There presently exists a really delightful and vigorous array of approaches to schooling which can be used to transform the world of childhood if only we will employ them. (Joyce & Weil, 1972, p. xiii)

Writing more than 40 years ago Joyce and Weil (1972) argued that at a time of fearsome educational trouble there were “approaches to creating environments for learning” (p. xiii) that could serve different educational purposes and different ways of thinking. The title for their preface “we teach by creating environments for children” seems as apt a way of positioning this chapter as it does for their book. We live at a time when education has become a policy center for national governments and an increasingly fertile ground for global comparisons, where teachers are being de-professionalized and curricula are being written to exclude rather than include their insights and passions (Apple, 1992; Au, 2011; Sloan, 2008; see also Penney, Chapter 9; Parker & Patton, Chapter 30). Like Joyce and Weil, we face some fearsome troubles and we need to create environments that can serve the diverse needs of the learners in our care.

Despite the continued de-professionalization of teachers there have been some “delightful and vigorous” additions made to physical education pedagogy and scholarship in the form of models-based practices and other curriculum innovations. This chapter sets out to explore this particular array of practices and the ways in which they lend to the teaching and learning that occurs in physical education (PE). That is not to say that excellent pedagogical practices do not occur outside of models-based practice. I would not be alone when I respectfully suggest that motivated teachers have always and will continue to design and teach their own models – they just aren’t published and scrutinized except perhaps in a few single subject design studies (e.g., Ennis, 2008). That said, this chapter is about models-based practice and it begins with an exploration of the broader history of so-called “models” that serve to support the modern idea of models-based practice.

Before doing that, however, I will explain some of the key terminology that underpins models-based practice (and therefore this chapter). It is my hope that by providing research-informed definitions (see Table 4.1) of some fundamental terms associated with models-based practice the depth and breadth of this field can be better comprehended. Then, and by engaging in a brief discussion of these definitions, it is my hope that, as a reader you
Models-based practice

Table 4.1 Key terms used in Chapter 4

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>“A plan to carry out effective instruction with different goals, tasks and students. Each model has been designed and developed to help teachers achieve different outcomes” (Jewett &amp; Bain, 1985, p. 192).</td>
</tr>
<tr>
<td>Curriculum model</td>
<td>A general pattern for designing programs that is based around a conceptual framework and which identifies learning goals and program structure (Haerens et al., 2011; Jewett &amp; Bain, 1985).</td>
</tr>
<tr>
<td>Instructional model</td>
<td>A unique way for a teacher to make and carry out teaching decisions leading to student learning in physical education. “Each model differs in terms of how they are designed, how they work, how learning occurs and when and where they can be used” (Metzler, 2011, p. 22).</td>
</tr>
<tr>
<td>Model-based instruction</td>
<td>The use of one model in a curriculum. It is a process by which the teacher purposefully aligns the desired outcomes with one teaching/instructional style (Metzler, 2011).</td>
</tr>
<tr>
<td>Multi-model curriculum</td>
<td>A teacher selects a main-themed curriculum approach that “will most effectively meet your students’ needs and your view of physical education” (Lund &amp; Tannehill, 2015, p. 168). This process is repeated with every unit of work, which results in multiple models being used in the curriculum.</td>
</tr>
<tr>
<td>Pedagogical model</td>
<td>A term for the use of a model that is focused on the interdependent and irreducible four-way relationship between learning, teaching, subject matter, and context (Rovegno, 2006). In other words it does not place a focus solely on curriculum or instruction.</td>
</tr>
<tr>
<td>Models-based practice</td>
<td>A mechanism or pedagogical approach through which to move away from privileging physical education subject matter (i.e., curriculum) or the teacher (i.e., instructional) and instead aligns outcomes with students, needs and the teaching/instructional style.</td>
</tr>
</tbody>
</table>

can engage more thoroughly and critically in the discussions that take place in the remaining sections of this chapter.

