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Sport Pedagogy Research and Its Contribution to the Rediscovery of Joyful Participation in Physical Education

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This paper begins with the premise that the purpose of physical education is to help young people grow personal and durable playgrounds. That is, its goal is to allow students in schools to develop the skills and understandings about various movement topics to the extent that they can engage with these in deep and meaningful ways long after their lessons in the gymnasium have concluded. The paper presents a schematic that links how a physical education curriculum should be framed with the necessary ingredients of high-quality teaching to allow for successful forays into various movement cultures. The next section includes a justification of the schema using the very best of research in sport pedagogy that has been translated into school physical education settings. Two specific grand adventures that are the vehicles for creating enduring playgrounds are presented, these being sport education and student-designed games.

Keywords: sport education, student-designed games, personal playgrounds, meaningfulness, grand adventures

The focus of this meeting, and by consequence, this paper, is to follow the essential tenets of translational research and implementation science. By translational, it seems to me that the most critical adjectives in the definition we were given are "meaningful" and "beneficial," and that will become evident with my conceptualization of how we do this within physical education. In that idea of physical education, I am taking the stance that the kinesiology discoveries we need to translate into practice need to focus *less* on public health agendas and more on one of joyful participation. The purpose of this paper is to present ways in which I believe sport pedagogy research *has* identified ways that are meaningful and beneficial to all stakeholders in the physical education world (physical education teacher education [PETE] faculty, teachers, and young people in schools) and has the capacity to help them grow durable, personal playgrounds. As the exercise physiologist representative on the committee that produced the first set of national physical education standards in 1995 (National Association for Sport and Physical Education, 1995) commented, "I don't play golf for the health of it."

In terms of implementation science, the emphasis is the timely uptake of research findings into practice with the focus on addressing the extended time gap between research discoveries and, in our case, the access of that information to faculty in PETE programs, physical education teachers, and their students in the gymnasium. As reported in the current paper, the sport pedagogy research has, in the main, been completed in school settings, even when the focus of those endeavors was on what one might consider to be basic science questions. I acknowledge that it has been one of my primary agendas to make that information available to the PETE community expeditiously. Fortunately, we have more direct opportunities (e.g., practitioner conferences and publications) that are less available to those in other kinesiology sciences. Nonetheless, the issue with sport pedagogy research tends not to be one of immediate access to new knowledge but a willingness by professionals (both PETE faculty and school teachers) to move off what Kretchmar (2006) referred to as "easy street" and to discover some of the wonderful outcomes we have found from our work.

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A Conceptual Model of Physical Education Playgrounds

It would be hard to disagree with the idea that the main remit of all teachers, be they specialists in math, language arts, and sciences or in the more practical fields of music, art, and physical education, is to help students achieve competence in the essential knowledge and skills of that subject. Within physical education specifically, it is widely espoused that the ultimate goal is for students to value engagement in sport and physical activity to such an extent that they continue their participation across the lifespan. The holy grail, however, is for physical educators themselves, together with their pedagogies and curricula, to be able to produce learning experiences for young people that lead them to become intrinsically motivated to play their way to good health. Figure 1 provides a model containing the essential features and interconnections between them that provide us with the best pathway to turn our students into adopting the personal identity as a "player."

At the center of the model lies the primary agenda of the physical education experience, which is to help young people to develop their own durable playgrounds. In Kretchmar's (2006) opinion, a playground is not a location, per se, but an environment that is grown over time. He describes several features that would portray them, including that (a) they are not static entities but grow and develop over time, (b) they are plural (playgrounds) in that we would expect there will be any number of them that people can return to over time, and (c) they evolve with increasing competence and confidence.

Kretchmar (2008) suggested that the first step in leading young people to the development of playgrounds begins with "grand adventures." A colleague of mine cleverly suggested that these should not be confused with their antithetical "graded ventures,"

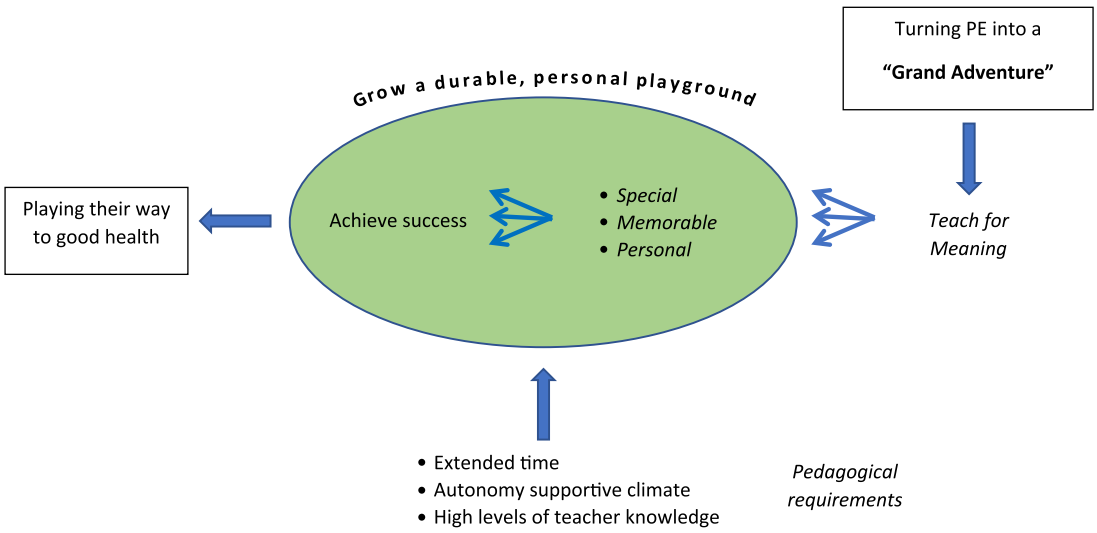

Figure 1 — Curricular and instructional requisites for the development of durable playgrounds. PE = physical education.

