TEACHING AND LEARNING HOW TO TEACH SPORT EDUCATION: AN

ECOLOGICAL ANALYSIS, MOTIVATIONAL CLIMATE

AND PROFESSIONAL DEVELOPMENT

Except where reference is made to the works of others, the works described in this dissertation is my own or was done in collaboration with my advisory committee. This dissertation does not include proprietary or classified information.

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TEACHING AND LEARNING HOW TO TEACH SPORT EDUCATION: AN ECOLOGICAL ANALYSIS, MOTIVATIONAL CLIMATE AND PROFESSIONAL DEVELOPMENT

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TEACHING AND LEARNING HOW TO TEACH SPORT EDUCATION: AN ECOLOGICAL ANALYSIS, MOTIVATIONAL CLIMATE AND PROFESSIONAL DEVELOPMENT

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VITA

Oleg A. Sinelnikov, son of Anatoliy and Natalia Sinelnikov, was born on September 6, 1974 in Sverdlovsk, USSR. Oleg grew up in Tambov, Russia and graduated from Tambov Gymnasium named after G.R. Derzhavin in 1991. He was admitted to Tambov State University in the same year and graduated in 1996 with a Diploma with Honors in Physical Culture and Psychology, and a Certificate in Social Pedagogue and English Language. Upon graduation, he began graduate work in All-Russian Scientific Research Institute of Physical Culture in Moscow, Russia and continued his college education at Indiana State University, USA receiving a Master of Arts degree in Physical Education Pedagogy in 2001. In the meantime, Oleg played professional soccer for a number of years, finishing his professional soccer career playing for teams “Indianapolis Blast” and “Cincinnati Riverhawks” of A-League. In 2002, Oleg accepted an instructor position in the Department of Health and Human Performance at Auburn University, Alabama and was concurrently pursuing a Doctor of Philosophy degree in Physical Education – Pedagogy. Oleg Sinelnikov is married to Jennifer Sinelnikov and they have a son – Aleksey.

DISSERTATION ABSTRACT

TEACHING AND LEARNING HOW TO TEACH SPORT EDUCATION: AN ECOLOGICAL ANALYSIS, MOTIVATIONAL CLIMATE AND PROFESSIONAL DEVELOPMENT

Oleg A. Sinelnikov

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The purpose of this investigation was to examine the attempts to introduce Sport Education into a Russian physical education curriculum. Three studies are included. The first provides an ecological account of the introduction of the Sport Education curriculum model into two ninth grade Russian high school physical education classes. The second study, based on a theoretical framework of achievement goal theory, provides a motivational climate analysis of a season of Sport Education. The third study presents a description of the on-site professional development program as two physical education

teachers learned to teach Sport Education. The examination of the effectiveness or ineffectiveness of such a professional development program was also investigated.

While results of the first study supported earlier research on Sport Education in English speaking countries, other findings also demonstrated a disruption of the student social system. Results from the motivational climate study demonstrated that the objective motivational climate of Sport Education season was mastery oriented. Further, students' self-determined types of motivation (intrinsic motivation and identified regulation) remained high while levels of amotivation were low during different contexts of the season. While mastery oriented variables such as improvement and teamwork were evident during practice and practice game phases, the performance oriented construct of winning was meaningful to students during competition. Results from study three demonstrated the effectiveness of the enacted professional development program as teachers were able to implement Sport Education in their respective sixth grade classes. Four themes were generated about teacher learning and how to enhance it: (a) the need for sample lesson observance in the training phase, (b) teaching-to-model congruency validation, (c) difficulties of "letting go of the control", and (d) the establishment of the new partnership relationships between teachers and students.

Overall, Sport Education seem to be a viable and motivating curriculum option for Russian secondary physical education, one that has the potential to create a mastery oriented climate in the gym. Moreover, given the professional development support and resources Russian physical education teachers are able to implement the model in their schools.

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CHAPTER I

INTRODUCTION

The current trend in the subject of physical education is to advocate for physical education programs to be developmentally and instructionally appropriate in order to provide quality physical education to children. An opportunity to participate in a quality physical education program for every student, a goal articulated by the National Association for Sport and Physical Education, is a commendable goal for the profession.

In the United States, a good physical education teacher genuinely concerned about student learning can find pertinent information about developmentally appropriate practices and any of the appropriate curriculum models that would fit their contextual environment and interests. Currently there are a number of curriculum and instructional models in physical education based upon different perspectives that can aid teachers in achieving this objective of providing quality physical education to their students. For example, curriculum models congruent with the developmental perspective include Gallahue's (1993) model of teaching physical education to elementary students, reflective approach to teaching developed by Graham, Holt-Hale, and Parker (2001), and Hellison's responsibility model (1991). Moreover many physical educators in the United States have a choice about which curriculum model to implement in their schools. Some may focus on fitness, others may employ an adventure education curriculum, while a focus on

tactical understanding of the game (e.g., Teaching Games for Understanding) may be the priority.

This opportunity for curricular freedom is not the case globally. In some countries, physical educators continue using outdated methods and styles of teaching, not necessarily by choice, but often as a result of a lack of appropriate information and resources. Current Russian physical education is a case in point, where many lessons directly conflict with developmentally appropriate practices. During a typical physical education lesson in a Russian school for example, students spend a considerable amount of time waiting for their turn, as equipment is very limited. Teams for game play are often chosen by captains, fitness and other testing is conducted one by one when other students watch the performance. The equipment or rules of adult games are rarely modified and full field games are the norm. Moreover, the current school of thought in Russian academia on the place of physical education in the public schools centers on the idea of using physical education as the scouting and training grounds for elite athletes. For example, Balsevich (1999), a well-respected Russian academician, has suggested a complete elimination of physical education during regular school time, instead opening the doors of "training interest clubs" outside of regular school hours. Students would be offered a choice between 3 or 4 sports for the semester. Once a sport is chosen, the student would then participate in a rigorous training for this particular sport. The "training clubs" would be school based and but the teaching would resemble and be in accord with coaching principles. In fact, it is also suggested that coaches from different sports and not physical education teachers would be the ones providing instructions and training for students.

We can provide an alternative approach, contrasting Balsevich's vision of physical education in Russian schools, which would not require such drastic changes as the elimination of the subject of physical education from the school. There is a curriculum model that could in fact provide an authentic sport experiences for students during regular scheduled physical education lessons. This curriculum and instructional model is known as Sport Education (Siedentop, 1994; Siedentop, Hastie, van der Mars, 2004).

The three studies that follow describe attempts to introduce Sport Education into Russian physical education curriculum. The studies are presented in logical succession. Since little is known in terms of the implementation of Sport Education in non-English speaking countries, the first study provides a reflexive account of the introduction of Sport Education curriculum model into the Russian high school physical education. While student learning is considered as an important goal and measure of effective teaching, the motivation underlying student learning should also not be underestimated. Recent motivational research has been driven by the understanding that student learning may be enhanced if motivational climate is based on a mastery oriented approach (Ames, 1992). Therefore, the second study attempted to provide a motivational climate analysis of a season of Sport Education based on a theoretical framework of achievement goal theory. In addition, investigation of students' situational motivation during each of the phases of Sport Education (skill development, officiating, and game play) is presented. While through previous research we have an understanding of some benefits of Sport Education, it becomes important to implement Sport Education in schools and teachers of physical education are the ones that could be the agents of change. They could learn how

to implement the curriculum in their respective schools. It is only fitting to begin to understand how to teach physical education teachers about Sport Education and also how teachers learn how to teach Sport Education style. Therefore, the third study attempted to provide an examination of the on-site professional development program and present descriptions of its central features as physical education teachers learned to teach Sport Education. Meanwhile, the measurement of the degree of effectiveness or ineffectiveness of such a professional development program was also investigated through observation of actual teaching practices within the school setting. We know the principles of effective professional development but unfortunately these principles are not always utilized in practice. Since recent research questions the effectiveness of one day, one shot, out of context inservice workshops (Armour & Yelling, 2004) and research on the effectiveness of the suggested school-based forms of professional development for physical education teachers is limited, the study could serve as foundational research on this important but little examined topic.

CHAPTER II

REVIEW OF LITERATURE

Sport Education

The series of studies presented investigate the introduction of Sport Education into Russian high school curriculum, analyze motivational climate of a Sport Education season and describe how teachers learn how to teach Sport Education. Therefore, it is necessary to examine the key research outcomes from these areas. This review of literature will cover the key features of Sport Education model and the pertinent research on Sport Education, the research on achievement goal theory and motivational climate, and examine findings from professional development and mentoring literature.

Genesis of Sport Education

According to his own recollection as the "father" of the Sport Education model Darryl Siedentop, the first public presentation of what the Sport Education model looked like occurred in 1985 during the Adelphi AISEP (International Association for Physical Education in Higher Education) Congress. Even though, Sport Education is currently considered throughout the world to be a viable curriculum and instruction model for teaching physical education, the first presentation of the model did not go all that smoothly drawing comments that it was a version of "rolling out the ball" (Siedentop, 2002).

During the five year period in late 1970s and early 1980s, Darryl Siedentop and his doctoral students conducted a series of studies focusing on teacher effectiveness and supervision. During the course of that research, they spent many hours observing physical education lessons, physical education teachers and students in schools, as each study required long term observation. What they observed served as a catalyst in the development of the Sport Education instruction and curriculum model (Siedentop, 2002). More specifically, what they saw was considered to be effective physical education where classes were well organized and students stayed mostly on task with few disruptions. Most observed programs employed a multi-unit curriculum approach, where units were typically short (5-6 lessons) and taught using a traditional approach: skills and drills followed by game play. Team membership for such games was inconsequential and changed frequently. Overall, there was lack of any real excitement among students during the physical education lessons, learning isolated skills and participation in drills seldom transferred into games and as a result the games were played rather poorly (Siedentop et al., 2004). It was through these experiences that Siedentop came to believe that many physical education programs, even when taught effectively, were not interesting or challenging enough to inspire students (Siedentop, 2002). On the other hand, participants of the interscholastic competitions are often times exultant and enthusiastic. Team membership is paramount and teams progress through seasonal play. This experience is more authentic and true to the realities of sport.

In 1982, Siedentop delivered a keynote address at the Commonwealth Games Conference in Brisbane, Australia where he first argued that sport could be viewed as the subject matter of physical education. It was there that the *idea* of Sport Education was

first revealed (Siedentop, 2002). The connection between sport and play education was discussed where it was argued that the philosophical conception of sport in the historical perspective derived its meaning from play. Essentially, sport is not only a form of play, but it is humane and worthy by itself. The major conceptual underpinnings of Sport Education grew from Siedentop's doctoral dissertation that focused on "play education" curriculum theory. However, by Siedentop's own account "play education never had a sufficiently substantive form to guide practice" (Siedentop, 2002, p. 411). Nevertheless, that nature of play and its basis on humane and worthy culture shapes the grounds for Sport Education. Sport Education was founded on the desire to provide an authentic experience for students providing a link between play and sport. It was based on the attempt to envision and supply strategies necessary for teachers to provide truly important physical education experiences for their students (Siedentop, 1994).

To summarize Siedentop's key points, teaching sport within physical education in schools is worthy in and of itself. Traditional approaches to teaching sport are not authentic and are decontextualized. First, skills are frequently taught in isolation, rather than in game like settings; second team affiliation is more often than not absent; and third, the duration of the units is too short for students to experience a full range of emotions present in the sport, not to mention become proficient in game playing. These were the main grounding points that led to the conception and evolvement of the Sport Education curriculum and instructional model. The purpose was to develop a model for physical education in schools that created an authentic sport experience for girls and boys, that was developmentally appropriate and in which all participated equally (Siedentop, 1994, 1998, 2002).

Table 1 presents a brief historical timeline of the key developments and events concerning Sport Education model.

Table 1

Historical Timeline of the Sport Education Model

Year	Event
1968	Darryl Siedentop defends doctoral (P.E.D.) dissertation titled "Theory for programs of physical education in the schools" focused on play education.
1972	W.C. Brown publishes Siedentop's first edition of Physical Education: Introductory Analysis, with second and third editions being published in 1976 and 1980 (Siedentop, 1972, 1976, 1980). Curriculum text is based on play theory and the text, by Siedentop's account, "never had a sufficiently substantive form to guide practice" (Siedentop, 2002, p. 411).
late 1970 early 1980	Siedentop together with doctoral students perform studies on teacher effectiveness and supervision. The main outcome relevant to Sport Education is the recognition that even effective practices in physical education fail to challenge and excite students.
1982	The idea of Sport Education is first revealed during Siedentop's keynote address at the Commonwealth Games Conference in Brisbane, Australia.
1983	Workshop "Sport Education Curriculum and Instruction Model" is conducted at Ohio State. Consequently, Chris Bell, a local PE teacher, implements the model choosing gymnastics and soccer as first seasons resulting in a *first field test*.

1985 *First public presentation of the practical application* of the model is made during the International Association for Physical Education in Higher Education (AIESEP) World Congress held in Adelphi. It draws mixed reviews with comments ranging from "rolling out the ball" to more positive reactions.

1986 *First national exposure* of the model by being included as an alternative curriculum model in a textbook Physical education: Teaching and curriculum strategies for grades 5–12 (Siedentop, Mand, & Taggart, 1986).

1986-1990 Siedentop conducts 10 Sport Education workshops at state and regional conferences with little visible results.

1990 Bevan Grant, University of Otago in New Zealand, applies and secures a grant from the Hillary Commission to support a national trial of Sport Education in the 10th grade in New Zealand high schools. The trial, headed by Bevan Grant and Peter Sharp of the Hillary Commission, is reported as a clear success (Grant, 1992).

1992 Bevan Grant reports in Quest about the success of Sport Education in New Zealand trial (Grant, B., 1992).

1992 Hillary Commission publishes teacher friendly materials on Sport Education. (Grant, Sharp, & Siedentop, 1992).

1993 Sport Education Symposium was held during AHPERD Convention in Washington, DC.

1993 State-level trials begin in high schools in Western Australia, led by Andrew

Taggart and Ken Alexander, as one project of the Sport and Physical Education Research Centre (SPARC) (Alexander, 1994).

1994 Australian Sports Commission's Aussie Sport Unit funds a national project involving 53 teachers, the Sport Education in Physical Education Project (SEPEP). This initiative results in production of highly effective teacher materials and provokes the beginnings of a genuine research base for the model (Alexander, Taggart, & Luckman, 1998; Alexander, Taggart, & Thorpe, 1997; Carlson, 1995; Carlson & Hastie, 1997; Curnow & Macdonald, 1995; Hastie, 1996b).