One of the key debates currently occurring in PETE (at least in the face-to-face encounters that occur at conferences) is the notion of a model (be it instructional, curriculum, or pedagogical). Some would argue that we need coherent PE experiences for our young people: experiences that are similarly good and appropriate for all students. Others, critical pedagogues for example, would argue that the term “model” is too prescriptive and that it suggests that there is one “best” way of teaching, which takes little or no account of the teacher, the learner, and/or the context. The notion of model or models that I use in my work could be likened to the idea or notion of chair. Look in any office, home, or shop and you will find thousands of versions of a chair and yet they all serve a purpose. Models, in a similar way, have a purpose. They are often theme-based and are representative of a particular philosophy (for example Sport Education and play or Cooperative Learning and constructivism) but they can also be interpreted and used in different ways. There are some conceptual and pedagogical musts (otherwise the purpose changes) but these are flexible rather than rigid in their conception.

Models, in different forms, have been developed and have evolved over time to meet the needs of teachers and learners across different contexts (Lund & Tannehill, 2015). Significantly,
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no one model is capable of delivering the entire PE curriculum. Consequently there is a need
to select an appropriate model or models and use them for the appropriate purpose and in the
appropriate way. Haerens, Kirk, Cardon, and De Bourdeaudhuij (2011) coined the term ped-
agogical model in an effort to move away from a tight focus on either the subject matter (i.e.,
curriculum model) of PE or the teacher (i.e., instructional model). Instead pedagogical models
is an “institutionally-neutral term that could be used in sports and exercise, artistic and leis-
ure settings beyond the school, such as sports and dance clubs and outdoor adventure center”
(Haerens et al., 2011, p. 324).

For the purposes of this chapter, and in an effort to bring the diverse and yet interrelated
terminology in the broader field together, I will use only the umbrella terms “pedagogical
model(s)” and “model(s)-based practice” going forwards. This is both in an effort to gain clarity
in my writing and in an attempt to bring these different ideas together.

Historical overview

There has been a tradition of thinking about teaching in PE in one way – be it drills in the late
nineteenth century, gymnastics of the late 1950s, the teaching games from the 1960s onwards,
or the role of the teacher as the leader of learning (Kirk, 2010). This way has manifested itself as
a didactic, teacher-led approach that focuses on technique, especially the established techniques
of traditional, gendered team games (Flintoff, 2011).

In contrast research has long sought to expand on the limited, one-size-fits-all notions
of teaching that seem so obstinate in our field (for example, the multi-activity sport-based
approach). Indeed, and for a long time, researchers and curriculum theorists have sought to im-
prove the teaching of PE by developing different ways of thinking about and doing the subject
(from the perspective of both teachers and learners [Kirk, 2010]). While this has taken different
paths, one enduring theme has focused around the need to diversify the model(s)-based prac-
tices that are used when teaching PE and to begin the process of developing curriculum pro-
grams around these models. Work in the 1960s on the spectrum of teaching styles (Mosston, 1966),
the 1970s on models of teaching (Joyce & Weil, 1972) and later through curriculum models (Jewett
& Bain, 1985; Jewett, Bain, & Ennis, 1995; Siedentop & Tannehill, 2000), instructional models
(Metzler, 2000), and pedagogical models (Haerens et al., 2011; Kirk, 2013) have all challenged the
idea that there is one single way of thinking about the subject. Instead there should be multiple
ways of thinking about and doing PE and thinking about the learner, context, teacher, and sub-
ject matter. Consequently it is important that we continue to develop and study a wide range of
models and how they might (or might not) work in unison. If, as suggested earlier, there is no
one way of teaching PE, and if different models are positioned to draw on different theories and
conceptual frameworks to achieve different aims, then it is vital that we begin to see the bigger
picture and are not content to see things from just one angle.

A plethora of models

Thirty years ago Joyce and Weil (1972, p. 24), in their book Models of Teaching, gave an outline
of what models-based practice should aspire to be:

Teaching should be conceived as the creation of an environment composed of interde-
pendent parts. Content, skills, instructional roles, social relationships, types of activities,
physical facilities, and their use all add up to an environmental system whose parts interact
Models-based practice

with each other to constrain the behavior of all participants, teachers as well as students. Different combinations of these elements create different environments eliciting different educational outcomes.

Building on the concept of interdependence a handful of “blue-sky” thinkers (for example Daryl Siedentop and Don Hellison), who have attracted strong global research interest (Kirk, 2006), have created a number of pedagogical models, designed or adapted specifically for PE. Seven of these models (Direct Instruction, personalized system for instruction, Cooperative Learning, Sport Education, peer teaching, Tactical Games, and inquiry teaching) were included in Michael Metzler’s (2000) first compendium *Instructional Models in Physical Education*. His intention was to build upon the work detailed in two books *Teaching Physical Education: From Command to Discovery* (Mosston, 1966) and *Models of Teaching* (Joyce & Weil, 1972) and deliver a precise, systematically organized and thorough analysis of the teaching decisions and actions employed in the use of each model. In his subsequent volumes Metzler (2005, 2011) included Teaching Personal and Social Responsibility as a model.

