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Review

Physical literacy in the field of physical education – A challenge and a possibility

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Abstract

Publications of articles with physical literacy as a topic have increased dramatically since the beginning of 2000s. The aim of this paper is to, through an explorative literature overview with an inductive approach, analyze frequent, and significant themes in published peer reviewed articles, with a focus on physical literacy. The database EBSCO has been used with the identifiers “physical literacy” and “physical literacy and evidence”. Furthermore ICSSPE Bulletin’s special issue on physical literacy has been included in the overview. The findings have resulted in three key themes: assumptions of the concept physical literacy and its educative role, sports development and physical literacy, and assessment and physical literacy. Future studies are needed to examine if the advocated pedagogical strategies based on the concept physical literacy have led to a re-organized and revitalized school subject. There is also an existing critique towards making physical literacy an idealistic neutral concept or synonym with fundamental movement skills or sports talent identification. The role of higher education emerges as crucial for the next step of the development of the scientific framework as this involves how physical literacy will be socially configured, nurtured, and embodied in practice. Copyright © 2015, Shanghai University of Sport. Production and hosting by Elsevier B.V. All rights reserved.

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1. Introduction

The term literacy is used globally and it is often used to separate a technical understanding of reading and writing on one hand, and a wider understanding of communication on the other hand. From a sociocultural perspective, this analytically distinction of literacy “... shifts our view from classroom and methods to a range of communication activities human beings engage in over their life span”.¹ This moves our understanding of how literacy can be developed beyond that of reading and learning and as cognitive skills. Hence to learn the act of reading and to develop reading competence become a process that occurs not only within the individual, but also in-between people and in contexts outside of school. The concept of literacy has become broader than the acquisition of cognitive

knowledge and understanding of a context. It is, as Mandigo et al.² formulated it, “about social practices and relationships, about knowledge, language and culture”. Further, it is,

... to use the attained knowledge in ethical and just ways. Being literate includes the use of critical and creative thinking — a process of conveying information in a multimodal ways of communication, applying knowledge and skills, make connections with and between various contexts.²

In physical education (PE) the word physical literacy has become part of the discourse among PE educators, and to some extent also among those working with athlete development. How come that physical literacy renders such an interest in the field of education and physical culture at this point of time? The purpose of this paper is, through an explorative literature overview, to explore frequent and significant themes of physical literacy. In this process, I use an inductive approach that pays a special attention to the way that physical

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literacy is conceptualized and used in published scholarly works. Furthermore throughout my analysis I will seek to explore and discuss significant implications for PE practice.

2. Background

Among scholars and PE practitioners Margaret Whitehead is seen as “the” scholar who brought physical literacy on the agenda. In more than a decade, she has been exploring the concept persistently for a conceptualization that is philosophically and theoretically sound and operationally feasible.^{3–6} Originally she defined physical literacy as the lived body and the embodied dimension of human existence. The concept of physical literacy describes embodied experiences that are aimed to enhance or improve physical performance aspects of movements that enable a particular goal to be achieved, or elements of movement that need attention.³ The concept highlights “the developing and maintaining of all-round embodied competence, together with positive attitudes towards this sphere of human activity”.⁴ The individual’s ability to develop a capacity to reflect over the nature of his or her performances and bodily intentionality is part of what the concept embraces. A focal point is therefore the concept’s intimate relationship between perception and movement in relation to bodily intentionality.³ In 2010 she refined the concept of physical literacy as “the motivation, confidence, physical competence, knowledge and understanding to maintain physical activity throughout the life course”.⁵

Over time there has been a growing interest in elaborating on what the concept stands for and how it can be used in educational contexts. The concept has also been challenged by other scholarly discussions about ability and educability that has been considered parallel with the conceptualizing of physical literacy, not the least in Australia and Europe.^{7–13} These discussions have had as departure point critical pedagogy and a focus on the social construction of ability. In other words scholars have been attempting to clarify the extent to which physical ability is recognized, conceptualized, socially configured, nurtured and embodied as construed in physical literacy in and through practices of PE.^{7,9,10}

One common cause for the attention given to both physical literacy and ability as concepts and social constructions is the structural changes in society that have influenced children’s and adolescents’ physical activity (PA) habits and the concern about increased sedentary lifestyles. Here PA and movement competence have been identified as important factors contributing to the development of physically active lifestyles. Given this background, I will (a) turn the focus the scientific framework of physical literacy in terms of frequent and significant themes that have been foci in published peer reviewed articles, and (b) discuss how these themes can be related to PE practices.