1994 *First book* devoted to Sport Education for teachers is published by Human Kinetics. The book title is - Sport Education: Quality PE through positive sport experiences (Siedentop, 1994).

1995 National Sport Education conference is held in Perth, Western Australia. The entire summer issue of the ACHPER Healthy Lifestyles Journal is devoted to Sport Education in Australian physical education.

1995-1998 Investigations are conducted providing first research data on the model (Alexander, Taggart, & Luckman, 1998; Alexander, Taggart, & Thorpe, 1996; Carlson, 1995; Carlson & Hastie, 1997; Curnow & Macdonald, 1995; Hastie, 1996b).

1998 A two-part series on Sport Education is published in Journal of Physical Education, Recreation, and Dance.

1998 Sport Education conference is held at Loughborough University in England

	providing catalyst for introduction of Sport Education in British schools.
2004	*Second edition* of the book on Sport Education titled "Complete Guide to Sport Education" is published (Siedentop, Hastie, & van der Mars, 2004).

Description of the Sport Education Model

Before investigating the theoretical basis of the model, it is necessary to understand what essential features are included in the model. Sport Education is an instructional and curriculum model designed to develop competent, literate, and enthusiastic sportspeople (Siedentop, 1994; Siedentop, Hastie, van der Mars, 2004). A competent sportsperson has sufficient skills to participate in games and activities satisfactory, understands and can execute strategies appropriate to the complexity of activity, and is a knowledgeable games player. Being a competent sportsperson implies being confident and comfortable in the sports setting, understanding happenings around you, and comprehending one's own role and the roles of others with regard to what to do and where to be, and anticipating the flow of the game. A literate sportsperson understands and values the rules, rituals, and traditions of sports and activities and can distinguish between good and bad practices in those activities. Certainly, being a literate sportsperson involves not only knowledge and understanding of history and rules of the sport, but applying a value judgment on sporting practices and activities around him or her, and also being an educated consumer of such sporting practices. These sporting practices include the sports themselves, behaviors and conducts of athletes, officials, and fans. An enthusiastic sportsperson participates and behaves in ways that preserve, protect and enhance sport cultures. Enthusiastic sportsperson participates in the sport not because

of extrinsic awards, but because of intrinsic values that such participation provides to him or her. It is done for the joy of movement, of play, of being together with your compatriots - all the benefits of physical activity. A competent, literate, and enthusiastic sportsperson wants to not only participate in the sport, but to give back to the sport and make the sport enjoyable for others (Siedentop, 1994, 1998; Siedentop, et al., 2004).

The institutionalized sport has certain distinguishable features that are common for all the participants. First of all, sport is done in seasons. Secondly, members of the team are affiliated with one team for the duration of the season. All players participate in practices and formal competition. It is the nature of the sport to determine the best, so the competition usually results in some sort of culminating event, championship, or playoffs. Throughout the season, and especially during the culminating event, the atmosphere of competition is festive. In addition, different types of statistics and records are kept to provide for the history of the sport and have a way to compare the results across different times. So these main features of a sport are reflected in distinct features of the Sport Education model. Sport Education provides a more authentic approach to teaching a sport encompassing its essential characteristics: seasons, constant team affiliation, formal competition interspersed with practices, culminating event, keeping statistics and records, and festivity (Siedentop, 1994; Siedentop, et al., 2004). In Sport Education, students participate in seasons lasting longer than typical units in physical education. Almost immediately, students are divided into teams that they remain with throughout the entire season, providing for team affiliation. Throughout the season students participate in playing and non-playing roles. Within each team there are different roles that students assume, such as coach, statistician, and equipment manager. In addition, students are

involved in non-playing roles, for example, officials or judges. Teams participate in formal competition where records are kept and results of the competition count. The festive culminating event usually concludes the season. The curriculum philosophy of Sport Education has two distinct features: first, a greater depth of coverage of content and second, an expanded set of content goals (Siedentop et al., 2004). Longer seasons allow for greater depth of coverage of content. That expanded length of time permits students to become more proficient in skill acquisition and its application in real games situations. The expanded set of content goals includes skills, tactics, rules, rituals, and traditions of the game. In addition, students learn and practice other important roles that are present in sports and which allow for a better understanding of how the activity is pursued outside of school, such as keeping statistics, coaching the team, managing the equipment, or publicizing team achievements (Siedentop et al., 2004).

Sport Education is not a copy of institutionalized sport. The main distinct features are in participation requirements, developmentally appropriate competition, and diverse roles. It is modified to fit the purposes of an educational setting (Siedentop, 1998). There are certain requirements that allow for Sport Education to be educational and not just a direct replica of the institutionalized sport. These requirements according to Siedentop (1998) are as follows:

Participation requirements. In Sport Education, all students are involved at all times. They may not be all involved in playing roles at any given moment; however, they are all involved, most likely as a statistician or as an official. This requirement also affects the size of teams (small-sided teams are standard), the nature of competitions (no elimination formats), culminating events (all players/teams are involved), and playing

time and position play (all students play equally and have equal opportunity to learn position play).

Developmentally appropriate competition. Adult forms of games and sports are not used as the games are matched developmentally to the abilities of students. That means that small-sided games with modified rules, spaces, and equipment are typical. The "win-at-all-cost" mentality of sport is not emphasized as teams receive points not only for winning but for other important aspects such as fair play, and following rules of the class. Since small-sided games are the norm, often, during Sport Education students divide their teams into small teams and those small teams end up matched up with other teams that have similar abilities and skills.

Diverse roles. In sport education, students learn diverse roles, whereas in sport they learn only the performer role. In sport education, all students learn the performer, referee, and scorekeeper roles for each sport. Other roles, such as coach, manager, trainer, statistician, reporter, and sports board member may also exist. The research findings demonstrate that students take these roles seriously (Hastie, 1996b) and when they fulfill these roles responsibly they become more responsible for their own sport experiences, and acquire knowledge and develop attitudes that could make them more informed participants in adult sport cultures.

To summarize, the developmentally appropriate practices reign in Sport Education. The games and rules of the games are modified; small-sided games are the norm; students with similar skill levels compete against each other allowing for better competition; everyone participates; the success of the team depends on the progress of each member of the team.

Theoretical Underpinnings of the Sport Education Model

Sport Education is rooted in play theory, which emphasizes the cultural perspective rather than psychological or instructional perspectives (Siedentop, 2002). Even though Sport Education was developed more from Siedentop's vision of quality sport experience rather than instructional theories or analysis of effective pedagogical practices, it has become clear that Sport Education is consistent with a number of theoretical and instructional movements.

Small learning groups. Wynne and Walberg (1994) advocated for American educators to give greater emphasis to the principle of group persistence. Their argument was based on European research supporting the notion of persisting groups fostering academic learning. It was demonstrated that there are several feasible, low-cost ways to create and use persisting groups in schools. The size of the group did not seem to matter as much as its continuity.

The central notion of Sport Education - teams and team affiliation (e.g. small teams remaining constant throughout the season) is also consistent with Cohen's (1994) research on sustaining small, heterogeneous learning groups. Cohen proposed conditions under which the use of small groups can be productive (1994). It was found that task instructions, student preparation and the role of the teacher in normal learning may obstruct less structured attempts at conceptual learning. The problem may occur when small groups tackle ill structured group tasks. The suggested way to combat that was for groups to be conditionalized on whether they have been provided a true group task.

In Sport Education the small learning group is called a team. The team stays persistent throughout the duration of the season. The true group task for the team is

evident in Sport Education, and moreover, the students' fulfillment of their roles has clear impact on that true group task.

Student-centered learning. Alexander, Taggart, and Luckman (1998) described Sport Education as "student-centered learning," stating that, "the student-centered features of the sport education model have allowed it to lay strong claim to contemporary educational relevance" (Alexander, Taggart, & Luckman, 1998, p. 21). In fact, the model is student driven and many aspects of the model depend on the level of the investment of the students.

Situated learning. Sport Education has also been examined through the constructivist approach to learning and one of its components, situated learning (Kirk & McDonald, 1998; Kirk & Kinchin, 2003). Situated learning focuses on learning as a social practice in a social setting; it is a legitimate peripheral participation in communities of practice (Lave & Wenger, 1991). Sport Education certainly fits the definition of the situated learning where students are subject to authentic and educationally appropriate sporting experiences, where learning takes place within meaningful situations, where physical activity is the main medium of learning. By engaging students in different playing and non-playing roles and by prominently featuring main characteristics of sport, Sport Education allows physical education teachers provide students with sporting experiences as they exist in the outside world.

Peer tutoring. Another major feature of Sport Education is students learning from their peers in the context of their team affiliation. It has been suggested that peer tutoring is a great addition to coaching (Parker & Sharpe, 1995). Clearly during the Sport Education season, there are many opportunities for peer tutoring: coaches to help with the

skills and tactics, fitness trainers work on the fitness and endurance, and sometimes students seek help from the teammates themselves in hopes to improve their skill in order to fair better in the competition. The latest research in peer tutoring in physical education setting sees it to be another potent instructional practice that if employed results in students performing more correct trials, and as a result enhances motor learning (Feinberg et al., 2002; Johnson & Ward, 2001). In addition, intangible benefits in peer tutoring such as improvement in social skills and allowing for greater diversity in skill also exist (Myung-Ah & Ward, 2002).

Authentic education. Sport Education is a very good example of authentic education (Siedentop, 1994). It bodes very well with authentic assessment and outcome based education (Melograno, 1994, 1998). A reduced curriculum, studied more in depth, with outcomes that have meaning in the real world and with assessment that was integral to those outcomes, are all features of authentic education that are already in place in Sport Education (Siedentop, 2002).

Research on Sport Education and Its Influence on the Model

Early studies on Sport Education focused on student enjoyment, role involvement and perceived competence. A number of studies have reported positive benefits that Sport Education has on students and teachers. Students reported working "harder than in regular PE," showing greater effort, and taking more leadership roles and cooperation, and increased levels of enthusiasm (Alexander & Luckman, 2001; Carlson & Hastie, 1997; Grant, 1992). During Sport Education season the level of student engagement is high (Hastie, 1996b). Teachers also like the model as it invigorates them (Alexander, Taggart, & Thorpe, 1996). In a more recent survey study of 344 Australian teachers'

perceptions of the Sport Education model, Alexander and Luckman (2001) found that 83% of teachers agreed that the model yields greater student interest in physical education than their previous approach to teaching sport in physical education.

In addition, because of the student involvement in the management of the season, teachers reported having more time for individualized instruction (Grant, 1992). One of the permanent features of the model is students taking certain responsibilities throughout the season, so called roles. In Hastie's study (1996b) of sixth-graders, students showed high levels of enjoyment in taking such administrative roles and also exhibited minimal levels of off-task behaviors. In addition, in the same study, students strongly preferred student coaches over teacher instruction. The exposure to the model was also reported to produce increased positive student peer interactions (Hastie & Sharpe, 1999).

Typically marginalized groups of students in physical education context fair very well during Sport Education as evidenced by a number of studies (Alexander, Taggart & Thorpe, 1996; Carlson, 1995; Grant 1992; Hastie, 1998a). Lower skilled students embraced Sport Education for empowering them to make a positive contribution to their teams coupled with a sense of belonging and trust from their teammates (Carlson, 1995). In the same study, students reported perceived improvement in skill levels. During another Sport Education season, lower skilled students reported developing a sense of usefulness attributed by the researchers to the sufficient length of the season allowing significant practice opportunities and the consistent team affiliation (Hastie, 1998b).

Another traditionally marginalized group in physical education, girls, received equal playing time with boys during a Sport Education season and reported an increased sense of responsibility for the unit, even though boys tended to dominate the decision

making process (Hastie, 1998a). Benefits for female students included increased opportunities for participation, high levels of peer support, and increased success in skill and social development, responsibility, and decision making.

Less research is available about the experiences of high skilled students in contexts of Sport Education, although Kinchin (2001) has provided one in-depth case study of a high-skilled student's experiences of Sport Education. The findings of the study demonstrated that during the unit the individual's initially strong, public resistance to the principles of Sport Education became less extreme, to be replaced by greater consideration and support for his teammates. It was theorized that the erosion of the high-skilled student's resistance was, in part, influenced by membership in a persisting group (Kinchin, 2001).

Grant (1992) first reported that Sport Education promoted team affiliation, enhanced relationships among team members, and elevated enthusiasm among many students who previously seemed to dislike physical education and sport. The high levels of student enthusiasm were attributed to the fact that much of the decision-making and control of the experience was determined by the students themselves (Grant, 1992). Team affiliation has also been recognized as a factor in changing the ways students socialize during class, with a particular emphasis on the development of teamwork and cooperation (Carlson & Hastie, 1997). A more recent study of 70 nine to ten year olds in a United Kingdom school focusing on team affiliation during Sport Education supported earlier reports (Bennet & Hastie, 1997; Hastie & Carlson, 1998) that the opportunity to become affiliated with a team was an attractive feature of the students' physical education experience (MacPhail, Kirk, & Kinchin, 2004). The same study also reported an

investment made by students in their sense of identity and involvement as members of a persisting group.

As far as cognitive learning and skill improvement are concerned, a comparative study of two seasons presented in traditional and sport education formats revealed that while both groups made significant improvements in their knowledge of the game and skill levels, only the students in the Sport Education group showed significant gains in perceived learning and reported a better understanding of the game (Browne, Carlson, & Hastie, 2004). An earlier study by Hastie (1998b) reported that students made significant improvements in skills and tactics during a 30-lesson season of ultimate Frisbee.

Given the successful reports about the model, Sport Education has spread world-wide. However, Sport Education has been implemented and researched primarily in English speaking countries such as New Zealand (Grant, 1992), Australia (Alexander, Taggart, & Medland, 1993; Alexander, Taggart, & Thorpe, 1996), the United Kingdom (Kinchin, Penney, & Clarke, 2001; Kinchin, Quill, & Clarke, 2002), and the United States (Hastie, 1996b, 2000). The curriculum and instruction model of Sport Education is reported to achieve similar outcomes across *diverse settings* with differences depending on students' sport histories and their personalities rather than upon their country of origin (Hastie & Carlson, 1998). There is however very limited evidence of teaching of Sport Education in *diverse countries*, meaning those countries not sharing English as their native language and developed industrialized capitalism as their core economic system (Hastie & Sinelnikov, 2006). There are initial reports of Sport Education taught in Korean (Kang, Moon, & Kim, 2000; Kim, Penney, Cho, & Choi, 2006) and Russian schools (Hastie & Sinelnikov, 2006). Although it appears that the main findings about

Sport Education in schools are similar among different cultural contexts, the research on that cultural aspect of Sport Education is still very limited.