In their recent book, Lund and Tannehill (2015) included the Skill Theme Approach, Adventure Education, Outdoor Education, Teaching Games for Understanding (TgfU), Sport Education, Cultural Studies, and Fitness and Wellness in their list of models (taking the number, including Metzler’s, to 13). With the ongoing conceptualization of new models, for example Health-Based Physical Education (Haerens et al., 2011) and Health Optimizing Physical Education (Metzler, McKenzie, van der Mars, Barrett-Williams, & Ellis, 2013; see also Thorburn, Chapter 6), the development of hybrids (such as the Sport for Peace model [Ennis et al., 1999] and Empowering Sport [Hastie & Buchanan, 2000]), and the addition of other scholars’ lists (such as Siedentop & Tannehill’s [2000] list which includes Developmental Physical Education and Integrated Physical Education) that number will continue to rise. Indeed Kirk (2013, p. 983) recently argued that “a future task for educational theorists in PE is to elaborate the justificatory arguments to support other pedagogical models” so that robust pedagogical solutions can be created for enduring educational concerns.

In a field (i.e., models-based practice) that looks set to increase in number, and therefore, possibly, in its impact, it is important to understand what the key aspects of pedagogical models are and what makes something a model(s)-based practice. In the next section I draw on the work of Jewett and Bain (1985) and, using Cooperative Learning as an example that I am very familiar with (Casey, 2013), undertake to explain the theoretical framework that sits “behind” a pedagogical model.

From theory to model (and back)

Fundamentally a pedagogical model should not be mistaken for national curriculum or national/state standards. Such standards-based curricula use, as their starting point, a set of minimum outcomes that each student should either know or be able to do at fixed time points in his or her schooling. For example, Standard 1 in the most recent *National Standards for K-12 Physical Education* in the USA states, “the physically literate individual demonstrates competency in a variety of motor skills and movement patterns” (Society of Health and Physical Educators [SHAPE America], 2014, see Chapter 3 by Cothran, Tables 3.1 and 3.2). Similarly, the National Curriculum for Physical Education in the UK stipulates that, “by the end of each key stage [there are four key stages in the UK for students aged 5–8, 8–11, 11–14, and 14–16 years old], pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study” (Department for Education, 2014). Fundamentally, national
curriculum and/or national and state standards have been developed as the result of public policy and national priorities and are focused on learning outcomes and not pedagogical inputs (see, for example, Penney, Chapter 9).

In contrast, and drawing on the foundational work of Jewett and Bain (1985) (see Figure 4.1 above), pedagogical models are the end result of initially theorizing about learning and then the development of theories (in the form of assumptions, generalizations, and propositions). From such theorizing and the development of specific theories emerges a conceptual framework (i.e., key concepts, guidelines, etc.) around which the models (i.e., Cooperative Learning) themselves are developed and their specific designs are written. Significantly, the initial construction of models should not be considered as a pedagogical model. It is not until they are used and tempered in local curricula contexts and revisited theoretically that they start to become what we would recognize as a pedagogical model.

This process, described in Figure 4.2, which moves from theorizing to use in local curricula, is what separates pedagogical models from national or state expectations. For while such national and state documents focus on outcomes, pedagogical models allow us to think about “what should constitute the world of learning and how to go about making this world” (Macdonald, 1977, cited in Jewett & Bain, 1985, p. 13). In the case of models-based practice, this thinking has occurred in an academic context (at least initially) and has moved from theorizing and towards the form of a conceptual framework. To move from a framework to a model the user needs to a) accept “the basic assumptions underlying that framework and a philosophy consistent with the theoretical base” (Jewett & Bain, 1985, p. 15), and then b) apply these in a curriculum context. Only by moving backwards and forwards between the model, the framework, and the theory in a “process of reconsideration” (something that curriculum/standards rarely seem to do) does the idea become truly pedagogical as well as being iterative rather than prescriptive.

