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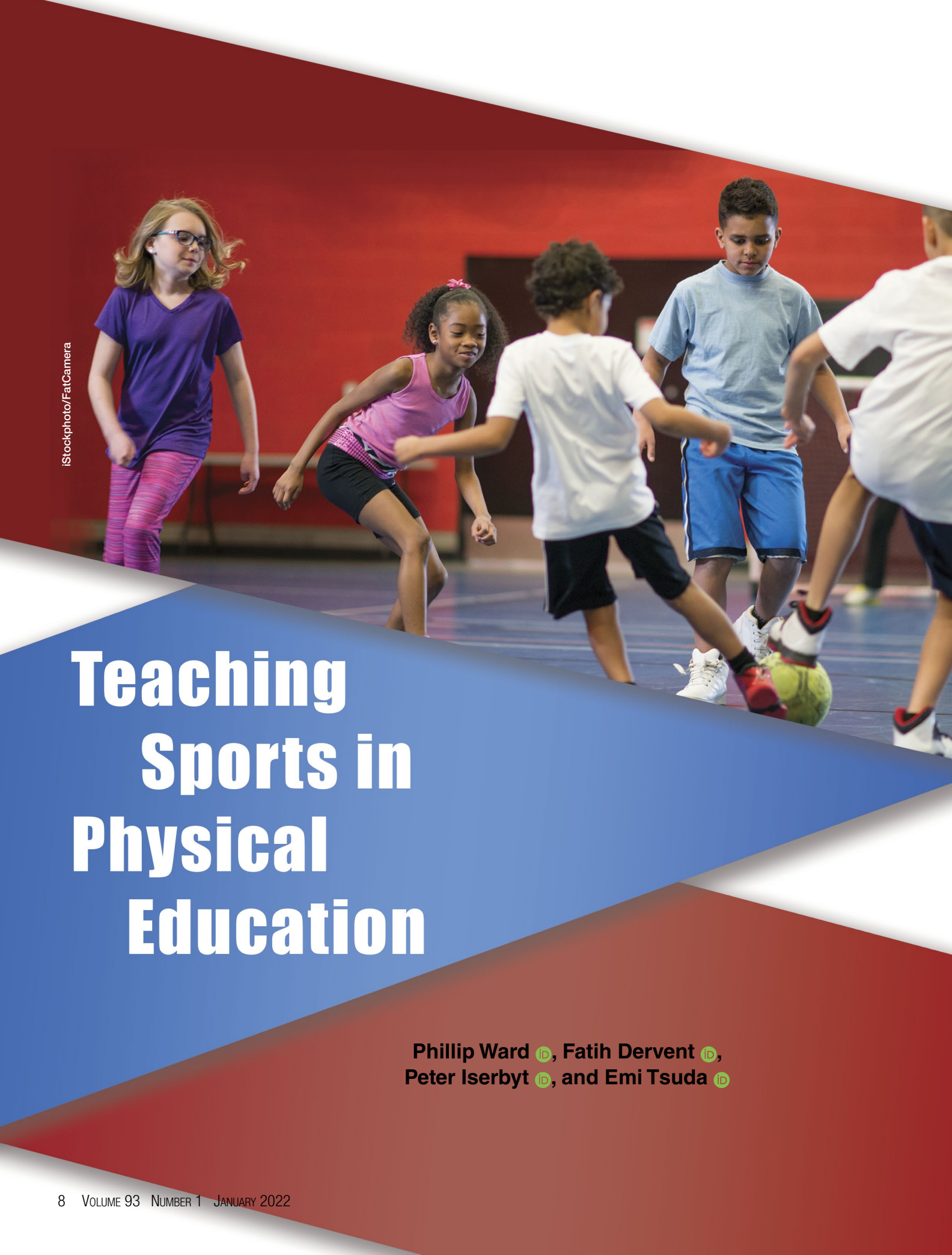


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A group of diverse children are playing soccer in a gymnasium. In the foreground, a girl in a pink tank top and black shorts is in a crouching position, ready to kick the ball. To her left, a girl in a purple shirt and pink leggings stands watching. In the center, a boy in a white t-shirt and black shorts is also in a crouching position. To his right, a boy in a light blue t-shirt and blue shorts is looking down at the ball. On the far right, another boy in a white t-shirt is partially visible. The background shows a red wall and a blue floor. The image is framed by a white diagonal line that separates the top and bottom sections of the cover.