While the first reports of Sport Education in a collegiate setting described by Bennett and Hastie (1997) focused on students acting as recipients of the model, Jenkins (2004) illustrated an approach where the physical education teacher education program allowed preservice teachers to learn a curriculum model (Sport Education) by integrating key features of the model throughout physical education teacher education curriculum.

The advantages of Sport Education are well reported and among other benefits, Wallhead and O'Sullivan (2005), in their recent comprehensive review of the current knowledge about Sport Education curriculum model and its effect on student learning (62 peer-reviewed journal articles and 28 empirical studies), highlight the effectiveness of the model in facilitating student engagement within student-centered learning tasks. In addition, the studies included in the same review suggest that Sport Education promotes personal and social development in the form of student responsibility, cooperation and trust skills while pointing out that the effective content development and equitable participation might be problematic under student leadership.

The reports on Sport Education can be categorized into the following approaches, all of which add to the body of knowledge about the model:

Practical approach. This line of studies describes the implementation of Sport Education into physical education using various contexts and settings, such as describing the inclusion of different sports and activities using Sport Education format. Such articles provide more practical application as they expand Sport Education into different areas and allow readers to see the possibilities of the model implementation with various

activities and at various age levels. The examples of a practical approach are hip-hop (Pike, 2000), bicycle safety (Sinelnikov, Hastie, Chance, & Schneulle, 2005), and fitness (Beaudet, Acquaviva, & Grube, 2004) units taught using Sport Education as a curriculum and instructional model.

Ecological approach. This approach investigates the ecology of the Sport Education classes, and specifically the transformation of student social system, student interactions, leadership roles and conflicts of power. The examples of this research include studies by Carlson and Hastie (1997), Hastie (1996a, 2000), Supaporn, Dodds, and Griffin (2003), and Pagnano and Griffin (2004).

Psychological approach. This line of research focuses on studying the psychological dimensions of the students and teachers when participating in Sport Education. The direction of the psychological approach seems to be in studying the motivational aspects of Sport Education to provide more that just anecdotal evidence of earlier studies and going deeper into the motivational climate of Sport Education. Wallhead and Ntoumanis (2004) investigated the influence of Sport Education on students' motivation responses in a high school physical education setting. The study quantitatively confirmed previous findings showing that during Sport Education, students had significant increases in levels of student enjoyment and perceived effort. Sinelnikov, Hastie and Prusak (2007) reported that sixth and ninth grade students during their participation in Sport Education exhibited high levels of intrinsic motivation and low levels of amotivation with no gender or context differences. In other words, both sixth and ninth grade boys and girls were highly motivated to participate, not only in practice and game play, but also in officiating roles during Sport Education season.

Integrational approach. The studies using integrational approach attempt to utilize Sport Education as a managerial and instructional vehicle to deliver the content emphasizing specific agendas or to combine different instructional models. Good example of such an approach is an infusion of teaching of personal and social responsibility into Sport Education described by Hastie and Buchanan (2000) that resulted in a development of a hybrid model called "Empowering Sport." Another example is a holistic approach in Sport Education, Tactical Games, and Cooperative Learning where the emphasis is on active learning that involves the processes of decision making, social interaction, and cognitive understanding (Dyson, Griffin, & Hastie, 2004). As part of the integrational approach, attempts to teach Sport Education using Teaching Games for Understanding approach can also be included (Hastie & Curtner-Smith, 2006).

Conflicting reports are available with regard to the extent to which Sport Education provides students with sufficient opportunities for developing moderate-to-vigorous physical activity (MVPA). During a particular twenty two lesson of floor hockey unit, students averaged MVPA of 63.2% of lesson time with no significant differences across the phases of the season, which is well above a recommended 50% threshold (Hastie & Trost, 2002). A more recent study demonstrated that students in the traditional multi-activity unit spent slightly more than the recommended 50% of lesson time in MVPA while the students in the Sport Education unit did not approach this level (Mitchum & Curtner-Smith, 2005). However, as the unit was only taught for 10 lessons by two pre-service teachers, there might be questions about the validity of the season. Disregarding the inexperience of preservice teachers in the account, but just the length of the unit alone undermines the foundational construct of Sport Education of having longer

seasons, and significantly diminishes or even eliminates the ability to attribute the findings of Mitchum and Curtner-Smith's (2005) study to Sport Education.

Table 2

Summary of General Findings of Research on Sport Education

Variable	General findings
Student	Students' skill levels and perceived understanding of the game improves. There are significant increases in student enjoyment and perceived effort in the Sport Education season. Students enjoy the multiple roles and they particularly seem to like learning from their peers. They are rarely off task, exhibit more instances of positive behavior, and particularly enjoy team affiliation.
Marginalized student	Lower-skilled and typically non-participating students seem to gain particularly important benefits.
Teacher	Teachers enjoy teaching Sport Education style and report having more time for individualized instruction during lessons. As students become excited about Sport Education, so too their teachers.
Activity level	Sport Education can provide sufficient opportunities for developing moderate-to-vigorous physical activity levels during physical education lessons.
Task system	Managerial, instructional and student social systems in Sport Education instead of conflicting, sustain the program of action. Student social system flourishes during the season.

Setting	Sport Education can be effective in diverse settings. There is evidence of successful implementation of Sport Education on elementary, secondary, high school and collegiate levels.

Motivational Climate

Examinations of how classroom environments influence student learning have been conducted over a past decade (Ames, 1982; Valentini & Rudisill, 2006) with two achievement goal constructs seemingly receiving most of the attention. The labeling of these constructs varies by researchers, including ego-involvement and task-involvement (Nicholls, 1984, 1989), learning and performance goals (Dweck, 1986), mastery and performance goal orientations (Ames, 1992), and mastery and ability (Butler, 2000). Despite these labels, a common theme across motivational research is that an ego-orientation is characterized by individuals comparing their achievement to those of others, while a task-oriented individual is more focused on task-mastery and self-improvement (Nicholls, 1984, 1989).

Drawing from the achievement goal theory of motivation, mastery or performance goals relate to the way learning, effort, and success are perceived and valued. The approaching and engaging reasons for the achievement activity and the individual's thoughts about oneself, one's tasks, and outcomes also factor in (Ames, 1992; Meece, Blumenfeld, & Hoyle, 1988; Nicholls, 1984). The differentiation of ability and effort drive the orientations. The fundamental tenet of a mastery goal orientation is a belief that effort and outcome covary and an individual belief that effort leads to success. On the other hand, the performance goal focuses on the individual's ability in reference with

others, doing better than others, or surpassing a normative-based standard. Different environmental and instructional demands elicit different goal orientations, and once enacted, result in different motivational patterns. The mastery achievement goal elicits a motivational pattern that is concerned with a quality of involvement while a performance goal encourages a failure-avoiding motivational pattern (Ames, 1992). It is generally preferable for students to have a mastery-oriented goal since it is associated with such motivational variables positively related to achievement activity as time on task, persistence/effort, preference for challenging work, risk-taking, an intrinsic interest in learning activities (Butler, 1987, 2000; Duda, 1989; Duda, Chi, Newton, Walling, & Catley, 1995). Similar findings demonstrating positive relationships between mastery goals and students' persistence/effort and performance are reported in physical education settings (Xiang, Bruene, & McBride, 2004).

Motivational climate refers to the situational goal structure of the environment created by significant others, such as teachers or parents (Ames & Archer, 1988). Ames and her colleague (Ames, 1992; Ames & Archer, 1988) distinguish two motivational climates, a mastery motivational climate and a performance motivational climate. Ames (1992) also identifies six environmental characteristics, originally developed by Epstein (1988), that contribute to the classroom goal structures. The classroom structures, identified by the acronym TARGET, include nature of tasks, locus of authority, recognition, grouping, evaluation practices, and the use of time. Task structures involve the design of tasks and learning activities, while Authority refers to the locus of the responsibility in the classroom (teacher's orientation toward autonomy and the degree of student involvement in decision-making). Evaluation practices refer to ways in which

students are evaluated and include standards, criteria, methods, frequency and content of evaluation. These structures are not viewed as independent contributors to student motivation, but a teacher can support a mastery goal in the classroom by implementing these classroom structures and instructional strategies (Ames, 1992). In a physical education setting, the findings of Todorovich & Curtner-Smith's study (2002) demonstrate that manipulations of the motivational climate influence students' goal orientation.

To measure the variables that impact the motivational climate of physical education lessons, researchers have developed instruments that allow systematic coding and analysis of teaching behaviors (Curtner-Smith & Todorovich, 2002; Morgan, Sproule, Weigand, & Carpenter, 2005). Both instruments are rooted in achievement goal theory and its assertions about the existence of mastery and performance orientations that are typical of individuals placed in the achievement setting. This paper will utilize mastery and performance orientation labels provided by Ames' (1992), since this labeling was used in the description of the instrument ultimately used for data collection in the study.

The Physical Education Climate Assessment Instrument (PECAI) developed by Curtner-Smith and Todorovich (2002) assesses the actual or "objective" motivational climate in physical education and sport settings. Reported to be a reliable and valid instrument, this systematic observation instrument allows quantification of variables associated with different types of objective motivational climate. This quantification is achieved by a task-by-task analysis of a physical education lesson, a sequence where a coder decides whether the task, authority, rewards, grouping, evaluation, and time

elements indicate that an ego- or task-involving motivational climate is being created by the teacher.

Morgan, Sproule, Weigand, and Carpenter (2005) created a computer based measure of the TARGET (Ames, 1992b) using the Behavioral Evaluation Strategies and Taxonomies (BEST; Sharpe & Koperwas, 1999). BEST collection and analysis software is a Windows-based software package that uses real-time recording principles and allows real-time collection and analysis of observational category system data (Sharpe & Koperwas, 2000). Similar to PECAI in allowing researchers to code and analyze teaching behaviors affect motivational climate in the physical education setting, the computer based measure of TARGET allows the recording and analysis of *frequencies* of task authority, recognition, grouping, evaluation and time as well as *duration* of chosen structures (Morgan, Kingston & Sproule, 2005).

The study of Wallhead and Ntoumanis (2004) suggested commonalities between the structure of Sport Education and TARGET (Ames, 1992; Epstein, 1988) structures for fostering a task involvement climate. While Sport Education facilitates the perceptions of a task-involving climate (Wallhead & Ntoumanis, 2004), that research is based on the perceived motivational indices and there has not been a systematic account of the objective motivational climate existing in the gym during Sport Education.

Professional Development and Mentoring

Professional Development

The support for inquiries to extend effective teaching practices and content knowledge may come in the form of professional development. The value of using professional development lies in the notion that it may have a positive effect on teacher

knowledge and motivation as well as improve students' learning (Armour & Evans, 2006). As Little (1993) comments, "The test of teachers' professional development opportunities resides in their capacity to engage teachers in the kinds of study, investigation, and experimentation required to understand and undertake the multiple challenges… and to grasp the relationships among them" (p. 129).

Teachers cannot be left alone in their pursuits of professional growth, as research indicates that teachers are unlikely to change their classroom practice on their own (Hawley & Rosenholtz, 1985; Little, 1993; Sykes & Darling-Hammond, 1999). When designing professional development it is "to build upon a teacher's desire to make a difference in the lives of pupils because it is here that a teacher's 'moral purposes' can most easily be found" (Armour, Moore, & Stevenson, 2001, para. 7).

Over ten years ago in the United States, the Consortium for Policy Research in Education published Policy Briefs (Corcoran, 1995) that provided starting points for several approaches to teacher professional development. These included (a) join work and job enrichment, (b) teacher networks, (c) collaboration between schools and colleges, (d) professional development schools, (e) national board certification, and (f) teachers as researchers.

Around the world and in most districts of the United States, professional development is thought of almost exclusively in terms of formal educational activities, such as courses or workshops. However, such "in-service" programs may or may not be relevant to teachers' professional development needs, and districts receive little guidance about how to manage and improve their efforts in the area of professional development

(Corcoran, 1995). While the ideas that contribute to enhancing professional development are available, very few professional development programs follow them (Guskey, 1991).

Recognizing the deficiencies in professional development and addressing the need for quality professional development for physical education teachers, on January 23, 2006, the Senate Committee in the state of California amended several sections and added to articles of the Education Code relating to physical education, and more importantly, made an appropriation of the funds. The amended Senate Bill 362, originally introduced by Senator Torlakson, established the Physical Education Professional Development Program in the state of California to provide training to physical education teachers (California State Senate, 2006). This Physical Education Professional Development Program is to be administered by the Superintendent with the approval of the State Board of Education and intended to serve K through 8th grade physical education teachers employed in public schools.

The Physical Education Professional Development Program will consist of physical education programs conducted by institutions of higher education. The local educational agency's training curriculum needs to be approved by the state board and be consistent with state-adopted physical education model content standards and with physical education curriculum frameworks. While the effectiveness of the Physical Education Professional Development Program in the state of California remains to be investigated (since this section of the Senate bill becomes effective on July 1, 2007), the mere fact of the establishment of such program provides a legislative support to the importance of continuing professional development.

In England, the national professional development program for physical education teachers, called The National Physical Education and School Sport Professional Development Programme has been in effect for the past three years (Armour & Makopoulu, 2006). The program aims to improve the quality of physical education and sport in all schools in England through the provision of high quality professional development for teachers and other adults. There is government support and funding for the program and in addition, funds were recently extended for the program's comprehensive evaluation.

There is an agreement in the literature about the ineffective practice in professional development for teachers, and evidence exists suggesting that sporadic "one-off" professional development activities are unlikely to have a lasting impact upon teachers' practice (Armour & Yelling, 2002, 2004; Connelly & James, 1998). Moreover, the National Partnership for Excellence and Accountability in Teaching (1999) has suggested that single workshops unconnected to a schoolwide improvement plans do not provide adequate professional development in any topic. In the field of physical education, teacher's experiences in such programs are said to lack coherence and relevance (Armour, 2004), as well as appropriate progression (Ward & Doutis, 1999).