If we take Cooperative Learning as an example it could be argued that, as a model, its conceptual framework is based around Deutsch’s (1949) theory of social interdependence (Johnson & Johnson, 2009). Deutsch (2006) suggests that in cooperative social situations individuals’ goals are positively interrelated and correlated with the attainment of that goal by other members of the group, i.e., “you sink or swim together” (Deutsch, 2006, p. 24). Consequently, individuals can be said to have responsibility forces and a membership motive to help each other attain through positively interdependent goals (Deutsch, 1949, 2006). There are many people who might contest those assumptions, but to buy into Cooperative Learning means buying into the basic assumptions of the model and believing that social independence acts as a catalyst for learning.
As Johnson and Johnson (2009) suggest, Cooperative Learning is effective because practice has been derived from a validated and widely researched theory that has allowed effective procedures to be deduced for practitioners to use in classrooms. Once the identifiable theory is framed (i.e., social interdependence theory) then it becomes possible to “translate theoretical generalizations and propositions into proposed curriculum models, each of which offers the curriculum planner a particular pattern for consideration in designing a local curriculum” (Jewett & Bain, 1985, p. 15). In the case of PE and Cooperative Learning this has generally been represented as the “conceptual approach” (Johnson & Johnson, 2009) and has required the use of five critical elements: Positive Interdependence, Individual Accountability, Group Processing, Promotive Face-to-Face Interaction, and Small-Group and Interpersonal Skills (Casey & Goodyear, 2015).

The final process is the development of local curricula. Such curricula (indeed the model itself) allow for numerous variations to occur when implemented in particular settings. Metzler (2011, p. 37) suggested, “a teacher will always have to make some modifications, most often due to context, but those changes should not go against the basic assumptions in the model.” Individual aspects of the local context such as the environment, the teacher, the curriculum, the prior experiences of the learners, etc., all have the potential to impact on the model and the way the conceptual framework becomes manifested in the local context but it should not go against the underlying theory (Hastie & Casey, 2014; Kirk, 2013; Zhu, Ennis, & Chen, 2011). To do so would be to change the core of the model.

It is the overall continuum (from theorizing to local curricula and back) that defines and positions pedagogical models as being different to national or state curriculum (Casey, 2014). These are theorized models that have been tempered in multiple contexts; they are not “cookbook” style solutions or approaches to ensuring that individuals have acquired demonstrable
and accessible skills and movement patterns. That said, and despite the decades that models have been conceptualized as innovations in PE (Kirk, 2010; Metzler, 2011), they should still not be considered as the finished article. In this way they are seen as evolving and developing entities that continue to move, albeit slowly, through processes of reconceptualization in both research and in local contexts.

**Current trends and issues**

Pedagogical models are firmly positioned in the prevalent discourses of our field. Love them or hate them they appear to be here to stay. Indeed, given the increasing column inches afforded to pedagogical models in our academic and practitioner journals, and our books (including this one), it seems beyond doubt that this idea currently forms a central theme in the discussion we are having about PE. That said, and despite the plentiful examples (both theoretical and empirical) that enrich our field, there is still a very real sense that far too many children and young people continue to have poor experiences of PE (Ennis, 1996).

It seems that while there is widespread acknowledgment that children need a diverse range of abilities and life experiences if they are to grow and mature into lifelong participants in physical activity, there is little (certainly much less than we would like) evidence that PE has changed (at least not pedagogically) from its days of the drills. Bailey et al. (2009) suggested that PE and youth sport should focus on achieving four diverse outcomes, i.e., cognitive, physical, affective, and social learning and yet physical learning (in the form of technical competence) is frequently seen as the primary outcome of PE (Evans, 2013; Kirk, 2010). Thinking more broadly Siedentop (1996) argued that, as a consequence of PE, children (and the adults they become) should value the physically active life and engage in practices that help them to be physically active. However, such practices, outcomes, and ideals are not readily achievable through a “one-size-fits-all” approach to teaching; and yet that is what we have experienced for decades as a field.

Such is the literature that surrounds models-based practice that we can confidently say they work (Casey, 2014). Indeed, we know more and more about how each of these models works in isolation and in small interventions. In fact, and as I will discuss in the next section, such is the prevalence of short, standalone empirical investigations that many in the field (see Casey, 2014; Casey & Goodyear, 2015; Hastie, de Ojeda, & Luquin, 2011; Harvey & Jarrett, 2014) have called for increasingly complex and longitudinal explorations of the learning that occurs as a result of using pedagogical models over time.

