Sports Ethics and Philosophy

ISSN: 1751-1321 (Print) 1751-133X (Online) Journal homepage: http://www.tandfonline.com/loi/rsep20

Physical Literacy: Philosophical Considerations in Relation to Developing a Sense of Self, Universality and Propositional Knowledge

Margaret Whitehead

To cite this article: Margaret Whitehead (2007) Physical Literacy: Philosophical Considerations in Relation to Developing a Sense of Self, Universality and Propositional Knowledge, Sports Ethics and Philosophy, 1:3, 281-298, DOI: 10.1080/17511320701676916

To link to this article: https://doi.org/10.1080/17511320701676916

Published online: 02 May 2008.

Submit your article to this journal

Article views: 2280

Citing articles: 38 View citing articles

Full Terms & Conditions of access and use can be found at
http://www.tandfonline.com/action/journalInformation?journalCode=rsep20

Sport, Ethics and Philosophy, Vol. 1, No. 3, December 2007

PHYSICAL LITERACY: PHILOSOPHICAL CONSIDERATIONS IN RELATION TO DEVELOPING A SENSE OF SELF, UNIVERSALITY AND PROPOSITIONAL KNOWLEDGE

Margaret Whitehead

This paper opens with a presentation of the philosophical underpinning and rationale of the concept of physical literacy. This is followed by an articulation of the concept of physical literacy. Three subsequent sections then consider aspects of the concept in a little more detail. The first investigates the relationship of the physical literacy to the development of a sense of self and to establishing interaction with others. Here the philosophical approach is informed by writings on cognitive development and recent neurological insights. The second considers the universality of the concept and looks briefly at the views of existentialists and of contemporary sociologists. The third section addresses the place of propositional knowledge in being physically literate. The implications of objectifying the body in descriptive language are weighed against the fact that verbally expressed understanding and knowledge are an integral part of Western culture. The debate presented is one of a series that has, over the last five years, mapped the author's work on developing the concept of physical literacy. The aspects chosen to be discussed here are three that have generated considerable interest and debate. In conclusion, there is a short reflection on the implications of the views discussed for education and physical education.

Resumen

Este artículo se abre con una introducción del apuntalamiento filosófico y el fundamento del concepto de la alfabetización física. Esto se sigue con una articulación del concepto de la alfabetización física. Tres secciones posteriors consideran los aspectos del concepto en más detalle. La primera investiga la relación de la alfabetización física con el sentido del desarrollo del yo y el establecimiento de interacciones con otras personas. Aquí el enfoque filosófico se basa en obras sobre desarrollo cognitivo y descubrimientos neurológicos recientes. La segunda considera la universalidad del concepto y mira brevemente a los puntos de vista de los existencialistas y de los sociólogos contemporáneos. La tercera sección trata sobre el papel que juega el saber proposicional cuando uno es físicamente alfabeto. Las consecuencias de objetivar el cuerpo en el lenguaje descriptivo se contrastan con el hecho de que el entendimiento y el conocimiento expresados verbalmente son una parte integral de la cultura occidental. El debate que se plantea

ISSN 1751-1321 print/1751-133X online/07/030281–18
© 2007 Taylor & Francis
DOI: 10.1080/17511320701676916

es uno de una serie que, durante los últimos cinco años, ha dirigido el trabajo de la autora al desarrollar el concepto de la alfabetización física. Los aspectos escogidos para ser discutidos aquí son tres que han generado considerable interés y debate. En conclusión, hay una reflexión breve sobre las consecuencias de las posiciones tratadas para la educación y la educación física.

Zusammenfassung

Zu Beginn dieses Artikels werden die philosophischen Grundlagen und Beweggründe des Begriffs physical literacy *[körperliche Bildung] vorgestellt. Anschließend wird das eigentliche Begriffskonzept der* körperlichen Bildung *dargestellt. Es folgen drei Abschnitte, die die verschiedenen Aspekte des Begriffs etwas detaillierter in den Blick nehmen. Der erste Abschnitt untersucht das Verhältnis von körperlicher Bildung zur Entwicklung des Selbst-Bewußtseins, sowie die Fähigkeit mit anderen interagieren zu können. Der philosophische Zugang stützt sich hierbei auf Publikationen aus dem Bereich der kognitiven Entwicklung und aktuellen neurologischen Erkenntnissen. Der zweite Abschnitt gilt dem Universalitäts-Aspekt, hierbei werden andeutungsweise einige Existentialisten und zeitgenössische Soziologen zu Rate gezogen. Der dritte Teil behandelt das propositionale Wissen durch körperliche Bildungsprozesse. Die Folgen der Objektivierung des Körpers durch sprachliche Umschreibungen werden ins Verhältnis gesetzt zur Tatsache, dass sprachliches Verständnis und Wissen ein integraler Bestandteil der westlichen Kultur sind. Die hier dargestellte Debatte ist Teil eine Serie, die sich über die letzten 5 Jahre erstreckt und die die Weiterentwicklung des Begriffs der körperlichen Bildung durch den Verfasser wiederspielgelt. Die hier ausgewählten Aspekte sind jene drei, die großes Interesse und erhebliche Diskussionen ausgelöst haben. Abschließend folgt eine kurze Reflektion auf die Implikationen der oben dargestellten Sichtweisen für die Erziehung und den Sportunterricht.*

摘要

本文展開了關於 “身體辯識能力” (physical literacy) 此概念的哲學式的基礎和理性之論述。此概念有三個次要的子題，會較詳細的介紹。首先的哲學式徑路是根據認知的發展以及近來神經學的觀點，藉以調查身體辨識能力發展的自我感知，和建立與他人互動之間的關係。其次是考量此概念的普遍性，以及主要來自存在主義者和現代社會學者的觀點。第三部分則是致力於了解身體辨識能力所適切的知識為何。將身體做客體性的描述所呈現的意義在於對抗西方文化中用口語來表達人們的瞭解與知識。此處所呈現的討論議題，拼湊出作者過去五年以來，試圖建立身體辨識能力此一概念的工作。此處所選擇的三個觀點，普遍的被認為是有趣和值得討論的。總結而言，對於教育和體育觀點的意義而言，這裏提出了簡短的反省。

KEYWORDS Physical literacy; embodiment; phenomenology; existentialism

Introduction

The term physical literacy has been used in the United Kingdom intermittently for a number of years, being employed somewhat loosely to justify the practice of physical

education. Until recently, however, the concept has not been subject to any form of in-depth analysis. Critical philosophical debate began in the mid-1990s (Whitehead 1993), and there is now interest worldwide in the promotion of physical literacy both during compulsory education and indeed throughout life (e.g. Whitehead and Murdoch 2006).

