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(2019) Physical Literacy and Teacher Professional
Development. Journal of Physical Education, Recreation and
Dance, 90 (5). pp. 30-35. doi:10.1080/07303084.2019.1580636**

Official URL: <http://dx.doi.org/10.1080/07303084.2019.1580636>
DOI: <http://dx.doi.org/10.1080/07303084.2019.1580636>
EPrint URI: <https://eprints.glos.ac.uk/id/eprint/6788>

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Physical Literacy and Teacher Professional Development

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The recent reassertion of physical literacy concepts (Whitehead, 2001, 2010) has reflected an explicit attempt to better articulate the wider, more holistic purpose and intentions of physical education. As well as concerning the whole person, the concept considers the whole lifespan, multiple and diverse movement contexts (well beyond sport and school physical education), and the optimization of people's potential for learning and flourishing through movement (Durden-Myers, Whitehead, & Pot, 2018). This article adopts the definition of physical literacy offered by the International Physical Literacy Association (IPLA, 2017) as "the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life."

Much of the recent literature surrounding physical literacy has been focused on exploring its meaning, contemplating its potential contribution and impact, and evaluating its likely uptake (Edwards, Bryant, Keegan, Morgan, & Jones, 2017; Jurbala, 2015; Longmuir & Tremblay, 2016). While debates regarding definition and operationalization remain largely conceptual, several programs have sought to deliver physical literacy-informed practice for several years — through school physical education, community sport, and other channels (Castelli, Centeio, Beighle, Carson, & Nicksic, 2014; Roetert & MacDonald, 2015). Nonetheless, one underexplored area is the capacity for training classroom teachers who teach physical education — sometimes with minimal physical education training — to understand, promote and develop physical literacy (Robinson, Randall, & Barrett, 2018). Such training might involve providing support for promoting the concept in their day-to-day teaching, or working more closely with other teachers, parents and the community to promote the development of physical literacy (a whole-school approach; Ward & Quennerstedt, 2015). For the purposes of this article, professional development is described as the specialized training or advanced professional learning intended to help teachers and other educators improve their professional knowledge, competence, skill and effectiveness (Abbott, 2014). The article argues that physical literacy initiatives need to be incorporated into a "whole-school" approach.

At present, little is known about teacher understanding of physical literacy (Robinson et al., 2018), and even less attention is given to how effective professional development can be provided for teachers and other educators (Silverman & Mercier, 2015). Research conducted by Stanec and Murray-Orr (2011) and Tristani and Fraser-Thomas (2014) suggested that even trained physical education specialists in the United States do not fully understand the physical literacy concept, despite the fact that physical literacy has been criticized as being synonymous with the aims of a quality physical education program (e.g., Hyndman & Pill, 2017). Specialist physical education teachers: (1) typically work in a high school setting, rather than primary/elementary schools; (2) have a degree in the field in addition to a teaching qualification/certificate; and thus (3) have more domain-specific expertise and experience than primary/elementary classroom teachers (McDonald, Kazemi, & Schneider Kavanagh, 2013).

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Teachers trained in physical education report that they feel more confident in having a higher knowledge level, which increases enjoyment in delivering physical education lessons. Primary/elementary classroom teachers, on the other hand, are responsible for the instruction of the majority of curriculum areas (Webster, 2001), which puts them in a position as the overall educator: having to master a wide range of curriculum content with minimal professional development devoted to physical education (McDonald et al., 2013). Stanec and Murray-Orr (2011) reported that classroom teachers consider themselves as having some knowledge of physical literacy, but they struggle to incorporate physical literacy into daily classroom routines. Teachers and other educators play a vital role in their own and others' continued understanding of physical literacy at the instructional (e.g., the way teachers speak about physical literacy) and practical levels (e.g., how they explore and model physical literacy concepts). Recent research has suggested that classroom teachers are neither adequately trained to teach the physical education curriculum or, by association, to promote physical literacy (Decorby, Halas, Dixon, Wintrup, & Janzen, 2005), nor confident in doing so (Cothran, Kulinna, & Garn, 2010; Jin, 2013; Morgan & Bourke, 2008).

As it stands, existing written materials and online resources can make the concept of physical literacy very difficult to understand for practicing teachers (both specialists and generalists) who are often unfamiliar with the philosophical underpinnings of the concept (Robinson et al., 2018). The philosophical underpinnings of physical literacy include monism, existentialism and phenomenology (Whitehead, 2010), all of which are yet to be translated into easily understandable recommendations for teaching practice. This has also been reflected in initiatives around the world that seek to promote physical literacy within the school setting, with few of these initiatives acknowledging the philosophy or generating robust evidence of the effectiveness of their programs. Thus, in addition to the common constraints such as lack of time for teaching physical education/physical literacy in the school day/curriculum, classroom teachers feeling under-trained and unable to effectively promote physical literacy, and trained physical education teachers often being unfamiliar with the concept of physical literacy, there is the additional barrier that the language and concepts related to physical literacy can be perceived as dense and impenetrable by busy classroom teachers (Stanec & Murray-Orr, 2011).

