Routledge
Taylor & Francis Group

Education 3-13

International Journal of Primary, Elementary and Early Years Education

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rett20

Reconsidering models-based practice in primary physical education

Francis Dockerty & Rhys Pritchard

To cite this article: Francis Dockerty & Rhys Pritchard (28 Sep 2023): Reconsidering models-based practice in primary physical education, Education 3-13, DOI: 10.1080/03004279.2023.2263470

To link to this article: https://doi.org/10.1080/03004279.2023.2263470

Published online: 28 Sep 2023.

EDUCATION 3-13
https://doi.org/10.1080/03004279.2023.2263470

Reconsidering models-based practice in primary physical education

Francis Dockerty and Rhys Pritchard

Institute of Education, University of Worcester, Worcester, United Kingdom

ABSTRACT

Models-based practice (MBP) has been offered as a possible alternative to traditional approaches to teaching Physical Education (PE) in schools. Internationally, researchers and teachers in the field of PE have debated ways in which we can improve the teaching of the subject. This paper adds to the existing debate around MBP in PE but offers discussion within the primary school context. Possible barriers to applying MBP in primary education are explored, with discussion focusing on reluctance to move away from traditional approaches, teacher confidence and the preparedness of primary teachers in initial teacher training (ITT) courses.

ARTICLE HISTORY
Received 5 July 2023
Accepted 20 September 2023

KEYWORDS
Primary physical education; models-based practice; quality physical education; physical literacy; pedagogy

For the last 20 years, researchers and teachers in the field of physical education (PE), on an international scale, have sought to reform the approaches to teaching the subject in schools (Pill 2016). According to Kirk (2012), the quality of PE provision in primary schools has been contended for some time, with Sloan (2010) even suggesting that primary PE is 'in trouble'. There is a consensus among PE teachers that they are always striving to improve the quality of provision through a deeper understanding of pedagogical practices (Dudley and Burden 2020).

The Department for Education (DfE) is a governmental department that is responsible for education and children's services across England, ultimately driving standards for education for all young people and adults. The DfE publishes programmes of study and attainment targets, across all subjects, for all local-authority-maintained schools to follow in the form of the National Curriculum (DfE 2013). The national curriculum (DfE 2013, 1) provides the following description of the purpose of primary PE in England:

> A high-quality PE curriculum which inspires all pupils to succeed and excel in competitive sport and other physically demanding activities. It should provide opportunities for pupils to become physically confident in a way which supports their health and fitness. Opportunities to compete in sport and other activities build character and help to embed values such as fairness and respect.

Moreover, a recent report published by Ofsted; a non-ministerial organisation that inspects, regulates and reports on standards in educational institutions in England, state that the purpose of a high-quality PE curriculum is to be all-inclusive and that it can go beyond normal lesson time, suggesting the added importance of extra-curricular physical activities to the primary PE curriculum (Ofsted 2022). It is this report by Ofsted that has suggested a number of ways to achieve improved quality in primary PE. However, we should also consider that whilst teachers are expected to use Ofsted's research to inform practice, some of the criticisms of their subject reports include the

CONTACT Francis Dockerty f.dockerty@worc.ac.uk

lack of quality studies used to inform the reports, the omission of key studies within the subject field and the results of the research being over-simplified or overgeneralised (Gilmore et al. 2021).

Nevertheless, within the definitions provided by both organisations, the term 'high-quality' is used in their description of the purpose of PE. Academic research in this field suggests that the purpose of PE has different meanings to different people (Whitehead 2020) Therefore, before this paper explores pedagogy in PE, we must clarify the author's definition of the term 'quality' in PE.

In their report, Ofsted (2022) claims that there is no 'single approach' to achieving quality PE. Despite the criticisms about the Ofsted research review series, Barnett et al. (2021) support this claim by suggesting that educators in the field of PE must consider adopting not just one, but a variety of pedagogical approaches to sufficiently develop the knowledge, confidence and competence of the learners for them to understand the importance of leading a healthy, active life. One suggestion is that teachers adopt an approach called Models Based Practice (MBP). In recent literature, MBP has been discussed as a solution to improve teaching in the subject by researchers such as Casey and MacPhail (2018), who argue that MBP will improve the quality of PE and replace the traditional pedagogic style that has dominated PE for years (Casey and MacPhail 2018).

The existing literature around MBP focuses on secondary schools, and despite school PE beginning in primary schools at the age of 5, there is often a perception that specialised PE teaching begins at secondary school age (Dudley et al. 2022). Therefore, this paper aims to provide a review of the existing literature on this topic and attempt to apply this debate to the context of primary education. The authors reflect on their own experience of teaching primary PE and offer their own interpretation of the debate around MBP. This paper will discuss and critique the literature surrounding MBP, identifying the strengths and limitations of taking such an approach within a primary setting, whilst exploring the implications for primary teacher training and the alignment of PE in schools within initial teach training (ITT) courses, as highlighted by researchers such as Fyall and Metzler (2019).

The concept of 'quality' PE

There is continuing debate around what is meant by 'quality', as this term means different things to different people (Whitehead 2020). It is important for this paper to provide some clarity of its own definition of this term, so that it is clear to the reader what this paper means by, 'improve the quality'.

Marsden and Weston (2007) claim that there has always been a lack of consensus about what 'quality' PE represents. In addition, a recent study by Williams and Pill (2018), maintains that there is a lack of agreement among current PE teachers about what this term means. Despite this, some definitions can be found within the literature. One of these, provided by the United Nations: Educational, Scientific and Cultural Organisation (2014, pg 9) has been evident in multiple sources:

> The planned, progressive, inclusive learning experience that forms part of the curriculum in early years, primary and secondary education.