Development of the debate regarding physical literacy was stimulated by the study of existentialist and phenomenological writers such as Sartre and Merleau-Ponty, who articulate a particular stance towards the nature of our human condition. Among the views they put forward are the rejection of Cartesian dualism and a commitment to the pivotal role played by our embodiment in life as we know it. For these writers, we do not have a body; rather we are embodied.

These views are very different to those held by most educationists in the United Kingdom, who generally hold a dualist view of being, casting the body as a mere mechanism, essential to 'housing' our intellect but of little value in itself. The outcome of this view is a very low priority for work in the physical domain in education. Any respect shown for this work sees it primarily as a means to an end of achieving and retaining physical fitness of the body as a machine. Physical literacy, on the contrary, focuses on the lived body, the embodied dimension of human existence. Nurturing this aspect of our being is seen to make a distinctive contribution to human life, through enriching experience and assisting in the realisation of our full potential.

Philosophers such as Sartre and Merleau-Ponty not only contest Cartesian dualism, but also, in their different ways, argue cogently in advocating the indispensable contribution made by our embodiment in, for example, self-realisation, perception, concept development, language formulation, rationality, emotion and the development of interpersonal relationships.

In their writings these philosophers spell out a commitment *inter alia* to a monist or holistic view of the human condition, the centrality of our embodiment in existence and our nature as essentially beings-in-the world.

In respect of the holistic view of the human condition a number of philosophers present views opposed to Descartes's classic assertion that 'I think, therefore I am', which gives rise to the body/mind split, dualism and the attribution of an inferior role for the body in existence. Merleau-Ponty in his treatise *Phenomenology of Perception* (1962) argues throughout that the body is integral in, and indispensable to, realising our very existence. Above all existence is embodied. He writes: 'Neither the body nor existence can be regarded as the original of human being since they presuppose each other, and because the body is solidified and generalised existence, and existence is perpetual incarnation' (Merleau-Ponty 1968, 166). Similarly Sartre acknowledges that our embodied capacities are inherently part of our human condition and writes that 'for human reality, to be is to act'. (Sartre 1957, 476) The notion of a human being as quintessentially a 'doing' phenomenon is echoed by Burkitt (1999, 74) in his preference for the notion that, at root, human being can be characterised not by 'I think' but by 'I can', and by Lakoff and Johnson (1999, 3) who argue that 'the mind is inherently embodied'.

Crease (2002) takes this a step further in referring to the views of Husserl and explaining that as humans the stages through which infants develop can be described as first 'I move', then 'I can' and subsequently 'I can do'. Sheets-Johnstone (2002, 138) advocates the primacy of movement in writing that the infant is 'apprenticed' to his embodiment and that all knowing is rooted in our embodied nature. Moreover, Gill rehearses Strawson's critique of dualism and applies it to the devaluing of the body in

asserting that the concept of a person is logically primitive, and not to be derived from, the secondary concepts of mind and body (Gill 2000, 18) and that there is no sense in which, as humans, we 'have' a body; rather we are embodied beings (Gill 2000, 45).

Together these views provide a scenario in which our embodied dimension demands serious attention. It would seem that we dismiss this aspect of our being at risk of overlooking a significant facet of our potential as human beings. The notion of physical literacy strives to make a contribution to the discussion concerning the significant role the embodied dimension can play in life.

Views on the role of our embodied dimension as playing an essential part in many aspects of existence can be exemplified by Merleau-Ponty (1962) who writes that the perceiving mind is the incarnate mind. He also goes on to argue that in relation to bodily intentionality there is an intimate relationship between perception and movement. These capacities are not separate from each other but function together.

Lakoff and Johnson (1999, 4) hold the view that 'reason is not disembodied . . . but arises from the nature of our brains, bodies, and bodily experience'. Importantly they also argue (495) that concepts 'are not part of a disembodied innate faculty of pure mind'. Gill (2000, 100) supports this view in explaining that propositional knowledge only becomes comprehensible in the context of embodied experience, while Burkitt (1999) argues that perception and bodily action form the basis of meaning. Meaning is, therefore, not created as a result of applying the rules of cognition or the strictures of grammatical correctness but arises through our embodied interaction with the world. Sheets-Johnstone (2002, 104) reiterates this view in asserting that 'rationality is first and foremost a bodily logos'. She explains that the basis of rationality is 'sense-making' and that the acquisition of this capacity depends wholly on the nature of our embodiment. Developing this view, Johnson (1987) argues that concepts such as balancing are not acquired through grasping a set of rules but are learnt through embodied experience in interacting with the world. It is thought-provoking to read Lakoff and Johnson (1999) where they demonstrate the embodied basis of very many of our commonly used concepts.

As well as our embodied dimension being critical in respect of perception, reason, the development of concepts and the grasp of propositional knowledge, Burkitt (1999) discusses the role of our embodied nature in emotion. He puts forward the position that embodied involvement in the experience of emotion is not the outcome of a mental state but is an integral part of the emotion itself.

While the attention of these philosophers is often on the totality of embodiment – that is, all the senses and all the ways we can express ourselves, in language, movement and through art forms – there is no doubt that our motile capacities are absolutely crucial to the contribution made to existence by our embodied nature. Movement is not downplayed or relegated to significance only in the early childhood years.[1] In fact, in interrogating their positions these philosophers repeatedly find themselves going back to our embodied motile capacities as they ask the questions 'how' and 'why' in relation to the nature of existence.