3. Foci of this review

In this article, I attempt to lead the reader to consider these specific questions: (a) What are the frequent and significant

themes the scholarly articles are mostly concerned about? (b) How does the use of physical literacy emerge in the literature? (c) What kind of scientific frameworks are represented in the concept of physical literacy?

The primary method I use draws on an explorative literature overview with an inductive analysis.¹⁴ Specifically, I first conducted a comprehensive literature search using the EBSCO database and the identifiers “physical literacy” and “physical literacy and evidence”. The search rendered a total of 108 scholarly articles published from 1998 to 2014 in peer reviewed sources. I then focused in particular on the articles published during the years 2006–2014 because they were published with the established concept of physical literacy. A total of 99 are in this pool. It is interesting to note that 72 of the 99 were published after 2010. To note is that among these 72 was a special issue on physical literacy in the *International Council of Sport Science and Physical Education (ICSSPE) Bulletin* (2013, No. 65). This special issue contained in itself of 49 articles. These were added to the literature overview. The majority of the articles were published in journals aimed at scholars in humanities and social science and/or PE educators in higher education and schools. Three articles in the EBSCO search were published in public health or medical journals.^{15–17}

4. Identified themes

Three major themes were found with scholarly significance regarding philosophical importance and operational feasibility. They are: assumptions of physical literacy and its educative role, sports development and physical literacy, and assessment and physical literacy. I describe each below to illustrate their characteristics and compare their similarities and nuances.

4.1. Assumptions of physical literacy and its educative role

The theme “assumptions of physical literacy and its educative role” is an absolutely dominant theme. The literature advocated the physical literacy as an answer to the lack of philosophical ideas experienced in PE, a rationale that can underpin the school subject PE, and a foundation for the development of children and youth throughout life. The articles within this theme highlight the educative role of physical literacy and how physical literacy can develop PE practice. Marshden and Weston¹⁸ pointed out that a philosophical basis has been longed for as historically there has never been a shared philosophy in the field. This observation is echoed in several other articles which further elaborate that because of the absence of a shared philosophy, PE has lacked cohesion and a shared curricular approach.^{19–22}

The authors in this category of articles seek to describe and/or resonate how physical literacy can make a contribution to human development. Several articles mention the phenomenological view of human potential and capability and the theory of Merleau Ponty²³ as scientific framework. Others, on the other hand, clarify the concept by elaborating on the

functionality of physical literacy. For example, Roetert and Jefferies²⁴ clarified the term and its philosophical underpinnings in relation to what we do and the concept's consistency with other literacies. Corlett and Mandigo²⁵ agreed to this conclusion by demonstrating how physical literacy is part of the PE discourse. Physical literacy is a principle, a construct that organizes our understandings of the experience of learning and performing of a wide range of activities and the whole person. It is more than basic skills doing movements and knowledge about how to do (procedural knowledge). The concept involves declarative knowledge, which empowers a child to become proficient in moving in time and space, manipulating an object, and using fundamental movements as building blocks for complex ones such as balance, wheeling, dancing, *etc.* The ultimate movement "test" of being physically literate is how an individual is able to communicate and apply their skills in authentic movement situations.²⁵

The necessity to leave old traditional methods for the support of an education of a physically literate child is also put forward within this theme. Suggested methods and pedagogies advocate not only a changed content within PE, but also an attention to the human body and its being in the world which is socially constructed with gendered and ethnicity-based conceptions.²⁶ A new pedagogy needs to encompass the development of a self-referenced learning processes through engaging the student in exploring the content, experiencing the body in PAs, and solving movement problems by interacting with the environment. Almond,²⁷ Whithead,^{5,6} and Morgan et al.²⁸ among others call for such a new voice of pedagogy which is creative and translational. It is a pedagogy that translates physical literacy into actions, engagement, and commitment.

Motivation is emphasized as a core part of the building blocks of physical literacy if the educative validity of PE is to be actualized beyond school.⁶ In a physical literacy centered environment, practitioners are expected to foster learner's capacities such as responsibility, independence, empowerment and agency²⁸ that lead to a self-regulated behavior for meeting the individual movement needs. This is also in line with what Morgan et al.²⁸ have underlined after their experiences with the intervention study called TARGET; when motivation is threatened, so are other positive attributes needed for successfully engaging in PAs such as self-confidence, self-esteem, and self-respect. Consequently becoming physically literate will not be possible. Physical literacy is, accordingly, a concept and theory that can bring in a new understanding of how motivational processes and social and environmental aspects can affect the sense of competence in PE.