hinting that the purpose of those would be more dutiful than joyful. For an adventure to be truly grand, it must, first of all, be meaningful. There is currently a cohort of sport pedagogy researchers who are examining this notion in more detail. In essence, for the adventure to lead to the creation of a playground, it needs a degree of "holding power," a concept that refers to a setting's capacity to sustain participation (Kounin & Sherman, 1979).

Although the creation of meaningful adventures is essentially a curricular issue, there are certain pedagogical aspects present in the playground to promote the likelihood that it will grow and become durable. First, there needs to be an extended allocation of curricular time engaged with the subject matter. Second, lessons need to be conducted in an environment where students are provided opportunities to make decisions about their experiences with the adventure. Third, teachers need to have sufficient content knowledge about the topic of the adventure so that students experience more than a superficial exposure to the subject matter that makes up the adventure.

The durability of a playground will be measured foremost by the extent to which a student experiences success during the adventure. There must be a feeling not only that the adventure is meaningful but also the students increase their repertoire of skills within that playground to sustain their interest and the enjoyment that can be derived so that they become intrinsically motivated to return to it rather than return as a result of duty.

Teaching for Meaning

Kretchmar (2001) suggested that for an activity to be considered a central part of an active lifestyle, it needs to be meaningful. Meaningful experiences motivate us to get involved, be involved, and stay involved in a particular endeavor. Fletcher et al. (2021) suggested that for something to be truly meaningful, it needs to have a purpose related to outcomes, generate feelings of significance, and have an element that makes sense. They described these as the motivational, emotional, and cognitive components of the concept.

Beni et al. (2017) identified five key influences considered to be central to young people's meaningful experiences in physical education and sport. These were social interaction, fun, challenge, motor competence, and personally relevant learning. The goal of all of these in concert is to provoke persistence in an active lifestyle. Little wonder, then, that Kretchmar (2008) suggested that the physical activity experiences in which we invite our students to engage should be special, memorable, and personal.

Pedagogical Conditions Required to Create Enduring Playgrounds

Although grand adventures could be thought of as belonging to the curricular side of physical education, there needs to be certain pedagogical conditions to allow playgrounds to grow and endure. It should be noted that playgrounds are continually being built, and teacher decisions can provide the resources and tools to either aid in construction or serve to cut short any student's effort. The critical elements are time, the climate of classes, and teacher knowledge.

A Commitment to Long(er) Units of Work

The term "durable" in reference to playgrounds is a deliberate one. In a way similar to the idea of deliberate practice as used in motor learning, it takes time to master new skills. Many in sport pedagogy research are critical of the smorgasbord fashion in which teachers simply allow students to sample short units of work. This was, perhaps, best summarized by Kretchmar (2006, p. 349) when he noted that "skills are not practiced diligently, old habits are never relinquished; new habits are not developed, attitudes are not changed, nobody is inducted into any one of the many movement subcultures that are asking for new members." The most poignant of Kretchmar's list might well be that "much of the good stuff of movement remains hidden."

Sport pedagogy researchers have demonstrated that extended periods of time with one topic are the key to the development of success in physical education (e.g., Rink et al., 1996). However, there seems to be an unshakable rebelliousness of that idea within the physical education teacher community. The irony, however, is that the very students these teachers host in their gyms tell us that longer and more meaningful curricular units of instruction are what is needed to enhance their development of individual interest and commitment.

Autonomy-Supportive Climates

In the field of psychology, autonomy is the psychological need to experience volition and self-endorsement in the initiation and regulation of one's behavior (Reeve & Cheon, 2021). Self-determination and achievement goal theories suggest that a teacher's motivating style toward students can occur along a continuum that ranges from highly controlling to highly autonomy supportive, and it has been argued that students' classroom engagement and achievement depend, in part, on the supportive quality of the classroom climate in which they learn (Reeve, 2006). In their review of intervention research on autonomy-supportive climates in physical education, Hastie, Rudisill, et al. (2013) found that learners exposed to those climates had greater gains in motor performance, higher levels of physical activity engagement, and positive changes in perceptions of competence as well as increased task persistence.

Hastie, Rudisill, et al. (2013) listed the key features of autonomy-supportive instruction in physical education. These include: (a) providing choices; (b) encouraging students' experimentation and self-initiation; (c) fostering students' willingness to take on challenges, explore new ideas, and persist with difficult activities; (d) offering optimal challenges (i.e., neither too easy nor too difficult); (e) providing feedback that is not evaluative of the person; and (f) giving a meaningful rationale for requested behavior.