Teaching Sports in Physical Education

Phillip Ward , Fatih Dervent ,
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Teaching Sport Performance

Our purpose in writing this article is to (a) discuss the importance of teaching sports in physical education more effectively, (b) provide an overview with specific references on particular game models as resources for teacher educators and teachers, (c) discuss the content knowledge assumptions and working models as an essential understanding of the landscape of games teaching, (d) present guidelines to teach games models to preservice teachers (PSTs) in physical education teacher education (PETE), and (e) present guidelines to teach games models to teachers in practice.

Teaching Sports in Physical Education. Our use of the term *sport* in this article refers to the teaching of game-like activities, modified games, and play practices that lead to the progression of a student's understanding and performance toward an increasingly more formal version of the sport. We suggest that in most contexts found in the United States, students in physical education should not play full-sided games. Our reasons are defined by the amount of time teachers typically devote to instructional units in physical education, which in our experience ranges from 5 to 10 days (Ward et al., 2018). Despite recommendations to extend instruction units to 20 days (e.g., Siedentop et al., 2020), few teachers in the United States use longer units of instruction. Because of this context, it is our view that given the demands of teaching movement incrementally to progress students' learning and the time needed to develop movement competency, small-sided games that are aligned to the formal version of the game should be used (Lauder & Piltz, 2013). For example, U.S. Soccer has promoted a progression of 4v4, 7v7, 9v9 leading to 11v11 (U.S. Soccer, n.d.). Lauder and Piltz (2013) used the term *alignment* to describe the similarity between the practice tasks and the formal version of the game. The greater the similarities between the practice and the formal game, the more likely the students can successfully apply what they learn in actual game plays (Lauder & Piltz, 2013; Ward et al., 2018).

The developmental teaching strategies of changing the size of the playing area (e.g., 4v4 soccer 30×20 yards and 7v7 60×40 yards), the rules (i.e., no goalie, or a floating goalie, or no throw-ins), ball size (e.g., 8-year-olds use a size 3 ball, 10-year-olds use a size 4 ball) and treating the game as a developmental progression (e.g., a ground game and no heading) are commonplace pedagogical adjustments in teaching sports (Lauder & Piltz, 2013; Siedentop et al., 2020; Ward et al., 2018). Teachers also need to make adjustments to the playing numbers based on the levels of students' development and performance and the actual number of students in the class. In addition, the nature of the sport plays a role in determining the size of the small-sided teams, as Ward et al. (2018, p. 43) noted:

Small-sided games in sports such as team handball and basketball are best set up with 3vs3 (or 4vs4) players. This will ensure a good balance between students' ability to improve technical skills and develop game sense. The 5vs5 (or 4vs4) small-sided setup is an almost perfect learning laboratory for soccer, hockey, lacrosse or football because it encourages decision making (game sense).

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In racket sports, the developmental teaching strategies include emphasizing singles instead of doubles play and using smaller court sizes, which reduce the complexity of the games and the demands of the techniques. Changing the object to be struck with the goal of slowing it down gives players more time to react, such as playing tennis with nerf or whiffle balls or low-compression red, orange and green balls, or playing badminton with oversized shuttlecocks. Changing the racket to a paddle makes it more manageable for young players, and manipulating rules using a no-serve game and bouncing the ball instead facilitates game plays (Tsuda & Ward, 2019).

The above examples represent ways to improve the environment to teach sports to beginners. But how do teachers teach students to play games? The question can be considered in a number of different ways. The first is to consider how to move students from discrete skill learning to the application of the skills in games. A second way is to consider how to help students understand and appreciate the purpose of a sport. Third is how to teach in such a way that learning in one sport can transfer across different sports. Fourth is how to teach more than just the application of techniques and tactics but game sense so that students can become competent players of the sport. Though not the only considerations in sports teaching, these are the most common ways and represent different perspectives on sport teaching.