The National Council of Staff Development identified three types of standards for staff development that improves the learning of all students: context, process, and content standards (NSDC, 2001). The context standards include organizing adults into learning communities, requiring school and district leadership, as well as resources to support adult learning and collaboration. The process standards include six components: data-driven (uses student data to determine adult learning priorities), evaluation (uses multiple

sources), research-based (prepares educators to apply research to decision making), design (uses learning strategies appropriate to the intended goal), learning (applies knowledge about human learning and change), and collaboration (provides educators with knowledge and skills to collaborate). The content standards account for equity, quality teaching and family involvement.

From the available literature and survey data, Birman, Desimone, Porter and Garet (2000) identified and described six factors (three structural and three core features) that have potential for effective professional development. The structural features included form, duration, participation, while core features are comprised of content focus, active learning and coherence. WestEd, a non-profit agency, serving as a regional education laboratory, based on the research and several exemplary programs outlined several principles of effective professional development (2000). An effective professional development program is one that "(1) focuses on teachers as central to student learning, yet includes all other members of the school community; (2) focuses on individual, collegial, and organizational improvement; (3) respects and nurtures the intellectual and leadership capacity of teachers, principals, and others in the school community; (4) reflects best available research and practice in teaching, learning, and leadership; (5) enables teachers to develop further expertise in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards; (6) promotes continuous inquiry and improvement embedded in the daily life of schools; (7) is planned collaboratively by those who will participate in and facilitate that development; (8) requires substantial time and other resources; (9) is driven by a coherent long-term plan; and (10) is evaluated ultimately on the basis of its impact on teacher effectiveness and

student learning; and this assessment guides subsequent professional development efforts" (WestEd, 2002, p. 2).

While there is a consensus in the literature that in-service education is still necessary to provide on-going professional development to teachers (Epstein, 2005), it is also recognized that the quality of professional development can only improve if it is clearly focused, team-based, welcoming of newcomers to the school community, aligned with school and district policies, goal-oriented, activity based, with shared experiences and interactions, and is also on-going (Desimone, Porter, Garet, Yoon, Birman, 2002; Sparks, 2002; Sparks & Hirsh, 1997). Several authors have suggested that addressing teachers' learning *during* professional development is a good measure of its effectiveness, and contend that professional development would be more effective if it could be described as "school-based" (NPEAT, 1998); "contextualized" or "situated to fit the school" (Brown, Collins & Duguid, 1989; Guskey, 2002; Lave & Wenger, 1991; Sparks, 1997); or "anchored" (Bransford, Sherwood, Hasselbring, Kinzer, & Williams, 1990). In addition, while Fullan (2001) viewed professional development as a goal-oriented and a continuous process supported through mentoring, coaching and feedback, Little and Houston (2003) have demonstrated that continued support was one of the required key variables in the process of teachers altering their teaching in a meaningful way through professional development.

Not all professional development opportunities are created equal, however, and the effectiveness of such opportunities remains to be investigated. Given that the important element of any professional development effort is the measure of its effectiveness in terms of changing teaching practices and ultimately enhancing student

learning, that effectiveness needs to be assessed through observation of actual teaching practices within the school setting (Morris, Chrispeels, & Burke, 2003). As student learning is yet another crucial outcome of professional development (Armour & Evans, 2006), the notion of validating the effectiveness of professional development through direct observation of actual teaching and student learning is critical. In physical education, Ward and Doutis (1999) noted the deficiencies in research concerning the processes and effectiveness of professional development, while Ko, Wallhead and Ward (2006) have suggested that physical education teachers often do not use the knowledge and skills provided to them in workshops, which in that respect would make them no different for other teachers.

Mentoring Perspective

There is scarce research available on mentoring in the field of physical education and sport. The limited research in the field focuses on mentoring aspects in administration, coaching, and preservice teaching fields (Jordan, Phillips, & Brown, 2004; Young, 1990; Cushion, Armour, & Jones, 2003). One of the aspects of research on mentoring is a description of mentor-protégé relationships in the school setting. To understand that phenomenon, the closer examination of the environment and structure of the working place of the physical education teacher is required.

Forming mentoring relationships with teachers in other subject areas may be problematic due to the *specificity* of physical education as a subject matter. It is the only subject where education is focused on all three domains of learning: cognitive, affective, and psychomotor. The environment and the organizational structure of the physical education lesson differ dramatically from other subjects. It is the only lesson where

students are not at their desks, but in the open general space of the gym or outside area. The managerial demands and strategies that physical educators use vary considerably from those used by teachers in regular classrooms. It may be difficult for teachers in other areas to relate to physical education as a subject matter, thus effectively serving as a barrier to forming any type of mentoring relationships with the physical education teacher. One might suggest that other physical education teachers could serve as mentors. A difficulty with that is that many schools have only one physical education specialist, with some schools providing an aide to help with the classes.

Physical education teachers are usually isolated more and have less status in the schools than most of the other teachers. Moreover, physical education in schools may be perceived as having lack of legitimacy and subsequently the subject matter of physical education is marginalized (Solmon, Worthy, & Carter, 1993). Although teachers of other disciplines also coach, the physical education teacher/coach usually experiences even greater conflict because his/her subject is normally not valued by the administration, thus it is much easier to neglect the planning/teaching of those classes (Paese, 1990).

Weaver & Chelladurai (1999) list several barriers to mentoring including among others proximity and stereotyping. Physical education specialists by nature of their work are often distant in proximity from other teachers. They do not have their own classrooms and rarely do they go into the teachers' lounge as the construction design layouts of many schools locate gymnasiums on the far side or in a separate wing of the school buildings. This distance separation may, along with common perception of physical education as a marginalized subject, serve as an effective barrier in the forming of mentoring relationships between physical education teachers and teachers of other subjects.

Definitions of mentoring. The origins of the term mentor are traced to Greek mythology. Before going to fight in the Trojan war, Odysseus, the king of Ithaca, left his old friend Mentor "in charge of everything with full authority over the servants" (p. 105) and to also provide education and guidance to his son, Telemachus, who at that time was an infant (Homer, 2000, p. 105). Odysseus was gone for 10 years after the Trojan was was over, spending time with the goddess Calypso, who fell in love with him and refused to let him leave. During that period of time, the relationship between Mentor and Telemachus developed. Telemachus trusted Mentor and knowing this fact Athena, the daughter of Zeus and goddess of wisdom, travels to Ithaca and assumes the form of Mentor to speak to Telemachus predicting that Odysseus was alive and will return back home (Homer, 2000).

Merriam-Webster's on-line dictionary provides two definitions for the word "mentor". The first, a friend of Odysseus entrusted with the education of Odysseus' son Telemachus. And the second, a trusted counselor or guide, tutor or coach (Meriam-Webster On-Line Dictionary, 2005). Developing on definitions provided for a tutor and a coach in the same dictionary, mentor can be defined as a person charged with the instruction and guidance of another, one who instructs or trains a performer or a team of performers.

Several reviews of literature agree that there is not one precise definition of mentoring in educational research (Healy & Welcher, 1990), and especially in research in physical education (Weaver & Chelladurai, 1999; Wright & Smith, 2000). In educational literature, mentoring is described when a role model, or mentor, offers support to another person. A mentor has knowledge and experience in an area and shares it with the person

being mentored (McBrien & Brandt, 1997). Healy and Welchert (1990) describe mentoring as “a dynamic, reciprocal relationship in a work environment between an advanced career incumbent (mentor) and a beginner (protégé) aimed at promoting the career development of both” (p. 17).

An alternative paradigm for examining the mentoring process is suggested by Zachary (2000) who views the process of mentoring not based on the assumption that the mentor is an "expert" in a field and that the protégé passively learns through what is passed on by the mentor, but on the argument that mentoring is a partnership based on mutual learning, growth, and satisfaction. The learner-centered approach should guide the mentor and protégé in their journey and the process of mentoring should not be mentor driven with the mentor taking full responsibility for protégé’s learning, but rather with the protégé and mentee sharing that responsibility. Zachary writes that “learning is the fundamental process and the primary purpose of mentoring” (2000, p. 1).

In his work, Zachary (2000) also outlines a variety of capacities that a mentor might serve in the process of the relationships. These capacities include: counselor (acts as a sounding board to help protégés solve problems or issues), coach (gives candid feedback, assistance with career, and advice), role model (leads by example), advocate/champion (listens, helps protégé gain exposure, opens doors). In addition, the suggestion that all of a person’s mentoring needs could not or would not be met by one individual, therefore rendering the notion of seeking out different mentors for different needs, as well as exploring a variety of venues for developing and maintaining mentoring relationships, is voiced (Zachary, 2000). Such avenues may include online mentoring or e-mentoring (i.e. a process of mentoring nurtured and supported via technological

advances such as e-mail and teleconferencing or even with the help of a specialized web-based software tools designed to aid in supporting telementoring programs)(O'Neill, Weiler , & Sha, 2005).

Early attempts in the physical education and sport literature are based on the work of Schweitzer (1993) who provided the following definitions of mentors, protégés, and mentoring:

> "Mentors: Individuals who go out of their way to successfully help their protégés meet life goals. Protégés: Individuals who have received special assistance from other persons (mentors) in reaching their life goals. Mentoring: Assistance given to a protégé by a mentor." (p. 50)

Weaver and Chelladurai (1999), drawing on the education research, further redefined mentoring as "a process in which a more experienced person (i.e., the mentor) serves as a role model, provides guidance and support to a developing novice (i.e., the protégé), and sponsors that individual's career progress" (p. 25). This definition seemed to be the one used in recent studies on mentoring in the physical education and sport settings (Pastore, 2003; Weaver & Chelladurai, 2002). Weaver and Chelladurai (1999) also provide the framework for mentoring which was based on literature review and presented in Figure 1.

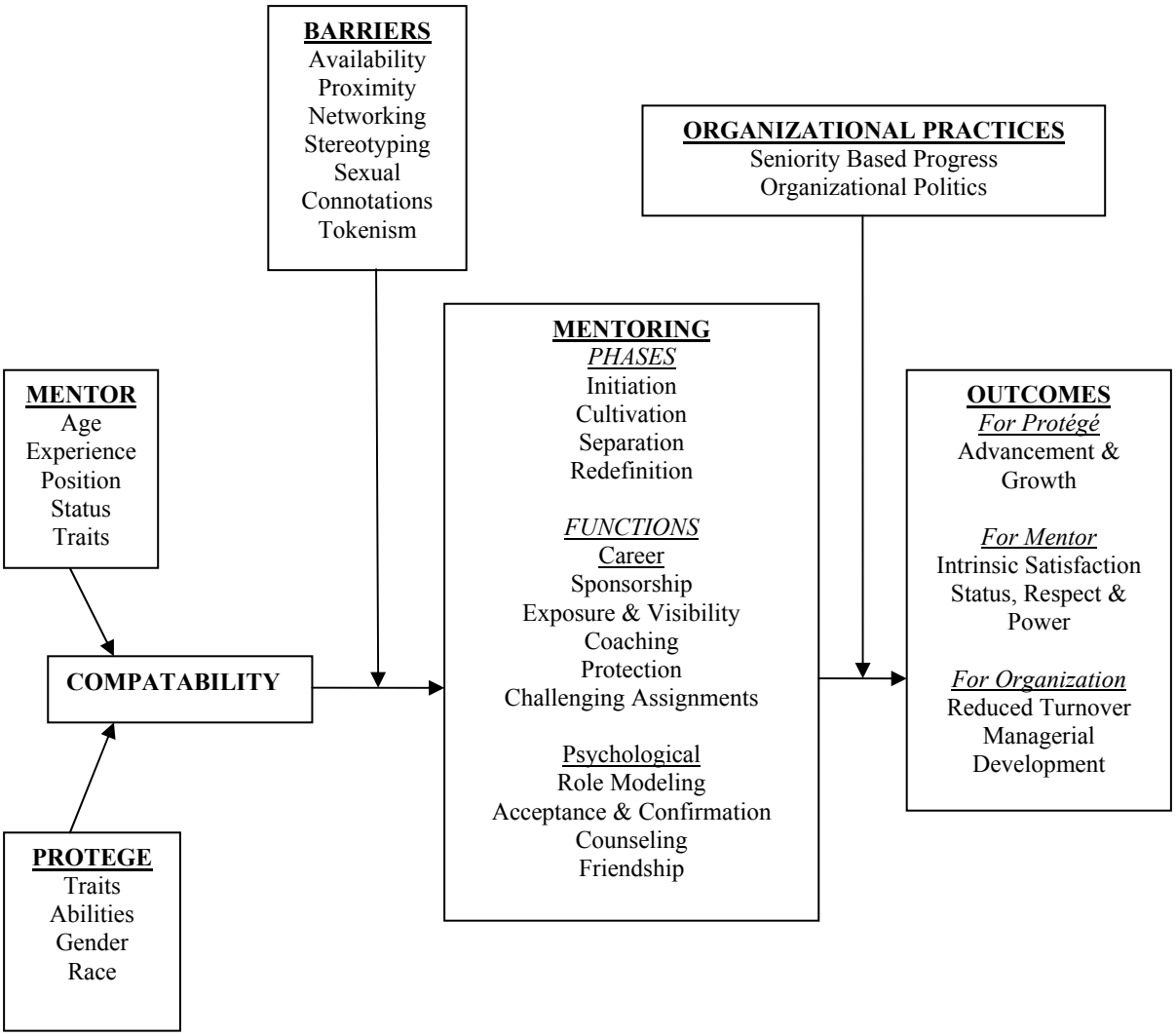

Figure 1. Model of mentoring (Weaver & Chelladurai, 1999).

Upon closer examination of the model, the functions of the mentoring were drawn from Kram and Isabella's (1985) work citing career development functions and psychosocial functions. They described coaching, sponsorship, challenging assignment, protection and exposure and visibility as parts of the career development functions of mentoring. Support, friendship, acceptance and confirmation, counseling, and role modeling are included in the psychosocial functions (Kram & Isabella, 1985). The study of 217 mentor-protégé dyads of working professional from a variety of industries

indicated that psychosocial support, career development, and career satisfaction are influenced by mentor-protégé gender similarity and mentor's supervisory status (Sosik & Godshalk, 2005).

The barriers of mentoring are identified in a 1999 Weaver and Chelladurai study and expostulated in a later study (Weaver & Chelladurai, 2002). The identified barriers and their descriptions are presented in Table 3.