More recently, it has been shown that teachers can be successfully trained to develop and employ a more autonomy-supportive motivating style (Cheon et al., 2014, 2018; Raabe et al., 2019), and those interventions have been highly successful in showing wide-ranging gains in motivation, engagement, achievement, and future intentions for a physically active and healthy lifestyle.

Teacher Content Knowledge

Although it would seem a common sense statement to say that you cannot teach something you do not know, research in sport pedagogy does provide credence to the idea with empirical evidence that teachers teach differently in content areas they know very well versus in others where their knowledge is limited (Hastie & Vlaisavljevic, 1999). Examples of positive differences include the provision of more tasks beyond the initial informing task and, notably, more extending tasks. In particular, teachers with expertise in a particular content area have an accountability focus more on the *quality* of performance than a level of participation or effort. More recent efforts have shown that students' psychomotor and cognitive performance scores differ in lessons taught by teachers who have different levels of content expertise (Kim & Ko, 2020). Another way, more aligned with the model presented in Figure 1, would be that content expert teachers have advanced abilities to select the "just-right" problems that attract students to a playground.

The global report card on teacher content knowledge will tell us that, in the main, physical educators have only a superficial level of knowledge of their subject matter (Hastie, 2021), to the extent that Siedentop (2002a, p. 369) stated, "We can now prepare teachers who are pedagogically more skillful than ever, but who, in many cases, are so unprepared in the content area that they would be described as 'ignorant' if the content area was a purely cognitive knowledge field."

The culprits in this dearth of teacher content knowledge are numerous. First, the gatekeepers of kinesiology degree curricula have, over time, significantly reduced the allocation of time to knowledge in the movement domain (e.g., classes about gymnastics, dance, and dual sports) to the extent that these represent less than 15% of total degree credit hours (Ward et al., 2012). That issue is exacerbated when we find that the content of these courses focuses more on performance and the understanding of rules and techniques (i.e., knowledge needed to play) at the expense of the specialized content knowledge (i.e., knowledge needed to teach; Kim et al., 2015). Fortunately, we now have empirically identified strategies available in PETE that have been shown to increase the specialized content knowledge of both preservice and practicing teachers. Furthermore, that research has demonstrated higher levels of student achievement (Ward et al., 2022).

If we are to develop enduring playgrounds, teachers will need more than a superficial knowledge of the content to help these playgrounds to grow. Teachers who protect the ideas of short or fleeting engagement with a topic in physical education may be trying to achieve all the objectives and standards required of a curriculum document with its counterpart of "students will get bored with longer units" (Kretchmar, 2006). I counter that position with the idea that it may be a lack of content knowledge that prevents them from providing the special, memorable, and personal experiences that nurture the playgrounds and allow them to grow. Although Kretchmar (2008)) mentioned that even fundamental skills can be turned into grand adventures by teachers who he described as having "Pied Piper" attributes, I would posit that the Pied Pipers are teachers with not only more than a gift for make believe but also sophisticated levels of specialized content knowledge. These are teachers who can create learning experiences that provide challengeand success for all students through their abilities to manipulate task constraints and can quickly discover remedies for those who are struggling.

Two Grand Adventures in Physical Education

Research in sport pedagogy in the last 30 years has provided us with robust examples wherein teachers and their students have been able to embark on grand adventures and, as a result, have created durable and personal playgrounds. These grand adventures contain all the elements that seem to be necessary for students to play their way to good health.

The first big adventure is the curriculum and instruction model called sport education, and the second occurs where students are given the opportunity to create and play their own games. The typical moniker given to this adventure is "student-designed games." Both sport education and games making are seen as meaningful by students in that they provide opportunities for social interaction, challenge, and the development of motor competence. Both are conducted in environments that are highly autonomy supportive where students are given new opportunities to develop abilities in several domains, to make choices and have their voices heard, and to have special relationships with others. Seasons of sport education and units of games making typically last longer than the more familiar short forays into a topic, which Kretchmar (2006, p. 350) suggested were more diversions that provide "too little stimulus for too short a time" or what Torres (2002) called "short-term flings." Rather, sport education and games making allow students to dig deeper into the nuances of the game/sport that they are playing or inventing. These two adventures are also grounded in the search for achievement, be this creation of a usable artifact (i.e., a fun and challenging game that students can play successfully) or becoming a competent, literate, and enthusiastic sports player, which is the fundamental goal of sport education (Siedentop et al., 2020).

Sport Education

Sport education is a curriculum and instruction model developed by Siedentop (2002b) in the 1980s to provide authentic, educationally rich sport experiences for girls and boys in the context of school physical education. The genesis for the model was Siedentop's early research on teacher effectiveness and supervision. Specifically, he noted that it "was through these experiences that I came to believe that many physical education programs, even when taught effectively, were not interesting or challenging enough to inspire students" (Siedentop, 2002b, p. 411). In particular, the sport experience within physical education resembled very little theconduct of sport in out-of-school settings (e.g., community sport and interscholastic competitions) that gave it meaning. The term used by Siedentop (1994) to capture this sentiment was "decontextualized," wherein skills are frequently taught in isolation rather than in game settings and team affiliation is typically absent, and because units are often of short duration, students do not develop sufficient skill to play a good game (Siedentop et al., 2020).