To date, little research has been published on what teachers think physical literacy is, and how they can introduce it in their own physical education lessons. This has led to calls for physical education and physical literacy academics to work more closely with classroom teachers and reconnect theory to practice (Cairney, Bedard, & Dudley, 2016; Kirk, 2010; Lawson, 1998; Roetert & Jefferies, 2014; Silverman & Mercier, 2015). Through this closer collaborative process, the physical education profession may attempt to repair the fragmentation that has occurred between theory and practice (Kirk, 2010).

Another consideration within the realm of professional development is assessment, which underpins educators' tracking of student progress in all subjects (Dudley, 2015; Green, Roberts, Sheehan, & Keegan, 2018). Whitehead's (2001, 2010) definition and writings argued against the notions of normative standards, developmental milestones and expectations, and objective/absolute standards — all of which are currently popular and considered quite normal in Western countries as modes of educational assessment. Physical-literacy thinking favors highly personal, holistic, developmental assessment of the student's journey (i.e., continuous and highly individualized assessment with no comparisons to standards or norms; Green et al., 2018). Arguably, physical literacy, as intended by Whitehead, constitutes a significant move away from the traditional (i.e., normative, standards-based) assessment, and toward more self-referenced, ipsative and nuanced qualitative approaches to assessing or "charting" progress (Dudley, 2015; Green et al., 2018). Physical literacy aims to develop an embodied sense of self (Whitehead, 2010). This highly personalized understanding and capability, therefore, should not be assessed through normative comparisons, absolute standards, or how well a child can replicate specific movement patterns. With

this in mind, a move to call the assessment process within a physical literacy context “charting” has been proposed (e.g., Green et al., 2018). Such a shift would be another area in which teachers and other educators need effective professional development, particularly since many educators have become confident and competent at the standards/norms-based means of assessing physical education.

As an additional consideration, we may also contemplate the way in which teachers experience and curate their own teaching practices. Teachers tend to be isolated and insular in their work (Craig, 2004), and, consequently, their practice and thoughts often stay within their own classrooms. Craig (2004) observed that teachers need to discuss teaching practices with others, but, most importantly, they need to engage in a “critical dialogue” about their work and teaching circumstances. By having these critical dialogues, teachers are able to reflect on their own pedagogies and everyday practices: both as educators and as learners. Such a process would require an environment where teachers feel safe to share without the fear of judgment (Deglau, Ward, O’Sullivan, & Bush, 2006; Parker, Patton, Madden, & Sinclair, 2010), which also points to the necessity of a whole-school approach to assessment, curriculum, pedagogy and support from senior managers and administrators.

What Is Effective Professional Development?

A key determinant in how a teacher will deliver physical education remains the teacher’s own, highly variable experiences in physical education and sport, and their attitudes to being active (Curtner-Smith, 1999). Discouraging or unpleasant early experiences of physical activity can create children (and adults) who are unable and/or unwilling to attempt physical activity. These children will be less likely to be active in childhood, adolescence and adulthood (Löllgen, Böckenhoff, & Knapp, 2009; Samitz, Egger, & Zwahlen, 2011). Childhood engagement in physical activity is a strong indicator of adulthood engagement (Jones, Hinkley, Okely, & Salmon, 2013). If positive habits and behaviors are established early in life, there is a greater chance they will “carry over” into later life (Jones et al., 2013).

Several studies have focused on teachers’ perceptions and attitudes toward physical education, and the effects of professional development programs on these perceptions (Buczynski & Hansen, 2010; Heidorn, 2015). Studies around physical education professional development will be referred to next, since very little research has been conducted in the field of physical-literacy professional development. The studies highlighted here fit into two main areas: (1) experimental designs that seek to ascertain if teachers’ perceptions change and/or become more positive through interventions, and (2) professional development and its measured impact.

Petrie (2010) assessed the impact of up to eight days of professional development opportunities for classroom teachers delivering physical education. Upon evaluating the needs of the eight teachers involved in this professional development, all highlighted feeling more confident and competent in using their classroom-based experience to deliver higher-quality physical education lessons. This shift was in relation to developing learning intentions, questioning, and instances of demonstration. In addition, studies by Tsangaridou (2005) and Petrie (2010) have highlighted the importance of professional development being relative and specific to the needs of the individual. In addition, Rovegno and Dolly (2006) highlighted learning as an active process wherein individuals construct knowledge and understanding through decision making, critical thinking and problem solving. It was argued that this understanding of learning should be a core construct of physical education and physical literacy professional development, to enhance the learning of students and the capacity to deliver high-quality instruction.