Gill (2000, 130) writes that '*Embodiment* is, after all, the axis or fulcrum of all tacit knowing, which in turn is the matrix of all explicit knowing' and goes on to show how Polanyi (1964) was careful not to refer to involvement of our embodied dimension as a foundation but as the ongoing axis of thought and knowing.

There is no doubt of the significant role that the intellect plays in the way we live our lives, and no one can argue with this, but what is so striking is the way that, repeatedly,

philosophers refer back to our embodiment as the seat of the intellect. Johnstone (1992, 43) claims that 'A human intelligence bereft of a body would be an intellectual cripple', while Burkitt has a chapter entitled 'The Thinking Body'. Here (1999: 12) he explains that

> what we call 'mind' only exists because we have bodies that give us the potential to be active and animate within the world, exploring, touching, seeing, hearing, wondering, explaining; and we can only become persons and selves because we are located bodily at a particular place in space and time, in relation to other people and things around us. (Burkitt 1999, 12)

Clark (1997) picks up this point about the interplay between our embodied being and the world we inhabit in expressing the view that a child's behaviour patterns develop from a 'dialogue' between him/her self and environmental factors. Behaviour does not arise solely from internal drives; the child does not develop independently from its surroundings.

The interaction with the environment alluded to by the philosophers quoted above aligns with the view that as humans our nature is intimately related to the environment around us. Indeed existentialists and phenomenologists argue cogently that we create ourselves in interaction with the world. For these philosophers we are essentially 'beings-in-the-world'. The richer this interaction, the more fully we will realise our human potential.

A number of philosophers express the notion of our nature as beings-in-the-world succinctly. For example Burkitt (1999) asserts that the very possibility of developing conscious awareness and knowledge depends on the way that our embodiment and the environment coexist. This coexistence arises at birth, or even before, and lays the ground for all future development. In support of this position Gill (2000) describes a symbiosis between our embodiment and the world around us and argues that our body is the medium through which our reality is constituted. So intimate is this symbiosis that there is not, and can never be, a clear distinction between the knower and the known.

Similarly Johnson (1987) expresses the view that it is a mistake to suggest that an organism and its environment are two separate entities. The characteristics of an organism are developed alongside those of its environment and an organism cannot exist other than in its environment. He goes on to look at the work of Levins and Lewontin who assert that our embodiment and our environment 'codetermine each other'. Lakoff and Johnson (1999) support this view, arguing that the environment plays a significant role both in realising our very being and in fashioning our identity.

Clark (1997, 98) takes a wide view of existence in the world and alludes to evolution in writing that 'Adaptive success finally accrues not to brains but to brain-body coalitions embedded in ecologically realistic environments'.

There are also a number of philosophers who put forward the idea that in interacting with the world, it is not always our embodiment that leads the liaison; the world itself can initiate action. With respect to this view Clark (1997, 224) says: 'The combination of embodiment and embedding provides for persistent informational and physical couplings between John and his world – couplings that leave much of John's "knowledge" out in the world and available for retrieval, transformation, and use as and when required.'

The information 'held' by the world is called an affordance by Gibson (quoted in Weiss and Haber 1999, 129). Here it is explained that 'affordances may be defined . . . as

opportunities for action in the environment of an organism'. He goes on to argue that objects in the environment are not inanimate features to which we ascribe an abstract concept but are immediately meaningful. In a sense they 'engage' or 'communicate' with us, indicating how we can interact effectively with them.

Wider (1997, 131) quotes Sartre's view that 'Thus the world from the moment of the upsurge of my For-itself is revealed as the indication of acts to be performed', while Merleau-Ponty describes our intimate attachment to the world as the 'intentional arc'.

There is a sense in which the world brings into being particular aspects of our embodiment in order to establish an equilibrium between ourselves and the world. We 'know' immediately how to act in our environment, our appropriate embodied capacities are 'alerted' and we feel 'at home' and able to interact with our surroundings. A rich repertoire of embodied capacities will enable us to establish equilibria in a wide variety of environments. Indeed it could be suggested that we have a different combination of embodied capacities to interact effectively with each different environment. Polanyi goes further in describing the way we relate to things. He asserts that 'we interiorize these thing and make ourselves dwell in them' (quoted in Gill 2000, 39). Gill extrapolates from Polanyi's position explaining that we acquire knowledge through a process he calls 'indwelling', being a situation in which our embodiment and our environment 'come together as a meaningful whole in an ''integrative act''' (Gill 2000, 52).

With respect to interaction with the world, views are also expressed concerning the way that the more we interact with the world and come to know it, the more we know of ourselves. Burkitt (1999, 76) writes that 'the sense of self we develop is primarily based on the feel we have of our body and the way it connects us to the world'.

It follows that the nurturing of all the avenues through which we can interact with the world will provide the ground for our development. The richer and more extensive the interactions, the more fully we will develop and realise our human potential. Herein lies a significant element in the support for developing the capabilities of our embodiment or physical literacy. As our embodiment and motility are key avenues for interaction, fostering this dimension of our personhood will contribute to the depth and breadth of our life experience. Embodied interaction with the environment, in its broadest sense, stimulates and activates aspects of our human potential, and the more varied these interactions are the more fully we can realise our humanness. It could also be argued that the richer the range of environments with which we interact the better we will 'know' ourselves as embodied. Allied to this is the self-confidence that results from self-realisation, particularly where success is experienced.

The Concept of Physical Literacy

From the views presented above it is clear that there is considerable support for the notion of our embodied dimension playing a vital role in human life. The dimension is not seen purely as a passive vehicle for 'housing' our intellect but as an active player in existence.

It is argued (Whitehead 2001a) that the capacity to capitalise fully on our embodied dimension could be encapsulated in the term 'physical literacy'. The concept of physical literacy directs attention to the role of our embodiment in human experience as seen from a monist perspective. While this dimension of human existence is subject to particular scrutiny this should not be seen as indicative of any leaning towards a dualist

approach – rather it throws the spotlight on one aspect of our rich and complex holistic nature.