Let's look at a scenario from a typical lesson from a season of sport education:

> We are visiting Mr. Thomas's sixth-grade class in which the students are participating in a sport education season of badminton. As the students enter the gym, they go immediately to their home court and begin a warm up led by one of their teammates (the fitness leader). Another student (equipment manager) has collected the paddles and balls from the equipment area and distributes these to the team after the warm-up. Mr. Thomas is currently meetings with the "Hot Pickles" team about some fair play challenges they faced in their games the day before. A third student (coach) now leads the team in a short practice period prior to the upcoming competition.
>
> At some point, a signal is given to begin the day's first competition, which is a mixed-doubles format. Each team will have decided on the team members who make up the two-person teams that compete in the name of their larger team. These competitions are often "graded" in the sense that students of comparable skill levels compete against each other. Members of two of the three teams are sent by their managers and coaches to one of the 4 or 5 small courts where games take place. Members of the third team, called a duty team, are organized to referee and keep score and statistics at the various courts.
>
> All the games start on the same signal, with scoring rules that emphasize basic tactics and skills relevant to the game (e.g., 2 points for winning with a volley). All games end at the same time, and there is a short changeover period to allow students from the duty team to move to the courts to compete in the second game and for members of one of the initial competing teams to transition to duty team responsibilities. Scorekeepers and statisticians take their sheets to Mr. Thomas, who records the results on his iPad.
>
> On the wall where the students enter, there is a decorated bulletin board that contains the day's schedule and up-to-date team standings. A third game is played to ensure that all students both play and do duty team chores that day. A brief reflective period ends the class with the teacher recognizing students and teams that had shown tactical improvement as well as examples of fair play. This 2 v 2 competition eventually yields a team winner (all individual games count toward overall team points), and the class will then move to a singles competition wherein more advanced tactics and skills will be introduced. The season culminates with a further team competition, with an overall class winner determined by participation, competition results, and fair-play points. (Adapted from Siedentop, 2002b)

From reading this scenario, it can be appreciated that sport education is not a direct application of school and community sport into school physical education. Siedentop (1994) was specific in outlining three fundamental differences that distinguish the two. The first of these is the requirement that all students participate equally at all points in the season. Sport education teams have no first string and substitutes; all participants get equal playing time. In sport education, students experience developmentally appropriate content through the use of small-sided teams wherein players get considerably more opportunities to learn the techniques and tactics needed to play the game well. The activities are almost always modified through rule, equipment, and play area adjustments to enable students to have success. Perhaps the major difference from other forms of child and youth sport is the diversity of roles that students learn and perform in sport education. This inclusion of roles during sport education has been shown to not only help in terms of class management but also lead to a more complete understanding of the sport studied during the season (Hastie, 1996).

Sport Education as Teaching for Meaning

There have been a number of reviews of sport education research, the first being from Wallhead and O'Sullivan (2005). They concluded that contemporary theorization on the model proposes that sport education has the potential to promote more positive cultural dimensions of sport and physical activity and to offer a challenge to the exclusionary discourses of much of institutionalized sport. That was a beginning point in affirming the model as one that comprised special, *memorable,* and *personal* experiences. Perhaps the textbook examples of such meaningfulness come from studies on sport education that have used autobiographic memory theory (Sinelnikov & Hastie, 2010; Wahl-Alexander et al., 2017), which is the study of events that are meaningful for participants. Importantly, both of those studies reported examples not only of students recalling general events but also their descriptive and vivid recollections of event-specific levels of memory. Some of those were from 3 or 4 years prior to the year in which the studies were conducted. Examples included being able to describe in great detail the instances of facing and overcoming adversity, which led Wahl-Alexander et al. (2017, p. 35) to conclude that "the mere fact of 'working hard and overcoming perceived odds' seemed to be what mattered most and therefore it was what was most remembered." Furthermore, Sinelnikov and Hastie (2010) suggested that the meaningful and personal experiences of episodic memory of taking on an officiating role (i.e., general event level of hierarchical memory structure) were expounded on by a deeper understanding of the rules of the game as a result of repeated engagement in officiating tasks, which were recalled from the event-specific knowledge memory structure.

Sport Education as Providing Necessary Pedagogical Conditions

Papers reported in the second review of sport education (Hastie et al., 2011) provided evidence that sport education, done well, provides an *autonomy-supportive environment* that supports

students' self-determined inner motives. The first of these was from Wallhead and Ntoumanis (2004), who found significant increases in student enjoyment and perceived effort in students participating in sport education, leading them to suggest that the model may increase perceptions of a task-involving climate and perceived autonomy. That idea was supported by Perlman and Goc Karp (2010), who suggested that the structural aspects of sport education assisted in facilitating movement along the self-determined continuum through support for relatedness, competence, and autonomy. Spittle and Byrne (2009) also found significant differences between those in sport education and those in traditional skills-drills units on changes in perceived competence, task orientation, and mastery climate. In essence, the sport education condition was more successful in maintaining high levels of intrinsic motivation, task orientation, and mastery climate than the traditional condition, which was associated with a decrease in adaptive aspects of motivation for students. Later, Perlman (2010) followed a cohort of students who identified as nonmotivated and nonparticipatory during regular physical education lessons. He found that during sport education, those initially nonmotivated students perceived significantly higher levels of enjoyment and satisfaction as well as the need for relatedness than students taught in traditional teacher-directed lessons. Most recently, the papers by Chu and Zhang (2018) and Evangelio et al. (2018) have confirmed that the motivational outcomes promoted by sport education are consistent across genders, grade levels, sports, and motivational profiles.