Table 3

Barriers to Mentoring (Weaver & Chelladurai, 2002)

Barrier	Description
Access to mentors	Availability of mentors; opportunities for protégé to interact with a would be mentor. Sample Item: A lack of opportunity to meet potential mentors
Fear of initiating relationship	The fear of rejection by a potential mentor; high level of discomfort in approaching a mentor. Sample Item: I was afraid of being rejected by a potential mentor.
Willingness of mentors	Lack of willingness on the part of would-be mentors; inability of seniors to mentor because of their various commitment and heavy work schedule. Sample Item: Potential mentors were unwilling to develop a relationship with me.
Approval of others	Apprehension that others (supervisors and/or all workers) will disapprove of the mentoring relationship.

	Sample Item: My immediate supervisor disapproved when I entered a mentoring relationship.
Misinterpretation of approach	Fear of sexual connotations; apprehensions that close male-female working relationships may be automatically sexualized. Sample Item: Such an approach might have been misinterpreted as a sexual advance by potential mentor.

The significance of Weaver and Chelladurai's (1999) work lies in the postulation and identification of mentoring phases from the literature review (Hardy, 1994; Hunt & Michaels, 1983; Kram, 1983). According to Kram (1983), there are four distinct phases of the mentoring: initiation, cultivation, separation or breakup, and redefinition or lasting friendship.

During the initiation phase, usually lasting 6-12 months, the mentoring relationship begins. There are several avenues for the beginning of the mentoring relationships: protégé may develop a positive image of a mentor and seek that person's support and guidance, mentor may select a protégé based on certain strong characteristics (Kram, 1983; Weaver & Chelladurai, 1999), or a mentor-protégé relationship may initiate by a more formalized process of appointing mentor and protégés. The cultivation phase follows the initiation phase. In the cultivation phase the career and psychosocial functions of mentoring flourish. The cultivation phase usually lasts 2-5 years, after which the mentoring process advances into a phase of separation or breakup. The separation or break-up phase is signified by the emotional and psychological separation of the protégé from the mentor.

The protégé having gained the knowledge and support from the mentor now seeks independence and autonomy (Kram, 1983). This search for independence and autonomy is considered crucial in the mentoring process as the success of mentoring process is judged by the level of independence of protégé (Kram, 1983). During the final stage of mentoring relationships, the protégé having gained knowledge, support, independence and displaying a high degree autonomy is reconnected with mentor as a peer. Their relationship may be severed or becomes a collegial relationship, reminiscent of peer relationships. The mentor is proud of protégé accomplishments and also proud to be able to pass on important knowledge, values and skills (Kochan & Trimble, 2000; Kram, 1983; Weaver & Chelladurai, 1999). There is a sense of closure for mentor as he feels free to guide another individual (Kram, 1983). The result of the mentor-protégé relationships is often a long-lasting friendship.

Roberts (2000) identified and comprehensively discussed the attributes of mentoring from the phenomenological perspective. According to the review (Roberts, 2000), mentoring appears to have the essential attributes of: a process; a supportive relationship; a helping process; a teaching-learning process; a reflective process; a career development process; a formalized process; and a role constructed by or for a mentor. The contingent attributes of the mentoring phenomenon appear as: coaching; sponsoring; role modeling; assessing; and an informal process. Mentoring in physical education professional preparation includes: (a) peer mentoring of preservice teachers, (b) school-based cooperating teachers as mentors, (c) recent mentorship trends in collaborative or professional development school initiatives, and (d) mentoring in beginning teacher induction (Tannehill & Coffin, 1996).

To develop a successful mentoring program an organization's specific situational needs and resources need to be taken into account (Kajs, 2002). The Situational Mentoring Framework is recommended as a framework to aid in developing a successful mentoring program which comprises of four major components: (1) mentor selection; (2) mentor and novice teacher preparation; (3) support team; and (4) accountability (Kajs, 2002).

The issues of diversity and mentoring in the physical education settings have also been investigated. The study, examining the perspectives of graduate students from diverse cultural backgrounds on mentoring across several specialization areas in physical education, supported the concept of mentoring as a significant contributor to success during graduate school studies (Hodge, 1996). The investigation revealed that mentors provided guidance, counseling, and encouragement. Moreover, the development of a strong caring relationship often occurred between mentor and protégé. The study also demonstrated the need to increase programmatic efforts to increase the number of graduate students of color in physical education professional preparation programs to include: aggressive recruitment programs; financial aid and other funding opportunities (e.g., Leadership Training Grants); mentorship programs; and academic support groups (Hodge, 1996).

In the field of sport management, a study analyzing and identifying mentoring and networking of 263 administrators employed by the National Collegiate Athletic Association institutions report the existence of mentoring relationships and administrators' active participation in networking (Young, 1990). The results also indicate that NCAA administrators perceived that having a mentor and actively

networking assist in an individual's personal and professional development. Young (1990) reports that 94% of athletic administrators recommended that all young professionals in the field establish mentoring relationships. However, another study of 515 associate/assistant athletic administrators demonstrates that only 42.3% of male and 43.6% of female associate/assistant athletic administrators have mentors (Weaver & Chelladurai, 2002).

In developing good teachers, knowledgeable supervision and mentoring are key elements (Jordan, Phillips, & Brown, 2004). Mentors in physical education can and should be trained while mentoring itself "must be done by professional with observation and analytical skills who can provide immediate feedback based on systematically collected reliable and valid data to practicing and prospective teacher" (Jordan, Phillips, & Brown, 2004, p. 219). In the same publication, Jordan with colleagues (2004) described a model implemented in teacher preparation program that provided mentoring training for graduate students. In that model, graduate students attained hands-on experience in teacher evaluation and supervision serving as mentors for undergraduate student teachers. The process of mentorship in that particular model included participation in observation of live and videotaped lessons, critique sessions, interviews and end of semester evaluations.

Paese (1990) indicated that while some of the components of the induction program could be similar across disciplines, induction programs in the physical education field may require a special approach. Developing a similar line of reasoning, Wright & Smith (2002) drawing attention to the lack of mentoring research and programs in physical education, also pointed out the specificity of the physical education field, stating

that "[k]inesiology and physical education students and beginning professionals have special needs and, therefore, should be provided with mentoring models that cater specifically to them" (p. 211). The arguments were also made in favor of formalizing mentoring relationships, noting that while "[i]nformal mentoring relationships in our professions are abundant; formalizing them will enhance their effectiveness" (Wright & Smith, 2002, p. 211).

The call has also been made for induction teachers to develop "an extended web of relationships" including but not limited to district consultants provided by the employer, mentors located outside of the school, fellow graduates and university tutors (Vozzo, Abusson, Steel, & Watson, 2004). In addition, Vozzo with colleagues (2004) demonstrate that an online component allowing the sharing of ideas between the teacher and the university tutor is a valuable component of the mentoring network.

However, many formalized mentoring models, as part of induction, have not been successful, as mentors are given the task of mentoring in addition to all of their professional duties, which puts a strain on mentors and mentees to find time to nurture the relationship without adequate support (Zimpher & Rieger, 1988). The suggested solution is to reduce the mentor's load in favor of accounting mentoring as a part of work responsibilities (Zimpher & Rieger, 1988).

Benefits of mentoring in physical education. The literature abounds with descriptions of the mentoring benefits for novice teachers. One of the key benefits cited is in the increase of novice teacher retention in the teaching profession. Mentees acquire more positive attitudes toward teaching (Odell, 1990), experience less stress (Ganser,

1996; Odell & Ferraro, 1992; Tellez, 1992) which increases the likelihood of them staying in teaching as a result of the mentoring process.

As evidence of the benefits derived from mentoring, Huffman and Leak (1986) surveyed over 100 new teachers regarding their perceptions of mentoring and found that the vast majority (96%) endorsed mentoring as an important contributor to success. These beginning teachers indicated that their mentors had provided them with encouragement, collegiality, and helpful recommendations for improved teaching practice.

In support of mentoring preservice teachers in physical education, Tannehill and Coffin (1996) suggested that perhaps the major benefit of peer mentoring "lies in the support it provides and collegiality it fosters" (p. 11). Having a mentor and active participation in networking was perceived by mentees to assist in an individual's personal and professional development (Young, 1990). Pastore (2003) advocating for institution of mentoring programs between professoriate and graduate students commented on benefits of mentoring in the field of physical education as “it would enhance networking opportunities for our students and the job selection process for our members (p. 9).

Weaver and Chelladurai (1999), from the perspectives of the field of physical education, succinctly outlined numerous benefits or outcomes of mentoring for protégé (advancement and growth), mentor (intrinsic satisfaction, status, respect and power), and for the organization (reduced turnover and managerial development). For example, for the protégé, advancement outcomes include salary, promotion, status, and power. Competence, identity and effectiveness are included in growth outcomes. The findings of the Dreher and Cox’s study (1996) confirm that mentoring relationships can lead to career mobility, higher pay, career and job satisfaction, friendship, and personal growth.

Based on the literature review, Weaver and Chelladurai (1999) divided benefits for the mentor into three categories: intrinsic (e.g., satisfaction and sense of competence), extrinsic (e.g., spreading the influence and power throughout organization), and benefits from the protégé's reciprocal efforts (protégé assisting mentor with job responsibilities allowing mentor to be more productive). From the organizational standpoint, benefits for the organization include reduced turnover, as protégé experience higher job satisfaction rates and are less likely to change jobs, and an opportunity to develop professional and managerial talent for higher positions within organization (Weaver & Chelladurai, 1999).

A study of 515 associate/assistant athletic administrators demonstrated that mentored administrators are more satisfied with work than their non-mentored counterparts (Weaver & Chelladurai, 2002). However, the same study also demonstrated a lack of support for the hypothesis that mentored individuals are promoted more often and receive higher salaries than non-mentored respondents. Overall, there seems to be a plethora of evidence of the benefits of mentoring with benefits experienced by the protégé, mentor and organization; however, one needs to be cautious and consider a variety of factors before initiating any mentoring relationship or mentoring program.

Throughout the United States many school districts require physical education teachers to participate in continuing professional development. The continuing professional development comes in a variety of choices, but the popular choices are attending workshops and conferences. However, professional development as it exists now is largely ineffective (Armour & Yelling, 2004). Not only is very little known about the nature and quality of existing career professional development in physical education, but physical education teachers' views on their professional learning requirements are

unknown. The findings of a recent study on 85 physical education teachers in England suggests that physical education teachers' career professional development experiences lack coherence and relevance (Armour & Yelling, 2004). The study also describes a gap between teachers' ambitious aspirations for students in physical education and the professional development available to help them achieve those aspirations. It is argued, therefore, that professional development should be restructured and refocused to ensure that physical education teachers' career-long learning needs are met. Armour and Yelling (2004) advocate that the focus of professional development should not be on the "notion of professional 'development', but rather should be upon 'professional learning'" (p. 87).

CHAPTER III

STUDY I: TEACHING SPORT EDUCATION TO RUSSIAN STUDENTS: AN ECOLOGICAL ANALYSIS

Abstract

The purpose of this study was to examine how Russian high school students, totally inexperienced in requirements of group work and other tasks involving high autonomy responded to the self-governing demands of a Sport Education season. Forty-two students from two ninth-grade physical education classes participated in basketball seasons lasting 18 lessons. From an analysis of video records of lessons, interactive student journal, and interviews with individuals and groups, it was determined that these students were highly compliant with the explicit tasks in the managerial and instructional task systems, and became increasingly at ease with the tasks requiring less teacher direction. It was in the student social system that the most dramatic observations were noted. For some, the disruption in their social agenda led to modifications of social strategies of having fun to focus on either individualistic or performance-oriented features of Sport Education, while for others, the season embraced the notions of team affiliation and achieving a common goal that were previously unseen or unavailable during physical education.

Introduction

Sport Education is a curriculum and instructional model rooted in "play theory" that is designed to develop competent, literate and enthusiastic sportspersons (Siedentop, Hastie, & van der Mars, 2004). Six distinct features, namely, seasons, team affiliation, formal competition, culminating event, festivity, and record keeping, characterize the key elements of the model. Students participating in Sport Education stay in persistent groups (in this case teams) for the duration of the season, which is typically longer than regular physical education units. They also become involved in team practices and competitive games leading to a culminating event. In addition, students engage not only in playing roles (each as a member of the team), but in officiating (or scorekeeping) duties as well (Siedentop et al., 2004).

As a curriculum and instructional model, Sport Education has a number of inherent assumptions. While Siedentop and colleagues (2004) note that Sport Education "differs in many ways from what students are typically expected to learn in physical education and how their teachers organize learning experiences" (p. 17), groupwork, cooperation between students, peer instruction, student responsibilities are prominent in the model. Previous research on Sport Education mainly stemming from English speaking countries such as New Zealand (Grant, 1992), Australia (Alexander, Taggart, & Luckman, 1998; Alexander, Taggart, & Thorpe, 1996), the United Kingdom (Kinchin, Penney, & Clarke, 2001; Kinchin, Quill, & Clarke, 2002), and the United States (Hastie, 1996, 2000) highlighted these features of Sport Education. Indeed, most of these assumptions are not that far removed from quality educational practices in the schools in

English-speaking countries (e.g., see Cohen, 1994 for groupwork or Hall & Stegila, 2003 on review of peer instruction).

However, in modern Russian education and particularly physical education, these practices are rarely observed. The learning process in Russian schools is highly structured and individualistic. The authors of this paper repeatedly observed a number of classes over a period of several months in the past three years with different subjects. The observed that group work was minimal, and students accomplished lesson tasks in a private manner. There was rarely class discussion beyond clarification of a correct answer, and a majority of lessons followed a pattern of individual seated work immediately after a teacher lecture. In some cases, students were called to complete tasks on the blackboard in front of the class. The main student responsibility was for his or her individual learning with limited or no peer interactions during class time.

The Archetypal Russian Physical Education Lesson

According to Russian physical education curriculum guides (see for example, Bondarenkova, Kovalenko & Ytochkin, 2004), a standard lesson consists of three parts. The first, "Introductory Part" should range in length from 5-8 minutes and consists of fitness exercises such as marching, running (in all directions), and the performing of various calisthenics. This is followed by the "Main Part" which consists of various skill development exercises, often in the form of relays, but most of which focus exclusively on what we would interpret as technique (in contrast to problem solving or tactical tasks). Also included in the "Main Part" is time allocated for game play. The physical education teacher usually divides the class into teams or students pick their own teams for game play. The final section of a lesson, the "Conclusitory Part" involves a summing up of

what has been learned during the lesson. The student grading in Russian physical education is completely based on student performance on standardized tests. Repeated observations of physical education lessons in a number of Russian schools over a period of two years has confirmed the author's belief that this model is being enacted in a majority of lessons.

