is to be (a moving) human, and in relationship with the world, that it often recedes from view. The importance and value of physical literacy therefore is sometimes not recognized until it is interrupted, like holding on to mobility in active aging, or recovering from injury. It is then in these moments what we have taken for granted can sometimes be more fully appreciated as they are brought into focus.

The problem, then, is not the absence of PL from human experience. The problem is its absence from everyday recognition. PL often remains unnamed even when it is being lived. People may understand themselves as tired, coordinated, hesitant, adventurous, awkward, capable, or out of place, without ever linking those experiences to a broader lens for interpreting embodied life. We also appreciate fully reflecting on your relationship with movement and physical activity doesn't encapsulate the totality of human experience as we

often only pay attention to what reaches consciousness in a collection of brief moments. The concept becomes especially difficult to grasp when it is presented as though it resides mainly in policy, curriculum, assessment, or specialist discourse. Under those conditions, PL appears to belong to teachers, coaches, researchers, and organizations more than to people themselves. It is encountered as a professional construct rather than as a way of making sense of one's own movement experiences.

This helps explain why institutional expansion has not automatically translated into public intelligibility. Institutional work has been essential to PL's legitimacy. It has provided philosophical coherence, policy traction, and a platform for interdisciplinary dialogue (Dudley et al., 2017; Shearer et al., 2018). Yet institutionalization can also narrow the perceived location of the concept (Lundvall & Gerdin, 2021; Ovens & Enright, 2021). When PL is framed mainly through learning outcomes, intervention pathways, or measurement systems, everyday spaces such as kitchens, hallways, sidewalks, workplaces, and homes risk being conceptually excluded. What is lived most often becomes what is named least. The issue is therefore not whether PL exists in people's lives, but whether the language surrounding PL allows those lives to recognize it.

This distinction between embodiment and articulation is crucial. PL has not struggled primarily because its philosophical or theoretical foundations are weak. On the contrary, one might argue that the field has often generated strong conceptual accounts. The struggle lies in how those accounts travel. Dense language can protect nuance within academic discourse, yet it can also produce conceptual distance when the intended audience extends beyond the field. The result is a familiar pattern: widespread awareness of the term, partial familiarity with some of its components, and uncertainty about how the concept relates to ordinary life (Harvey & Pill, 2019; Robinson et al., 2018; Young et al., 2020). What falters is not embodiment itself, but access to a language through which embodiment can be recognized, interpreted, and claimed.

Why metaphor is needed

Metaphor is useful precisely because PL is both philosophically rich and publicly difficult to grasp. Metaphors do not merely decorate language; they structure how people think about complex phenomena by relating unfamiliar domains to more familiar ones (Lakoff & Johnson, 1980). Metaphor can make the unfamiliar feel more familiar. Educational scholarship has shown that metaphors can make concepts more comprehensible, open space for reflection, and enable people to articulate aspects of experience that literal language may fail to capture (Botha, 2009; Cameron, 2003). Research on linguistic metaphor further suggests that metaphorical framing can scaffold reasoning by helping people organize information, draw inferences, and perceive relevance within ideas that might otherwise remain abstract (Thibodeau et al., 2017).

This is especially pertinent for PL, which encompasses multiple definitions, emphases, and applications across contexts, producing a field in which coherence remains important but singularity is neither likely nor necessarily desirable (Bailey, 2022; Jurbala, 2015; Young et al., 2020). Under such conditions, metaphor offers a way of communicating conceptual integrity without insisting on a single literal formulation that must do all the work. It can illuminate certain features while leaving room for plurality, provided the metaphor remains coherent with the

concept it is attempting to express. The use of metaphor in supporting understanding and sense-making therefore could be a potential solution toward “maintaining the balance between pluralism and embracing flexibility in both cultural and interdisciplinary interpretation, while maintaining philosophical/conceptual alignment” (L. Durden Myers, 2026a, p. 619).

The states of matter offer this heuristic by presenting PL to be imagined as stable without being static, adaptive without becoming unbounded, and ever-present without always being visible. Importantly, the metaphor is not sequential. Solid, liquid, and gaseous states do not represent developmental stages through which PL progresses. Rather, they are interrelated functions of the same phenomenon, exhibiting how PL holds its philosophical shape, how it is lived in context, and why it so often escapes easy recognition.