Sport Education as Promoting Success

A critical element in growing playgrounds is that students achieve success in their physical education endeavors. Concerning sport education, there have been numerous and repeated examples of studies showing that students of all skill levels improve more during sport education than within a direct-instruction model (Araújo et al., 2016; Hastie, 1998; Hastie et al., 2009, 2013; Mesquita, et al., 2012). Across all studies, it has been suggested that the explanation for the development of competence is that the structure of sport education seasons allows for significant practice opportunities and that the authenticity and consequential nature of the game play are significant for adding meaning to skill practice. As Hastie et al. (2013, p. 343) summarized, "In sport education where games count toward a season championship, students report that they take the instructional and managerial tasks within physical education 'more seriously', particularly as they remain on the same team throughout the season." Consequently, given that a student's performance has a valued outcome, they are, perhaps, more likely to pay heed to the feedback provided by their teachers and peer coaches during a season than might otherwise be the case during a more traditional teaching format.

Student-Designed Games

Within school classroom research, there has been significant discourse about the utility of using video games to promote learning and literacy. The key argument is that game environments enable players to construct understanding actively, at individual paces, and that well-designed games enable players to advance on different paths at different rates in response to each player's interests and abilities. Although the benefits of these games have met with mixed reviews (Kafai & Burke, 2015), it is suggested that both commercial and educational video games struggle to achieve their stated goals. As Klopfer et al. (2009, p. 2) noted, "The first group embraces games and abandons school, this second group often embraces school to the detriment of anything that looks like real gaming." Of particular interest to our mission of growing durable playgrounds, Kafai and Burke (2015) suggested that the real solution to this dilemma is situated between the practice of playing and *making* games. In essence, what better way to help young people to develop their own playground than to have them create the playground itself? Certainly, the physical education class is particularly well suited to this endeavor. One may even ask, what greater adventure is there than to design your own game?

The concept of student-designed games arose for the first time in the physical education literature during the late 1960s when Mauldon and Redfern (1969) introduced the idea that children were experts in game playing, and therefore, they should have more liberty to create their own games. Later, the work of Riley (1975) observed that the class climate created by games making had a significant influence in freeing children to define competition at their own developmental level. With the "retreat from the street" phenomenon so commonplace in many Western nations (Shaw et al., 2015), these sentiments about expertise in game playing and the ability to independently define competition may no longer hold up.

André and Hastie (2018) suggested that the literature on student-designed games can be separated into three periods. These were: (a) the characterization period (1980s and 1990s), where academic papers identified potential educational outcomes and methodologies appropriate for teaching games making; (b) the diversification period (2000s), which focused on the various curricular uses of games making; and (c) the teaching and learning period (2010–present), which focused on diversifying different teaching methodologies and students' learning outcomes, thereby blending the previous periods.

Although the early period was critical in delineating the understanding of student-designed games, none of those papers included empirical data to support their claims. That first began in the 2000s when authors began to directly measure student responses and motivation (Hastie & Curtner-Smith, 2006; Oliver et al., 2009) and compare students' behaviors in physical education classes when playing teacher-selected versus student-designed games (André & Rubio, 2009). The most recent research has examined the efficacy of student-designed games in promoting various learning outcomes as well as consideration of different teaching methodologies to enhance students' experiences (André & Hastie, 2018: Casey & Hastie, 2011; Casey et al., 2011, 2016; Hastie & André, 2012).

Student-Designed Games as Teaching for Meaning

Kretchmar (2006) made two points concerning joyful participation. First, most of our favorite playgrounds are built on the backs of problems. Second, meaningful accomplishments are those that have criteria, rules, standards for success, and criteria of excellence. I contend that these are the fundamental premises of student-designed games; the research on games making supports those ideas, particularly as games making is grounded in the theory of constructionism.

Constructionism is considered the practical materialization of Piaget's constructivism theory, which stated that a student is the builder of knowledge and less so a receptor of knowledge supplied by the instructor. The idea of constructionism is that students are particularly likely to make new ideas when they are actively engaged in making some type of artifact (Kafai & Resnick, 1996). Central to constructionism is the creation of public entities that are called "shareable artefacts" (Harel & Papert, 1991). Those might be something as simple as a sandcastle on the beach or as

complex as a theory of the universe or, in our case, a game. The key is that the artifacts in student-designed games are intended to be shared with other members of the community (i.e., other students) and not simply a product to be submitted for examination to a teacher, and by consequence, the design process provides a more meaningful learning experience.

One of the elements of meaningfulness is the idea that learning experiences need to be personally relevant. In games making, the personal aspect is most commonly manifested by the term "ours," which has occurred in many studies that have reported teachers seeing significant "buying-in" of students to the process (André & Hastie, 2018; Casey & Hastie, 2011; Casey et al., 2016; Hastie et al., 2010).

Student-Designed Games as Providing Necessary Pedagogical Conditions

Across nearly all studies of games making, the term "freedom" was used by students to describe the learning climate. For students, creating their own games was seen as a legitimate form of expression in physical education. Perhaps a quote from the Hastie et al. (2010, p. 85) study summarizes this position.