Though these considerations represent different perspectives, they are common responses to longstanding problems in sport teaching. The key problem is the core criticism that students in physical education do, in fact, often not learn to play sport, including appreciating the characteristics of sport, using techniques appropriately, making good decisions, and understanding scoring strategies. Much of the blame is centered around two common dimensions of teaching sport: (a) lack of content development and (b) lead-up games.

Lack of Content Development. Content development refers to the teaching progressions that teachers use to advance student learning toward terminal objectives of the lesson or the instructional unit (Derwent et al., 2018; Rink, 2020). Rink (2020) classified movement tasks in physical education. The first task in a progression is defined as an informing task. It is from this task that all other tasks in sequence in a lesson can be compared (e.g., learning the defensive stance in basketball or the grip in a racket sport). In developing a learner's competence, a teacher may decide to extend the task, making it more complex or making it easier in some cases by modifying the space or the complexity of the technique (e.g., learning the defensive stance using a mirror drill or adding actual swing component in addition to holding a grip). When a student is performing the task incorrectly, a teacher may decide to refine the task with the purpose of improving the quality of the performance (e.g., focusing on bend knees or using an index finger as a hook to hold a grip). Finally, applying tasks can be used for assessment or games (e.g., using the defensive stance in 3v3 game or how many times they can rally back and forth using the proper grip). Ward et al. (2017) modified Rink's (1979) categories to include tasks focused on teaching within the game, adding extending tasks that occur during applying tasks, refining tasks that occur during applying tasks, and applying game tasks. A recurring finding in physical education is that teachers too often move from informing to applying tasks with no intervening tasks to refine skills or extend the task performance of the skills, which results in poor student learning (Derwent et al., 2018; Siedentop et al., 2020). In short, too often there is little developmental progression, and students find themselves in one moment learning a skill and in the next playing game without understanding how to use the skill in the game.

Table 1.
A Summary of Games Teaching Models

Games Models	Description	Resources
Stage models Rink (2020): The games stages	Stepwise four-stage model moving from discrete skills, to combining skills, to including them in games contexts	Belka, D. (2004). Combining and sequencing games skills. <i>Journal of Physical Education Recreation and Dance</i> , 75(4), 23–27. Tsuda, E., Ward, P., & Goodway, J. (2018). Defining tennis content in upper elementary physical education. <i>Journal of Physical Education, Recreation and Dance</i> , 89(6), 33–41.
Rovegno and Bandhauer (2011): Progression of games content	Stepwise three-level model moving from discrete skills, to combining skills, to including them in games contexts	Rovegno, I., & Bandhauer, D. (2011). <i>Elementary physical education: Curriculum and instruction</i> . Jones & Bartlett Learning. Tsuda, E., & Ward, P. (2019). A knowledge packet for teaching badminton to upper elementary students. <i>Journal of Physical Education, Recreation and Dance</i> , 90(8), 42–49.
Teaching within the game models Bunker and Thorpe (1982): Teaching games for understanding	Six-step cycle of teaching using modified games to develop tactical awareness and decision making. Uses pedagogical strategies of sampling, exaggerating, representation and questioning.	Teaching games for understanding website: https://tgfu.weebly.com/the-tgfu-model.html# Parkes, C., & Subramaniam, P. R. (2015). Linking the revised national standards to teaching games for understanding: An eighth-grade soccer example. <i>Journal of Physical Education, Recreation & Dance</i> , 86(8), 34–40.
Mitchell et al. (2006): Tactical games	Three stages of teaching to promote interest, understanding and ability to play games. Sets the levels of tactical complexity to align with students' developmental levels.	Griffin, L. L. (1996). Improving net/wall game performance. <i>Journal of Physical Education, Recreation & Dance</i> , 67(2), 34–37.
Gréhaigne et al. (2005): Tactical decision learning	Mini (i.e., small-sided) games to enhance students' construction of tactical knowledge and decision-making skills in team sports.	Pagnano-Richardson, K., & Henninger, M. L. (2008). A model for developing and assessing tactical decision-making competency in game play. <i>Journal of Physical Education, Recreation & Dance</i> , 79(3), 24–29. Mitchell, S. A. (1996). Improving invasion game performance. <i>Journal of Physical Education, Recreation & Dance</i> , 67(2), 30–33. Gréhaigne, J. F., & Godbout, P. (1998). Formative assessment in team sports in a tactical approach context. <i>Journal of Physical Education, Recreation & Dance</i> , 69(1), 46–51.
Light (2012): Game sense	Students are exposed to questions to solve problems to develop cognitive, physical, tactical and as well as sport-specific motor skills.	Pill, S. (2012). Teaching game sense in soccer. <i>Journal of Physical Education, Recreation & Dance</i> , 83(3), 42–52. Pill, S., Hewitt, M., & Baldock, R. (2020). Driveway tennis: An example of sport teaching via games making in net/court games. <i>Journal of Physical Education, Recreation & Dance</i> , 91(2), 18–23.
Launder and Piltz (2013): Play practice	Application of three processes to develop skillful play and early enjoyment of the game: shaping, focusing and enhancing.	Launder, A., & Piltz, W. (2013). Play practice. Engaging and developing skilled players from beginner to elite. Human Kinetics. Kim, I. (2017). Teaching badminton through play practice in physical education. <i>Journal of Physical Education, Recreation, and Dance</i> , 88(8), 7–14. Harvey, S., & van der Mars, H. (2010). Teaching and assessing racquet games using “play practice”: Part 1: Designing the right games. <i>Journal of Physical Education, Recreation & Dance</i> , 81(4), 26–54. van der Mars, H., & Harvey, S. (2010). Teaching and assessing racquet games using “play practice”: Part 2: Integrating assessment into teaching. <i>Journal of Physical Education, Recreation & Dance</i> , 81(5), 35–56.