Dudley (2015) and Whitehead (2019) go some way in adding to this idea, by claiming that 'quality' PE should promote personal growth, foster an all-inclusive environment, and should build on the concept of developing the whole child. This supports the ideas of Bores-García et al. (2021) who argued that effective pedagogy in PE should involve curricula and pedagogical approaches that emphasise learning across several learning domains. Based on multiple studies that were qualitatively analysed, it is suggested that PE has the potential to make a significant impact on each learning domain, particularly in supporting social development in children (Bores-García et al. 2021). In addition, Dudley et al. (2022) in their meta-analysis, found that using diverse pedagogical approaches aided the development of students across each of the learning domains. As a result, their study somewhat supports Bores-García et al. (2021) and argues that to achieve quality PE, learning outcomes must be achieved across multiple learning domains.

In primary education, the idea of mixing pedagogical approaches is not a new concept, as teachers are required to understand multiple approaches that can be applied across various

subjects in the primary curriculum. Primary teachers, as generalists, are expected to teach different subjects across each school day, therefore, we could argue that they are prepared to be versatile in their approaches to teaching different subjects. Furthermore, combining pedagogical approaches, at both curricular and lesson level, will achieve optimal levels of learning across all subjects (de Jong 2019). This notion promotes the mixing of pedagogical approaches across the curriculum; therefore, we might argue that this could be applied to primary PE through MBP.

Models-based practice

MBP is a pedagogical approach that focuses on a theoretical understanding and implementation of a range of models in teaching (Metzler 2011). Research in this area suggests that traditionally, PE teachers tend to deliver using a single model that is taught in isolation (Siedentop 1994) which continues to happen today (Volshøj and Jensen 2022). According to Casey and Kirk (2021), MBP offers a more versatile approach to PE that can overcome some of the challenges of teaching through traditional methods. Research suggests that there are five different models of teaching PE that are commonly recognised, including traditional, teaching games for understanding (TGfU), game sense, cooperative learning and sport education.

Adopting an MBP approach to teaching PE would see teachers adopt all of these models, aiming to provide a deeper and wider scope of learning than what one model alone can offer (Lund and Tannehill 2015). Several studies have already sought to explore the effects of integrating one or more of these models in a hybrid-approach to teaching PE (Casey and Dyson 2009), however, few have aimed to connect and purposely integrate all of them into a school curriculum. Therefore, the effect of MBP remains unclear and much debated.

Primary schools: the current picture

According to Petrie (2008), regardless of topic or focus in PE, teachers often use a single-model traditional approach to teaching, which will consist of learning a skill in isolation, before applying learned skills in a game scenario at the end of a lesson. Vinson et al. (2016), also suggest that there is a tendency for teachers to follow a linear approach to PE pedagogy; a 'one-size fits all' approach, where independent drills are exercised to teach skills before applying this to a game. Macfayden (2000) adds that teachers continue to follow a 'command and practice' approach; using teacher-led pedagogy to teach skills and ultimately 'manage' the learning environment. Light (2013) concedes that different models, such as games-based approaches, are now being seen in school settings more often. However, Roberts, Newcombe and Davids (2019) argue that such models are being used without teachers having sufficient theoretical understanding to integrate and use these models properly, furthermore, PE is still being delivered using a single model approach, even if games-based pedagogy is becoming more frequent.

With the apparent introduction of different pedagogical models being implemented within school PE, models-based practice (MBP) remains, for many, the favourite to replace a more traditional, single-model approach (Casey 2014). Despite this, educators in the field of PE have repeatedly failed to maximise this potential or fundamentally change PE pedagogy (Casey and MacPhail 2018). There could be several reasons as to why, despite MBP being understood for more than 25 years (Bechtel and O'Sullivan 2007), that it has not been fully established as a means of common practice in schools, that will be explored later in this paper.

In more recent years, physical literacy is becoming the focus of the primary PE curriculum, and as previously stated, the holistic development of each child is widely recognised as the standard for 'quality' PE. Therefore, it is important that primary PE should promote the development of independent and innovative learners through a multitude of approaches (Roberts, Newcombe and Davids, 2019).

Applying MBP to primary PE

According to Volshøj and Jensen (2022), many in the field of PE would agree that the common pedagogical approach found in schools is the traditional approach of direct instruction, with a focus on discipline-specific skills (Macfayden 2000; Petrie 2008). To counteract this, and improve PE teaching, researchers have suggested that MBP could act as a possible solution to improve the versatility of PE pedagogy, thus achieving a more inclusive style of teaching that could challenge learners across all learning domains, which is in line with Ofsted's (2022) vision of inclusivity. Furthermore, some researchers suggest that a versatile approach to teaching this subject would also support the idea that 'quality' PE teaches across all learning domains and strives to achieve physical literacy (Dudley et al. 2022). However, the idea of MBP is not a new one in education, having been subject to discussion for the last quarter of a century, yet it has not established itself across all schools.

We must consider all aspects of MBP and its potential application to PE in primary schools. Throughout the construction of this paper, secondary research was conducted to find out why MBP has not already been established in schools. Moreover, the researchers explored pedagogical practices in primary PE to gain insight into whether an MBP could appropriately achieve improved quality of teaching in primary schools. Comparing the literature in both fields provided the opportunity to critique MBP and discover the possible application of this method in the primary field.