> The freedom to be able to choose like our favourite things from any game we want and to put it onto an alternate game that we've chosen that we've personalised was really good and probably our favourite thing. You see we normally play set games like basketball or cricket, so this was the first time we got to freedom to design something different. In sports we have to always do what we are told, and we don't get any say, but this was ours.

For that sentiment to occur, however, the teachers in the various studies had to be prepared to not only create opportunities for choice but also avoid interjecting "should," "have to," "must," or "got to" statements within the flow of instruction. That was appreciated by students—particularly older ones, who suggested that a "mutual respect" developed between them and their teacher.

Student-Designed Games as Promoting Success

Success in games making is not won on the scoreboard, nor is it the exhibition of superior athletic skill. Casey et al. (2016) argued that "capital" within physical education is won for having a good game rather than for being a good player. When the students in the Casey et al. (2016) project were asked to define a good game, they were easily able to provide clear criteria. First, being "clever" was important. In a similar vein to games makers in previous studies (see Casey & Hastie, 2011; Casey et al., 2011; Hastie & André, 2012), the search for innovation was seen as being important. Newness was not the only aspect of a good game that the students highlighted. For them, the game needed to be enjoyable. Consequently, the lusory goal needed to ensure that students also enjoyed what they were doing. There was certainly the tacit belief that for something to be enjoyable, it had to be popular and fair, something that the games played in physical education were not.

A good game is also one that "works." In many games making studies, the students spoke about the challenges of that aspect of design, especially when they were subjected to the scrutiny of others through game play. The development of rules was likened by some players to fixing bugs in the game in the same way that a programmer would fix a poorly behaving computer game. Sometimes that occurred through observations of their game being played by others and sometimes from the feedback they were given from other students in the guise of players of their game. Some of this "fixing" also occurred as a result of playing other teams' games and identifying aspects of the games that they either liked or thought would improve their objective of enjoyable fun.

By consequence, games that were not fun, new, and enjoyable needed to be fixed. Furthermore, Casey and Hastie (2011), with upper secondary students, and Hastie and Curtner-Smith (2006), with those in sixth grade, found that when a game was developed that included skills that were too difficult, students either rejected this game or modified it to make it more developmentally appropriate. In both of those studies, students tended to include only those skills that allowed them to experience success. That is not to say that students only design games that are easy for them. Rather, they select skills within their games that are within their reach. The reason for that selection of achievable-only skills can be learned from the students themselves. As reported by Casey and Hastie (2011, p. 306), students noted with particular pragmatism that "it was not much point designing a game that people in our team or in the class could not play."

There is one feature of student-designed games that is particularly powerful in the development of personal playgrounds, which Hastie et al. (2010, p. 86) labeled the "empowerment of non-superstars" in physical education. During that study, many of the lower skilled students who were often fringe participants in traditional games lessons became assets to their design teams rather than liabilities. In particular, they were able to contribute ideas about rules, equipment, and scoring aspects without diminishing the roles of other students. Indeed, the teacher in that study commented that some of the really good ideas came from less skillful games players because they were less constrained and, perhaps, less locked into traditional ideas.

Conclusion

If we as researchers in sport pedagogy believe that our mission is to support the induction of the next generation of young people into movement environments that sustain their participation, it becomes necessary for us to conduct our work in ways in which we can enhance the creation and growth of playgrounds by further examining those features that produce them. The current paper has outlined a schematic representation of the interconnections between curriculum and instructional elements of physical education that should allow the next generation of sport pedagogy researchers to create their own playgrounds in research.

References

André, M., & Hastie, P. (2018). Comparing teaching approaches in two student-designed games units. *European Physical Education Review, 24*(2), 225–239. https://doi.org/10.1177/1356336X16681955

André, M.H., & Rubio, K. (2009). The game inside the school: An overview of 5th grade physical education classes. *Motriz, 15*(2), 284–296.

Araújo, R., Mesquita, I., Hastie, P., & Pereira, C. (2016). Students' game performance improvements during a hybrid sport education–step-game-approach volleyball unit. *European Physical Education Review, 22*(2), 185–200. https://doi.org/10.1177/1356336X15597927

Beni, S., Fletcher, T., & Ní Chróinín, D. (2017). Meaningful experiences in physical education and youth sport: A review of the literature. *Quest, 69*(3), 291–312. https://doi.org/10.1080/00336297.2016.1224192

Casey, A., Hastie, P., & Jump, S. (2016). Examining student-designed games through Suits' theory of games. *Sport, Education and Society, 21*(8), 1230–1248. https://doi.org/10.1080/13573322.2014.994174

Casey, A., & Hastie, P.A. (2011). Students and teacher responses to a unit of student-designed games. *Physical Education & Sport Pedagogy, 16*(3), 295–312. https://doi.org/10.1080/17408989.2010.535253

Casey, A., Hastie, P.A., & Rovegno, I. (2011). Student learning during a unit of student-designed games. *Physical Education & Sport Pedagogy, 16*(4), 331–350. https://doi.org/10.1080/17408989.2011.557654

Cheon, S.H., Reeve, J., Lee, Y., & Lee, J.W. (2018). Why autonomy-supportive interventions work: Explaining the professional development of teachers' motivating style. *Teaching and Teacher Education, 69*(1), 43–51. https://doi.org/10.1016/j.tate.2017.09.022