Lead-Up Games. Lead-up games are commonly used as stepping-stones in physical education lessons for students who are not technically and tactically ready to play full-sized sports (Rovegno & Bandhauer, 2011). Though similar at first glance to small-sided games, lead-up games are not the same. In lead-up games, two or more of a sport's skills, rules or procedures in the official sport are introduced. However, lead-up games are typically not used to provide a sequenced progression toward formal sport performance, nor are they designed to teach an understanding of the use of techniques and tactics in a sport. In short, they are not aligned with actual sport performance (Lauder & Piltz, 2013). Lead-up games are often used to engage children in “play” or physical activity (Lauder & Piltz, 2013; Rovegno & Bandhauer, 2011). Though there is nothing wrong in providing students with play and physical activity, using lead-up games to teach sport performance is at best an inefficient approach and at worst ineffective.

An Overview of Pedagogical and Curriculum Models Used to Teach Sport. In this section we have classified pedagogical and curriculum models used to teach sports as stage models (Rink, 2020; Rovegno & Bandhauer, 2011), tactical game models that are grounded teaching within the game context to promote an understanding of the game (Bunker & Thorpe, 1982), and game models that are similar to tactical game models but where the process is significantly different from traditional models such as play practice (Lauder & Piltz, 2013). In this section, we briefly discuss each category. We do not plan to present a comprehensive review or a detailed description of each model; instead, Table 1 presents a summary of the games approach, proponents and references that explain in more detail how to use and implement the various models.

Moving From Discrete Skills to Games. Rink (2020) and Rovegno and Bandhauer (2011) developed stage models to progress student learning from performing discrete skills into playing games in a systematic way. Rink's (2020) model consists of four stages. Stage 1 focuses on developing students' ability to control an object and/or the body, which progresses from stationary to moving (e.g., practice volleyball bumping skill as an isolated skill with a partner tossed ball). Stage 2 focuses on mastery and control of the object by making tasks more complex through combining skills, emphasizing rules and practicing skills in cooperative

relationships with others (e.g., bump a volleyball back and forth with a partner to maintain the rally as long as possible). In stage 3, once students reach the level that they do not need to devote all of the attention to control an object and/or the body, simple offensive and defensive strategies are introduced (e.g., bump a volleyball tossed to an open space from the other side of the court and pass it to a teammate). In stage 4, complex gameplay with modified rules when appropriate is presented. The goal of this stage is to keep the continuous flow of the game (e.g., play 3v3 or 4v4 volleyball games).