First, let us consider Ofsted's (2022) notion that a high-quality PE curriculum should make all children feel included. This suggests that one of the main aims of PE is to ensure every child is included in every PE lesson. Despite not mentioning the term 'Models-Based Practice', a recent study from Petrie, Devcich, and Fitzgerald (2018) concluded that there is not one single approach that can solve inclusion in PE on its own. Instead, this study argues that teachers must be reflexive, and consider multiple approaches to fully achieving this in their PE lessons. Fitzgerald (2012) argues that when PE lessons focus on sports-specific skills, like that found in a traditional approach, this can have a negative impact on the experience of learners and as a result the teaching in that style becomes exclusionary. Only through adaptive teaching and the inclusion of participants in the design process of the PE curriculum, can PE become completely inclusive. In their study, Petrie, Devcich, and Fitzgerald (2018), found that through adapting their teaching and using a range of pedagogies, one teacher perceived their new 'multi-layered' approach as having positive outcomes, improving their inclusive practice.

In this instance, this study implies that through adaptive teaching using a number of different pedagogical styles, a teacher determined that they were able to make their teaching more inclusive. In terms of common pedagogical approaches found in school, it could be argued that student-centred approaches, such as game sense, cooperative learning and sport education, would support the idea of giving children more ownership of their learning, thus providing them with an opportunity to be included in the design of their own curriculum. Florian (2005) would approve of such approaches, as this would improve pupil participation through using choice, rather than children remaining 'passive receipts' of their learning that is a perception associated with more traditional, instructional approaches.

It is worth highlighting, that Petrie, Devcich, and Fitzgerald (2018) concede that theirs is one of very few studies aimed at discovering the effects of combining pedagogies on inclusive practice in primary PE. Furthermore, it could be argued that this study is an example of demand characteristics, where the participant of the study is fully aware of the intended purpose of the research, therefore their behaviour, in this case – the teacher reflections, might alter to suit the possible outcomes of the research (McCambridge, de Bruin, and Witton 2012). Nevertheless, the findings are interesting and if completed on a larger scale, could provide further insight into the experiences of other primary teachers; in developing MBP to make primary PE more inclusive.

If, as suggested above, primary teachers must strive for inclusive teaching in PE by giving children more ownership in their learning and using more student-centred approaches, then it is pivotal that

teachers can adapt their teaching and come away from a single model, the traditional approach most associated with PE. A study by Casey and MacPhail (2018) offered insight into how teachers and students reflected on moving from a single-model approach to MBP. The findings of this study were in line with Goodyear (2017) who argued that adopting an MBP approach requires far more 'student leadership' than a traditional teacher-led approach. Although providing more balance between student-centred and teacher-led approaches may promote inclusive teaching, one argument could be that this is more achievable in secondary school PE, where children have a higher level of understanding and prior knowledge to become 'student-leaders'. If we consider primary PE taking place between the ages of 5 and 11, we might argue that asking five-year-old children to lead their own activities, as seen in pedagogical approaches such as sport education (Siedentop and Hastie 2011), may be unrealistic and unattainable.

Another argument for teaching PE through MBP is that it can improve the holistic development of each child. Kirk (2013) argues that MBP makes use of multiple pedagogical approaches that each have separate and distinctive learning outcomes, suggesting that the learning outcomes of a single model approach might be limited to learning outcomes within one domain of learning. However, if pedagogical models are combined, this can benefit students across a range of learning domains (Bailey et al. 2009). This supports the notion made by Dudley et al. (2022) that the heterogeneity of pedagogical models will benefit students across all learning domains. PE is often mistaken by teachers as being a subject that focuses solely on the physical development of children. Even the description of the subject in the primary national curriculum (DfE 2013, 1) implies that the main purpose of the subject is to focus on physical development. However, Bauer and Westmoreland (2019), argue that it is much more than that, and recognises the power of PE across all learning domains in developing the whole child, a view shared by Stolz (2013). When applied to primary PE, it is important that teachers consider the holistic development of each child and strive to achieve learning outcomes across multiple learning domains, and as the research suggests, MBP is one way to achieve this.

In Whitehead's (2011) research in physical literacy, she argues that it is imperative for teachers to use more student-centred approaches that empower learners to take ownership of their own learning. For children in primary schools, this suggests that focusing on holistic development through physical literacy is dependent on teachers practising more student-centred approaches, and moving away from teacher-led instruction, to provide children with opportunity for their own personal growth in their life-long physical literacy journey. If applied to primary PE, MBP could challenge learners across several learning domains, thus focusing on physical literacy through whole child development. However, this would require teachers moving away from the traditional teacher-led approach and breaking years of common practice to apply new pedagogies that empower the learners.

One suggestion that is implied by relevant literature, is that the PE curriculum is extremely broad, ranging from: invasion games, net and wall games, striking and fielding, outdoor adventurous activities (OAA), gymnastics, dance and swimming. The diverse content of this subject offers difficulty and complexity in design and planning for teachers (Haerens et al. 2011). For example, teaching swimming is very different from teaching invasion games. Therefore, we can suggest that in order to teach such diverse components of the subject, teachers need to adopt a multi-model approach. This notion is in line with the beliefs of Lund and Tannehill (2010), who argued that one single model was incapable of achieving the breadth and depth of learning required to teach such different contexts of PE. Furthermore, this supports Ofsted's (2022) more recent claim that there is no single approach that can appropriately deliver quality PE.