In short, physical literacy can be defined as the 'motivation, confidence, physical competence, understanding and knowledge to maintain physical activity at an individually appropriate level, throughout life'. It is proposed (Whitehead and Murdoch 2006) that the nurturing and establishment of physical literacy should be the underpinning goal of all movement work in pre-school, school, extracurricular and post-school settings. Physical education in school should be less focused on specific activity skill development and immediate fitness and more concerned with developing and maintaining all-round embodied competence, together with positive attitudes towards this sphere of human activity. A wide range of personal benefits could accrue from this approach, not least effective interaction with numerous and varied environments, self-confidence and self-esteem. These benefits would include appreciation of the importance of health and fitness and access to high-level participation for those with particular exceptional embodied abilities.

The short definition can be spelled out in more detail as follows: A. *Physical literacy can be described as the ability and motivation to capitalise on our motile potential to make a significant contribution to the quality of life. As humans we all exhibit this potential; however, its specific expression will be particular to the culture in which we live and the motile capacities with which we are endowed*.

As indicated in the statement above, physical literacy is a capacity all can achieve. As humans we are all embodied and have a unique embodied capacity. To attain physical literacy each individual will strive to reach his/her potential in this sphere of being. No matter how limited an individual's capacities, such as in respect of those with embodied impairment, any increase in physical literacy will have a marked effect on quality of life.

B. *An individual who is physically literate moves with poise, economy and confidence in a wide variety of physically challenging situations. Furthermore the individual is perceptive in 'reading' all aspects of the physical environment, anticipating movement needs or possibilities and responding appropriately to these, with intelligence and imagination*.

With respect to embodied capacities relating to the concepts of poise, economy and confidence, these have been developed in Whitehead (2005) to encompass motile capacities such as balance, coordination, flexibility, agility, control, precision, strength, power, endurance and the ability to move at different speeds – that is, explosively right through to sustaining a movement over a long period of time. Other factors that could be added to this list might be core stability, perceptual-motor acuity – e.g. hand/foot-eye coordination, spatial awareness and also rhythm. These capacities would enable the individual to interact with a wide variety of environmental situations.

In discussing environmental situations two categories have been considered. (Whitehead 2001b) The first category of situations should surely be those that are given in the natural world. To engage fully with the world, effective interaction should be achieved with such phenomena as gravity, gradient, fixed and moving objects and water. This would seem to involve, for example, walking, running, jumping, climbing, swinging, turning and propelling oneself through water.

The second category might be located in man-made situations. These could demand the application of the first category of engagements to specific features such as using a ladder or an escalator or driving a car. This second category might also include engagement in those man-made situations created simply to challenge and celebrate

embodied capacities. These situations might demand specific types of running, jumping and propelling oneself through water, as well as the manipulation of implements and missiles. A development of this second category might be those man-made situations that involve interplay between individuals, together interacting in a specific environment.

A physically literate individual has the capacity to interact skilfully in a wide variety of contexts, familiar and unfamiliar. Working in the early years to develop physical literacy provides the tools for this skilful mastery of self in the environment.

C. *A physically literate individual has a well-established sense of self as embodied in the world. This, together with an articulate interaction with the environment, engenders positive self-esteem and self-confidence. Furthermore, sensitivity to and awareness of our embodied capacities leads to fluent self-expression through non-verbal communication, and to perceptive and empathetic interaction with others*.

Recent research in a number of disciplines has given authoritative support to the centrality of embodiment in developing a sense of self, self-confidence and self-esteem. Furthermore, embodied self-awareness and self-mastery is seen to play a part in effecting sensitive and successful interaction with others.

D. *In addition the individual has the ability to identify and articulate the essential qualities that influence the effectiveness of his/her own movement performance, and has an understanding of the principles of embodied health, with respect to basic aspects such as exercise, sleep and nutrition*.

The importance in the twenty-first century of knowledgeable awareness of our embodied capacities supports the position that a physically literate individual should be able to articulate basic aspects of his/her embodiment.

Debate surrounding the development and elaboration of this concept has given rise to a range of questions (Whitehead 2001b), among which are issues concerning the relation of the concept to developing a sense of self, the universality of the concept and the role of propositional knowledge in being physically literate. Some consideration of each of these issues in set out in the sections that follow.

Physical Literacy and the Development of a Sense of Self and the Self Concept

Experience of working with pupils in school, as well as one's own experience of movement, would seem to indicate that what has been loosely called 'body awareness', together with a realisation of mastery of movement, engenders a heightened awareness of self and the development of a secure confidence in our embodied abilities. It is also known that this confidence in embodied abilities very often has a far-reaching effect on the individual's total self-esteem and self-confidence. There is indeed some evidence that enhanced mastery, in the physical domain, even if this is at a modest level, can have a positive effect on performance and achievement in other areas of the curriculum.

Given the views expressed earlier concerning the way in which our embodied form influences so much of our functioning as humans, these last findings come as no surprise. Indeed, in the experience of those working with young people it is often the case that there is an all-round blossoming of an individual as a result of achievement in the physical domain. From a monistic perspective, advocating the holistic nature of all human

experience, this outcome could well be expected. And from phenomenological and existentialist perspective the ongoing role of our embodiment in self-realisation and the enhancement of life is again not in any way surprising. As a corollary of the view that we create ourselves from our interaction with our surroundings, it follows that all those aspects of ourselves through which we interact with the world will play an ongoing part in our continual re-affirmation and re-creation of ourselves. Our embodiment is demonstrably a key aspect of our personhood through which we interact with the world, and in this way it is continuously responsible for re-enforcement and modification of our self-concept and our attitudes to ourselves.

Until recently, however, there has been little support from philosophers or psychologists for the centrality of embodied nature to the sense of self. One of the few references has been to the notion of the 'mirror image', which refers to the recognition by a child of about two years of him or herself as a discrete person. The image is, of course, at first purely bodily, but the importance of the embodied dimension is usually ignored as other aspects of the developing child are discussed. It is therefore thought-provoking to read views of philosophers and psychologists who are intent on stressing the overriding importance of our embodiment in the realisation and development of a sense of self in the early stages of childhood, as well as throughout life.

Gallagher (2005) has a great deal to say about the infant's body image and body schema and how these, in their different ways, make a significant contribution to the child's developing realisation of self. He also debates at length the dual experience of the use of the motile capacities of our embodied dimension as providing both a sense of ownership and a sense of agency. He argues that from early infancy and before any development of a visual self through mirror images, the child has what he calls a 'proprioceptive self' – that is, a sense of his/her own motor possibilities.

Both Burkitt and Gallagher stress the central role played by our embodiment in developing a sense of self. Burkitt (1999, 76) writes: 'The original sense of ''I'' is the ''I can'', a practical sense of the body's possibilities, and therefore the sense of identity possessed by humans is not based on disembodied thought, nor in early visual representation of the self.'

Gallagher re-enforces this view by putting forward the notion that in the way that the human body structures experience our embodied presence in the world can be seen to shape human experience of self. Furthermore he proposes that this dimension of ourselves provides the possibility of developing a sense of self and suggests that 'It may even be possible to say that bodily movement, transformed onto the level of action, is the very thing that constitutes the self' (Gallagher 2005, 9).

Interestingly, he proposes that differing perceptions individuals have in respect of aspects of their embodiment, may, on a conscious or pre-conscious level, influence their perceptual or emotional experience of the world. He adds to this the observation that attitudes to one's own embodiment can also effect how we perceive others. Gallagher sees the body image not as an inert product of cognitive activity but as an active player in shaping our perceptions.

With reference to work in the physical domain he writes:

> Exercise, dance, and other practices that affect motility and postural schemas can have an effect on the emotive evaluation of one's own body image. . . . Thus changes in the control of movement associated with exercise alter the way that subjects emotionally

> relate to and perceive their bodies. It is not difficult to imagine that such positive effects can change one's attitudes toward and perception of the surrounding world. (Gallagher 2005, 144)

From these views it is not hard to argue that a physically literate individual, endowed with confidence in his/her embodied dimension, will have a clear sense of self as embodied and that this confidence will permeate the individual's global self-confidence. It also underlines the importance of developing a sound attitude to one's own embodiment, respecting the strengths and weaknesses of this dimension of oneself.

Gallagher extends his discussion of the role of embodiment in developing a sense of self into a consideration of ways in which our embodiment contributes to establishing interaction with others. He sums up his views about the role of embodiment in interpersonal relationship succinctly in writing: 'The understanding of the other person is *primarily* neither theoretical nor based on an internal simulation. It is a form of embodied practice.' (Gallagher 2005, 208) On what grounds does he claim this? Two new theories in the realm of neuroscience are cited as seminal in his conclusions. Both are highly complex and need detailed study. The first finding relates to the role of proprioception in intra-corporeal functioning and the second relates to the incidence of what are called mirror neurons.

Gallagher proposes that our intra-corporeal functioning lays the ground for effective inter-corporeal relationships with others. He further explains that at five to seven months infants seem to show the ability to appreciate emotion felt by others via the perception of the embodied presentation of the other. There is a sense that the infant uses awareness of his/her own embodied self to 'understand' the embodied actions of others. He writes that 'This view suggests that the subject who understands the other person is not interacting with the other person so much as interacting with an internally simulated model of himself' (Gallagher 2005, 222). This position is further supported by the evidence of what are called 'mirror neurons'. These neurons create a situation in which viewing, and also perhaps hearing, another person activates our own embodied systems, enabling us to 'mirror' the experience of others. He continues by expressing the view that the more we come to know ourselves as embodied, the better we are able to read off nuances of the experiences of others. There is a suggestion that problems with one's own motor abilities could significantly affect one's understanding of others.

Not only does the acuteness of our sensitivity to and management of our embodiment affect our sensitivity to and empathy with others; our perception of others can, he proposes, in a reciprocal way, enrich our perception of ourselves. Children, therefore, do not play a passive role when they observe others; they are in a dynamic interaction with them. As they observe, they experience different modes of being and thus enhance their repertoire of sensibilities and capabilities.

Gallagher endorses his view that understanding the other person is primarily a form of embodied practice in asserting that embodied practices provide our primary access for understanding others, and concludes that interpersonal interaction 'is a form of ''body-reading'' rather than mind reading' (Gallagher 2005, 27).

Following from an appreciation of views such as those discussed above the following statement was added to the working definition of the physical literacy: *A physically literate individual has a well-established sense of self as embodied in the world. This, together with an articulate interaction with the environment, engenders positive*

self-esteem and self-confidence. Furthermore, sensitivity to and awareness of our embodied capacities leads to fluent self-expression through non-verbal communication and to perceptive and empathetic interaction with others.

The Universality of Physical Literacy

Is physical literacy a universal concept? That is to say, does it refer to every human, and would the manifestation of physical literacy be the same in whatever period of history or place in the world in which the person lived?

Reading the work of those holding broadly existential and phenomenological views, citing the centrality of our embodied nature to human perception, reason, knowledge and emotion, the answer would have to be that, as humans, we all experience the world from an embodied perspective and that physical literacy would attract one definition. The concept would need to be applicable to all human beings no matter when or where they lived.

Further reading of Burkitt (1999), who comes to the issue from a sociological perspective, indicates that while he would agree that embodiment (and therefore possibly physical literacy) plays a key role in the life of all humans, he argues that the specific role of the embodiment differs markedly depending on the culture within which we live. Following from this position, in relation to twenty-first-century physical literacy in England, one would need to include the ability firstly to interact with the wide range of artefacts such as cars and computers, which we have created, and secondly to operate effectively in the context of established social practices, including the particular form of interpersonal relationships that are seen to be acceptable in our culture. Burkitt (1999, 25) writes: 'However, as far as human beings are concerned, it is not just the interaction between organism and environment that defines our being, for these ''movements'' of life are also interrelated with, and affected by, our history as social and cultural groups.' While Sheets-Johnstone (1994) would accept the influence of culture on our movement patterns and behaviour, she is always quick to remind us of our roots as embodied animate beings, who share a common parentage through evolution.

It would seem therefore that a definition of physical literacy would need to include reference both to common characteristics and to specific culturally grounded characteristics of the concept.