This metaphor can be visualized through an ecological image in which an iceberg, surrounding water, open air, and interacting life forms are understood together. The iceberg represents PL’s solid state; the water represents its liquid state; the air represents its gaseous state; and birds or other living elements represent the wider interacting ecosystem through which PL is lived, interpreted, communicated, and reshaped.

The States of physical literacy matter(s)

Solid: intent-stable physical literacy

The solid state captures the parts of PL that require conceptual firmness. Without some degree of stability, PL risks dissolving into a generic celebration of movement or an empty synonym for participation. The solid names the concept’s philosophical integrity. Its insistence that human beings are embodied, that movement is existentially significant, that development is lifelong, and that PL concerns more than isolated physical competence or technical performance (Pot et al., 2018; M. Whitehead, 2010, 2019). This solidity is also visible in the institutional and scholarly work that has stabilized the field, including definitional debates, policy frameworks, and efforts to identify common themes across PL traditions (Edwards et al., 2017; Shearer et al., 2018).

The solid matters because PL cannot be made accessible by hollowing it out. Conceptual accessibility that abandons philosophical depth does not widen understanding, but rather, it merely substitutes vagueness for rigor. The solid therefore protects intent. It preserves the idea that PL is holistic, relational, and individually lived. It guards against interpretations that reduce PL to physical fitness, sport proficiency, or standardized performance benchmarks. It also preserves the ethical and existential claim that movement is not only instrumental to other goods but meaningful in itself, bound up with who a person is and how a person can inhabit the world (E. J. Durden Myers et al., 2018; M. E. Whitehead et al., 2018).

At the same time, solidity can become problematic when it hardens into closure. If philosophical commitment is translated into rigid terminology, inaccessible discourse, or prescriptive forms of implementation, the very thing meant to preserve the concept may inadvertently limit its reach. The solid is therefore necessary, but not sufficient. PL requires stable commitments, yet it cannot remain communicatively useful if those commitments are accessible only to insiders.

Liquid: context-sensitive physical literacy

If the solid captures PL's intent-stable commitments, the liquid captures its lived variability. PL is always expressed in relation to specific bodies, environments, histories, opportunities, and constraints. It adapts to context because human movement is never abstract. The same person may feel capable in one environment and uncertain in another, confident at one life stage and hesitant at the next, or even energized in one social setting and diminished in another. PL therefore cannot be understood apart from the relational conditions through which it is enacted.

The liquid state foregrounds the idea that PL is one concept with many expressions. Such variability should not be mistaken for conceptual weakness. Rather, it follows directly from a lifelong, embodied, and ecological view of human movement. When PL is lived across childhood, adulthood, older age, disability, illness, shifting identities, and diverse cultural and geographic contexts, its expression cannot be expected to look uniform. A rigidly standardized articulation would contradict the very individuality and relationality that the concept seeks to honor (M. Whitehead, 2010). This is why PL must be capable of movement beyond the solid state, honoring space for fluidity of expression without losing its philosophical core.

This liquid quality is especially important for inclusive work. If PL is articulated through taken-for-granted norms about ideal bodies, typical developmental pathways, or socially privileged forms of movement, then access to the concept narrows even as its public visibility appears to expand. Critical scholarship on disability and PL has shown the risks of narratives that universalize normative assumptions while claiming inclusivity (Pushkarenko, Cavell, et al., 2023; Pushkarenko, Howse, et al., 2023). A liquid understanding resists that tendency. It reminds us that PL must remain responsive to different ways of moving, sensing, adapting, and finding meaning. Fluidity, in this sense, is not dilution. It is what allows PL to travel across lives without erasing differences.

The liquid also captures the translational work required when PL moves between scholarly, pedagogical, policy, and community contexts. Language, examples, and emphases may need to shift so that the concept becomes meaningful in particular settings. Yet such shifts need not compromise integrity. They can instead be understood as the practical expression of PL's context-sensitive nature. What remains constant is the intent, while what changes is the form through which that intent becomes recognizable.