**Implications for evidence-based practice**

The first question that needs to be asked when planning a curriculum is not: How can we plan more effectively or teach more effectively? It is: *What curricula are worth planning?* There is no point doing more effectively what is not worth doing in the first place! (Pratt, 1994, p. 2, original emphasis)

Drawing on four recent literature reviews (Casey, 2014; Casey & Goodyear, 2015; Harvey & Jarrett, 2014; Hastie et al., 2011) it is possible to say that pedagogical models are worth doing in the first place. We have a critical mass of research (over 160 studies have been reported on across these different reviews of literature exploring different models) that “shows” that different models can achieve some of the aims of multiple national curricula and/or national/state standards (see Dyson, Griffin, & Hastie, 2004). Therefore, and in answering Pratt’s question at the beginning of this section, we have a growing understanding of what curricula are worth planning.
Conversely, we still need to know much more about the longer-term impact of pedagogical models; such as how they might work if models-based practice were used to underpin an entire school provision and/or if a model or models was/were used across a whole school year and beyond. We simply do not know what the impact on learning might be when using multiple models, and/or single models over a sustained period, and/or with multiple groups across multiple curriculum contexts.

We need to expand our thinking and develop our understanding of how models might work in unison. Kirk (2013) (along with Lund & Tannehill, 2015) recently concluded “physical education can legitimately aspire to achieve a wide range of educational outcomes for school-age children and youth but to do this it needs to take particular and different forms in contrast to its current and traditional form” (p. 983). To do this Kirk argued for a models-based approach to teaching and learning in PE.

A models-based approach, in contrast to the studies we have to date that represent a single model approach (even when hybrids are used), suggests the need for a number of forms of PE (Kirk, 2013). Consequently, a models-based approach would make use of a range of pedagogical models to achieve the entire aspiration of the curriculum. Much in the same way as Lund and Tannehill (2015), who suggested that to deliver the entire PE curriculum there is a need to first select a main-themed curriculum approach, Kirk (2013) believes that the big picture comes before the selection of an appropriate range of pedagogical models capable of delivering the desired learning.

To date, and to my knowledge, there is only currently one documented example of a models-based approach (Casey, 2010). My doctoral work, undertaken while working as a secondary school PE teacher, explored (across seven school years) my move away from a “one-size-fits-all” traditional approach to teaching and to what we might now recognize as a models-based approach. It explored the role of the teacher, the learner, and the curriculum in models-based practice and various aspects of this work have been published over the last six years. However, this certainly remains an area for future research (both mine and in the field at large) and while I would like to be in a position to talk about this work it would do a disservice to the work I am currently doing with a number of colleagues around this issue.

Issues/constraints associated with implementing models-based practice

Despite the increased prevalence of models in the literature, and my futurist stance around its development, there are still a number of issues that face current research in model-based practice (single model) or models-based practice (multiple models) in the curriculum. In this section I will examine three: fidelity in our reporting of research, teachers’ learning to use MBP, and hybridization. It is my intention to tentatively explore these in the rest of this section.

Fidelity

If we are to take forward either a model- or models-based approach then we need evidence of how models have been implemented leading to claims of student outcomes and how researchers have ascertained curriculum fidelity (Zhu et al., 2011) or “model fidelity” (Hastie & Casey, 2014) so that we can better understand how a model or multiple models are able to support learning. Furthermore, evidence shows that while teachers are prepared to try out a model they may not implement it in a manner consistent with the developer’s ideas, and when they do, rarely sustain this beyond the honeymoon period of implementation (Goodyear & Casey, 2015; see also Cothran, Chapter 3). But why is “buy in” fairly easy and actionable, fidelity and
longer-term practice so difficult to sustain? Launder (2001) suggested that models were so complex that only the teaching equivalent of “test pilots” could use them. In a recent review of literature I asked if models-based practice had the “potential to be the great white hope of pedagogical change in physical education or, if in fact, it is a white elephant that should be reconsidered or abandoned” (Casey, 2014, p. 18). I concluded by suggesting that while there was real potential we, as a field, need to do more to make this a reality; which means being open about what we did or did not do in our research.

It is hard enough, however, to establish model fidelity with one tightly focused model and it is likely to prove very difficult in a models-based approach. To this end it is important to consider how such a multiple models-based approach will work. Will, perhaps, teachers teach skill/games in the fall through Sport Education, fitness in the spring (through Health-Based PE or Fitness and Wellness) and leadership (through Adventure Education or Cooperative Learning) in the summer? Or, alternatively, will they use all four simultaneously, using aerobic skill-based games in cooperatively-oriented adventure settings year round (although, as I argue later, this creates a hybrid model rather than being models-based practice)? Either way the use of multiple models in a curriculum will need careful consideration if fidelity is to be maintained and hoped-for learning enjoyed.

**Teachers’ learning to use MBP**

A better understanding of the teacher change process is necessary if we are to understand why teachers have not adopted some of these innovations. (Bechtel & O’Sullivan, 2007, p. 222)

In their paper Bechtel and O’Sullivan (2007) identified two themes that acted as enhancers of teacher change – (1) beliefs and visions, and (2) teacher support (with three sub-themes of principal, collegial, and student support). The four teachers in Bechtel and O’Sullivan’s (2007) study benefited from these enhancers in their use of innovative pedagogies. Where unsustainable change was noted it was due to a lack of prominence of one, some, or all of these enhancers.

In a similar paper McCaughtry, Sofo, Rovegno, and Curtner-Smith (2004) explored how teachers learned to teach through a new (to them) model. Their paper focused on the learning of Sport Education, but it carried many salient points with regard to pedagogical change in PE. McCaughtry et al. (2004) suggested that (a) teachers retreat from new pedagogical situations when problems arise and, consequently, they need to prepare ways to combat these retreats. They further argued that (b) implementing new practices often requires impromptu adaptations in the midst of lesson and that (c) new pedagogies benefit from a “supportive learning climate” (p. 152) where “new teachers feel free of recrimination for mistakes.” Finally, they point out that when (d) teachers experience “relatively short retention of curricular learning, there is a need to revisit new ideas multiple times during pedagogical development.” These authors also implied that researchers in PE, in line with their colleagues in other fields of education, have begun to notice a missing link in their investigations: investigations have focused predominately on development of new curricular approaches and on student learning. The area of dereliction has been teacher learning:

An area that has received far less attention, however, has been investigations as to how teachers learn to teach a new curriculum. The logic seems to go: what good is sound curriculum that leads to optimal student learning, if teachers routinely struggle in learning to teach it? It would seem that all the benefits of sound curriculum and student learning
would unravel if we fail to understand how teachers learn a curriculum and implement it. In other words, it has become clear that assuming teachers seamlessly learn to teach a new curriculum is presumptuous, and that focused research is needed to better understand pitfalls and facilitators to the process. (McCaughtry et al., 2004, p. 136)

Other findings (see Rovegno, 1998) indicate that teachers’ oversimplification of the new curriculum, perhaps because of a wish to engage the lower ability pupils in the first instance and an unawareness of connections and progressions in the new curriculum, may be among the key reasons for teachers to fail in the implementation of new models of teaching.

**Hybridization**

Many authors have suggested that the theoretical and pedagogical considerations of pedagogical models are such that they could be linked to make hybrid pedagogical models. Such an amalgamation may be particularly attractive to teachers struggling with the apparent “teacher-less” teaching (i.e., the teacher in the role of observer) emphasis of the Sport Education model (Alexander & Penney, 2005). By placing the “muscle” of TGfU around the “skeletal framework” of Sport Education, Alexander and Penney (2005) and Collier (2005) felt that the complementary features of both could potentially enhance the learning outcomes for students. There is potential for the combination of Sport Education and TGfU – and also, as Dyson et al. (2004) argue, Cooperative Learning – to be thought of as “teammates on a curriculum team” (Collier, 2005, p. 137).

The possibility of a hybrid models approach has only been suggested in the last ten years when Alexander and Penney (2005), Collier (2005), Dyson (2005), Dyson et al. (2004), and Hastie and Curtner-Smith (2006) separately extolled the virtues of a dual model approach to teaching in PE. However, with the exception of Casey and Dyson (2009) and Hastie and Curtner-Smith (2006) there is little empirical research published that looks at the marriage of different models. Where Hastie and Curtner-Smith (2006) reported that students became competent, Casey and Dyson (2009) indicated that teachers themselves needed to become competent in the models before their pupils prosper.

In looking to develop a “teamed” model approach, Mowling, Brock, and Hastie (2006) stated that Sport Education and Cooperative Learning have been shown to aid in the “scaffolding of learning” in that they provide structure in the achievement of physical, social, emotional, and intellectual learning. While they are stand-alone pedagogical models they have also been used as structures within which other pedagogical approaches could work. Barrett (2005) employed Cooperative Learning as a framework for his use of direct instruction “teaching moments” in sixth-grade PE. He used a teacher workshop in which the new skills or strategies were introduced and this, he believed, differed from a traditional classroom as cueing, modelling, and student demonstrations were used. Cooperative learning in this way became a bedfellow of direct instruction rather than the two models being interlinked in a more substantial way. Barrett’s wish to utilize the two methods as separate parts of his work is in keeping with the recommendations of Dyson et al. (2004) to keep the models true to their founding principles.

However, there were problems with the linking of models in this way (Hastie & Curtner-Smith, 2006). In their example Hastie and Curtner-Smith (2006, p. 3) attempted to create a hybrid from Sport Education and TGfU but acknowledge that these models “faced” in different directions. Sport Education was positioned as “outward facing” (i.e., looking at sport culture) while TGfU was seen as “inward facing” (i.e., looking at player competency). The reported advantage
in Sport Education of positioning the teacher as a facilitator of learning was partially negated by the use of TGfU and its need to have the teacher closer to the action.

In considering the “ways” in which models-based practice is evolving, it is important to acknowledge the differing impact of fidelity, teacher learning, and hybridization on the field. Hastie and Curtner-Smith (2006, p. 24) concluded, “combining the two models also appeared to change the way” in which the teacher “conceptualized and employed the TGfU approach.” If this is true – and this finding is applied to teachers learning new models, perhaps hybridized models, and while seeking fidelity – then a number of issues and constraints emerge that need to be considered when both implementing and advocating for models-based practice.

**Future directions**

Models-based practice transformed my teaching of PE (Casey, 2010) and understandably I am a firm advocate of “it” as a potential future for PE. Despite this level of advocacy I am still unpacking my experiences of developing a models-based practice. Others are doing the same in their extensive and systematic exploration of different models (see Peter Hastie’s body of work as an exemplar and Hastie & Mesquita, Chapter 5). Models-based practice, however, has not emerged as a short-term fix for the ills of PE: if it has, then Sport Education and TGfU would not be described as a 30-year-old innovation. It is though, I believe, a longer-term future for a subject that is at risk of extinction (Kirk, 2010) but only if we are prepared to continually engage in further research and future reconsideration of these models. To further the holistic learning of students in our care we need to consider how both skill and social justice issues, for example, can be achieved simultaneously. To that end, future directions of research need to allow us to better understand the place of models-based practice in our PE Teacher Education and school programs. I end this chapter by reiterating my “Models-Based Practice” paper conclusion, as I believe it holds true.

Currently, we have failed to change what is done in the name of PE and while MBP [Models-based Practice] has the potential to be more the great white hope so many advocate rather than a white elephant, we need to do more to make this a reality. (Casey, 2014, p. 31)

**Reflective questions for discussion**

1. What are pedagogical models and how might they be used in PE?
2. Describe three models currently used in PE. Include the model’s assumptions (what should students know and be able to do?), content, and role of the teacher in the models you describe.
3. What are the positives and negatives of using models to structure PE curricula?
4. How is a model different from a national curriculum or professional standards?
5. What is the role of a conceptual framework in model development and teaching?
6. Instructional time is a factor in teaching any content for learning. Reflecting on the demands of teaching curricular models (e.g., Teaching Games for Understanding, Sport Education, Self and Social Responsibility, etc.) is PE instructional time adequate to teach the major curricular elements in PE?
7. How should models be blended in “models-based practice”? What are the essential elements that must be taught for the model to retain its character? Which can be left out when
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instructional time is limited? Are certain models easier to blend than others? What makes a model “blendable”? Under what curricular and contextual circumstances should models never be blended?

8. What new or innovative PE models are needed in the future? In responding to this question, describe the context and participant needs that might be addressed with this new model.

References


Models-based practice