Lund and Tannehill (2015, pg 168) accept that the contexts of the PE curriculum are broad and that only a MBP approach can appropriately teach to all these contexts. This idea is relevant to all Key Stages as the contexts in PE never change, although after Key Stage 2, teaching becomes more sports specific. Some studies have considered aligning pedagogical models with different contexts of the PE curriculum (Dyson, Griffin, and Hastie 2004; Kirk 2013; Quay and Peters 2008),

however, none to this date, have justified or provided empirical evidence to suggest how this can be done and how we can ultimately MBP across the PE curriculum. Until further research is done in this area, we cannot know for sure that this would be successful. Hastie and Mesquite (2016) state that, in order to be able to test this theory, then each of the learning outcomes for each area of PE must be aligned with the learning outcomes of each of the relevant pedagogical approaches.

One key barrier preventing MBP from being applied in primary PE is the reluctance of teachers to change the pedagogical approaches that they have become so comfortable with and accustomed to using. This was found in a study by Casey and MacPhail (2018), who identified that traditional practices are so ingrained in teachers that they find it too difficult to adapt their teaching in order to put alternative approaches into practice. In this respect, when teachers have taught using a particular approach for so long, changing this approach to provide more student ownership becomes difficult, and the teacher finds themselves 'stepping back in' to give more teacher-led instruction (Pill, Swabey, and Penney 2017). Here the literature suggests that asking teachers to commit themselves to change their approach to MBP, and including more student-centred approaches, will provide an inherent challenge to teachers own understanding of their pedagogy and may result in them falling back to the traditional approach; that research suggests that teachers are most comfortable with.

Ultimately, for current primary teachers, it could be argued that reluctance to change pedagogical practices may be a result of a lack of confidence in understanding and using multiple PE pedagogies. A number of scholars such as Kirk (2010) suggest that teachers are resistant to change, with a contributing factor being that teachers do not feel confident enough to modify activities within a PE lesson or completely change their teaching style to adopt different models (Tant and Watelain 2016). In multiple studies, teachers admitted that they lacked the confidence in applying MBP and always resulted in returning to traditional practices (Casey 2014; Gurvitch and Blankenship 2008). Teachers often have a period of initial innovation and confidence to try different approaches, but then fall back on common practice (Casey and Goodyear 2015). When considering confidence in teaching PE, we must remember that unlike their secondary school counterparts, primary teachers are generalist teachers that are required to teach all subjects and do not necessarily specialise in one area of the curriculum.

Morgan and Bourke (2008) argue that many primary PE programmes lack quality because of a lack of expertise, limited time and interest and inadequate training; a consequence of being a generalist teacher tasked with teaching every subject. Furthermore, primary generalist teachers lack of training and low levels of confidence hinder them from delivering high-quality PE (Blair and Capel 2008; Clohessy, Bowles, and Chroinin 2019; Griggs 2007; Jess, McEvilly, and Carse 2017; Keay and Spence 2012). Rainer and Jarvis (2021) add that the quality of primary PE continues to decline and leaves children unprepared and uninspired for PE in secondary school. It is worth noting here that to apply MBP in primary PE, we are expecting generalist teachers to have sufficient theoretical understanding and confidence to deliver a variety of pedagogical models that are subject specific to PE, not just as a single model, but in conjunction with each other, consistent with an MBP approach. This expectation, even for the most experienced specialist teachers, might prove difficult to implement and maintain, therefore, for primary teachers, or non-specialists, it would be even harder to achieve. If primary teachers do not have the theoretical knowledge and practical skills of PE subject specialists, then they will not be adequately equipped to be versatile in their pedagogical approaches to deliver the breadth and depth of the primary PE curriculum that is inclusive for all and focuses on the holistic development of every child through physical literacy, which was defined as quality PE earlier in this paper.

On the theme of teacher confidence, one key factor that keeps arising within the literature is of the role of initial teacher training (ITT) in preparing new teachers to adequately deploy an MBP approach to PE. One issue that arises at the beginning of any teacher education programme is the preceded expectation from trainee teachers that they will learn to teach in a similar style and practice that they, themselves, were taught. According to Loughran (2013) this is more than an

expectation and in fact, trainee teachers even seek this, with ITT courses being unable to encourage student teachers to explore new and alternate ways of teaching PE. Hordvik et al. (2021) express that teacher educators not only have to teach student teachers new pedagogical models, but they also have to battle with existing notions of what PE should look like, based on the experiences that student teachers have had their own childhood. We know already that traditional approaches (skill-drill-skill) have been used widely in schools for decades, therefore it is not surprising that this is the approach that student teachers have experienced and expect to see in their training.

Some research argues that an ITT programme that focuses on deploying MBP will better prepare student teachers for teaching PE and improve their confidence in teaching the subject. A 2019 study (Fyall and Metzler 2019) found that student teachers in New Zealand had increased confidence in teaching PE, after receiving their four-year training course that focused on adopting MBP and this supported suggestions from van Nieuwerburgh (2010), who offered that preparing student teachers with knowledge of a variety of pedagogical approaches, would in turn, lead to an increased confidence to teaching the subject to a high standard. On the other hand, it can be argued that being exposed to MBP practice and being taught different models in PE over a long period of time, would provide more opportunity for student teachers to gain confidence and knowledge in using these models. Furthermore, the study in question was focused on a small sample size of PE students being prepared to be specialist PE teachers in secondary education. If we apply this thinking to primary ITT courses in the UK, problems arise in how this may be structured and how we can achieve an appropriate level of understanding of MBP in trainee primary teachers.