Several articles embrace abandoning a narrow view of movement culture and PA which is rooted in fixed methods tightly linked to traditional sports education.^{18,20,29} Thompson et al.³⁰ criticize that physical literacy literature fails to recognize the relationship between fundamental sport skills and all components in the physical literacy framework. As an inclusive, overarching concept, physical literacy includes a focus on the development of single skills but with a broader perspective that integrates the skill with other significant

human and environmental dimensions. To this end, Newton and Bassett's article³¹ demonstrate how physical literacy has been broadly integrated beyond the single skill paradigm in the PE teacher training program at the University of Bedfordshire's Undergraduate Physical Education Provision. This approach reportedly has created a reasoned ideology for sustainable PE programs, an ideology that goes beyond the physical skill. Newton and Bassett's work may challenge us to re-consider our rationale or assumptions for PE program programming.

4.2. *Sports development and physical literacy*

Sports are part of many children's and adolescents' life. Higgs³² writes that physical literacy has a very practical approach to sports participation and development across young people's lifespan. Mandigo et al.² describe physical literacy as a priority that both education and the sport system can share and as a bridge that can close the gap between PE and sport. But including sports into the picture is criticized as returning to the single skill perspective. For example Pot and Hilvoorde³³ use the case from Netherlands as an example that shows what can happen if physical literacy becomes synonym of fundamental movement skills. They also question the claim that the learning fundamental movement skills will lead to sport participation. Again, it seems that physical literacy should not be confused with fundamental movement skills even in the sport environment. It may be a naïve and wishful thinking, as Pot and Hilvoorde³³ demonstrate, that learning the building blocks of movement, regardless referred to as physical literacy or fundamental movement skills, will lead to sport participation.

According to Pot and Hilvoorde,³³ being physically literate is of utmost importance when social circumstances afford great social influences on sport practice that cannot be ignored. PA engagement is the central goal of physical literacy, and accordingly it extends to the sport context and far beyond.^{5,33} The phenomenological basis of physical literacy with the concept intentionality frames how it can be used; "the context in which an action is performed influences the meaning of that action, which has major consequences for learning and understanding motor actions".³³ Sport is often associated with competition between children and/or adolescents, whereas physical literacy is aimed at personal development and realization of individual potential. It stands to reason that advocating physical literacy in sport reiterates the original meaning of sports, which is not necessarily about competition, winning or losing, it is about the fullest development of a human being. Thus, interpreting physical literacy as fundamental movement skills deters the significance of its application in the sport domain.

4.3. *Assessments of physical literacy*

There is a tension between (summative) assessment and the intentions behind physical literacy. Crucial questions, or conflicts, arise when an abstract concept such as physical

literacy is put into the educational context for learner mastery and the assessment of the mastery of the concept in its entirety. As mentioned earlier, physical literacy is far from a neutral or simple concept.²⁶ Aspects of the concept to be assessed should include, but not be limited to, knowledge requirements, standards of skill attainment, understanding of national health guidelines, and embodied motivation for physically active living.

There have been a number of assessment batteries developed for the evaluation of physical literacy in PE. For example, physical literacy has become part of PE national standards in the US and Canada along with assessment benchmarks.^{34,35} Longmuir³⁴ presents in her article the work done in Canada; the Canadian Assessment of Physical Literacy (CAPL) monitors physical literacy among children 8–12 years, with the aim to improve students' learning of physical literacy. CAPL has been developed since 2006 and is constructed as a "passport of life". The core point is to follow the child's development through a process-oriented assessment protocol. The protocol evaluates achievement stages specified as an emerging, developing, acquired and/or accomplished competence.

There are, however, skepticisms about the assessment of physical literacy. Skepticisms are around the legitimacy of whether the ideals expressed in the concept, such as empowerment, embodiment, values, identities, beliefs, and social relatedness, should be assessed as mechanically. Tompsett et al.³⁰ conclude that literature often defines physical literacy by the ability of fundamental movement skills. The problem with this approach is the inability of quantifying physical literacy as a key outcome of PA for measurement. According to their view there still is a need to assess who has required movement abilities leading to successful participation in PE, sport, and recreational PAs. But they are uncertain how this can be done with validity. They therefore advocate the use of the concept "foundation movement competence" to capture fundamental sports skills with a broad frame that includes the aspects of the physical literacy concept. They believe this approach allows us to avoid the narrow operational definition that is centered on fundamental movement skills alone.³⁰

The existing descriptions of physical literacy greatly support the development of a language to express and communicate embodied qualities. But a common language is also needed to communicate the results of assessments of physical literacy in practice. The lack of such a language that differentiates the differences between embodied competence, fundamental movement skills, or other physical capacities in relation to physical literacy creates confusions for PE educators and leaves them with a difficult job to do. It is possible that dealing with the assessment issues will distract them from teaching effectively for physical literacy. Therefore the risk for them to regress back to the traditional, simple quantitative, sport-skill based assessment is readily present.