Time allocations, however, do not always give a complete picture of student involvement (Metzler, 1989). Figure 1 provides a representative graphic of student engagement in a typical Russian physical education lesson. Compiled from quantitative analysis of ten lessons across five schools, this figure shows that levels of student engagement are particularly high in the sections dealing with fitness development, but are concurrently particularly low during skills practice and in many game situations.

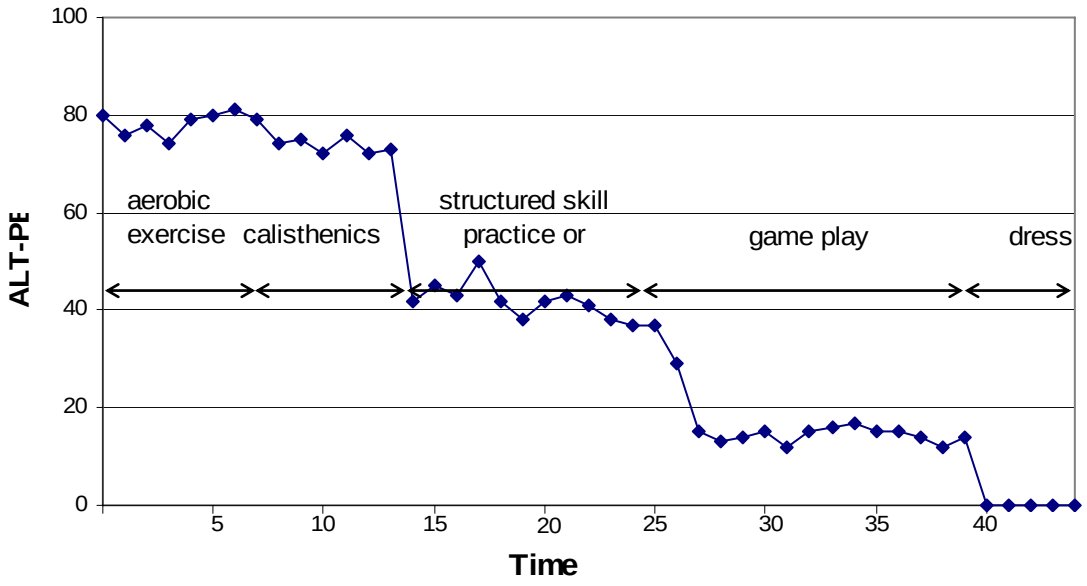

Figure 1. Typical lesson progression for Russian physical education.

Purpose of the Study

Given Russian students' general lack of group work and opportunities for student responsibilities in their prior schooling experiences, the purpose of this study was to examine how these high school students would respond to participation in a Sport Education season.

Doyle's ecological paradigm (1977) was the theoretical lens through which the analysis was conducted to provide answers to the research question,. The ecological paradigm describes the nature of classroom events in terms of multidimensionality, immediacy, unpredictability, publicness, and class history. While two central elements in the ecological model are the notions of order and academic work, the classroom is seen as a set of three interdependent task systems: the instructional, managerial and student social (Allen, 1986; Doyle, 1986).

The ecological paradigm has been used to examine several aspects of the dynamics in physical education settings (Hastie & Siedentop, 2006). Jones (1992) demonstrated the existence of instructional, managerial and informal social task systems with confirmed levels of interaction of all systems. The study demonstrated that students produced minimal or no modifications in the managerial task system, and produced a high level of compliance in instructional tasks. However, while students were consistently on-task a high percentage of students were unsuccessful at those tasks (Jones, 1992). The student social system has been reported to have a significant implication for the extent of academic work and behavioral compliance that occur in the physical education classes (Hastie & Pickwell, 1996; Carlson & Hastie, 1997). Furthermore, Jones (1992) and Siedentop and Tannehill (1999) demonstrated that student

social tasks are often embedded in the managerial and instructional task systems and are not always easy to observe. Social tasks may contribute and assist or inhibit and restrain the teacher's agenda for the class (Hastie, 1995, 2000; Hastie & Siedentop, 1999).

While the "essential goal of the classroom ecology paradigm is to investigate how teacher and students operate together to get the work done" (Hastie & Siedentop, 2006, p. 223), research on Sport Education has presented the postulate that the model involves a multidimensional program of action in which three task systems make positive contribution. That also helps to explain the high level of enthusiastic engagement of many students in the model. Student leadership and responsibilities play a key role in maintaining and strengthening the primary vector of subject-matter work in Sport Education (Carlson & Hastie, 1997; Hastie, 1996, 2000).

Method

Participants

The participants in this study were forty-two ninth grade students (mean age = 14.3 years, *SD* = 0.5). The students were from two classes, one consisting of 14 girls and 6 boys, and the other having 16 girls and 6 boys. Each class was an intact group that had been together as a cohort from the first to the ninth grade, a situation which is typical of any class in Russian schools. The participants in the study did not have any prior experience with Sport Education and had not received any formal basketball instruction in the academic year that the study took place.

The teacher in the study had four years of experience with Sport Education as a curriculum and instructional model. While not employed by the school at the time of the study, the teacher had previously taught physical education in that same school and was

familiar with its policies and protocols. The teacher was also the researcher in the study and therefore was aware of the purpose of the study.

Setting

The study took place in a public coeducational school located in a city (population 300,000) in the central part of the East European plain of Russia. The school had a total enrollment of 700 students in the first through eleventh grades. Although the school was public, the majority of the student body came from upper middle class families.

The gymnasium available for teaching physical education lessons had a regulation size basketball court and an additional 6 basketball goals mounted on the side walls opposite each other. Sufficient basketballs were available so that each student could have a ball.

Lesson Content

The subject of physical education is required for all students in Russia for two academic hours a week. Because the curriculum philosophy of Sport Education features longer seasons that allow for greater depth of coverage of content (Siedentop et al., 2004), at the beginning of the academic quarter the physical education teacher discussed the model in both participating classes about this requirement. Following this presentation, an anonymous poll was conducted that resulted in a unanimous student decision to make the school's once a week elective period a physical education lesson.

The lesson content was identical for both classes. The students participated in a unit of basketball designed and taught according to the key principles of Sport Education. Consistent with the model, the students were divided into teams that remained together throughout the duration of the season. After the initial lessons focusing on skill learning,

students competed in non-consequential practice games and later took park in official competition. The season culminated in play-off matches and an awards ceremony. The students also participated in the administrative roles as officials, scorekeepers, statisticians, and managers during the course of the season. The complete outline of the season along with lesson content is presented in Table 1.

Table 1

Sport Education Basketball Season Plan

Lesson	Content	Teacher Role	Student Role
1	Introduction Initial techniques practice	Class leader	Participants
2	Skill practice	Class leader Observation, assessment	Participants
3	Skill practice Coaches selection	Class leader Further observation & assessment	Select coaches Participant
After class	Team selection	Moderator	Coaches' panel selected teams
4	Team announcement Team skill practice	Present teams Discuss roles, fair play	Choose team name Select team roles
5-7	Pre-season team training	Head coach	Coaches

	Match rules and protocols		Players
	Officiating		
8-12	Practice competition	Head coach	Coaches, players
		Referee advisor	Duty team roles
13-15	Formal competition	Program manager	Same as above
16-17	Play-offs	Program manager	Same as above
18	Awards ceremony	Master of ceremony	Participants

Treatment Validity

Hastie (1998b) recommends validation of a Sport Education season by examining the teacher's instruction as well as student participation during the unit. In order to confirm that a season in fact follows the key principles of Sport Education, the following evidence should exist: (a) a decrease in teacher's organization and direct instruction as the season progress, (b) an increase in the percentage of frequency of observing behaviors, and (c) an increase in student participation in game play and refereeing commitments as the season progresses.

To validate the Sport Education season completed in this study, the frequency and percentage of selected teacher behaviors were collected during two representative lessons of each of the phases (skill practice, practice competition, formal competition). The BEST software (Sharpe & Koperwas, 2000) was used for data collection training and actual data collection procedures of the treatment validity portion of the study.

Figure 2 shows the summary data for teacher behavior and time allocation across the three phases of the season. This figure shows how both teachers replicated the expected teaching behaviors of Sport Education instruction. During the early lessons, there was significantly more time spent in class management with the teacher being the primary provider of organization and lesson content. Also in these early lessons, there was significant involvement by the students in skill practice, but minimal involvement by the students in game play. During the later lessons, these features were reversed, with the students taking primary responsibility for the conduct of lessons and taking the roles of players and officials.

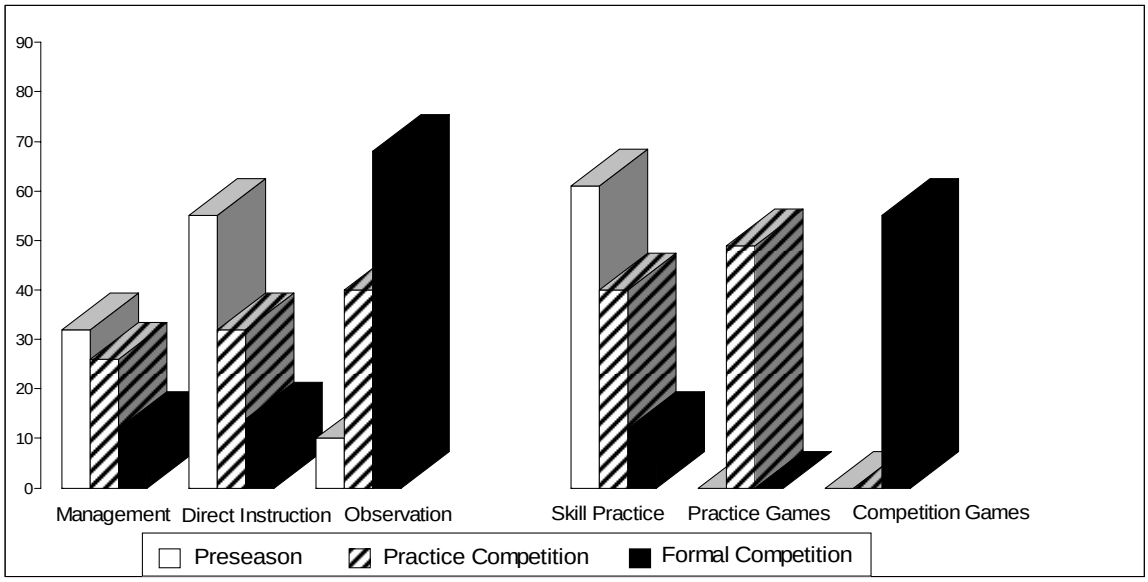

Figure 2. Teacher behavior and time allocation to practice and games across the season.

Data Collection

The following data sources collected throughout the Sport Education season were used in this study: video records of lessons, interactive student journals, as well as group and individual interviews. Informed consent was obtained from all participants and their parents prior to the beginning of data collection. In addition, on several occasions the

researcher assured the students of the confidentiality of their journals, interviews, and video records of the season.

Video records of lessons. Each lesson of both seasons was videotaped using a portable digital video disc (DVD) camera mounted on a tripod. The DVD camera was situated in the corner of the gymnasium in order to be unobtrusive, but so as to capture as much of the lesson as possible. The teacher wore a wireless microphone to capture verbal comments throughout the lessons. The resulting high quality video and audio recordings on DVDs were then transformed into Moving Picture Experts Group (MPEG) standard for compression and storage of motion video on the computer hard drives for the subsequent video analysis.

Interactive student journals. At the beginning of the season, the teacher asked each student to keep an individual journal about his or her experiences during the season. The journals were used as a comfortable medium for students to express their thoughts and ideas that may not otherwise be expressed during group discussions (Oliver, 1999). Students made entries in the journal after each lesson outside of class time, and the teacher encouraged students to make entries based on what happened during the course of the lesson. Strict confidentiality was emphasized and students were aware that the teacher would be the only person reading the journals. The students were reminded, however, that their honest opinions and reactions were highly valued. Once a week, the researcher collected all the journals for review, and after reading the journals, made notes or wrote questions in the journals for students to answer. This technique of an on-going dialogue between the students and the researcher was similar to that used by Oliver (2001) to engage adolescent girls in critical inquiry.

The students' journals served two purposes. The first was to provide feedback with regard to the on-going instruction. As a case in point, at one stage during the season, a number of students requested further explanation of officiating duties, while others asked for more individual feedback. The second purpose of the journals was to allow the researcher to clarify, elaborate or explain a topic a particular student had included in his or her journal. Likewise, the journals served as a forum where the teacher asked the students to write in more detail or clarify certain events or points of interest. After weekly reviews the journals were returned to students. At the end of the season, each student had an option of keeping the journal (leaving a Xeroxed copy for teacher) or giving the original journal to the teacher.

Group interviews. The students' perceptions of the social context and account of the season were gathered through interviews conducted at two points during the season. The first series of interviews was at the point where the students had been practicing in their teams and had just begun to participate in practice matches. This interview captured the students' perceptions of such factors as their social interactions and conception of the "season" compared with their regular physical education, as well as their thoughts about their team.

The second series of interviews was conducted at the completion of the season (in the lesson following the celebration and presentation of awards), and focused on issues similar to the first interview, but also with an examination of the students' social interactions that were taking place during the season. Both interviews were conducted in Russian and were recorded on audiotape and later transcribed verbatim.

Individual interviews. Individual interviews were conducted throughout the season. The interviews followed a semi-structured format with each interview lasting from thirty to forty five minutes. All interviews were conducted in a quiet environment in an available classroom close to the gymnasium. Interview questions were based upon the students' perceptions of the season, events that happened during the season, and the participants' social environment. In addition, individual student journals were discussed with clarification directed towards the intended meanings of some entries. All interviews were audio-taped and transcribed verbatim immediately following the interviews.

Data Analysis

The researchers reviewed the video records of the season and recorded observable student behavior and particular events occurred in the season. In addition, similar to a protocol used by Hastie (2000), the student responses to the instructional and officiating tasks were recorded. A response was measured in terms of whether the student was congruent with the task, modified the task, or was off-task (see Siedentop et al., 1994), while the congruency level for the student when officiating was measured in terms of being fully attentive, distracted or off-task.