Cheon, S.H., Reeve, J., Yu, T.H., & Jang, H.R. (2014). The teacher benefits from giving autonomy support during physical education instruction. *Journal of Sport and Exercise Psychology, 36*(4), 331–346. https://doi.org/10.1123/jsep.2013-0231

Chu, T.L., & Zhang, T. (2018). Motivational processes in sport education programs among high school students: A systematic review. *European Physical Education Review, 24*(3), 372–394. https://doi.org/10.1177/1356336X17751231

Evangelio, C., Sierra-Díaz, J., González-Víllora, S., & Fernández-Río, J. (2018). The sport education model in elementary and secondary education: A systematic review. *Movimento, 24*(3), 931–946. https://doi.org/10.22456/1982-8918.81689

Fletcher, T., Chróinín, D.N., Gleddie, D., & Beni, S. (2021). *Meaningful physical education*. Routledge.

Harel, I.E. , & Papert, S.E. (1991). *Constructionism*. Ablex Publishing.

Hastie, P.A. (1996). Student role involvement during a unit of sport education. *Journal of Teaching in Physical Education, 16*(1), 88–103. https://doi.org/10.1123/jtpe.16.1.88

Hastie, P.A. (1998). Skill and tactical development during a sport education season. *Research Quarterly for Exercise and Sport, 69*(4), 368–379. https://doi.org/10.1080/02701367.1998.10607711

Hastie, P.A. (2021). A primer on content knowledge in physical education research. *Journal of Teaching in Physical Education, 41*(1), 165–170. https://doi.org/10.1123/jtpe.2020-0221

Hastie, P.A., & André, M.H. (2012). Game appreciation through student designed games and game equipment. *International Journal of Play, 1*(2), 165–183. https://doi.org/10.1080/21594937.2012.698460

Hastie, P.A., Calderón, A., Rolim, R.J., & Guarino, A.J. (2013). The development of skill and knowledge during a sport education season of track and field athletics. *Research Quarterly for Exercise and Sport, 84*(3), 336–344. https://doi.org/10.1080/02701367.2013.812001

Hastie, P.A., Casey, A., & Tarter, A.M. (2010). A case study of wikis and student-designed games in physical education. *Technology, Pedagogy and Education, 19*(1), 79–91. https://doi.org/10.1080/14759390903579133

Hastie, P.A., & Curtner-Smith, M.D. (2006). Influence of a hybrid sport education-teaching games for understanding unit on one teacher and his students. *Physical Education and Sport Pedagogy, 11*(1), 1–27. https://doi.org/10.1080/17408980500466813

Hastie, P.A., Martínez, D., & Calderón, A. (2011). A review of research on sport education: 2004 to the present. *Physical Education and Sport Pedagogy, 16*(2), 103–132. https://doi.org/10.1080/17408989.2010.535202

Hastie, P.A., Rudisill, M.E., & Wadsworth, D.D. (2013). Providing students with voice and choice: Lessons from intervention research on autonomy-supportive climates in physical education. *Sport, Education and Society, 18*(1), 38–56. https://doi.org/10.1080/13573322.2012.701203

Hastie, P.A., Sinelnikov, O.A., & Guarino, A.J. (2009). The development of skill and tactical competencies during a season of badminton. *European Journal of Sport Science, 9*(3), 133–140. https://doi.org/10.1080/17461390802542564

Hastie, P.A., & Vlaisavljevic, N. (1999). The relationship between subject-matter expertise and accountability in instructional tasks. *Journal of Teaching in Physical Education, 19*(1), 22–33. https://doi.org/10.1123/jtpe.19.1.22

Kafai, Y., & Resnick, M. (1996). *Constructionism in practice: Designing, thinking and learning in a digital world*. Lawrence Erlbaum.

Kafai, Y.B., & Burke, Q. (2015). Constructionist gaming: Understanding the benefits of making games for learning. *Educational Psychologist, 50*(4), 313–334. https://doi.org/10.1080/00461520.2015.1124022

Kim, I., & Ko, B. (2020). Content knowledge, enacted pedagogical content knowledge, and student performance between teachers with different levels of content expertise. *Journal of Teaching in Physical Education, 39*(1), 111–120. https://doi.org/10.1123/jtpe.2018-0292

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. https://doi.org/10.1123/jtpe.2013-0166

Klopfer, E., Osterweil, S., & Salen, K. (2009). *Moving learning games forward*. The Education Arcade.

Kounin, J.S., & Sherman, W.L. (1979). School environments as behavior settings. *Theory Into Practice, 18*(3), 145–151. https://doi.org/10.1080/00405847909542824

Kretchmar, R.S. (2001). Duty, habit, and meaning: Different faces of adherence. *Quest, 53*(3), 318–325. https://doi.org/10.1080/00336297.2001.10491748

Kretchmar, R.S. (2006). Life on easy street: The persistent need for embodied hopes and down-to-earth games. *Quest, 58*(3), 344–354. https://doi.org/10.1080/00336297.2006.10491888

Kretchmar, R.S. (2008). The increasing utility of elementary school physical education: A mixed blessing and unique challenge. *The Elementary School Journal, 108*(3), 161–170. https://doi.org/10.1086/529099

Mauldon, E., & Redfern, H.B. (1969). *Games teaching: A new approach for the primary school*. Macdonald & Evans.