Gas: the unseen and unnamed

The gaseous state captures the paradoxical invisibility of PL. Gas is present, expansive, and real, yet often difficult to see directly. It is felt through effects, recognized in moments of density or absence, and encountered as atmosphere rather than object. This provides a useful way of thinking about PL in everyday life. PL frequently operates as a background condition, lived, consequential, and structuring, but not immediately named or observable. People navigate environments, adapt movement, calibrate effort, and form embodied dispositions without necessarily identifying those processes as PL. The gaseous state also captures the communicative challenge at the heart of this paper. When PL is articulated primarily through professionalized language, the concept can

become too diffused for broad public recognition (Bailey, 2022; Young et al., 2020). It is everywhere in life, yet absent in understanding. It hovers around practice but does not always condense into meaningful language. This helps explain why awareness alone often fails to produce ownership. People may encounter the term PL, recognize that it has something to do with movement or health, and still feel uncertain about what exactly it names or why it should matter to them.

Importantly, the gaseous state should not be interpreted as conceptual failure. PL's invisibility is partly a function of its ambient nature. Fundamental conditions of life often recede from view precisely because they are so constant. The challenge is therefore not to force PL into false concreteness, but to create the linguistic conditions under which an ambient reality can become recognizable without being distorted. In other words, the task is not to invent PL, but to help it condense into forms of language that people can comprehend and utilize.

Language and metaphor as the gateway

Once PL is understood as an ambient condition rather than a discrete programmatic product, language becomes central rather than supplementary. Language does not create PL, but it does shape sense-making and whether PL becomes visible, meaningful, and shareable. It influences what people notice in their own movement lives, what they are able to name and articulate, and whether the concept feels relevant to them. Access to PL is therefore not only physical or structural. It is also cognitive, linguistic, conceptual, and relational.

These dimensions should not be understood simply as capacities located within individuals; rather, they describe the conditions through which people are enabled to notice, name, interpret, connect with, and claim PL as meaningful within their own movement lives. This aligns with broader understandings of literacy as involving the ability to access, understand, appraise, and apply information in everyday contexts (Sørensen et al., 2012), and with PL scholarship that positions knowledge, understanding, embodiment, value, meaning, and lifelong engagement as central to the concept (E. J. Durden Myers et al., 2020, 2022; Pot et al., 2018; M. Whitehead, 2010, 2019). In this paper, we use four overlapping forms of access as a heuristic for considering how PL becomes available beyond specialist discourse.

Cognitive access refers to the conditions that support individuals and communities to attend to, process, interpret, appraise, and apply ideas about embodied movement experience. In this sense, cognitive access extends beyond recall or definitional familiarity to involve the capacity to make connections, draw inferences, evaluate relevance, and use PL as a way of interpreting movement experiences across different contexts (Anderson & Krathwohl, 2001; Sørensen et al., 2012). *Linguistic access* refers to the availability of words, metaphors, narratives, examples, and communicative forms through which embodied movement experiences can be named, expressed, and shared. This is particularly important because PL is not only a concept to be defined, but also a literacy through which people come to make sense of movement, embodiment, and participation (E. J. Durden Myers et al., 2022). Without such access, PL may remain present in experience but unavailable for reflection, communication, or ownership.

Conceptual access refers to an understanding of PL's underlying commitments, including its holistic, embodied, relational, lifelong, and individually situated nature, while also recognizing that PL is not reducible to fitness, sport proficiency, motor competence, physical activity volume, or standardized performance alone (Bailey, 2022; Edwards et al., 2017; Young et al., 2020). It requires more than repeating a definition; it requires an appreciation of the philosophical and practical boundaries that give PL its distinctiveness. *Relational access* refers to the extent to which PL connects with a person's identity, biography, relationships, community, culture, environment, and sense of self-in-movement. This dimension is especially important because meaningful movement experiences are shaped not only by competence or participation, but also by enjoyment, social interaction, challenge, autonomy, relatedness, and personally relevant learning (Beni et al., 2017; Ryan & Deci, 2000).

These distinctions help clarify why surface-level awareness, or the ability to repeat a definition, should not be confused with understanding, and why understanding should not automatically be equated with meaning. Awareness refers to recognition and recall. A person may have heard the term PL, associate it broadly with movement or physical activity, and even repeat a formal definition without necessarily grasping its scope or relevance. Understanding refers to interpretive grasp. A person can explain PL's underlying principles, distinguish it from narrower constructs such as fitness or sport skill, and consider how motivation, confidence, competence, knowledge, understanding, value, and responsibility may be enacted in practice. Meaning refers to personal and situated ownership. PL becomes connected to one's embodied history, identity, relationships, aspirations, environments, and sense of what movement makes possible. At this point, PL functions less as terminology to be repeated and more as a lens through which people interpret and value their own movement lives.