In a school culture dominated by a performance code, it appears difficult to uphold the broad and inclusive definition of physical literacy which is characterized by an individual's potential and being in the world. Assessments related to

measuring what separates people are no longer relevant and appropriate. Such measurements induce a risk of a maltreatment or misuse of the concept literacy in a goal-oriented and assessment-driven school system.³⁶ From a Bernsteinian viewpoint,^{9,37} literacy represents the promotion of a competence code rather than a performance code. Its focus is on assessing what people have in common, competence that is driven by a pedagogy that allows learning based on desires, experiences, and intrinsic values.³⁶ The performance code is based on the social norm of performance: what sets people apart. As several researchers have pointed out, being able in a culture of performativity mainly focuses on measurable performances, i.e., that which separates people in hierarchies (for further reading see for example Refs. 8, 9, 37, 38).

Crucial for PE educators are to discontinue an assessment practice based on how fast, high, or strong a student's performance is and what separates students in terms of performance. Used in accordance with its definition, learning outcomes of physical literacy can act to "open doors" to a lifelong learning journey of being in the world,⁴ but thus not as a device for quantitatively measuring isolated skills without any context.

5. Summary and reflection

This literature overview and analysis highlight a growing scholarly interest in the concept of physical literacy. It seems that physical literacy has been a "longed-for" concept. The literature, as the concept itself, has been developed, challenged, and re-formulated over a period of more than one decade. This review appears to affirm that, today the concept represents what should be encompassed in PE, and to some extent — by sports communities. It is built on a scientific framework, on a philosophical underpinning rationale that can support and complement the society's understandings of the PE. It will help reiterate the accountability and educational value in PE, within and beyond its contribution to PA *per se*.

The articles in the literature overview seem to agree that the concept and the theories behind physical literacy have a potential to meet young generations' ways of learning and living. The ways are characterized by less dependence on the traditional curriculum and a linear pedagogical approach. The assumptions behind physical literacy promote new and more experiential ways of how to reach personal developmental potential beyond school. Future studies are needed to examine and evaluate whether the advocated pedagogical strategies based on the concept of physical literacy will be able to lead to a re-organized and revitalized PE in schools. In the athletics fields, it is necessary to study whether physical literacy contributes to an idealistically neutral concept of fundamental movement skills or sport talent identification that enhance not only competence but also performance.

A need that emerges in the section of *Assessment of Physical Literacy* is quality assessment tools for assessing embodied experience and knowledge that students are expected to display as a physically literate person. Are we talking about the perfectionist quality associated with elite sports, or the ability to

perform complex movement patterns to support students' critical reflective learning in, of, and by movement, with a different demand for functionality and poise? What reference points within a variety of performed bodily movements should be available before PE educators begin to communicate with their students? As embodied experiences are culturally embedded, teachers need to consider how to support their students' reflective approach to "their own mastery" and the meaning of movements (see, for example, Whitehead^{4–6}). This includes being conscious of the body in motion, how it feels, and what the consciousness and feeling mean. Physical education—teacher education educators and PE practitioners work to create inclusive learning objectives and tasks that promote integrated experiences to develop both theoretical knowledge and practical skills, encourage self-awareness and the qualities thereof. Otherwise, this perspective on embodied knowledge and movement receives no student attention, and then part of the literacy ambition will be lost. Children and adolescents may meet the (physical) alphabet, but may not master the keys to a lifelong learning through movement. This latter draws attention to the preparation of PE educators for the concrete planning and learning outcomes of physical literacy. The role of higher education emerges as a crucial next step in the development of a scientific framework, as this involves how physical literacy will be socially configured, nurtured, and embodied in practice.

This explorative literature overview has its limitations. The literature of physical literacy lacks empirical support and evidence necessary to validate and further its merit. Although the inductive approach taken has generated three important themes, each may need additional development to become substantiated and mature areas of inquiry. The concept of physical literacy is still in a debate, especially regarding its operationalized entities such as school curriculum and PA/sport programming. This debate is encouraging and has already evoked valuable questions of the meaning of the concept and when it is placed and used in different contexts. Regardless of the outcome of the debate, the concept of physical literacy has already enlightened our thinking about human PA and its meaning to our lives.

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