Mesquita, I., Farias, C., & Hastie, P. (2012). The impact of a hybrid sport education–invasion games competence model soccer unit on students' decision making, skill execution and overall game performance. *European Physical Education Review, 18*(2), 205–219. https://doi.org/10.1177/1356336X12440027

National Association for Sport and Physical Education. (1995). *Moving into the future: National standards for physical education. A guide to content and assessment*. Mosby.

Oliver, K.L., Hamzeh, M., & McCaughtry, N. (2009). Girly girls can play games/las niñas pueden jugar tambien: Co-creating a curriculum of possibilities with fifth-grade girls. *Journal of Teaching in Physical Education, 28*(1), 90–110. https://doi.org/10.1123/jtpe.28.1.90

Perlman, D. (2010). Change in affect and needs satisfaction for amotivated students within the sport education model. *Journal of Teaching in Physical Education, 29*(4), 433–445. https://doi.org/10.1123/jtpe.29.4.433

Perlman, D., & Goc Karp, G. (2010). A self-determined perspective of the sport education model. *Physical Education and Sport Pedagogy, 15*(4), 401–418. https://doi.org/10.1080/17408980903535800

Raabe, J., Schmidt, K., Carl, J., & Höner, O. (2019). The effectiveness of autonomy support interventions with physical education teachers and

youth sport coaches: A systematic review. *Journal of Sport and Exercise Psychology, 41*(6), 345–355. https://doi.org/10.1123/jsep.2019-0026

Reeve, J. (2006). Teachers as facilitators: What autonomy-supportive teachers do and why their students benefit. *Elementary School Journal, 106*(3), 225–236. https://doi.org/10.1086/501484

Reeve, J., & Cheon, S.H. (2021). Autonomy-supportive teaching: Its malleability, benefits, and potential to improve educational practice. *Educational Psychologist, 56*(1), 54–77. https://doi.org/10.1080/00461520.2020.1862657

Riley, M. (1975). Elementary games and humanism. *Journal of Physical Education and Recreation, 46*(2), 46–50. https://doi.org/10.1080/00971170.1975.10618758

Rink, J.E., French, K.E., & Graham, K.C. (1996). Implications for practice and research. *Journal of Teaching in Physical Education, 15*(4), Article 490. https://doi.org/10.1123/jtpe.15.4.490

Shaw, B., Bicket, M., Elliott, B., Fagan-Watson, B., Mocca, E., & Hillman, M. (2015). *Children's independent mobility: An international comparison and recommendations for action*. London Policy Studies Institute.

Siedentop, D. (1994). *Sport education: Quality PE through positive sport experiences*. Human Kinetics.

Siedentop, D. (2002a). Content knowledge for physical education. *Journal of Teaching in Physical Education, 21*(4), 368–377. https://doi.org/10.1123/jtpe.21.4.368

Siedentop, D. (2002b). Sport education: A retrospective. *Journal of Teaching in Physical Education, 21*(4), 409–418. https://doi.org/10.1123/jtpe.21.4.409

Siedentop, D., Hastie, P.A., & van der Mars, H. (2020). *Complete guide to sport education*. Human Kinetics.

Sinelnikov, O.A., & Hastie, P.A. (2010). Students' autobiographical memory of participation in multiple sport education seasons. *Journal of Teaching in Physical Education, 29*(2), 167–183. https://doi.org/10.1123/jtpe.29.2.167

Spittle, M., & Byrne, K. (2009). The influence of sport education on student motivation in physical education. *Physical Education and Sport Pedagogy, 14*(3), 253–266. https://doi.org/10.1080/17408980801995239

Torres, C. (2002). *Play as expression: An analysis based on the philosophy of Maurice Merleau-Ponty* [Unpublished doctoral dissertation]. Pennsylvania State University, University Park.

Wahl-Alexander, Z., Sinelnikov, O., & Curtner-Smith, M. (2017). A longitudinal analysis of students' autobiographical memories of participation in multiple sport education seasons. *European Physical Education Review, 23*(1), 25–40. https://doi.org/10.1177/1356336X15624246

Wallhead, T., & O'Sullivan, M. (2005). Sport education: Physical education for the new millennium? *Physical Education and Sport Pedagogy, 10*(2), 181–210. https://doi.org/10.1080/17408980500105098

Wallhead, T.L., & Ntoumanis, N. (2004). Effects of a sport education intervention on students' motivational responses in physical education. *Journal of Teaching in Physical Education, 23*(1), 4–18. https://doi.org/10.1123/jtpe.23.1.4

Ward, P., Kim, I., Li, W., Ko, B., Iserbyt, P., Sinelnikov, O., & Curtner-Smith, M. (2022). The role of content knowledge in influencing student physical activity, on-task behavior, and skill performance. *Research Quarterly for Exercise and Sport*. Advance online publication. https://doi.org/10.1080/02701367.2021.1979186

Ward, P., Li, W., Kim, I.S., & Lee, Y.S. (2012). Content knowledge courses in physical education programs in South Korea and Ohio. *International Journal of Human Movement Science, 6*(1), 107–120.