The strength of this approach is that the frameworks provide teachers with a heuristic to progress students and the design of lessons. Both models begin from learning how to control the objects and the body and then progressively add additional skills and tactical components (Rink 2020; Rovegno & Bandhauer, 2011). These approaches are especially suitable for students who are still in the process of developing fundamental motor skills.

Tactical Game Models. In contrast to a technique-based approach, in which the primary purpose is to learn the technical execution before learning how to play the game, tactical game models suggest that tactical understanding and decision making should be introduced through modified games before technical execution. Thus, modified games are the pedagogical strategy of tactical game models. Teachers can change (a) the size and shape of the playing field to enable more/less space and time; (b) the size and weight of the object to reduce/increase the speed; (c) the number of players; (d) the game rules to focus on particular skills; (e) size, shape and type of equipment; and (f) the type of scoring and goal in order to modify games for developmental needs of their students (Mitchell et al., 2006). In these modified games, technical requirements are reduced so that students can first develop tactical understanding, and then they build on technical skills on previously acquired understanding. Basically, the emphasis is mostly on tactical decisions (i.e., what to do), and technical aspects (i.e., how to do) are often deprioritized with the intent of developing execution skills over time. For example, while teaching a net/wall game (e.g., tennis), a teacher can use the modified game bounce ball in which players throw (i.e., no rackets is used) the ball (e.g., a sponge or a whiffle ball) to each other across the court (e.g., in smaller sized courts such as within the service boxes)



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divided with a line instead of a net. Partners are asked to throw the ball back as soon as they catch it. Next, partners are asked to send the ball by hitting with their palms in a way that makes it difficult for their partners to return it. Then, students practice the same task, this time by using paddles or short rackets. Questioning is one of the key teaching pedagogies of tactical game models that not only engages students with problem solving but also produces increased interest and motivation to the games. Teachers' questioning skills are critical to developing students' game appreciation and tactical awareness. Teachers should constantly be asking questions regarding tactical awareness (i.e., After hitting the ball, your opponent stays on the baseline. What do you do in that situation?), skill execution (e.g., How do you execute/perform hitting?), time (e.g., When is the best time to move up to the court?), space (e.g., Where do you hit the ball that is coming much higher than the net?), and risk (e.g., Volley or drop shot? Which is the best choice when your opponent is getting to the net?; Mitchell et al., 2006).

Play Practice. Another approach using modified games to develop skillful gameplay performance is play practice (Lauder & Piltz, 2013). Play practice differs from the tactical game models in an important way. In play practice, technical ability and game sense are highly related. Lauder and Piltz (2013, p. 59) noted that "what is tactically desirable must be technically possible" using appropriately modified games. Skillful play, a primary outcome of the model, is the combination of technical ability and games sense (Lauder & Piltz, 2013). To develop enjoyable learning situations in which players become gradually more competent, teachers implement the processes of shaping (i.e., reducing or increasing the technical or tactical demands of the game; for example, by manipulating the rules of the game), focusing (i.e., teaching *in* the game; for example, by providing learners with cues) and enhancing (i.e., enhancing learning by improving performance through presenting challenges such as time constraints). A major strength of play practice is that the pedagogies of shaping, focusing and enhancing can easily be implemented within existing practices. Teachers can start with a small modification (i.e., shaping) of existing practice and move gradually toward a more complete play practice approach. This means that when implementing play practice for the first time, teachers do not need a deep understanding of the sport that they are teaching.

Content Knowledge Assumptions. Common to all approaches are assumptions that learning should be progressive. There should be an incremental progression of instructional tasks that leads students toward increasing competence of playing the game. The primary strategy to do this is the use of extending (e.g., tasks that

increase or reduce the difficulty or complexity relative to the previous task) and refining tasks (e.g., tasks that improve the quality of the performance; Rink, 2020).

Also, common to all of the models is the necessity of teachers knowing their content. This represents one of the most pervasive problems for teacher educators, PSTs and teachers; that is, how to acquire content knowledge. Teacher education and professional development cannot teach all of the content knowledge needed by teachers. The responsibility clearly falls to the teachers to learn content. The behaviors teachers can use to strengthen their content knowledge is to talk to other teachers; watch coaches; and use the Internet, especially YouTube, as well as traditional approaches such as books and practitioner journal articles. One of the best strategies to acquire content is to experiment by modifying and experimenting with instructional tasks in lessons to determine what works.