Audio recorded data were transcribed verbatim and entered in a Microsoft Word document, labeled by type and categorized by date to ensure an accurate account of the sequence of events. Thematic coding was used to analyze all data and identify common themes (Spradley, 1979). First, recurring patterns were identified. The next step of the thematic analysis was to identify all the data that related to the already classified pattern. If data did not fit into an already classified pattern, a new pattern was created. The next step was to combine and catalogue related patterns into subthemes. Themes are defined

as units derived from patterns such as “conversation topics, vocabulary, recurring activities, meanings, feelings, or folk sayings and proverbs” (Taylor & Bogdan, 1989, p.131).

The data analysis was performed in Russian language and the resulting themes were later translated into English for the purposes of reporting. This method was used to reduce the possibility of inconsistencies that may arise from translation. The data from the interviews, student journals and notes from the video were analyzed through the constant comparison method (Denzin & Lincoln, 2003).The number of data sources collected across different context strengthened themes and provided grounds for data triangulation. During triangulation all data from multiple sources were reviewed and analyzed.

Results

Managerial Tasks

Managerial tasks in this season were similar to those found in most Sport Education seasons. These included entry/exit protocols, collection and distribution of equipment, the placement of teams for practices and games, and the associated transitions between warm-up and competition. In addition, there were a number of “paper work” tasks such as completing team forms and updating statistics on team posters.

As many of these tasks were explicit, individual, and frequently rehearsed in the early lesson, compliance in the managerial system was particularly high. Indeed, similar to the study of Hastie (2000) these managerial tasks had become routine and were part of the daily operations of the class well before the formal competition phase.

Even though these tasks were explicit and in the context of ecological theory, were particularly unambiguous (i.e., the extent to which a precise answer can be defined in advance or a precise formula for generating an answer is available), many students commented about the increased levels of responsibility during physical education lessons. For them this was a change from their previous physical education. Dima's journal entry summarized it well:

> This is different. Before, during previous physical education, we just came and played, and now you have to answer to your comrades. I come early and get my team early into the gym. We begin practicing to get better. There are more things I must take care of.

As hinted by Dima, many students noted that they were accountable to their team and their peers for some of these new responsibilities. Lena wrote the following in her journal:

> Now I have a task and a role. This is something that only I can do during the class. As a manager I need to find the basketballs so we can begin practice. I usually hurry straight from algebra and come to the gymnasium. Without me our team cannot practice.

While in some Sport Education seasons teams accumulate points for their successful accomplishments of these managerial tasks as part of a formal accountability system, in this study, accountability was informal through notions of team responsibility. For many students however, taking pride in their role was clearly evident. Comments included the following journal entries, "I am proud to be a coach" and "this is my responsibility and I take pride in doing it well" are typically representative of this sentiment.

Instructional Tasks

Similar to the managerial tasks of the early phase of the season, initial instructional tasks were teacher directed and explicit. These lessons involved students learning various ball handling and shooting skills, basic defensive posture, and triangle offence. Also during these initial lessons, students were involved in the team development tasks such as deciding on team names, selecting colors and logos, as well as deciding upon team roles.

After a series of lesson on basic skills, skill instruction was handed over to the team captains. Upon entering the gym, team coaches watched a short video (20-30 seconds) demonstrating the specific ball handing skill. During the warm-up, coaches then were responsible for instructing and leading their respective teammates in practicing this particular skill.

Student compliance during teacher directed skill lessons was very high (98% on-task) with minimal task modification (2%) and there was no incidences of off-task behavior. However, during less teacher directed lessons and particularly during team development tasks some students became less engaged. This was not manifested in off-task behavior, but more so as a result of not having experience in lessons where the tasks were more ambiguous. As a case in point, in the beginning of the season students frequently looked at the teacher for his approval or for the teacher to make decisions for them. For example, when choosing team names, one of the teams was looking for the teacher's input. The following extract from the video gives an example.

> Team: What do you want us to be named?
>
> Teacher: This is for you to decide. This is your team and your team name.

Team: Just tell us what our team should be called.

Teacher: You can call it whatever you want. What would you like to be called?

Team: Just tell us the name and we'll look at it and take it.

Put in the context of Russian education, this dialogue does not suggest that the students did not want to think, it simply demonstrates that they are used to being told what to do and there is one way of doing it correctly, that is, the teacher's way. Indeed, when the students finally realized that the teacher was not going to give them directions, they had a lively discussion and came up with their own unique team name.

As the season progressed and team decisions became increasingly part of every lesson (i.e., how to divide the team for small-sided games, who will officiate, who will score, and what to practice during warm-up), the students became more accustomed to and comfortable in the decision-making process. As Tanya, a student from the team "Kangaroos" said during an interview, "We had to figure out how everyone could agree. We used to argue in the beginning, but now it does not take us much time to decide."

Another challenge that came with increasing responsibility in terms of the decision making was that many students failed to understand that with power came responsibility. This can be illustrated with the following excerpt from a lesson in which teams were selecting their names. During this process, one of the girls from a team of three girls and one boy suggested they be called "Spice Girls." The members of the team voted and since the girls held the majority vote and much to the distress of the boy, Boris, the team was named "Spice Girls." During the next lesson Boris did little to work with the team or pass to his teammates during a scrimmage. His comments were, "I have not communicated with those girls much before. We really don't get along. They are not any

good. There is no one to play with." Nonetheless, following teacher intervention during the next lesson, the conflict was resolved as the team decided to choose a different name, "Pumas." Valentina, one of the girls on the team, later wrote in her journal: "I believe that our initial team name was not fair. It is of no use to make people upset and we need to play together. I think that we need to consider each other's feelings."

When off-task behavior did exist during lessons, it was when team coaches failed to work with their teams teaching the skills introduced in the video. The end result was coaches and players shooting the baskets, while other players on the team simply waited for matches to begin. Nonetheless, this off-task behavior did not occur in every lesson and was only evident in two of the ten teams involved in the study.

A key instructional task present in every season of Sport Education is that of students officiating games. Consistent with previous research (Hastie, 1996, 2000) the officials took their roles seriously and diligently, and showed high levels of compliance with the attentional requirements of their officiating duties (96% attentive). While the role of the official was new to these students the level of "risk" (i.e., the stringency of the evaluative criteria a teacher uses and the likelihood that these criteria can be met on a given occasion) was significantly minimized due to the fact that the students exhibited what appeared as an amplified sense of fair play. Considering the high contact nature of basketball, there were minimal disagreements or arguments during the season. From the very first games, the players were very honest about their actions, such as being the last one touching the ball when it went out of bounds or fouling another player. It just happened as a matter of course and in fact, the role of the official, originally envisioned

as a problematic role given the students' lack of previous experiences, evolved into what could be considered the responsibilities of a statistician.

This sense of fair play appeared frequently in student journals and in interviews. Comments such as "officials were extremely fair today" and "when I officiate, I try to officiate fairly" were representative of many students in the class. One of the main concerns for officials was to not give advantage to any particular team. As Ivan wrote in his journal, "I just call what I see. It does not matter that Sergey is my friend and playing for one of the teams. I still referee honestly."

Student Social Tasks

Allen (1986) writes that students have two main agendas for a class. The first is to pass the course and the second is to socialize and have fun while doing so. For the students in this study "passing the course" was totally unproblematic in that their grade for physical education was derived exclusively from their performance on standardized fitness tests. As a result, they were free to follow a pathway towards their social objectives. For these students, fun was derived from being part of the team and from the authentic competition.

Authentic competition. With regard to team affiliation the students reported that they enjoyed being a part of a team and developing a strong sense of belonging. The following statements are characteristic of student journal entries throughout the season.

> Here they come, the will and the character! Here it comes, the team spirit! Along with scratches on both hands and a broken nail. (Natasha)

> We lost but we played extremely well today as a one and undivided team. (Aleksey)

While commenting on the lesson during an interview, another student, Anton said, "Today was an awesome lesson. We played against our teammates and everyone participated. I was constantly making a same mistake, but then I finally got it. As they say, you learn from your mistakes. It is good to have a team."

The association with the team extended outside of physical education lessons, not always in the intended ways. Indeed, before one lesson the students' biology teacher came to speak with the physical education teacher. Evidently the members of "Sponge Bob" had been passing notes to each other in class strategizing about their upcoming game to the extent that class's attention was distracted.

Not only was team association evident outside of physical education, it also extended outside of school time. As Sveta wrote, "Our team gathered together on the weekend and we walked downtown and the riverbanks wearing our 'Hunters' team t-shirts. We might have looked strange to the onlookers, but it was really cool." As noted, students enjoyed the competition but one of the particularly attractive features was the authenticity of the competition, that is "just like a real game." Journal entries such as, "every game had officials and coaches, and for the first time you could feel that you participate in a REAL basketball match" and "this is an actual game" were common.

However, while winning was important, the students also focused on individual and team improvement and "playing hard." After a loosing match Sveta commented, "We lost today, but I think that our team played especially well today. Our team still has a spirit of a winner." At the end of the season Nikolai said during the interview, "Even that we took third place, I was very happy. We played tough team and others were very strong, and we gave them a battle. And more, now I could make shots when I shoot."

Kings of the court. In this particular season, however, there was a small cohort (3-4 boys) who did not embrace competition involving coeducational and mixed ability teams. These were the students who previously ruled the gymnasium. They were the boys who dominated the activities, dominated possession during games and dominated the choice of activities during traditional physical education. Often, these "kings of the court" would suggest the activity prior to the beginning of physical education class, and in most cases the physical education teacher tended to comply. Sasha, one of the higher skilled boys in the class, summarized it well during the interview, "When we come in, we tell Sergey Anatolyevich that we want to play lapta or basketball and he lets us. It is easy to talk to him."

It was typical for these boys to play against each other while the rest of the class, including girls and lower skilled boys, were sitting on the bleachers. The following scenario described by Natalia during an interview was emblematic of these events in traditional physical education:

> Before when we went to physical education classes, they, Sergei, Anatoliy, Sasha, Pavel and some other boys would usually grab and have all the balls and are playing by the time when we are done changing in the dressing rooms. When we come in we just end up sitting here on the benches. Sometimes we listen to music on the cell phones but mostly we talk to each other. Only few of us end up playing at all.

However, in the Sport Education contexts these "kings of the court" were effectively dethroned, as everybody participated in the season and all students had an equal role in their teams, sharing responsibilities and contributing to their team's success. In effect, the avenue for having fun for the "kings" was not available resulting in the students either withdrawing from participation (as in a case of one boy) or placing a focus on themselves

rather than becoming team oriented. This was accomplished by modifications of tasks that required cooperation between teammates into tasks that could be accomplished individually. For example, as noted earlier in the discussion of instructional task accomplishment, instead of working with their teammates during warm-up, these students would be individually shooting jump shots. Fun for these students was derived from those tasks that required individualistic effort, performance or proficiency (e.g., skill practice, winning, and officiating). Indeed, all but one of these students reported high levels of enjoyment from participation, commenting that Sport Education was "fun" and "can put you in a great mood." When recalling individual drills during the teacher led skill practice phase of the season, one of the "kings" noted, "I liked it when we practice the technique, it was very interesting. It makes me better. I am the only one who plays well on our team."

While also dethroned, a second cohort (3-4 boys) of former "kings of the court" took a polar opposite approach to the equality focused ethic of Sport Education season. For these students, fun was generated by recognizing a relationship between their teammates' improvement and an overall success of the team. Instead of withdrawing, these students chose to become leaders of their respective teams, being actively involved and helping their teammates to succeed. The comments of Anatoliy, perhaps, best represent this attitude.

> I like that I can train my players to play together. When I show them how to dribble and how to protect the ball, they know how to do it in the game. Then, of course, we play better and play together in the match. My techniques perhaps are not getting that much better but we are doing better in playing together as a team.

While recognizing that in terms of their own skill there may be only small levels of improvement, these students took pride in the improvement of their team and took ownership of helping others to perform well in games.

Discussion

The purpose of this study was to examine how Russian high school students respond to novel demands of participation in a Sport Education season given their lack of group work and opportunities for student responsibilities in their prior schooling experiences. Overall, the students displayed high levels of compliance in both managerial and instructional task systems, while noting the increased levels of responsibilities during Sport Education. However, one of the most interesting findings of the study is the evidence of the disruption in the student social system. Previous research substantiates the claim that during Sport Education student social system is aligned with instructional and managerial systems for the class (Carlson & Hastie, 1997; Hastie, 2000).

While the social goals student bring to the physical education class are important determinants of participation in physical education, over the course of a Sport Education season the salience of particular goals can be gradually modified (O'Donovan, 2003). For example, Kinchin (2001) has documented the experiences of a high-skilled student during Sport Education. In that study, the high-skilled student's initially strong, public resistance to the principles of Sport Education became less extreme, and was replaced by a greater consideration and support for his teammates. In the current study however, there was evidence of two different directions of the modification of the student social system taking place. It is interesting to note the dynamics of the change taking place: while one group of former "kings" fulfilled their social agenda of having fun through focusing on

individualistic features, another group embraced a significant team affiliation offered by Sport Education. It seemed that for the latter, membership in a persisting small group and leadership responsibilities inherent in Sport Education attributed to the positive direction of change.

The partial explanations of these results can be found in the structure of learning in Russian schools. Since most of student learning in Russia is accomplished as an individual with no opportunities for group work, the students may not have had appropriate knowledge, skills and strategies of how to cooperate and accomplish a common goal in a group environment. Another possible explanation might lie in the area of the disruption of the existing social hierarchies that takes places in the course of Sport Education (O'Donovan, 2003). Students, especially in the stage of team forming, resist the change that brings disruption to the established social system in the fear of associating themselves with other students positioned lower on the social hierarchy of the class. However, consistent with previous findings (O'Donovan, 2003) over the course of the Sport Education season for some students these student social objectives seemed to be modified, and becoming responsible and accountable to teammates, and achieving common goals became part of the agenda.

In this study, during officiating, students were concerned about not giving an advantage to any particular team, however, the idea of "Fair Play" seemed to be a novel concept during the lesson of physical education for some students. While the level of risk for the officiating task was minimized due to an overall "goodness" of the students, the ambiguity level was high, reflecting the high levels of student responsibility ultimately having the power of making the decision about the degree of fairness of players' actions.