In the UK, the ITT Core Content Framework (DfE 2019, 4) identifies the five core areas in which trainee teachers will be taught throughout their course – behaviour management, pedagogy, curriculum, assessment and professional behaviours. When applied to primary ITT, this means that there is a lot to cover across all different subjects in primary, as primary teachers are trained as generalists. Which raises the question, can an appropriate level of understanding of each pedagogical model and MBP in PE be realistically achieved when there are so many subjects to fit into an ITT curriculum? Hordvik et al. (2021) argue that even for secondary trained PE specialist teachers, there are complexities in preparing student teachers to have sufficient theoretical understanding of a variety of pedagogical models, let alone them having the confidence to combine them, which MBP requires. Therefore, how can we expect primary teachers to deliver MBP in PE if they are not subject specialists in this area and they do not have the knowledge and understanding to deliver this successfully to improve PE in primary settings?

Adding to the complexities of preparing primary teachers to deliver quality PE, Jones and Green (2015) found that more than two-thirds of primary schools in the UK currently deliver a 'generalist plus one' approach to teaching, which means that PE is delivered by generalist teachers with the 'plus one' represented by sports coaches. The UK Government (2022) suggests that there are a multitude of ways to become a sports coach, ranging from a number of different courses that offer qualifications at many levels. Therefore, this becomes even more difficult to establish a robust training programme that prepares teachers of PE, to deliver MBP with a strong, theoretical underpinning of different models required.

The games-based solution

MBP has the potential to improve many aspects of PE, particularly if applied in secondary schools; where students are older and can have more ownership within student-centred approaches to teaching the subject. Additionally, secondary school specialist PE teachers are better trained in subject-specific pedagogy to be equipped to deliver MBP, and the nature of their role determines that they have more time to focus solely on the pedagogic aspects of teaching PE (unlike primary teachers who teach every subject). However, if, as the literature suggests that there are real constraints to applying this in a primary school setting, then how might we achieve an improved quality of primary PE?

As Light (2013) points out, we are beginning to see games-based approaches, such as TGfU and Games-sense, being adopted in primary schools more often. The philosophy behind games-based models such as these argues that children are physically educated through a hybrid approach of teacher-led and student-centred game scenarios that develop children physically; through learning the skills, socially; doing this together, and cognitively; through applying skills and tactics in a game scenario (Smith, Ovens, and Philpot 2021). Through using games-based approaches, teachers can move away from traditional instructional practices and encourage a more student-centred approach that could achieve several learning outcomes across multiple learning domains, educating the whole child (Renshaw 2010); thus, improving the quality of primary PE. Pill (2020) suggests that there should be no need for competing models in PE, as games-based approaches are sophisticated and can be used as a foundation to teach a wide variety of concepts. Games-based should be viewed as a 'toolkit' to accommodate both instructional styles and student-led, discovery styles of teaching (SueSee, Pill, and Edwards 2016). The extensive research completed in games-based approaches suggests that such models would benefit primary school PE as they are perceived as fun; they are inclusive models, and they develop student thinking and problem solving through a combination of teacher-led instruction and student-centred inquiry.

Instead of facing the complexities of adopting MBP in primary schools, teachers could focus on applying *concepts* of different models within a games-based approach as a flexible hybrid model. Through using a game-centred model as a vehicle, primary teachers will be able to adapt their pedagogy to make learning more inclusive and student-centred where pupils can learn skills, apply tactics, cooperate with others and lead their own learning, still maintaining some level of teacher-led input. This is the closest that primary teachers may come to adopting MBP in primary PE. Furthermore, from a pedagogical standpoint, ITT courses would only need to focus on providing a deep level of understanding of games-based models.

Conclusion

This paper has sought to bring the existing debate around MBP into the context of primary education. By defining what quality PE represents to the researchers, this paper has critically analysed the existing literature and discussed MBP as a possible solution for achieving this. Despite suggesting that MBP is well known in the field of PE, the existing literature identifies that this approach is still yet to be widely implemented in schools.

Ideologically, MBP seems a justifiable strategy for teaching the breadth and depth of the primary PE curriculum, achieving holistic development through physical literacy, and ensuring that PE teaching is inclusive for all learners. Similarly, to the mixed-pedagogical approach that is adopted across the other subjects in the primary curriculum, MBP provides a varied and versatile approach to teaching PE, a subject that is divided into many different contexts. PE is taught through different sports-specific contexts such as invasion games, striking and fielding, net and wall games, gymnastics, dance, outdoor adventurous activities (OAA) and swimming. Therefore, in some ways, primary teachers are expected to be reflexive and adaptable in their approaches, as these contexts are very different. Even considering the environment that such contexts are taught in (for example swimming), it can be argued that one set pedagogical style may not work across all these different areas of the PE curriculum. If teachers are equipped with a theoretical understanding of a range of PE pedagogical models, then the context in which they are teaching PE will become irrelevant, and they will be able to successfully deliver quality PE.

By applying MBP, primary teachers may provide more opportunities for learners to achieve learning outcomes across multiple learning domains. Although this might also be achievable through current practices (traditional approaches), there is a strong argument that using a varied approach, such as MBP, will provide more opportunities for children to achieve multiple learning outcomes that are not specific to one domain of learning. In recent literature, holistic approaches through developing physical literacy, are being recognised as the 'gold standard' for high-quality PE. The research

tells us that providing children with opportunity with more student-centred approaches such as cooperative learning, games-based approaches and sport education, when combined with teacher-led instruction, can develop the whole child.