The position of the physically challenged is also relevant to the issue of universality and opens up the whole area of how far the capacity to be physically literate will be characterised not only by being human and by living in a particular culture but also by a person's unique motile potential. It could be argued that each person has a different motile potential and that therefore any discussion should widen the debate to embrace all of us, from the physically challenged to the able-bodied, each with his/her own unique embodiment.

To be fully human we are all reliant on motile capacities to the extent to which we are endowed with them. Merely to accept that we are all motile is not the issue here – what is at issue is an ability to capitalise on our embodied state or motility to reap the rich rewards available from this form of interaction with the world.[2] If physical literacy is the ability to use our motility to the greatest effect and we accept that everyone's motile potential will be specific to him/herself, then physical literacy itself will differ to some degree in nature for each individual. All can achieve physical literacy, but the scope of this

will differ for each individual. There is much to be gained from nurturing this capacity to the full – by the way our embodiment enriches many facets of life. It is a salutary observation that physical literacy is markedly underdeveloped in Western culture and, in this situation, life is less fulfilled and our knowledge of the world is the poorer.

It is proposed therefore that the answer in respect of this question is that physical literacy is universal in so far as we are all similarly embodied and rely on this dimension of ourselves for realising a range of human capacities. However the scope of any individual's physical literacy will be influenced by the culture within which s/he lives and the motile capacities with which the individual is endowed.

In the light of these considerations the following statement was added to the working definition: *As humans we all exhibit this potential, however its specific expression will be particular to the culture in which we live and the motile capacities with which we are endowed*.

The Role of Propositional Knowledge in Physical Literacy

The issue of the role of propositional knowledge in respect of being physically literate presents a challenge as it moves towards dualism in the sense that articulation of perceptions of one's own embodiment begins to suggest a separation of 'body' and 'mind'.

In some senses it is tempting to follow the ideas of Polanyi (1964) and others who talk a great deal about tacit knowledge, pre-reflective awareness and preconscious motor response of the knowing body. For example Nietzsche (1969, 69) writes: 'Behind your thoughts and feelings, my brother, stands a mighty commander, an unknown sage – he is called self. He lives in your body, he is your body.' Gill (2000, 54) refers to Polanyi (1964), who argues 'that because tacit knowledge is the anchor or tether for explicit knowing, it necessarily follows that we always know more than we can tell'. The corollary of these views is that motile capacities are pre-conscious and non-conceptual and therefore in order to capitalise on our embodied potential we need to do more than just 'do'. Propositional knowledge would not form part of a concept of physical literacy.

There is an intriguing anecdote referred to by Csordas (in Weiss and Haber 1999, 143) that refers to a discussion between a Western anthropologist and a philosopher from New Caledonia, in which the latter indicated that before their primitive tribe had contact with the West his people had not formed a concept of the body-object, living life in a totally holistic mode. In fact they did not have a word for the body as a separate entity. On enquiring what Western thought had brought to his people the philosopher replied: 'What you've brought us is the body.' This is a fascinating example and one that could be seen to support the notion that while physical literacy is, at root, universal in respect of both time and place, its specific manifestation will depend on the parent culture. An individual living in a culture that had not developed language to identify the body as a separate entity could well achieve physical literacy without articulating any aspect of this capacity.

Burkitt (1999) devotes considerable space to the way that events in medieval times altered attitudes to the body. He discusses the work of Foucault and Elias and explores how the body was seen as 'a universal, lived phenomenon, represented in everyone. The material body of the individual (was) part of the collective, ancestral body of the people.' This changed in medieval times when, he explains, 'the constitutive subject becomes more central and is seen to be distinct from the body as spirit or essence, the body itself comes

to be understood as matter and as a mechanism, or as Descartes put it, an automaton' (Burkitt 1999, 57).

It is of interest that it was Sartre (1957) who first engaged in serious debate as to different ways in which we can view our embodiment. He asserted that to understand existence we have to appreciate that there are three ways in which we can conceptualise our embodiment. For Sartre we have a body-for-self, a body-for-others and a body-for-others-as-perceived-by-the-self. The body-for-self is the mode of our embodiment that enables us to interact with the world on a pre-reflective level. The body-for-others is how we are seen by observers, and the final perspective is our awareness of how others view our embodiment. This last perspective on our embodiment is the realisation of our being able to take 'an outsider's view' on this aspect of ourselves. This perspective also plays a major role in the creation of self-confidence and self-esteem and has taken on somewhat disproportionate importance in cultures where role models are everywhere to be seen in the media.

There has been considerable debate about the relationship between the body-for-self and the body-for-others-as-perceived-by-the-self which is of interest to those in the movement/physical education world. In his writing Sartre both indicates that there is absolutely no relationship between the body-for-self or lived body and the body-as-object and also puts forward a strong case in respect of the notion that any reflection on our body-as-object will result in our alienation from this aspect of our being. Both these views need detailed examination in the context of the work in the movement area in school.

Returning to the issue of propositional knowledge and physical literacy, and taking Burkitt's advice that the nature of existence is inescapably related to the culture within which we live, it has to be acknowledged that the body-as-object is an established part of contemporary discourse. We have moved a long way from this pre-medieval culture. We are acutely aware of our body-as-object and, in fact, this has made it hard for people to appreciate that there is more to the body than just a machine to be managed. We are undoubtedly locked into a culture in which articulated knowledge of the body is integral to existence. Knowledge and understanding has increased, and reference to the body-as-object permeates much of our language.

Sadly, it is a fact that we can and do objectify our embodiment, and this has been a significant stumbling-block to the proper appreciation of the multidimensional role of embodiment in existence. It is the case that this dualist approach and habitual reference to our embodiment only as an object, in the mode of the body-for-others-as perceived-by-the-self, has made acceptance of the approach taken in this paper problematic. Whenever the expression 'the body' is used one is, in one breath objectifying, mechanising and devaluing this dimension of ourselves – hence the adoption of the word 'embodiment' rather than 'body'. It is fascinating to learn that the Chinese have three words for the 'body', each recognising a different mode of embodiment. These are *shen*, the animate body as lived; *ti*, the inanimate body, used as an instrument; and *shi*, the dead body or corpse (Brownell 1995). Sadly in the English language we do not have such options. Embodiment, in the context of its contribution to human existence, would seem to align particularly with *shen*. It has to be acknowledged that in Western culture most attention is given to the embodiment as *ti*, and this unfortunately serves to underwrite the notion of a body/mind dualism.

While, therefore, it is not appropriate to play up the role of propositional knowledge in a concept of physical literacy, the articulation of an understanding of our body-as-object

undeniably forms an integral part of contemporary attitudes to physical activity. There is much debate about, for example, the amount of exercise we should take, the nature of the food we should eat and the types of medication we should use.

It seems the case that to ignore this aspect of embodied existence – i.e. the reference to embodiment in everyday discourse, notwithstanding any monistic commitment – is out of the question in our culture. It therefore has to be accepted that to be physically literate in our culture, with its sophisticated knowledge of all aspects of health, would include a basic understanding of the principles of embodied health with respect to areas such as exercise, sleep and nutrition. The related issue concerning an ability to articulate aspects of acquisition of one's own physical skill development is more difficult as it begins to confront the relationship between the body-for-self and the-body-for-others-as-perceived-by-the-self, as alluded to above. How far is it an essential component of physical literacy to be able to articulate embodied capacities? The National Curriculum for Physical Education in England (DfEE, 1999), in its inclusion of the 'strands' described as 'Selecting and applying skills, tactics and compositional ideas' and 'Evaluating and improving performance', would indicate that it is important and valuable to stand back from one's engagement in an activity and reflect on the nature of one's performance. This seems to point to an effort to describe embodied experience in order to enhance or improve physical performance. It is very much the role of teachers to be able to articulate all aspects of movement to guide pupils. This is surely essential if we are to promote learning. It would follow from this that if a goal of work in school is for our pupils to take responsibility for their own learning, both within our lessons and outside the educational setting, it is essential that they should be able to employ a critically reflective approach to their own mastery. This would enable them to identify why they are more or less successful, and to take steps to improve their performance – at whatever level they are working.

To be physically literate therefore would need to include reference to a basic ability to appreciate the nature of one's embodied activity, an ability to identify aspects of movement that enable a particular end to be achieved, and elements that need attention for the skill to be more effective. This constituent of physical literacy does not demand the use of technical scientific concepts, but sufficient articulacy to describe the intentions and effectiveness of movement in everyday life, work and play. This might be expressed as an ability to identify the essential qualities that influence the effectiveness of one's own movement performance.

Following from these deliberations the following statement was added to the working definition of physical literacy: *In addition the individual has the ability to identify and articulate the essential qualities that influence the effectiveness of his/her own movement performance, and has an understanding of the principles of embodied health, with respect to basic aspects such as exercise, sleep and nutrition*.

The Importance of Embodiment and Physical Literacy

Having reviewed the work of these writers and many more, it can be argued that our embodied dimension is not an insignificant aspect of our human nature – a mere machine that can easily be relegated to a position of having little value other than 'housing' our mind – but it is the very fabric out of which life is fashioned.

The quality of life, to which exercise of our embodied dimension contributes, goes way beyond simple absence of disease or the enjoyment of playing sport with

others – which is not to deny the benefits of either. Attention to our embodied dimension is not a disposable added extra to education, not a waste of precious time in school, not a trivial pursuit. Attention to our embodied dimension is a critical aspect of education to which all are (or ought to be) entitled.

Physical education, working to the goal of developing and nurturing physical literacy, can lead the way in education and schooling in a determination to put the individual back at the heart of the enterprise. Education must be about enabling every child to reach his/her potential; providing each with the experiences and knowledge that will make a lasting legacy in respect of quality of life in all its dimensions. It is essential that we move away from the dualistic attitudes that persistently cast embodiment as inferior and worthy of attention only as an object to be kept fully functioning or 'decked out'. Health and well-being are, of course, of significant importance, but with a physically literate population health benefits would accrue from the involvement of our embodied dimension in regular and rewarding activity. These benefits would indeed be wide-ranging, encompassing personal enrichment, mental health and social health as well as 'physical' health and well-being. All dimensions of our human nature should be recognised and nurtured for the part they play in realising life to the full. Our embodied dimension has a far more significant role to play in attaining this ideal than it is usually given credit for.

Modern society with the creation of gadgets to aid almost every imaginable physical task is working to label our embodiment as an asset of the past. Little energy or physical capability is required in respect of either gross or fine motor skills. Modern society is robbing us of an aspect of our human nature, and we seem all too happy to collude in this strategy. We do so at our peril. As holistic beings we are, by nature, a delicately balanced complex of intricately interrelated attributes. Our embodiment plays a key role in this complex and must be understood, respected and nurtured.

Capitalising on our embodied potential has the additional capacity, as described by Aristotle, to provide a uniquely pleasurable experience. Crease (2002, 108) refers to Aristotle's views in writing that 'cultivating our distinctive human abilities well, through leisure, is an end in itself, even the first principle of all human action, and it gives rise to a distinctive type of pleasure'. With reference to dance, Crease (2002, 119) argues that this type of movement can provide a form of liberation, and that this experience of freedom can be characterised as a form of 'kinetic celebration'. Developing and nurturing physical literacy can, therefore, be seen to offer far-reaching effects on our quality of life.

Implications for Work in School

What implications do the views outlined have with respect to the practices of movement education, physical education and sport in school? Critically important is that every pupil should have a personally rewarding experience that motivates him or her to continue with physical activity after leaving school. Curricular and extracurricular work should be inclusive and cover a wide range of movement forms.[3] All should leave compulsory education with an attitude to physical activity that opens doors. As reading and writing – what is called literacy – opens innumerable doors in life, and the management of figures – numeracy – is the springboard for a range of opportunities, so all should develop a literacy in movement which motivates them to establish a lifelong habit of taking up options in one or more areas of physical activity.

There is evidence to show that current practices in physical education and school sport are not always successful in providing this. Therefore a move from physical education or becoming physically educated to a goal of enabling all to achieve physical literacy or become physically literate is advocated. Developing physical literacy is a crucial aspect of education, and some would advocate that there should be a lifelong opportunity for this element of education. The goal of movement work in school must be to develop the physical literacy of all young people. We are as we are because we are embodied, and to respect this human characteristic in all young people is a right for every pupil.