Initially, some students confused the meaning of "fair" with the meaning of "equal." In their view, the teams, players and even players' individual physical characteristic had to be equal in order for a fair game to be played. The comments like, "Daniil has long arms and the other team could not shoot over his arms, which is not fair" were representative of this confusion. Many times during a game, a player committing a foul would immediately recognize it and turn the ball over to the other team as a matter of course. This incident would normally be considered a display of fair play. However, just a mere fact of committing the foul, even unintentional, meant for some officials that the offending team was not playing fair. This understanding, especially at the beginning of the season, resulted in officials making comments such as, "The team 'Sponge Bob' fouled many times during the game. They did not play fair." The high level of ambiguity was reflected in different ideas students had about the concept of being fair, and for some students extending the notion of fair play beyond its intended purposes. Therefore, it may prove beneficial to reduce the levels of ambiguity for some tasks during Sport Education season or in this particular case at least arrive at the agreed understanding and consistent application of the fair play concepts by all participants in the season.

Sport Education is an empowering curriculum. Previous research reported positives outcomes of participation in it for groups traditionally marginalized in regular physical education including girls receiving equal with boys playing time (Hastie, 1998), greater inclusion of less able students (Clarke & Quill, 2003), and motor skill improvements in lower skilled females (Carlson, 1995). Similar to Hastie's (1998) study, students in this study reported increased levels of responsibility and decision making during the season. The explanation for the increased sense of responsibility and the power

of decision making seems to lie in the embedded student roles and responsibilities during Sport Education that is atypical from traditional physical education. While Brunton (2003) reported that the preference towards having more responsibility was felt most strongly by the girls, in this study, changing power from the teacher to student was noted by the girls to provide a more relaxed environment. As Lena said, "Now it is less pressure. I mean I get more tired and more sweaty [than in previous physical education lessons], but because I want to and not because Sergei Anatolyevich told me to."

However, in this study the new found power and responsibility shift, especially in the decision-making processes led to some disruptive occurrences for the team. This could be attributed to a lack of previous opportunities to have responsibilities within physical education lessons and attempting to test the limits of the newfound power. Although, almost immediately, students had to deal with the consequences of their decisions and realize how their decisions affected those around them and ultimately had an impact on the success of the team. Since one of the student strategies in the student social system is to have fun (Allen, 1986), and in the Sport Education environment having fun also means assisting teammates and working together toward a common goal (Carlson & Hastie, 1997), the adjustment of social strategy to find a compromise and to make responsible decisions that would benefit their team was necessary. This could be another example of a positive social development process that could take place during the season of Sport Education.

For the future, it would be worthwhile to investigate whether "kings of the court" would accept the disruption of their student social system and display higher levels of cooperation on the team level during subsequent Sport Education seasons. Studies

offering a more of an in-depth account of how decisions are reached within the teams might be also beneficial to further understand the shift in hierarchies of power and the established student social system within physical education.

Contrary to previous accounts of students returning to their original peer groups once leaving the gym floor (O'Donovan, 2003), in this study some groups chose to remain together not only in other classes during school time, but outside of school as well. However, more studies are needed to examine why students choose to either return to their original social groups or remain in reconfigured. It might be also beneficial to examine if there is a change in peer dynamics between teammates and what direction, positive or negative, that change might take place if students choose to return to their original social groups.

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CHAPTER IV

STUDY II: MOTIVATIONAL ANALYSIS OF A SEASON OF SPORT EDUCATION

Abstract

Achievement goal theory was used as a theoretical framework for this study that provided a motivational analysis of a season of Sport Education. The purpose was to measure and describe the objective motivational climate of the Sport Education season. A secondary purpose was to examine students' situational motivation during skill development, officiating, and game play. Twenty one ninth-grade students participated in a season of Sport Education that was validated using Hastie's (1998) recommendations. The data collection included variables associated with TARGET structures (Ames, 1992; Epstein, 1988), situational motivation measurement and critical incident reports. The analysis of the TARGET motivational climate variables collected using Morgan et al. (2005) protocol showed that the objective motivational climate of this Sport Education season was mastery oriented. Further, students' self-determined types of motivation (intrinsic motivation and identified regulation) remained high while levels of amotivation were low during different contexts of the season. While mastery-oriented variables such as improvement and teamwork was evident during practice and practice game phases, the performance oriented construct of winning was meaningful to students during competition. The suggestions to enhance mastery orientation during competition phase of Sport Education are discussed.

Introduction

The Sport Education model is a fairly well researched curriculum and instructional model. First proposed almost a quarter of the century ago by Darryl Siedentop (1982), and specifically rooted in "play theory," the objective of Sport Education is to develop competent, literate and enthusiastic sportspersons (Siedentop, Hastie, & van der Mars, 2004), Sport Education has initially been implemented and researched primarily in English speaking countries such as New Zealand (Grant, 1992), Australia (Alexander, Taggart, & Medland, 1993; Alexander, Taggart, & Thorpe, 1996), the United Kingdom (Kinchin, Penney, & Clarke, 2001; Kinchin, Quill, & Clarke, 2002), the United States (Hastie, 1996, 2000). Recently Sport Education has been implemented in Korean (Kang, Moon, & Kim, 2000; Kim, Penney, Cho, & Choi, 2006) and Russian (Hastie & Sinelnikov, 2006) schools.

The benefits of Sport Education are well reported. Wallhead and O'Sullivan (2005), in their recent comprehensive review of the current knowledge about Sport Education curriculum model and its effect on student learning, highlight the effectiveness of the model in facilitating student engagement within student-centered learning tasks. In addition, the studies included in the same review suggest that Sport Education promotes personal and social development in the form of student responsibility, cooperation, and trust skills while pointing out that effective content development and equitable participation might be problematic under student leadership.

The initial reports concerning the realization of one of the Sport Education goals, namely developing *enthusiastic sportspeople*, have been mostly positive with students reporting working "harder than in regular PE," showing greater perceived effort, and

demonstrating increased levels of enjoyment and enthusiasm (Alexander & Luckman, 2001; Carlson & Hastie, 1997; Grant, 1992; Wallhead & Ntoumanis, 2004). Since the process of instigation and sustainment of any goal-oriented activity is defined as motivation (Pintrich & Schunk, 1996), the underpinnings of some of these anecdotal findings may be explained by examining the motivational contexts of Sport Education. Indeed, it is easy to conclude that in order for the enthusiastic sportsperson to want to continue active participation in the sport and to value the joys and benefits of participation (Siedentop et al., 2004), one must remain motivated to be involved in the activity.

Wallhead & Ntoumanis (2004) investigated the effects of a Sport Education season on students' motivational responses in physical education by comparing two groups of students; one group was taught using a traditional approach to teaching, and another group that was taught using the Sport Education curriculum model. Only students in the Sport Education group reported significant increases in enjoyment and perceived effort after the intervention. Moreover, students' perceptions of a task-involving climate in Sport Education have been shown to significantly predict enjoyment, perceived effort, and perceived competence.

Examinations of how classroom environments influence student learning have been conducted over the past decade (Ames, 1992; Valentini & Rudisill, 2006) with two achievement goal constructs seemingly receiving most of the attention. The labeling of these constructs varies by researchers, including ego-involvement and task-involvement (Nicholls, 1984, 1989), learning and performance goals (Dweck, 1986), mastery and performance goal orientations (Ames, 1992), and mastery and ability (Butler, 2000).

Despite these labels, a common theme across motivational research is that an ego-orientation is characterized by individuals comparing their achievement to those of others, while a task-oriented individual is more focused on task-mastery and self-improvement (Nicholls, 1984, 1989).

Drawing from the achievement goal theory of motivation, mastery or performance goals relate to the way learning, effort, and success are perceived and valued. The approaching and engaging reasons for the achievement activity and the individual's thoughts about oneself, one's tasks, and outcomes also factor in (Ames, 1992; Meece, Blumenfeld, & Hoyle, 1988; Nicholls, 1984). The differentiation of ability and effort drive the orientations. The fundamental tenet of a mastery goal orientation is a belief that effort and outcome covary and an individual belief that effort leads to success. On the other hand, the performance goal focuses on the individual's ability in reference with others, doing better than others, or by surpassing a normative-based standard. Different environmental and instructional demands elicit different goal orientations, and once enacted, result in different motivational patterns. The mastery achievement goal elicits a motivational pattern that is concerned with a quality of involvement while performance goal encourages a failure-avoiding motivational pattern (Ames, 1992). It is generally preferable for students to have a mastery-oriented goal since it is associated with such motivational variables positively related to achievement activity as time on task, persistence/effort, preference for challenging work, risk-taking, and an intrinsic interest in learning activities (Butler, 1987, 2006; Duda, 1989; Duda, Chi, Newton, Walling, & Catley, 1995). Similar findings demonstrating positive relationships between mastery

goals and students' persistence/effort and performance are reported in physical education settings (Xiang, Bruene, & McBride, 2004).

The motivational climate refers to the situational goal structure of the environment created by significant others, such as teachers or parents (Ames & Archer, 1988). Ames and her colleague (Ames, 1992; Ames & Archer, 1988) distinguish two motivational climates, a mastery motivational climate and a performance motivational climate. Ames (1992) also identifies six environmental characteristics, originally developed by Epstein (1988, 1989), that contribute to the classroom goal structures. The classroom structures, identified by the acronym TARGET, include nature of tasks, locus of authority, recognition, grouping, evaluation practices, and the use of time. Task structures involve the design of tasks and learning activities, while Authority refers to the locus of the responsibility in the classroom (teacher's orientation toward autonomy and the degree of student involvement in decision making). Evaluation practices refer to ways in which students are evaluated and include standards, criteria, methods, frequency and the content of evaluation. These structures are not viewed as independent contributors to student motivation, but a teacher can support a mastery goal in the classroom by implementing these classroom structures and instructional strategies (Ames, 1992). In a physical education setting, the findings of Todorovich and Curtner-Smith's study (2002) confirm that manipulations of the motivational climate do in fact influence students' goal orientation.

To measure the variables that impact the motivational climate of physical education lessons, researchers have developed instruments that allow systematic coding and analysis of teaching behaviors (Curtner-Smith & Todorovich, 2002; Morgan,

Sproule, Weigand, & Carpenter, 2005). These instruments are rooted in achievement goal theory and its assertions about the existence of mastery and performance orientations that are typical of individuals placed in the achievement setting. This paper will utilize mastery and performance orientation labels provided by Ames' (1992), since this labeling was used in the description of the instrument ultimately used for data collection in the study.

The Physical Education Climate Assessment Instrument (PECAI) developed by Curtner-Smith and Todorovich (2002) assesses the actual or "objective" motivational climate in physical education and sport settings. This systematic observation instrument allows quantification of variables associated with different types of objective motivational climate. The quantification is achieved by a task-by-task analysis of a physical education lesson, a sequence where a coder decides whether the task, authority, rewards, grouping, evaluation, and time elements indicate that an ego- or task-involving motivational climate is being created by the teacher. Researchers found that inferences taken from scores of the instrument were valid (Curtner-Smith & Todorovich, 2002).

Morgan, Kingstone and Sproule (2005) created a computer based measure of the TARGET (Ames, 1992b) using the Behavioral Evaluation Strategies and Taxonomies (BEST; Sharpe & Koperwas, 1999). BEST collection and analysis software is a Windows-based software package that uses real-time recording principles and allows real-time collection and analysis of observational category system data (Sharpe & Koperwas, 2000). Similar to PECAI in allowing researchers to code and analyze teaching behaviors affect motivational climate in the physical education setting, the computer based measure of TARGET allows the recording and analysis of *frequencies* of task

authority, recognition, grouping, evaluation and time as well as *duration* of chosen structures (Morgan, Kingston, & Sproule, 2005).

The study of Wallhead and Ntoumanis (2004) suggested commonalities between the structure of Sport Education and TARGET (Ames, 1992; Epstein, 1988) structures for fostering a task involvement climate. While Sport Education facilitates the perceptions of a task-involving climate (Wallhead & Ntoumanis, 2004), that research is based on the perceived motivational indices and there has not been a systematic account of the objective motivational climate existing in the gym during Sport Education.

Sport Education is a multifaceted curriculum that entails different components than regular physical education. For example, students find themselves in a different context than usually exists in traditional physical education teaching approaches, such as small group learning with peer led skill practice acquisition, officiating, and graded competition. To date, we have little knowledge about whether or how specific components of the Sport Education model are motivating to students.

Motivation has been viewed as a key factor influencing student learning outcomes (Chen, 2001). The situational motivation refers to the motivation that an individual experiences while engaged in a particular activity (Vallerand, 1997, 2001). The self-determination theory (Deci & Ryan, 1985, 2000) maintains that the type of behavior of the individual depending on autonomy, competence, and social relatedness can be placed on the continuum. The continuum extending from self-determined to non-self-determined behavior consists of the constructs of intrinsic motivation, identified regulation, external regulation, and amotivation (Deci & Ryan, 2000). Similarly to educational research, studies in children's physical activity demonstrate the more self-determined motivation

types (characterized by high levels of intrinsic motivation and identified regulation) generally result in more positive outcomes (Chatzisarantis, Biddle, & Meek, 1997; Parish & Treasure, 2003; Prusak, Treasure, Darst, & Pangrazi, 2004). Conversely, when the motivational regulations are low in autonomy (i.e., high in amotivation and external regulation) the consequences are less positive. Moreover, a high level of mastery orientation singularly or in combination with performance orientation may foster self-determined situational motivation in the context of physical education (Standage & Treasure, 2002).

Purpose of the Study

The purpose of this study was to measure and describe the objective motivational climate of a Sport Education season. A secondary purpose was to examine students' situational motivation during skill development, officiating, and game play.

Method

Participants & Setting

The study took place in a public coeducational school located in the city (population 300,000) in the central part of Russia. The school had an enrollment of 1100 students (first through eleventh grade) which studied in two shifts; one morning and one afternoon. The participants in the study had lessons in the morning school shift.

The participants in this study were 21 ninth-grade students (12 boys and 9 girls) with a mean age of 14.1 years (SD = 0.38). The students were members of an intact class that has stayed together as a cohort group from the first to the ninth grade, which is typical of any class in Russian schools. Students and their parents/guardians completed the informed consent prior to the beginning of the study.

The students did not have prior volleyball instruction in the academic year in which the study took place, and none of the students had any previous experience with Sport Education. Classes met three times a week for the entire academic quarter (six weeks) for a total of 18 lessons, and each lesson was scheduled for 40 minutes.

The teacher in this study had 4 years of experience teaching Sport Education in schools and college. The teacher was also the researcher and therefore was aware of the purpose of the study.

Lesson Content

The students participated in a unit of volleyball designed and taught according to the key principles of Sport Education. