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How is embodiment in physical education theoretically conceptualised? A concept analysis

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How is embodiment in physical education theoretically conceptualised? A concept analysis

Background: Interest in and debates around meaningful movement and embodiment in physical education (EPE) have grown over the last ten years. The quality of these discussions centre on a degree of conceptual clarity for talking pedagogically about embodiment, and consideration of ways of applying it in practice in meaningful ways. The aim of this study is to systematically analyse the theoretical concept of embodiment presented within physical education (PE) literature, in order to support a conceptual clarity upon which to build well-grounded pedagogical insights and practices for school-teachers and their students, as well as physical education teacher educators.

Method: A narrative literature review methodology was used to identify twenty-three (23) papers from peer-reviewed literature between 2010 and 2021 that had some focus on embodiment. These were analysed using Rodgers' (2000) theoretical evolutionary concept analysis method to systematically identify characteristics associated with the concept in published literature. Evolutionary concept analysis typically involves a six-phase process of usage over time. Data analysis involved the systematic extraction and analysis of the literature for surrogate terms, related concepts, attributes, antecedents, consequences, and references to the concept.

Results: Despite conceptual variances across the articles analysed, a set of common attributes that included intentionality, affect, meaning, sharing, and unity were identified. The review identified potential consequences of EPE as including deeply transformative and meaningful change in the learner, the context and the teacher. Events, situations or phenomena that precede EPE are broadly linked to the teacher, the learner, and the context.

Conclusions: The concept of embodiment as it pertains to its theoretical/philosophical deployment in PE, is both complex and varied, limiting its potential to inform the pedagogical practices of teachers and therefore realise the consequences espoused. To temper this disconnect the paper provides accessible, yet provisional guidance for teachers via clusters of familiar characteristics with accompanying descriptions of what the literature suggests as important for embodied approaches. Together the tables and analysis encourage and enable educators and researchers to believe in, commit to, and operationalise embodiment as practice in their work.

Keywords: embodiment, physical education, concept analysis, meaning, phenomenology, literature review, embodiment in physical education

Introduction

Embodiment is a central concept for the discipline of physical education (PE). As a group of researchers who make no claims to be experts in this field (i.e., phenomenologists or philosophers of the body), we find ourselves continually drawn to the concept of embodiment. Our experience with the concept has at various times left us confused, distracted, frustrated, thrilled and enlightened, nevertheless we know of its centrality and significance to PE. Others have told their stories of embodied approaches in PE through subjectivity (Wright 2020), meaning making (Beni et al. 2019), affect (Kirk 2019), student centredness (Oliver and Kirk 2016), ability (Fitzgerald 2005), pleasure and pain (Gard and Meyenn 2000), and physical literacy (Whitehead 2001). There is also a discrete cohort of researchers who draw upon phenomenology to frame an embodiment lens in their work (e.g., Standal and Aggerholm 2016; Thorburn 2021; Stolz 2013). As this literature suggests there is growing interest in embodied approaches in PE and Physical Education Teacher Education (PETE), however its conceptual complexity renders it difficult for us, and we feel many others, to access. This paper represents our quest to demystify and better understand embodiment and in doing so, hopefully make the concept more accessible, usable and practical to more people. We view this as a translation piece and adopt a systematic approach to analyse the concept as it is currently deployed in contemporary PE literature, whilst remaining conscious of the risk that can come from a naive reductionism.

The body in PE

Interest in research and pedagogies associated with and/or of the body has flourished in PE over the past two decades (Camacho-Miñano et al. 2019; Evans et al. 2008). Critiques of the discipline as being dis-embodied (e.g., Evans 2004; Stolz 2013), alienating (Fitzgerald 2005; Wright 2000) and obliquely educative (Kirk 2010; Quennerstedt 2019) prevail. As a result,

the learner in PE is at risk of being objectified, taken-for-granted and dis-embodied, more indicative of a Cartesian separation of mind and body as proposed by Descartes (Wright 2000). This splitting of mind and body overlooks the fact that our bodies are a conscious (Brown 2013; Durden-Myers et al. 2020) and integrated dynamic whole (Stolz 2014), that is spatially, historically and socially located (Allen-Collinson 2009). Importantly, that we participate in the world simultaneously as cognitive, physical and social i.e., as mind-body (Ozoliņš 2013).

In PE, separating body and mind is exemplified by an over reliance on traditional approaches, where practitioners discretely focus on the development of sports skills or fitness that uncritically test or measure in both assessment and teaching practice (Brown and Payne 2009; Stolz and Kirk 2015). It is also reflected in curricula and practice that justify learning PE in terms of either fun/enjoyment (Kretchmar 2000) or intellectuality (Dalziell et al. 2019). In such cases PE happens ‘to’ young people with little attention paid to the ways they might ‘do’ their bodies in meaningful ways. Meaningful learning in PE cannot happen without the ‘lived body’ (Thorburn 2021), and a focus on it can serve to challenge the discipline's static pedagogical status quo (Stolz 2014).