Importantly, awareness, understanding, and meaning should not be treated as rigid developmental stages. People may participate in movement before they can name PL; meaning may emerge through embodied experience before it is conceptually articulated; and understanding may deepen retrospectively through language, dialogue, reflection, and practice. The argument, then, is not that participation requires explicit conceptual understanding from the outset. Rather, PL-informed engagement is more likely to be sustained, owned, and integrated into a person's life when participation is connected to meaning. If PL is to function as a lens rather than a slogan, people must be able to recognize it not only as an expert term, but as a way of making sense of the movement realities they already inhabit.

Knowledge translation is therefore indispensable, but it must be pursued without dilution. There is often concern that efforts to make PL more accessible may oversimplify the concept and weaken its philosophical integrity (Bailey, 2022; Pot et al., 2018). Such concern is understandable, particularly given the history of partial and instrumental interpretations of the term. Yet inaccessible language does not protect rigor; it obscures it. Clarity should not be confused with simplification in the harsh sense. Effective translation preserves intent while changing the form of expression. Metaphor, narrative, and concrete examples can enable philosophical ideas to travel more widely without surrendering their complexity (Botha, 2009; Cameron, 2003; Thibodeau et al., 2017).

From this perspective, language operates as a gateway between lived embodiment and conceptual understanding. It enables the movement from implicit experience to explicit

recognition. It also conditions whether PL is experienced as external and expert-owned or as something that belongs to people as they interpret their own embodied histories. The stronger the disconnect between language and lived life, the more likely PL is to remain an abstraction. The stronger the connection, the more likely PL is to become a meaningful and durable way of understanding movement across the lifespan.

Resonance is therefore not an optional communicative extra, but a requirement. For PL to resonate, individuals must be able to say, in effect, that the concept sounds like their lives. This does not mean every articulation must be identical, but rather that resonance depends on context-sensitive expression. Language must be able to speak across different environments, cultures, life stages, and embodied realities while remaining faithful to the concept's core commitments. Recognition makes relevance possible, and relevance makes resonance possible. Where resonance is absent, PL remains external. Where resonance is present, PL becomes available for ownership. Therefore, as a physical literacy community we must pay more attention to not only what is said, but how it is understood and what this then means for individuals.

An integrated model for making physical literacy visible

The argument advanced thus far can be synthesized into an integrated ecological model of PL visibility (see [Figure 1](#)). At its center is the ambient core of PL: an intent-stable, embodied, lifelong, and relational condition of human existence. This core is not up for reinvention each time the concept is communicated. It reflects the philosophically



Figure 1. Visualizing physical literacy matter(s) as an interacting ecosystem. Image generated using Google Gemini and subsequently edited by the authors. Note. The figure represents physical literacy through the metaphor of matter in three states. The iceberg represents the solid state of PL: its philosophical integrity and intent-stable commitments. The surrounding water represents the liquid state: PL's adaptive, relational, and context-sensitive expression. The air represents the gaseous state: PL's ambient, diffuse, and often unnamed presence in everyday life. Birds and other living elements represent the broader interacting ecosystem through which PL is experienced, interpreted, and continually reshaped. The figure is heuristic rather than developmental; the states are not sequential stages, but interrelated dimensions of the same phenomenon.

grounded commitments that make PL distinctive. In the model, this core is represented through the image of an iceberg. As a solid form of matter, the iceberg captures PL's conceptual firmness, philosophical integrity, and intent-stable commitments. It also visually reinforces the argument that what is most immediately visible may represent only part of what matters. Beneath the surface lies a deeper structure of embodied history, meaning, capability, adaptation, and relationship with movement that is not always publicly recognized, but remains consequential.

Surrounding the iceberg is water, which represents the liquid state of PL. This liquid dimension captures the adaptive, relational, and context-sensitive ways PL is expressed across different bodies, environments, histories, opportunities, and constraints. PL is not lived as an abstract or uniform construct; it takes shape through the conditions of people's lives. The water therefore represents movement, responsiveness, and situated expression. It shows that PL may retain its philosophical core while adapting to diverse circumstances, including disability, aging, illness, injury, social context, cultural setting, built environment, and shifting life priorities. In this sense, the liquid dimension does not dilute PL. Rather, it represents the necessary fluidity through which PL becomes meaningful across varied human experiences.

The air surrounding the iceberg and water represents the gaseous state of PL. This dimension captures PL's ambient, diffuse, and often unnamed presence in everyday life. Like air, PL may be constantly present and deeply consequential while remaining difficult to see directly. People continually negotiate movement through balance, effort, confidence, hesitation, adaptation, fatigue, pain, social expectation, and environmental affordance, yet these experiences may not be recognized as expressions of PL. The gaseous dimension therefore reflects the communicative challenge at the heart of the model: PL is often lived before it is named. It may hover around experience, practice, and policy without condensing into language that people can use to interpret their own movement lives.

The ecological elements of the model, represented by birds and other interacting life forms, extend this argument by situating PL within a broader system of human and environmental relations. These elements represent the people, communities, educators, practitioners, institutions, cultural narratives, physical environments, and social conditions through which PL is continually lived, interpreted, shaped, and reshaped. PL does not exist in isolation from these interactions. Rather, it is expressed through ongoing relationships among individuals, environments, histories, opportunities, and meanings. The birds therefore represent more than movement around the model; they symbolize the living ecosystem through which PL becomes recognizable, relevant, and resonant.

From this translational layer emerge access pathways: recognition, relevance, and resonance. Recognition concerns whether people can identify PL in their own experiences; relevance concerns whether the concept appears applicable to their circumstances, relationships, and environments; and resonance concerns whether the concept feels meaningful enough to be claimed rather than merely acknowledged. Within the ecological model, these pathways are not linear steps, but relational movements through which PL shifts from background condition to conscious understanding. When these pathways are strengthened, PL shifts from a label to a lens. Individuals are better able to interpret their movement histories, present circumstances, and future possibilities in coherent ways. From there, ownership becomes possible, and engagement is more likely to be sustained because it is rooted in meaning rather than compliance.

The model is also recursive. Lived experience should not sit passively at the receiving end of articulation. Rather, people's movement lives, language practices, and situated understandings should feed back into how PL is communicated. This is especially important if the concept is to remain inclusive and context-sensitive. Articulation must learn from practice, not merely prescribe it. The interacting ecosystem represented in the model therefore indicates that PL visibility is not achieved by transmitting a fixed definition outward from theory into practice. Instead, visibility emerges through an ongoing relationship among philosophical intent, lived experience, public language, and contextual interpretation. Understood this way, PL does not fail at the level of theory. It falters when the loop between philosophical intent, lived experience, and public language remains incomplete.

Guiding principles for articulating physical literacy

Several guiding principles follow from this reframing. First, articulation should help people recognize PL in actions they already perform. If the concept can only be seen in formal programming or specialist settings, then its ambient nature has been obscured. Second, language should preserve conceptual purpose while reducing unnecessary abstraction. The aim is not to protect jargon, but to protect meaning. Third, articulation should remain responsive to context. Because PL is lived differently across places, bodies, and biographies, no single idiom will serve all audiences equally well. Fourth, articulation should avoid normative assumptions that position some forms of embodiment as central and others as marginal. If PL is to remain faithful to its holistic and inclusive aspirations, it must be capable of speaking to different movement realities without reducing them to deficit. Fifth, articulation should foster interpretation rather than compliance. When PL is framed solely as an outcome to be delivered or measured, people may learn to perform its language without inhabiting its meaning. By contrast, language that invites reflection, recognition, and narrative connection is more likely to support ownership. Finally, assessment should reveal possibility rather than deficiency. A concept grounded in lifelong, relational development is poorly served by evaluative language that implies fixed endpoints or singular standards of adequacy. Articulation matters because it shapes what people imagine PL to be, who they believe it is for, and whether they can locate themselves within it.

These principles do not offer a formula for eliminating conceptual debate, nor should they. PL is a philosophically rich concept, and some level of contestation is likely to remain both inevitable and productive. The more immediate task is different, however. It is to ensure that contestation at the level of scholarship does not become exclusion at the level of public understanding. In other words, a concept as central to embodied life such as PL should not remain visible only to those already fluent in its professional discourse.

Conclusion

This paper has argued that the persistent distance between PL scholarship and everyday understanding is best approached as a problem of articulation. PL has not lacked significance. Nor has it lacked philosophical depth. Rather, it has too often been communicated in ways that detach it from the ordinary movement experiences through which it is continuously lived. Reframing PL as matter, as an ambient condition of embodied existence, helps bring this issue into sharper view. It highlights that PL is not simply something people are

taught to acquire, but something they continually negotiate as they move through worlds structured by material, social, and existential conditions.

The metaphor of matter in three states helps clarify this claim. The solid captures PL's conceptual integrity and intent-stable commitments. The liquid captures its adaptive, relational, and context-sensitive expression across diverse lives and circumstances. The gas captures its diffuse and often unrecognized presence in everyday life, as well as the communicative barriers that prevent the concept from condensing into shared understanding. Taken together, these states show that PL's elusiveness is not evidence of conceptual weakness. It is evidence that a fundamental aspect of human life has not yet been named in sufficiently accessible ways.

The future of PL depends, in part, on whether the field can make what is already lived more publicly visible. This is not a call to weaken the concept, but to articulate it more carefully, more inclusively, and more resonantly. Language is the final lever because it mediates the movement from background condition to conscious recognition. When PL becomes recognizable in the lives people already lead, it is more likely to be understood, claimed, and sustained. What matters, then, is not only whether PL continues to expand institutionally, but whether it can be made intelligible as part of the texture of everyday embodied life.

Supporting PL understanding is therefore also a matter of social justice. If PL remains accessible primarily to those already fluent in academic, professional, or policy discourse, then the concept risks reproducing the very exclusions it seeks to challenge. This paper's contribution to the evolving physical literacy field is two fold. Firstly, the paper provides an example of how metaphor can be used to assist understanding and conceptualization of PL, helping to make the concept cognitively, linguistically, conceptually, and relationally more accessible while not diluting its philosophical integrity. Secondly, it widens the conditions under which more people can recognize, relate, interpret, and make sense of physical literacy, a dynamic construct that is both fixed and fluid at the same time.

Future conceptual and empirical work should therefore examine how different communities name and interpret movement experience, which metaphors best illuminate rather than narrow PL, and how context-sensitive articulation can widen access without compromising philosophical fidelity. If PL is to remain a meaningful lifelong concept, the field must continue not only to define it, but also to speak it in ways that people can recognize as their own.

Alternative conclusion

Reframing PL as an ambient condition changes the central question from whether people possess PL to how their embodied relationships with movement are already being lived, constrained, interpreted, and supported. Conceptually, the states-of-matter heuristic holds philosophical integrity, contextual expression, and everyday invisibility in one account. Practically, it suggests that communication should begin with people's movement experiences and use language that permits recognition before introducing specialist terminology. For scholarship and policy, the framework cautions against locating PL only in programs, assessment systems, or institutional outcomes when much of its meaning can be found in ordinary life.

These implications are also ethical. If PL remains understandable solely to those fluent in academic, professional, or policy discourse, the concept risks reproducing exclusions that its holistic and inclusive commitments seek to challenge. Cognitive, linguistic, conceptual, and relational accessibility should therefore be treated as part of conceptual integrity, not as its dilution. Recognition, relevance, and resonance are proposed as pathways through which PL may move from an expert-owned label toward a lens people can use to describe and interpret their own embodied lives through.

The framework nevertheless has limits. It is a heuristic rather than a validated representation, and the states-of-matter source domain draws on a culturally familiar but Western scientific vocabulary that may not travel equally well across languages, epistemologies, or communities. The metaphor can also imply sharper boundaries among states than lived experience permits and, if treated literally, can understate how power, culture, history, ability, and material inequities shape movement possibilities. It should therefore be judged by what it reveals and what it obscures, and used as an invitation to interpretation rather than a universal ontology.

Future research should explore these propositions rather than presume their effects. Co-designed qualitative studies might highlight how diverse communities name movement experiences and whether the matter metaphor supports recognition, relevance, and resonance. Somewhat similarly, comparative and cross-cultural work might also illuminate alternative metaphors and identify where the present heuristic fails or requires adaptation. Finally, practice-based studies could be utilized to reveal whether the model changes how educators, practitioners, and organizations communicate PL, and if those changes improve public understanding without encouraging reductionist interpretations.

The contribution of this paper is thus generative rather than final: it offers a reframing to be debated, adapted, and empirically examined. PL's future depends not only on continued institutional adoption, but on whether people can recognize the concept within the texture of their own embodied lives, and whether the language used by the field remains accountable to those lives.

Author contributions

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