A component of quality PE that is recognised in the wider literature is inclusion. Ofsted's most recent subject report into PE also highlights the importance of ensuring that every child is included and able to achieve in the subject. It is argued that through MBP, teachers can adapt their pedagogical practices to meet the needs of all learners. Furthermore, moving away from traditional teacher-led approaches and combining multiple models will lead to teachers using more student-centred approaches, that some studies have shown to be successful making PE lessons more inclusive. Providing children with ownership of their own learning through such approaches could go some way in improving the quality of PE.

However, none of this is achievable unless primary teachers are willing to change from the traditional single model approach or unless they feel confident to teach the subject, which research suggests is heavily influenced by their teacher training. Traditional practices are well-established and have been deep-rooted in PE for decades, therefore, asking current primary teachers to reconsider their approaches to teaching the subject is difficult. Studies have shown that asking primary teachers to adopt MBP and encourage student-centred learning has proved difficult, and teachers resort to practices that they are most comfortable with. Confidence in teaching the subject became a theme across the wider literature, with many studies suggesting that primary teachers, as generalist teachers, generally do not feel confident that they can deliver quality PE through subject-specific pedagogical practices, unlike a specialist PE teacher or even a qualified sports coach. This perhaps, is one reason why so many primary schools currently employ a sports coach or specialist to deliver the PE curriculum. If we compare this to secondary schools, PE teachers are specialist teachers, who focus on teaching that subject alone. Furthermore, their PE training has prepared them at least to have the theoretical understanding and knowledge to be able to apply different pedagogical models into practice.

If primary teachers were to establish MBP as an approach to teaching PE, they would need to feel confident in their understanding of the relevant pedagogical models in this subject. This would depend heavily on whether they are equipped for this through their teacher training. The issue with this is that primary teachers are generalist teachers who are trained in all subjects within the curriculum. It could be argued that primary ITT courses are constrained by the limited amount of hours training that they provide in each subject, therefore, they do not provide the specialist training that would be required to understand and implement a range of PE-specific pedagogical models that MBP is dependent on. This idea leads back to the much-debated topic of whether primary schools need subject-specialist teachers.

There are certainly aspects of MBP that could be mobilised to improve the quality of PE. However, realistically, this approach would be difficult to implement successfully in primary schools. Nevertheless, the traditional teacher-led model of teaching PE has been used too long, it has limited learning outcomes and PE requires change to make it inclusive for all.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Francis Dockerty http://orcid.org/0009-0009-8861-187X
Rhys Pritchard http://orcid.org/0000-0001-8106-9285

References

Bailey, R., K. Armour, D. Kirk, M. Jess, I. Pickup, and R. Sandford. 2009. "The Educational Benefits Claimed for Physical Education and School Sport: An Academic Review." *Research Papers in Education* 24.

Barnett, L. M., E. K. Webster, R. M. Hulteen, A. De Meester, N. C. Valentini, M. Lenoir, et al. 2021. "Through the Looking Glass: A Systematic Review of Longitudinal Evidence, Providing New Insight for Motor Competence and Health." *Sports Medicine* 52: 921. https://doi.org/10.1007/s40279-021-01563-1.

Bauer, R., and H. Westmoreland. 2019. *What Is Whole Child Education? The Centre for Family Engagement*. Alexandria: National PTA.

Bechtel, P. A., and M. O'Sullivan. 2007. "Enhancers and Inhibitors of Teacher Change among Secondary Physical Educators." *Journal of Teaching in PE* 26: 221–235.

Blair, R., and S. Capel. 2008. "The Use of Coaches to Cover Planning, Preparation and Assessment Time – Some Issues." *Primary Physical Education Matters* 3 (2): ix–ix.

Bores-García, D., D. Hortigüela-Alcalá, F. J. FernandezRio, G. González-Calvo, and R. Barba-Martín. 2021. "Research on Cooperative Learning in Physical Education: Systematic Review of the Last Five Years." *Research Quarterly for Exercise and Sport* 92 (*1*): 146–155. https://doi.org/10.1080/02701367.2020.1719276.

Casey, A. 2014. "Models-Based Practice: Great White Hope or White Elephant?" *PE and Sport Pedagogy* 19 (*1*): 18–34.

Casey, A., and B. Dyson. 2009. "The Implementation of Models-Based Practice in Physical Education through Action Research." *European Physical Education Review* 15 (2): 175–199. http://dx.doi.org/10.1177/1356336X09345222.

Casey, A., and V. A. Goodyear. 2015. "Can Cooperative Learning Achieve the Four Learning Outcomes of Physical Education? A Review of Literature." *Quest* 67 (1): 56–72.

Casey, A., and D. Kirk. 2021. *Models-Based Practice in Physical Education*. New York: Routledge.

Casey, A., and A. MacPhail. 2018. "Adopting a Models-Based Approach to Teaching PE." *PE and Sport Pedagogy* 23 (*3*): 294–310.

Clohessy, L., R. Bowles, and D. N. Chroinin. 2019. "Playing to Our Strengths: Generalist Teachers' Experiences of Class Swapping for Primary Physical Education." *European Physical Education Review* 26 (*2*): 571–586. https://doi.org/10.1177/1356336X19877195.

de Jong, T. 2019. "Moving Towards Engaged Learning in STEM Domains; There Is No Simple Answer, but Clearly a Road Ahead." *Journal of Computer Assisted Learning* 35: 153–167. https://doi.org/10.1111/jcal.12337.

Department for Education. 2013. *PE: Programmes of Study for Key Stage 1 and Key Stage 2*. National Curriculum in England. Crown.