By contrast, more critically informed research in PE, for example promoting meaningful movement (Beni et al. 2019), exposing identity politics (Azzarito 2010; Fitzgerald 2005; Wright 2000), challenging the status quo (Fitzpatrick and Russell 2015), activating and engaging young people (Oliver and Kirk 2016), pedagogies of affect (Gard and Meyenn 2000; Kirk 2019), exploring embodied learning/pedagogies (Lambert 2020; O’Connor 2019; Stolz 2013) and/or new kinds of movement (Barker et al. 2020; Lambert 2018) are arguably useful empirical (and pedagogical) examples of work that has centralised the body in PE. This research is connected by a starting point that focuses on matters of equity and social

justice, thus encouraging approaches that generate affective responses around and in movement in the hope that learners can ‘find’ meaning in their movement experiences.

Whilst offering a neat counter to Cartesian dualism the above body of work tends to deploy a variety of different terms (e.g., meaning, embodied learning) and/or theories (e.g., critical race theory, feminist post structural theory) when working with similar concepts.

Consequently, while there may appear to be a focus on embodiment, this may not have the same meaning theoretically or deployment in the same way in practice. Given our bodies move in and interact with the world in many ways, we think understanding how bodies move in PE should be easier to understand and ultimately to do. Additionally, we argue that to develop this understanding, an analysis of the evolution, meaning and use of the concept of embodiment as it applies to PE is necessary. The aim of this study is to systematically analyse the concept of embodiment as deployed theoretically and philosophically in PE literature in order to present a clearer picture of the attributes of embodiment in PE (EPE). The process should help readers to gain conceptual clarification and/or form a more ‘settled view’ on embodiment that can ultimately be mobilised pedagogically and through research. To do this, we adopted a theoretical evolutionary concept analysis method (Rodgers 2000) that aimed to address the following research question, *How is embodiment in physical education theoretically conceptualised?* The findings from this research will identify some of the current approaches that make claims to encourage/facilitate EPE. This will provide PE teachers with a shared vocabulary for talking about and better understanding EPE and offer consideration of ways of applying it in practice to create new, diverse, engaging, equitable, socially just and meaningful forms of PE.

Embodiment: A background

To fulfil Rodgers' request to take an evolutionary view of embodiment we need something akin to a *definition*. However, embodiment is a slippery notion loaded with personal, social and historical meanings (Allen-Collinson 2009). Embodiment has been applied in different ways in a variety of disciplines from medicine and neuroscience to psychology, philosophy, art, geography, religion and education (Smith 2017). Such interdisciplinarity adds nuance, yet it can contribute to ontological and epistemological confusion. The term has evolved over time and it is often situated in opposition and as a counter to Cartesian Dualism (separation of mind and body). Ozoliņš (2013) highlights how classical philosophers such as Plato, Aristotle, Aquinas, Augustine and Benedict seriously contemplated the 'essential unity of the mind and body' (903), noting that such a unification insists that 'a complete education involves disciplined physical activity' (904). The likely *origin* of western notions of embodiment stretch back to antiquity where many since have mused upon the nature, reasons and consequences of 'having, being in, or being associated with a body' (Smith 2017, 1). Much of this musing (thought/philosophising) is founded upon the 16th century theorising of Descartes, where the mind-body problem emerges as one that is dualistic, that is the mind (mental) is distinct from and inferior to the body (physical). With respect to a *definition* of embodiment, we might begin our concept analysis with Descartes' suggestion that the mind and body are separate and explore in the contemporary PE literature how embodiment has emerged and evolved from this particular position.

Merleau-Ponty's (1945) conception of the body as the origin of movement, the vessel from which we perceive the world, and in giving bodily experience meaning, as integral to human existence. Consciousness is thus entwined with the moving body. This work progresses well beyond dualisms by insisting that the mind-body is conjoined, that the intellect cannot be

divorced from the body, and that this unified whole – the ‘lived body’ - is the means by which we are ‘in the world’ (Stolz 2013, 951). We thus appreciate the conceptual interest of PE scholars in phenomenology as a way to physically educate young people.

This brief and rather crude genealogy¹ from mind-body contemplation, to disunity, to unity provides a fundamental example of how concepts are not fixed; they evolve over time and context, evidencing emergence then moving onto something else somewhere else (Rodgers 2000). According to Rodgers (2000), this is inevitable because concept analysis is a charting of common use not a search for ‘truth’. We acknowledge the plethora of past literature in PE/PETE regarding Cartesian dualism and how to overcome it (e.g., Wright 2000). There are a growing number of researchers either experimenting with (Næss et al. 2014) or outright insisting that phenomenological understandings should inform PE (Thorburn 2021). By drawing links between the work of educational theorists such as Dewey, O’Loughlin, Schon a number of scholars offer a way to activate phenomenology in classrooms (e.g., Andersson and Garrison 2016; Holst 2013; Jones et al. 2016). Work by Stolz (2015) and others (e.g., Nyugen and Larsson 2014; Thorburn and Stolz 2017) go some way to flagging how educators might do this in PE by attempting to characterise ‘embodied learning’. This has prompted a handful of other researchers to wrestle with identifying the kind of ‘embodied pedagogies’ that might elicit embodied learning (Lambert 2020; O’Connor 2019), or at least develop habits around these kinds of pedagogies (Standal and Aggerholm 2016).

In a recent literature review on ‘pedagogies of embodiment’ in PE, Aartun and colleagues (2022) attempted to draw these notions together by reviewing empirical research detailing the embodied experiences of learners/participants. Common among the articles reviewed was the

¹ Our task here is not to detail a history of phenomenology or to intricately tease out the subtleties of over 100 years of theorizing. Suffice to say, we shall leave that to those more qualified than us and following Rodgers (2000) provide some starting contextual socio-cultural, temporal and disciplinary features.

underlining need for new pedagogies in PE that challenge the status quo of traditional practices. Papers fell into one of two themes, those articles that spoke of pedagogies of embodiment as, (i) ‘enabling critical reflection about hegemonic notions of health, gender, and body ideals’, and those (ii) ‘exploring (new) movements’ (Aartun et al. 2022, 10). They go on to provide some direction for implementing pedagogies of embodiment. The nature, extent and depth of these various explorations and explanations is important to acknowledge, in that through them we see how various researchers are deploying theory in their empirical work. Also important to highlight is that phenomenological definitions, terminology and ideas are ontologically and epistemologically complex, contested and for many (including PE teachers) are esoteric and difficult to understand (Allen-Collinson 2009). This makes changes in pedagogical practices reflective of Merleau-Pontian articulations of embodiment difficult.

While Aartun et al. (2022) (and others above) acknowledge the various ways in which embodiment is theorised, the focus of their paper is more centred on how embodiment as a concept has been actioned through pedagogies. We remain conscious that this leap to pedagogy may not address the fact that many PE teachers (including ourselves) are still not quite sure what embodiment is. Further, that this pedagogical focus may lead to a position where educators are enacting pedagogies in a rather surface/procedural way without really understanding ‘why’ they do what they do. To help avoid this, and to build upon Aartun’s work, the current paper seeks to provide greater conceptual clarity so embodied practices can be more readily and deeply thought through and implemented.

Methods

Rodgers (2000) defines a concept as ‘a cluster of attributes’ (83) or abstractions that when repeatedly expressed, used, enacted or interacted come to denote the concept. Subject to continual change, adaption and adoption, over time, concepts rarely have definitive attributes,

rather they are dynamic, fuzzy, context dependent, and have pragmatic utility (Rodgers 2000). Whilst there are a number of different approaches to concept analysis (e.g. Chinn and Kramer 2011; Rodgers 2000; Walker and Avant 2005; Wilson 1963) a commonality is a systematic process of analysis. This study adopts the evolutionary six-step concept analysis process developed by Rodgers (2000) (Table 1), primarily because it inductively acknowledges the temporal (change over time) and contextual variations of concepts, starts from a position of ‘fuzziness’ as opposed to fixivity and focusses on common use/usage. Additionally, it provides a reliable analytical frame for considering ‘the relationship between concepts and knowledge... [clarifying] concepts that are useful and meaningful in the [PE] discipline’ (79-80) allowing the concept to be more effectively used as well as further developed.

<insert Table 1, Rodgers’ evolutionary concept analysis>

Search strategy

After identifying embodiment as the concept of interest an extensive search of literature was carried out (May 2020) to collect peer-reviewed literature that linked embodiment and related concepts to PE. Three of the authors were familiar with literature in the field and as such were aware of the variety of ways in which embodiment was notionally deployed, spoken about, researched, theorised, alluded and/or referred to. To capture this variation author one brainstormed a list of concepts related to EPE literature (member checked by authors two and three). This generated the search terms comprising ‘embod*’, or ‘meaning*’, or ‘activist’; and ‘physical education’ or ‘learning’ or ‘pedagogies’, which were selected as our search terms to maximise our opportunity for gaining a broad perspective of how embodiment is conceptualised in PE.

Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist (Moher et al. 2009) three electronic databases were searched (ProQuest, Scopus and EBSCO) using a Boolean search strategy. Additional sources not identified through these databases were found by manually searching reference lists and by consulting a key informant in the field. The initial criteria for inclusion were: (i) published in English; (ii) published between 2010 and 2021 (2010 was chosen as it was the year Kirk's influential text *Physical Education Futures* was published, marking a moment for us to rethink the future of PE); (iii) search terms included in the title, abstract and/or keywords; (iv) peer-reviewed literature available in full-text format; (v) the context is PE. Titles and abstracts were then assessed for relevance and the following additional inclusion criteria was applied: (i) surrogate/related terms were a main focus of the literature; (ii) study population is school age (5-18 years) (including longitudinal studies and studies with both students and teachers); (iii) the study design is qualitative. Following this process resulted in 61 full-text literature sources that included an even split between theoretical and empirical papers. Subsequently, we added an additional criterion (iv) literature sources needed to be conceptual/theoretical which narrowed the data sample to 23 literature sources (Figure 1). This enabled us to focus initially on the theoretical deployment of the concept as the focus for this paper. The empirical papers will be analysed in a follow-up study.

<insert Figure 1, Prisma diagram>

Data extraction and analysis

To organise the data all articles were added to NVivo 20 along with codes as per Rodgers' (2000) evolutionary steps i.e., surrogate terms, related concepts, antecedents, attributes, consequences, references, exemplars, as well as origin, evolution, definition. Thereafter began the coding phase whereby the literature sources were read, and data were extracted and

categorised according to the 10 codes listed above. The articles were split between authors one, two and three, with author one completing the majority of the data extraction (13 articles). Completed coding was analysed thematically by author one, who paired alternately with authors two and four. This process yielded a synthesis of the literature i.e. themes and sub-themes alongside direct quotes to: (i) display transparency in the analysis process; (ii) enrich the data set; and (iii) position the complex language used in the literature beside more readily accessible language.

To support validity and reliability of the data extraction and analysis process one article was chosen for authors one, two, and three to carefully read and code independently. An independent coding comparison query was run in NVivo 20 between author one and two and author one and three. This generated low inter-rater reliability. We then engaged in an iterative process of clarifying the coding through meetings between the paired researchers. Subsequent reading and re-analysis of the paper resulted in acceptable levels of agreement, with Kappa scores of 0.72 and 0.62 respectively.

Findings

In the following section key findings from the evolutionary concept analysis of EPE are provided. Please note the Tables form a substantial component of the findings with discussion of each following.

Origin, evolution, definition

There was some conceptual focus in the majority of the articles analysed around notions of mind-body as united and integral to existence. However, we were unable to identify the precise origin of this focus in our analysis. We were unable to find an explicit definition of embodiment in our analysis, instead, the majority of authors drew upon others to describe common features (see attributes below), with an emphasis on phenomenology and

existentialism (13 of the 23 articles), and especially the work of Merleau-Ponty (nine of the 14 articles). The contemporary literature reviewed supports the earlier discussion that highlights a contemporary understanding of embodiment as:

- a notion, integral to human nature, a complex phenomenon, monism, ‘axis of all tacit knowledge’ (Durden-Myers et al. 2020, 10);
- ‘living in the body’, somatic, Leib and Körper (mind and body) intertwined, a corporeal field ‘which includes sensations, emotions, bodily expressions and postures’, ‘a term for perceiving and experiencing with the body’ (Holst 2013, 965, 968, 970);
- ‘the body as a locus of intelligence’ (Lussier 2010, 42);
- ‘the essential unity of mind and body’ (Ozoliņš 2013, 903);
- ‘embodiment is the intertwining of body, space and time in experience’ (Standal and Aggerholm 2016, 273);
- ‘our embodiment is a sine qua non of our existence and consciousness’ (without the body there is no existence or consciousness) (Stolz 2013, 951).

Thus the concept may be traced from thinking that emerged from and countered Descartes’ *disunity* of mind-body to one generalisable as *unity* of mind-body, which is essential for existence and learning. The predominant theories of influence are phenomenology, existentialism, pragmatism, and monism with nuanced descriptions largely dependent upon the key theorists and concepts favoured by authors e.g. Merleau-Ponty, Husserl, Heidegger, Satre, Van Manen, Polanyi, Patocka; MacIntyre (goods of practice), Dewey (habits), Arnold (in, through and about movement), and Whitehead (physical literacy).

Surrogate terms

Surrogate terms are alternate ways for expressing the concept (Rodgers 2000). They could be thought of as synonyms or other words that say the same thing as the concept (Toftthagen and Fagerstrom 2010). Whilst many terms were used to describe EPE and appeared to be surrogate-like, their occurrence was infrequent and inconsistent across the literature. We thus conclude that no other term captures the characteristics of embodiment, though a number are considered be related concepts.

Related concepts

Related concepts bear some relationship to the concept of interest but do not seem to share all of the same attributes (Rodgers 2000). Related concepts may share some attributes or resemble other concepts and in our case may also stand in for similar meanings but are not surrogate terms. A number of related concepts were identified from the literature, with the following emerging most frequently, and appearing to have most in common with the concept:

- ‘*embodied learning*’ (Stolz 2013; Thorburn and Stolz 2017), ‘*embodied consciousness*’ (Brown 2013; Thorburn 2021), ‘*embodied subjectivity*’ (Nyberg and Larsson 2014), ‘*embodied identities*’ and ‘*embodied knowing*’ (Block 2014), ‘*embodied movement pleasures*’ (Pringle 2012);
- ‘*being-in-the-world*’ (Block 2014; Lussier 2010; Jones et al. 2016; Stolz 2013) and ‘*being in the body*’ (Holst 2013);
- ‘*lived experience*’ (Larsson 2014), ‘*lived body*’ (Thorburn 2021; Thorburn and Stolz 2017) and ‘*body-as-lived*’ (Rosenberg 2019);
- ‘*movement meaning*’ (Brown 2013; Jones et al. 2016) and ‘*meaningful experience*’ (Fletcher and Ní Chróinín 2021; Thorburn 2021);

- ‘*phenomenological*’ (Block 2014; Brown 2013; Durden-Myers et al. 2020; Holst 2013; Jones et al. 2016; Lussier 2010; Nyberg and Larsson 2014; Rosenberg 2019; Standal and Aggerholm 2016; Stolz 2013; Stolz and Thorburn 2017; Thorburn and Stolz 2017; Thorburn 2021).

Other less common phrases related to the EPE include, ‘*aesthetic literacy*’ (Lussier 2010), ‘*aesthetic experience*’ (Maivorsdotter and Wickman 2011) and ‘*somaesthetics*’ (Nyberg and Larsson 2014); ‘*body schema*’ (Andersson and Garrison 2016); ‘*the phenomenal body*’ (Lussier 2010; Standal and Aggerholm 2016); ‘*the body-subject*’ (Thorburn 2021); ‘*bodily-knowing*’ (Nyberg and Larsson 2014). Many of these terms appear to have been used interchangeably amongst the literature reviewed suggesting a network of related concepts.

References

References are the actual situations to which the concept is applied and/or used i.e., the phenomena, events, situation (Rodgers 2000) and/or site, location, discipline, context. The concept of EPE has most commonly been discussed with reference to disciplines and contexts i.e. schools, education, PE, dance, sport, pedagogy, and learning, and theories and theorists.

EPE has most commonly been applied or referenced as:

- Foundational: ‘the main foundational cornerstone of physical education programmes (Stolz 2014, 2015)’ (Thorburn and Stolz 2017, 722)
- Justification: a justification for PE (Standal and Aggerholm 2016)
- Dualistic counter: overcome the mind~body dualisms inherent in PE and move towards a more holistic notion of PE (Brown 2013)
- Aesthetic: a means to generate aesthetic experience (Maivordotter and Wickman 2011; Nyberg and Larsson 2014)

- Educational: an educational/pedagogical strategy (Andersson and Garrison 2016; Oliver and Kirk 2016)
- Experiential: a means to experience the world (Stolz 2013)
- A process: for example as an avenue to physical literacy or becoming physically literate (Rosenberg 2019)

As previously mentioned, 13 of the 23 articles based their conceptual work around phenomenology (see Related Concepts) with 8 drawing upon the theorising of Merleau-Ponty (Block 2014; Durden-Myers et al. 2020; Holst 2013; Lussier 2010; Standal and Aggerholm 2016; Stolz 2013; Stolz and Thorburn 2017; Thorburn and Stolz 2017; Thorburn 2021). The next most referenced theorist was Whitehead (seven of the 23 articles) (Brown 2013; Durden-Myers et al. 2020; Nyberg and Larsson 2014; Rosenberg 2019; Standal and Aggerholm 2016; Stolz and Thorburn 2017; Thorburn 2021), followed by Dewey (five of the 23 articles) (Andersson and Garrison 2016; Lussier 2010; Maivorsdotter and Wickman 2011; Standal and Aggerholm 2016; Thorburn 2021). As noted in the overlap, researchers tended to theorise with multiple theorists. Other theories and/or theorist appeared in the literature displaying the breadth of approaches to EPE across the discipline including: critical theories of difference and diversity e.g., racism and ableism (Azzarito 2016; Giese and Ruin 2018); body pedagogies (Andersson and Garrison 2016); materiality (Larsson 2014); meaningful experiences (Fletcher and Ní Chróinín 2021); activist approach (Oliver and Kirk 2016); and pleasure (Pringle 2012).

Antecedents

Antecedents are the events, situations or phenomena that occur or happen prior to/precede the concept (Rodgers 2000). Here we asked, ‘*what needs to happen for embodiment to occur in PE?*’ In our analysis we organised our response into three broad themes according to what

has to happen to/for: (i) the learner; (ii) the context; and (iii) the teacher. In Table 2 we identify the specifics of what needs to be in place or precedes the experience of EPE.

<insert Table 2: Antecedents of embodiment in PE>

<also see Lambert et al. 2022a Table 2a: Antecedents of embodiment in PE complete data set – will be provided as supplementary data>

Attributes

Attributes are the key characteristics, which constitute a ‘real’ (practical) definition of the concept; they are the cluster of attributes that make the concept possible (Rodgers 2000). Campbell-Yeo and colleagues (2008) highlight an important feature of attributes in that they ‘are consistent and unique to a particular concept’, this means that the combining of attributes ‘constitute a tangible definition that sets it apart from other concepts’ (714). Hence in our case we may be able to tease out a definition of the concept from the attributes, something that was hard to do directly from the articles because embodiment was rarely defined by the authors who used the term. Our review of literature suggests that EPE is characterised by five sets of interconnected and intersecting attributes which we list in Table 3 in no order of importance or frequency. In an attempt to gain more clarity around the characteristics of EPE we expand on each of these by identifying subthemes associated with each attribute. It is important to highlight that there is a degree of overlap across some of the subthemes, for example, between ‘inseparably connected’ and ‘sharing with others’ or ‘making meaning, meaning- making’ and ‘learning’. This is because, while the five broad themes (column 1) from the literature provide solid conceptual clarity to many teachers, the heavy influence of phenomenology in the literature other terms, such as ‘intentionality’, ‘affect’ or ‘holism’ may not be as clear or precisely understood.

<insert Table 3: Attributes of embodiment in PE>

<also see Lambert et al. 2022b Table 3a: Attributes of embodiment in PE complete data set – will be provided as supplementary data>

Consequences

Consequences are considered to be the phenomena that result from the use of the concept or the ultimate outcome or result (Rodgers 1989). In our case it is those events, situations, outcomes or phenomena that follow an instance of EPE. During the data analysis process, at times, it was difficult to separate antecedents (what comes before embodiment) from consequences (what comes after embodiment), therefore we often coded them as both. We thus suggest that embodiment is both an antecedent and a consequence i.e., embodiment brings us to move, moving brings us to embodiment. This interdependency is reflected in Tables 2 and 4 where we use the same organising themes of ‘the learner, ‘the context’ and ‘the teacher’, in other words, embodiment is affected by and affects the learner, the context and the teacher.

<insert Table 4: Consequences of embodiment in PE>

<also see Lambert et al. 2022c Table 4a: Consequences of embodiment in PE complete data set – will be provided as supplementary data>

In Table 4 we share the themes of what results, for whom and where. Resoundingly, the consequences speak of change and transformation of people, places and practices, and it is because of this that we organise the consequences according to the antecedents (i.e., the learner, the teacher, the context). Bearing in mind we have reviewed theoretical papers and there was little/no evidence of consequences, these could be considered the desired outcomes/results rather than actual outcomes/results if embodiment was to happen in PE.

Exemplars

Once all the phases of analysis were completed the data were scanned for model cases or exemplars that are typically clear and practical standalone examples that display the attributes of the concept and can thus be used to illustrate it (Rodgers 2000). In our analysis of the attributes we did not find such cases.

The concept analysis has provided insights into the evolution, current use of, and emerging uses of the concept of EPE. Below we discuss the findings by offering some explanations and implications.

Discussion

Our analysis shows that the concept of EPE is unique, in that it is largely indefinable as a single concept, word or idea, and is instead defined (perhaps outlined) by multiple related concepts. This may be echoed in the growing interest in embodied approaches in PE and PETE, however, conceptual complexity keeps embodiment out of reach for many PE teachers. In fact, through our analysis, we remain somewhat uncertain about our placement of ideas tied to attributes of embodiment. That said, distinctly connected antecedents and consequences, as well as abundant rich clusters of attributes, provide a useful starting point for educators to develop their understanding of EPE. It is to these we now turn.

EPE is unique

We have gleaned from the literature that embodiment is a unique and complex concept, that is very familiar to us, yet portrayed in a range of ways. Fundamentally, we all are/have a body and inhabit/use/do or embody it; the challenge for our discipline is to move beyond the complexity in order to develop an educational/pedagogical strategy (Andersson and Garrison

2016; Oliver and Kirk 2016). Our analysis suggests that greater awareness of the breadth of related concepts may initiate this process.

Whilst several related concepts were identified in the literature, no surrogate terms presented themselves, though we note Stolz (2013) and Thorburn and Stolz (2017) use the term ‘embodied learning’ consistently, arguably in an attempt to connect phenomenology, existentialism, pragmatism, and monism to educational contexts. As mentioned, several related concepts occurred frequently and interchangeably in the literature. Because of the strong influence of phenomenology in the literature examined, some of these can be as equally perplexing as embodiment, for example, ‘*being-in-the-world*’ (Block 2014; Lussier 2010; Jones et al. 2016; Stolz 2013) or ‘*the phenomenal body*’ (Lussier 2010; Standal and Aggerholm 2016). Importantly, other more familiar (though equally as perplexing) related concepts were also dotted throughout the literature, making EPE more accessible, for example, ‘*lived experience*’ (Larsson 2014), ‘*movement meaning*’ (Brown 2013), ‘*meaningful experience*’ (Fletcher and Ní Chróinín 2021), ‘*aesthetic experience*’ (Maivorsdotter and Wickman 2011), ‘*physical literacy*’ (Durden-Myers et al. 2020), and ‘*habits*’ (Andersson and Garrison 2016).

We conclude that EPE consists of a network of related concepts predominantly underpinned by phenomenology. Whilst slippery in nature because of this, our analysis of the related concepts has helped us to establish some clarity around the concept of EPE. Attention to the clusters of attributes of EPE offers further clarity and encourages us to consider what EPE might look like in practice.

Activating EPE through antecedents and consequences

On the one hand the antecedents and consequences, like the related concepts, continue to speak to the complexities of phenomenology, whilst on the other hand, there are many

familiar notions throughout Tables 2 and 4 that have the potential to draw teachers towards pedagogical operationalisation. For example, many PE teachers will recognise the value of setting clear aims and standards and align them to a variety of meaningful, engaging and alternative movement activities. They will encourage reflection and promote inclusion, challenge and cooperation. However, if embodiment (as per the Attributes below) is the aim then the learner, the context and the teacher have to be activated through and by practices that instigate *positive* change and/or transformation in ways that align with the desired/anticipated consequences and inclusive of the characteristics of embodiment (i.e., the Attributes). Here we acknowledge that there are likely different degrees of embodiment that young people experience in our classes and about PE. For example, experiencing PE negatively as exclusionary, unsafe, painful, threatening, sexist, racist, in short that PE is not for them, have historically been quite common ways for learners to embody PE. We are suggesting that for PE to move towards a more positive form of and approach to embodiment intentionality is key.

Abundant rich clusters of EPE attributes

As previously mentioned, it was important to develop the sub-themes (or sub-attributes) to further elucidate the attributes, albeit this has resulted in the aforementioned overlap. However, we understand this overlap as both important and necessary, further highlighting the complexity of this phenomenon. It exemplifies our research process and own grappling with the breadth of concept; and while we attempt to help teachers to 'grasp' EPE, it is inevitably complex, messy and interconnected. In what follows, we explore each of the attributes and sub-attributes further to develop greater clarity and support others to better understand the concept of EPE.

An experience of embodiment is characterised by intentionality. Our experiences in the world are temporally and spatially situated (Thorburn and Stolz 2017) as well as historically, culturally, and socially located (Maivorsdotter and Wickman 2011). This situatedness is carried into movement contexts on our bodies whether we like it or not. It follows that being able to put aside what is carried from the past, as well as expectations of the future to focus on the present opens spaces to learning in the here and now (Lussier 2010). Brown (2013) and Giese and Ruin (2018) suggest that such presence invites the construction of movement on pre-conscious, subconscious, conscious and unconscious levels. There is a kind of freedom in this notion of degrees of consciousness that has the potential to generate a safe space to move in exploratory ways and without judgement around correct form or execution.

Using the example of LGBTIQ students, Block (2014) explained that those young people who can be in-the-moment are making their own movement choices, and that whilst they may be aware of similarities and differences, when moving intentionally they are also attending to the consequences of their actions on others. Hence, learners are embodied because and when they are inseparably connected to self, other and world (Block 2014). Through these experiences of connection, knowledge is developed (Nyberg and Larsson 2014). Standal and Aggerholm (2016), following Dewey add that in order for such knowledge and experience to be considered educative, for example in the context of learning in PE, the movements undertaken must be directed towards desirable ends, such as growth. For Oliver and Kirk (2016) and their work with young women and PE the notion of transformation resonates. The implication for teachers is obvious – there needs to be a point to what we ask students to do.

An experience of embodiment is characterised by affect, it is affective. Our experiences in the world are sensed and felt. Paying conscious attention to our feelings contribute to meaning both individually and collectively. This attribute insists that teachers create powerfully

sensory movement moments for students to share so that they may each feel i.e., respond in/with their bodies to express themselves emotionally (e.g., Andersson and Garrison 2016) and aesthetically (e.g., Lussier 2010). When the bodily senses are engaged learning becomes a sensory (e.g., Henderson 2019) and perceptual experience (e.g., Rosenberg 2019) of/with the environment and world (Maivorsdotter and Wickman 2011). Brown (2013) explains that a pleasurable, sensuous or thrilling movement has intrinsic value, and for Nyberg and Larsson (2014) this builds a sense of knowing how i.e., somaesthetics. Following this line of thinking in their classes, teachers would do well to pay careful attention to generating affective states (Andersson and Garrison 2016) and eliciting feelings (Standal and Aggerholm 2016), to offer intellectual tasks that use the whole body (Ozoliņš 2013), and to using activities that maintain sensitivity to others at the same time as building body awareness through conscious attention (Block 2014).

An experience of embodiment is characterised by meaning, it is meaningful. In the literature meaning-making and making meaning is a central attribute of embodiment. This begins with some central assumptions such as, that human experience is essentially meaningful (Stolz 2013), that movement has meaning (Ozoliņš 2013) and that bodies make meaning (Lussier 2010). Thus, when movement has meaning/is meaningful to students it has a learning orientation (Brown 2013).

To promote meaning/meaning making (learning) teachers might think carefully about how to create meaning through connections (Block 2014), combine cognition and ideas with problem solving to coordinate meaning-making through actions and acts of production (e.g., Maivorsdotter and Wickman 2011), build creative capacities (Lussier 2010), carve out time for reflection (e.g., Standal and Aggerholm 2016), engage the senses and emotions while moving (e.g., Ozoliņš 2013), involve choice (Henderson 2019), make movement collective

and social (e.g., Lussier 2010), and include challenges and complexity, establish habits and reward accomplishments (Thorburn and Stolz 2017). Such pedagogical practices build a sense of agency (Henderson 2019), inviting students to make their own sense of self and others (e.g., Block 2014), the world (e.g., Stolz 2013) and of being alive and of living (Pringle 2012). It also helps students make sense of their PE experiences, supporting their learning of, for example, skills or specific competencies (Lussier 2010) and body techniques (Andersson and Garrison 2016) 'in' movement (Brown 2013) and through one's past (Maivorsdotter and Wickman 2011).

We suggest that through meaningful movement young people learn to value physical activity and a physically active life (Oliver and Kirk 2016) that encourages them to move in new ways that are intrinsically valuable (Nyberg and Larsson 2014). In short, they become physically educated i.e., movement in any moment has significance (Block 2014).

An experience of embodiment is characterised by sharing, it is shared. The teaching implication for this is to provide opportunities, activities and space for learners to share movement experiences with others, in relation to others, and in presence of others, this is known as intersubjectivity (Jones et al. 2016). This includes accommodating shared perceptual experiences, reflection and collaboration (Thorburn and Stolz 2017) that initiate feelings and emotions, common actions and interactions in an act of primary sociality (Andersson and Garrison 2016). When done effectively the learner will not only develop body awareness and a greater sense of self, but they will also refine their ability to observe, perceive, support and read the bodies of others relationally, perceptively and empathetically (Rosenberg 2019; Stolz 2013).

An experience of embodiment is characterised by the unity of body and mind. The unification of the body and mind is a key feature of embodiment. The first and most fundamental step

teachers could take towards embodied practices in their classes is to see and treat their students as unified beings/wholes (not as a distinct body and mind) (Stolz 2013). This starting point insists that there is a unitary connection between moving and understanding (Brown 2013), cognition and affect, thoughts and feeling (Andersson and Garrison 2016). Educators who see and accept this unity of body and mind as well as learner and environment think about their practices in an ecological sense (Thorburn and Stolz 2017) and of learning as a holistic experience (Brown 2013; Pringle 2012; Stolz 2013) in space and time (Thorburn and Stolz 2017). For Block (2014) this acceptance embraces complexity, promotes connections to self, others, world and can be empowering for many students.

Conclusion

This evolutionary concept analysis of EPE has provided a thorough and systematic analysis of the use of the concept of EPE across theoretical literature from PE researchers from around the world. It has drawn our attention to the related concepts used by researchers that go some way to help us make sense of this complex concept, and it has identified the attributes that characterize EPE, providing detail and clarity that is important and necessary for both researchers and PE teachers. For example, whilst we acknowledge the intentions of past research and theorising around embodiment in PE our analysis indicates researchers need to do more than theorise in order to impact the work of teachers. For example, they (we) could offer clear definitions of embodiment in their own work and explain how they are using it and why. This might occur if researchers increase their awareness of embodied approaches developed outside the field. It will occur if we turn this into something ‘real’ and meaningful for teachers.

For teachers, developing an understanding of EPE may be the first step towards their own transformation, something that we have learned is necessary if they aim to create learning

environments that support EPE. This should also involve having some grasp of the antecedents and the consequences. Key to teacher transformation is that they value the consequences of embodied learning and that the consequences have some alignment with their own beliefs about the nature and purpose of PE. Furthermore, given the more concrete and practical nature of the antecedents that we identified, we think that there will be value in working with PE teachers to explore and experience these, and to consider what they mean from a personal, professional and practical perspective. This may promote deeper reflection on current practices/approaches and help PE teachers to address the ‘why’ as well as the ‘how’ of EPE and ‘pedagogies of embodiment’ (Aartun et al. 2022) and to continue the tradition of refusing universal or single definitions in PE (Young et al. 2020). This will be an important area for future investigation, and we argue more effective in terms of teacher learning, transformation and the co-creation of ‘pedagogies of embodiment’, than a focus on particular pedagogical approaches. Indeed, given the central role of the teacher (in context) in activating EPE, future research might also consider what EPE looks like/feels like in the context of teacher education (both pre-service and in-service). The results from this analysis, may also support teacher educators to create a more embodied approach to working with PE teachers to develop their (embodied) understanding (and eventually practice) around EPE. Future research might also consider the ways in which empirical researchers deploy the concept of embodiment and the degree to which such deployment is informed by the kinds of theoretical conceptualisations shared in this paper.

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Table 1. Rodgers' six-step evolutionary concept analysis

Table 2. Antecedents of embodiment in PE

Table 3. Attributes of embodiment in PE

Table 4. Consequences of embodiment in PE

Figure 1. Prisma diagram

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