Whole-school professional development is unlikely to achieve the desired outcome of more competent classroom teachers who have been asked to teach an unfamiliar subject such as physical education, within the constraints of the time currently dedicated to this subject and training within it. Nevertheless, generating whole-school buy-in, especially within the leadership team, is essential if

professional development is to be successful (Norris, Shelton, Dunsmuir, Duke-Williams, & Stamatakis, 2015; Ward & Quennerstedt, 2015). Professional development programs should include opportunities for primary/elementary teachers to develop not only pedagogical knowledge, but also content knowledge of physical education, which would better enable teachers and other educators to feel more confident about an unfamiliar subject (Kentel & Dobson, 2007; Ward & Quennerstedt, 2015).

Morgan and Hansen (2007) also identified that 81% of classroom teachers appeared to prefer a physical education specialist (a teacher holding a certification to teach physical education) teaching dedicated physical education lessons. However, this is not always realistic within the time and staffing constraints of primary/elementary schools. The expectation in some schools tends to be that the classroom teacher will deliver mandated physical education lessons with varying levels of perceived success and confidence (Decorby et al., 2005; Morgan & Bourke, 2008). The classroom teachers believed that a specialist who was passionate and confident about physical education teaching should be the provider. In the same study, however, 91% of teachers reported a lack of skills or knowledge to incorporate physical education assessment into their programs. Some classroom teachers spoke of the dangers of assessing students in physical education (Lundvall, 2015) and believed that their assessments could adversely affect the experience of teachers and students.

In answering the question as to whether professional development in physical education can be effective, Coulter and Woods (2012) reported that, following physical education professional development for primary/elementary classroom teachers, their physical education content knowledge had expanded, and this encouraged them to use existing classroom pedagogical strategies in the physical education context. This new capability developed their confidence in teaching physical education as well as generated a greater understanding of the physical education curriculum and its purpose (Whipp, Hutton, Groves, & Jackson, 2011). Harris, Cale and Musson (2012), however, reported several potential issues relating to the provision of quality physical education, including: (1) school policies, (2) the curriculum, (3) extracurricular provision, and (4) resources and finances. The majority of school leaders, such as head teachers/principals ($n = 10$), within the study expressed that physical education was not as important as core subjects such as mathematics and English, which are given priority. Perceptions of head teachers and senior leadership within schools toward physical education and, indeed, physical literacy may prove a mediating factor in the provision of professional development opportunities. Therefore, the key to gaining teacher buy-in for professional development may not lie with the individual, but instead with winning over the leadership of the school. Leithwood, Jantzi and Steinbach (1999) identified 20 studies linking school leadership to teacher outcomes. Although the results on some measures were mixed, they found that transformational leadership consistently predicted the willingness of teachers to exert extra effort and to change their classroom practices and/or attitudes and engage in professional development.

What the above research has revealed is that in order to win the buy-in of classroom teachers and, preferably, the whole school, teachers should first seek buy-in from the school's senior leaders, as they are often the gatekeepers to professional development opportunities. Second, it should be responsive to the teachers' context and needs. Third, professional development should be longitudinal in nature, avoiding one-off workshops and training events. Finally, the process should make a long-term impact on teacher's pedagogy and understanding of physical literacy, as this provides clear evidence of the influence of the professional development. To achieve these aims, teachers in their professional learning communities or networks need to play a leading role in the (co)design and implementation of the program (Armour & Yelling, 2007). This "sustained engagement" is particularly necessary given that physical literacy is experienced by teachers (Silverman & Mercier, 2015) as a potentially complex and challenging concept — meaning that time and persistence are required if the concept is to be embraced and sustained within the school context.

The above-described research offers insights and foundations from which physical-literacy professional development can be launched and catalyzed. Consideration of these findings and principles may assist in the design and evaluation of future programs seeking to offer professional development for physical literacy, although there may be additional and unique considerations generated by the complex and developing nature of physical literacy.

Conclusion

Jurbala (2015) argued that “in order for the concept of physical literacy to succeed when other efforts to promote physical activity have largely failed, there must be substance to the claims made by its advocates” (p. 380). In order to demonstrate this “substance,” physical literacy must be operationalized into research, as well as translated from research into practice — neither of which can be achieved without well-informed, reflective physical education teachers and classroom teachers who teach physical education. Professional development, therefore, is an essential component in both researching and promoting physical literacy. This article has identified many of the barriers to the effective and meaningful implementation of physical literacy to date. These barriers include the limited availability of professional development opportunities that are meaningful and relevant to the individuals, as well as moving beyond the traditional delivery, which is reported to be both inadequate and irrelevant (Nieto, 2009). Second, resources are needed to support an understanding of physical literacy in the early stages and to develop teachers’ and other educators’ overall understanding of the physical literacy concept, since both the educator and student will be experiencing a lifelong physical literacy journey.

Progress has been made, and physical literacy continues to gain momentum, generating more resources, more frequent (and more informed) professional conversations, and more quality professional development opportunities. Teachers and other educators hold the key in this transition, particularly if they are given the right environment and opportunities to have critical dialogues regarding their pedagogy and everyday practice. At the heart of this article is the proposal that physical-literacy professional development should empower teachers to develop and enhance their teaching practice with a broader focus on the individual rather than the normative expectations, as well as promote engagement in physical activity for life.

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