Working Models. Ward et al. (2020) defined a working model of performance as an "expectation of the performance that a teacher is teaching toward, but one which is contextually bound to the developmental level of the student/s being taught" (p. 418). Teachers use working models every time they teach a lesson and observe performance to determine whether students are improving and making progress. Teachers can use working models to advance their students' learning by being clear regarding the outcome that they want. Common to games models and, in fact, in all teaching is that student progress in their understanding with increasing sophistication. Working models allow teachers to consider what they are progressing. Examples include concepts of moving to get open, observing the offense, placing the ball to a particular place on the court. In each of these examples, students are progressed through steps of quality performance.

To use a working model effectively, a teacher must have a sense of both what the performance characteristics are that they are looking for in student performance and a sense of the scope or scale of the working model (Ward et al. 2020). A working model includes knowledge of a specific performance (e.g., how to receive a pass) and its relationship to future performance (e.g., creating passing lanes). Working models help teachers to see connections between what comes before and after a performance, in both the short and long term, and this allows teachers to position their students' learning relative to their prior and future learning (Ward et al. 2020).

Guidelines for Teaching Sport Performance in PETE. There is simply not enough time in PETE that would allow PSTs to gain competency in all games models. We suggest choosing one or two approaches to teaching games and introducing PSTs as early as possible to these models. Instead of teaching multiple sports using a particular model, better use of time might be to select a few content areas within game categories (e.g., invasion, net/wall, target and fielding games) and to teach these in-depth so that PSTs come to understand how to use the model and can develop competency in teaching games. The PETE curriculum should therefore contain sufficient opportunities for practicing the teaching of a model and thus connecting theory to practice, which is a core feature of practice-based teacher education (Ward & Cho, 2020).

Content Classes. If we want PSTs to use a particular model throughout their field practices and as inservice teachers, it makes sense to ensure that all content classes in their program are taught using this model. This is especially important due to the fact that there are still many PETE programs focusing on improving PSTs' skill performance in content classes and that spend little time developing PSTs' knowledge of instructional progressions to teach the content (Kim et al., 2015). Content classes are critical sites to develop knowledge

of how to teach the selected specific content areas (e.g., Kim et al., 2015). Teaching instructional progressions in the context of a games model in content classes would be an effective approach to deepen PSTs' understanding of the content and demonstrate how they can use this model to teach the content as pre- and inservice teachers in schools. Content instructors in PETE programs should work together, ensuring that their application of the model is similar and their strategies to teach the model to students are too. Knowledge and application of the model should be part of the assessment of content courses.

Teaching Labs and Field Experiences. In teaching experiences, whether as part of teaching labs (e.g., microteaching) or as part of school placements, PSTs should be encouraged to use the particular model and feedback should be provided on their teaching relative to the pedagogies used in this model. Where possible, multiple practice opportunities should be created so that PSTs can develop competence with their use of the model in different teaching contexts (e.g., different students' backgrounds, content, grade levels). This type of repeated teaching constitutes deliberate practice because it focuses on PSTs' teaching of the model (Ward et al., 2018).

Reflection. PETE faculty can help PSTs in becoming reflective practitioners by implementing strategies that enhance reflection on the teaching of the model (Ward et al., 2018). For example, during microteaching sessions, PSTs could be asked questions on why they made certain decisions or adaptations or why they provided that type of feedback and whether that was congruent with the model's approach to teaching games. This strategy would help PSTs to become reflective *in action*. On the other hand, after teaching a lesson during a school placement, PSTs could review their lesson plan and see how their planning of the model fit with how they enacted it and what changes they would make. This would be reflection *on action*. To assist with this process, lessons could be videotaped, and PSTs could be asked to view their teaching of the model and to discuss their application of it.