Department for Education. 2019. *ITT Core Content Framework*. Crown.

Dudley, D. A. 2015. "A Conceptual Model of Observed Physical Literacy." *PE* 72: 236–260.

Dudley, D., and R. Burden. 2020. "What Effect on Learning does Increasing the Proportion of Curriculum Time Allocated to PE Have? A Systematic Review and Meta-Analysis." *European Physical Education Review* 26: 85–100. https://doi.org/10.1177/1356336X19830113.

Dudley, D., E. Mackenzie, P. Van Bergen, J. Cairney, and L. Barnett. 2022. "What Drives Quality PE? A Systematic Review and Meta-Analysis of Learning and Development Effects From PE-Based Interventions." *Frontiers in Psychology* 13: 799330. https://doi.org/10.3389/fpsyg.2022.799330.

Dyson, B., L. L. Griffin, and P. Hastie. 2004. "Sport Education, Tactical Games, and Cooperative Learning: Theoretical and Pedagogical Considerations." *Quest (grand Rapids, Mich)* 56: 226–240. https://doi.org/10.1080/00336297.2004.10491823.

Fitzgerald, H. 2012. "Drawing' on Disabled Students' Experiences of PE and Stakeholder Responses." *Sport, Education and Society* 17 (*4*): 443–462. https://doi.org/10.1080/13573322.2011.609290.

Florian, I. 2005. "Inclusive Practice: What, Why and How?" In *Inclusive Education*, edited by S. Maloney and K. Topping, 29–40. Oxon: Routledge Farmer.

Fyall, G., and M. W. Metzler. 2019. "PE Teacher Education and Models-Based Practice." *The Physical Educator* 76: 24–56. https://doi.org/10.18666/TPE-2019-V76-I1-8370.

Gilmore, C., R. Trundley, J. Bahnmueller, and I. Xenidou-Dervou. 2021. "How Research Findings Can be Used to Inform Educational Practice and What Can Go Wrong: The Ofsted Mathematics Research Review 2021." *Mathemafics Teaching* 278.

Goodyear, V. A. 2017. "Sustained Professional Development on Cooperative Learning: Impact on Six Teachers' Practices and Students' Learning." *Research Quarterly for Exercise and Sport* 88 (1): 83–94.

Griggs, G. 2007. "Physical Education: Primary Matters, Secondary Importance." *Education 3-13: International Journal of Primary, Elementary and Early Years Education* 35 (*1*): 59–69.

Gurvitch, R., and B. T. Blankenship. 2008. "Implementation of Model Based Instruction - The Induction Years." *Journal of Teaching in PE* 27 (*4*): 529–548.

Haerens, L., D. Kirk, G. Cardon, and I. Bourdeauhuji. 2011. "The Development of a Pedagogical Model for Health-Based PE." *Quest (grand Rapids, Mich)* 63: 321–338. https://doi.org/10.1080/00336297.2011.10483684.

Hastie, P. A., and I. Mesquite. 2016. "Sport-Based PE." In *Handbook of PE Pedagogies*, edited by C. D. Ennis, 68–84. London: Routledge.

Hordvik, M., A. L. Haugen, B. Engebretsen, L. Møller, and T. Fletcher. 2021. "A Collaborative Approach to Teaching About Teaching Using Models-Based Practice: Developing Coherence in one PETE Module." *PE and Sport Pedagogy* 26 (*5*): 433–447.