NOTES

1. Much has been written about the ways in which motor development underpins many aspects of young people's development (e.g. Maude 2001). Indeed there is accumulating evidence that this is the case. Texts that have informed the development of the concept of physical literacy provide unequivocal support for the key role that motor capacities play in realising human life as we know it. For example Johnson (in Weiss and Haber 1999, 93) writes: 'The point in all of this so far is that the infant makes sense of and reasons about her world via structures that emerge in her embodied experience, and these are neither propositional nor linguistic in their first appearance.' Similarly Clark (1997, 36) expresses the view that 'Cognitive development, it is concluded, cannot be usefully treated in isolation from issues concerning the child's physical embedding in, and interactions with, the world'.
2. Comparisons have been drawn between physical literacy and literacy understood as the ability to read and write. (Whitehead 2004) Briefly, this latter form of literacy opens the door to so much e.g. understanding, knowledge and aesthetic appreciation and activity. To be literate in this sense makes a huge difference to the quality of our lives in the twenty-first century. Similarly it would be argued that physical literacy is an attribute that has the potential to make a beneficial and significant difference to a person's ability to take advantage of the many opportunities life offers. These opportunities include both the contributions our embodiment makes to perception, reason, emotion and knowledge and to the rich rewards there are to be gained from realising our embodied potential per se. The way in which the achievement of physical literacy can enhance the quality of life can be simply expressed through considering it alongside aural ability. The basic level of human ability to interact physically with the environment can be compared to the ability to hear. Physically, most humans readily acquire the abilities to, for example, walk, sit, grasp and reach. In respect of hearing at a basic level an individual can simply pick up sounds and hear speech. However, for those individuals fortunate to have good hearing, it is generally accepted that the fulfilment achieved in differentiating between a wide range of nuanced sounds is profound. This would include, for example recognition of many types of music and birdsong. This experience would add hugely to the quality of a life, previously lived only using hearing to pick up the most mundane of sounds. In a sense individuals can manage without developing their physical capacities, as individuals can manage without refining their sense of hearing, but this denies the enormous potential all individuals have of realising aspects of human nature and appreciating facets of the world.
3. Work is currently under way to produce curricula that would foster the development of physical literacy.

REFERENCES

BROWNELL, S. 1995. *Training the Body for China.* Chicago: University of Chicago Press.

BURKITT, I. 1999. *Bodies of Thought. Embodiment, Identity and Modernity.* London: Sage Publications.

CLARK, A. 1997. *Being There: Putting Brain, Body and World Together Again.* London: MIT Press.

CREASE, R.P. 2002. The pleasure of popular dance. *Journal of the Philosophy of Sport* XXIX (2): 106 – 20.

DESCARTES, R. 1970. *Philosophical Letters,* translated and edited by A. Kenny. Oxford: Clarendon Press.

DfEE (Department for Education and Employment). 1999. Physical Education. *The National Curriculum for England*. London: DfEE/QCA

GALLAGHER, S. 2005. *How the Body Shapes the Mind.* Oxford: Clarendon Press.

GILL, J.H. 2000. *The Tacit Mode.* Albany, NY: State University of New York Press.

JOHNSON, M. 1987. *The Body in the Mind. The Bodily Basis of Meaning, Imagination and Reason.* London: University of Chicago Press.

JOHNSTONE, A.A. 1992. The bodily nature of self and what Descartes should have conceded Princess Elizabeth. In *Giving the Body its Due,* edited by M. Sheets-Johnstone. Albany, NY: State University of New York Press.

LAKOFF, G. and M. JOHNSON. 1999. *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books Perseus Book Group.

LEVINS, R. and R. LEWONTIN. 1985. *The Dialectical Biologist*. Cambridge, MA: Harvard University Press.

MAUDE, P.M. 2001. *Physical Children, Active Teaching.* Buckingham: Open University Press.

MERLEAU-PONTY, M. 1962. *Phenomenology of Perception,* translated by Colin Smith. London: Routledge & Kegan Paul.

———. 1964. *The Primacy of Perception,* translated by James Edie. USA: Northwestern University Press.

NIETZSCHE, F. 1969. *Thus Spake Zarathustra,* translated by R.H. Hollingdale. London: Penguin Classics.

POLANYI, M. 1964. *Personal Knowledge*. New York: Harper and Row.

SARTRE, J.-P. 1957. *Being and Nothingness,* translated by Hazel Barnes. London: Methuen.

SHEETS-JOHNSTONE, M. 1994. *The Roots of Power.* Chicago: Open Court Press.

———. 2002. Introductory remarks: Rationality and caring: An ontological and phylogenetic perspective. *Journal of the Philosophy of Sport* XXIX (2): 103 – 5 and 136 – 48.

WEISS, G. and H.H. HABER, eds. 1999. *Perspectives on Embodiment. The Intersections of Nature and Culture*. London: Routledge.

WHITEHEAD, M.E. 1993. Physical literacy. Unpublished paper given at IAPESWG Congress, Melbourne, Australia.

———. 2001a. The concept of physical literacy. Unpublished paper given at IAPESGW Congress, Alexandria.

———. 2001b. The Concept of Physical Literacy. *European Journal of Physical Education* 6: 127 – 38.

———. 2004. Physical literacy – a debate. Unpublished paper given at the pre-Olympic Congress, Thessaloniki.

———. 2005. Developing physical literacy. Unpublished paper given at Roehampton, England, July.

WHITEHEAD, M.E. and E. MURDOCH. 2006. Physical literacy and physical education: Conceptual mapping. *Physical Education Matters* 1 (1): 6 – 9.

WIDER, K. 1997. *The Bodily Nature of Consciousness. Sartre and Contemporary Philosophy of Mind.* London: Cornell University Press.

Margaret Whitehead, University of Bedfordshire, Polhill Avenue, Bedford, MK41 9EA, UK.
E-mail: whitehead67@aol.com