Using Games Models in Practice as Teachers. As with our recommendations for PETE, we suggest that teachers learn and experiment with one game model at a time. First, determine the pedagogical or curriculum model that appeals to you. Learn how it operates. You can do this by looking for videos on YouTube or the like or going to state and national conferences where the models are used and by examining the sources in Table 1. Next, we recommend seeking out a resource that informs quality content knowledge that first includes information about the techniques and tactics but also how to teach them. You can find this in books and online but also from other teachers and coaches. Teaching the pedagogical or curriculum model using a content area that you have high competence is also highly advisable. Next, we recommend you approach your teaching of the content as a sculptor sculps their clay (i.e., instructional tasks). Launder and Piltz (2013) called this tinkering with your teaching, and this is one of the best ways to learn to teach using a pedagogical or curriculum model. As we noted in our PETE recommendations, it matters that teachers are reflective in their practice and judge the effectiveness of their teaching. Thus, we encourage teachers to judge the model across several units before determining whether they wish to keep or stop using the model.

Summary

In this article, we have discussed the importance of teaching sport well and some of the recurring outcomes of poor teaching. We have suggested that there are a variety of pedagogical and

curriculum models that have many resources tied to them in the form of videos, books, and *JOPERD* articles. Teachers should experiment in their teaching with a model to gain competence in it, and PETE programs should teach fewer models but spend longer on developing PSTs' competence. We have provided recommendations for teachers and PETE programs. Finally, PSTs and teachers should be taught to actively experiment with and reflect upon their own teaching to become more competent in teaching sports.

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References

- Bunker, D., & Thorpe, R. (1982). A model for the teaching of games in secondary schools. *Bulletin of Physical Education*, 18(1), 5–8.
- Dervent, F., Ward, P., Devrilmmez, E., & Tsuda, E. (2018). Transfer of content development across practica in physical education teacher education. *Journal of Teaching in Physical Education*, 37(4), 330–339.
- Gréhaigne, J.-F., Richard, J.-F., & Griffin, L. L. (2005). *Teaching and learning team sports and games*. Routledge Falmer.
- Kim, I., Lee, Y. S., Ward, P., & Li, W. (2015). A critical examination of movement content knowledge courses in physical education teacher education programs. *Journal of Teaching in Physical Education*, 34(1), 59–75.
- Launder, A., & Piltz, W. (2013). *Play practice: Engaging and developing skilled players from beginner to elite*. Human Kinetics.
- Light, R. (2012). *Game sense: pedagogy for performance, participation and enjoyment*. Taylor and Francis.
- Mitchell, S. A., Oslin, J. L., & Griffin, L. L. (2006). *Teaching sport concepts and skills: A tactical games approach*. Human Kinetics.
- Rink, J. (1979). *Development of a system for the observation of content development in physical education* [Unpublished doctoral dissertation]. The Ohio State University.
- Rink, J. (2020). *Teaching physical education for learning* (8th ed.). McGraw-Hill.
- Rovegno, I., & Bandhauer, D. (2011). *Elementary physical education: Curriculum and instruction*. Jones & Bartlett Learning.
- Siedentop, D., Hastie, P., & van der Mars, H. (2020). *Sport Education: Quality PE through Positive Sport Experiences*. Human Kinetics.
- Tsuda, E., & Ward, P. (2019). A knowledge packet for teaching badminton to upper elementary students. *Journal of Physical Education, Recreation & Dance*, 90(8), 42–49.
- U.S. Soccer. (n.d.). *U.S. Soccer coaching education*. <https://www.ussoccer.com/coaching>.
- Ward, P., Ayzazo, A., Dervent, F., Iserbyt, P., & Kim, I. (2020). Instructional progression and the role of working models in physical education. *Quest*, 72(4), 410–429. <https://doi.org/10.1080/00336297.2020.1766521>
- Ward, P., & Cho, K. (2020). Five trends in physical education teacher education. *Journal of Physical Education, Recreation & Dance*, 91(6), 16–20.
- Ward, P., Dervent, F., Lee, Y. S., Ko, B., Kim, I., & Tao, W. (2017). Using content maps to measure content development in physical education: validation and application. *Journal of Teaching in Physical Education*, 36(1), 20–31.
- Ward, P., Piltz, W., & Lehwald, H. (2018). Unpacking games teaching: What do teachers need to know? *Journal of Physical Education, Recreation & Dance*, 89(4), 39–44. 