Jess, M., N. McEvilly, and N. Carse. 2017. "Moving Primary Physical Education Forward: Start at the Beginning." *Education 3-13* 45 (5): 645–657.
Jones, L., and K. Green. 2015. "Who Teaches Primary PE? Change and Transformation Through the Eyes of Subject Leaders." *Sport, Education and Society* 22 (*6*): 759–771. https://doi.org/10.1080/13573322.2015.1061987.
Keay, J., and J. Spence. 2012. "Addressing Training and Development Needs in Primary Physical Education." In *An Introduction to Primary Physical Education*, edited by Gerald Griggs, 179–194. London: Routledge.
Kirk, D. 2010. *PE Futures*. London: Routledge.
Kirk, K. 2012. "The Future for Primary PE." *Journal of Pedagogic Development* 2 (3): 38–44.
Kirk, D. 2013. "Educational Value and Models-Based Practice in PE." *Educational Philosophy and Theory* 45 (*9*): 973–986. https://doi.org/10.1080/00131857.2013.785352.
Light, R. 2013. *Game Sense*. London: Routledge.
Loughran, J. 2013. "Pedagogy: Making Sense of the Complex Relationship Between Teaching and Learning." *Curriculum Inquiry* 43 (*1*): 118–141. https://doi.org/10.1111/curi.12003.
Lund, J., and D. Tannehill. 2010. *Standards-Based PE Curriculum Development*. 2nd ed. Burlington: Jones and Bartlett Publishers.
Lund, J., and D. Tannehill. 2015. *Standards-Based PE Curriculum Development*. 3rd ed. Burlington.: Jones & Bartlett.
Macfayden, T. 2000. "The Effective Use of Teaching Styles." In *Teaching PE 5-17*, edited by R. Bailey and T. MacFayden, 37–48. London: Continuum.
Marsden, E., and C. Weston. 2007. "Locating Quality PE in Early Years Pedagogy." *Sport, Education and Society* 12 (*4*): 383–398. https://doi.org/10.1080/13573320701600621.
McCambridge, J., M. de Bruin, and J. Witton. 2012. "The Effects of Demand Characteristics on Research Participant Behaviours in Non-laboratory Settings." *A Systematic Review* 6 (7): 1–2.
Metzler, M. W. 2011. *Instructional Models for PE. 3rd ed*. Scottsdale, AZ: Holcomb Hathaway.
Morgan, P., and S. Bourke. 2008. "Non-specialist Teachers' Confidence to Teach PE: The Nature and Influence of Personal School Experiences in PE." *PE and Sport Pedagogy* 13 (*1*): 1–29.
Ofsted. 2022. *Research Review Series: PE*.
Petrie, K. 2008. *PE in Primary Schools: Holding onto the Past or Heading for a Different Future?* Ministry of Education. NZ.
Petrie, K., J. Devcich, and H. Fitzgerald. 2018. "Working Towards Inclusive PE in a Primary School: 'Some Days I Just Don't Get it Right'." *PE and Sport Pedagogy* 23 (*4*): 345–357.
Pill, S. 2016. "Exploring the Challenges in Australian PE Curricula Past and Present." *Journal of PE & Health: Social Perspective* 5 (7): 5–18.
Pill, S. 2020. *Perspectives on Games-Based Coaching*. London: Routledge. 30–31.
Pill, S., K. Swabey, and D. Penney. 2017. "Investigating PE Teacher Use of Models Based Practice in Australian Secondary PE." *Revue phènEPS / PHEnex Journal* 9 (*1*): 1–17.
Quay, J., and J. Peters. 2008. "Skills, Strategies, Sport, and Social Responsibility: Reconnecting PE." *Journal of Curriculum Studies* 40 (*5*): 601–626. https://doi.org/10.1080/00220270801886071.
Rainer, P., and S. Jarvis. 2021. "Primary Physical Education but Not of Primary Importance – Secondary PE Teachers Perceptions of the Role of Primary PE." *Education 3-13* 49 (*8*): 1013–1026.
Renshaw, I. 2010. "Building the Foundations: Skill Acquisition in Children." In *Motor Learning in Practice: A Constraints-led Approach*, edited by I. Renshaw, K. Davids, and G.J.P Savelsbergh, 33–44. London., New York: Routledge.
Roberts, W. M., D. J. Newcombe, and K. Davids. 2019. "Application of a Constraints-Led Approach to Pedagogy in Schools: Embarking on a Journey to Nurture Physical Literacy in Primary Physical Education." *Physical Education and Sport Pedagogy* 24 (2): 162–175.
Siedentop, D. 1994. *Sport Education: Quality PE Through Positive Sport Experiences* (1st ed.). Champaign, IL: Human kinetics.
Siedentop, D., and P. A. Hastie. 2011. *Complete Guide to Sport Education*. Second Edition. Champaign, IL: Human Kinetics.
Sloan, S. 2010. "The Continuing Development of Primary Sector PE: Working Together to Raise Quality of Provision." *European PE Review* 16 (3): 267–281.
Smith, W., A. Ovens, and R. Philpot. 2021. "Games-Based Movement Education: Developing a Sense of Self, Belonging, and Community Through Games." *PE and Sport Pedagogy* 26 (*3*): 242–254.
Stolz, S. A. 2013. "Phenomenology and PE." *Educational Philosophy and Theory* 45 (*9*): 949–962. https://doi.org/10.1080/00131857.2013.785355.
SueSee, B., S. Pill, and K. Edwards. 2016. "Reconciling Approaches – A game Centred Approach to Sport Teaching and Mosston's Spectrum of Teaching Styles." *European Journal of PE and Sport Science* 2 (*4*): 69–86.
Tant, M., and E. Watelain. 2016. "Forty Years Later, a Systematic Literature Review on Inclusion in PE (1975–2015): A Teacher Perspective." *Educational Research Review* 19: 1–17. https://doi.org/10.1016/j.edurev.2016.04.002.
UK Government. 2022. *National Careers Service*. Sports Coaching.
United Nations Educational, Scientific and Cultural Organization. 2014. Quality PE. Accessed October 10, 22. Available at: http://unesdoc.unesco.org/images/0023/002311/231101E.pdf.
van Nieuwerburgh, C. 2010. "Holism in Sports Coaching: Beyond Humanistic Psychology—A Commentary." *International Journal of Sports Science and Coaching* 5 (*4*): 463–464.

Vinson, D., A. Brady, B. Moreland, and N. Judge. 2016. "Exploring Coach Behaviours, Session Contexts and Key Stakeholder Perceptions of Non-linear Coaching Approaches in Youth Sport." *International Journal of Sports Science & Coaching* 11: 54–68. https://doi.org/10.1177/1747954115624824.

Volshøj, E. S., and J.-O. Jensen. 2022. "Versatility and Pedagogical Models in PE." *PE and Sport Pedagogy* 27: 2–8.

Whitehead, M. 2011. "Key Features of a Curriculum to Promote Physical Literacy." Keynote Presentation to the International Physical Literacy Conference. University of Bedfordshire Putteridge.

Whitehead, M. 2019. "Definition of Physical Literacy." In *Physical Literacy Across the World*, edited by M. Whitehead, 8–18. London.: Routledge.

Whitehead, M. 2020. "What Is the Education in PE?" In *Debates in PE*, edited by S. Capel and R. Blair, 87–102. London: Routledge.

Williams, J., and S. Pill. 2018. "What Does the Term 'Quality Physical Education' Mean for Health and Physical Education Teachers in Australian Capital Territory Schools?" *European Physical Education Review* 25: 2–4.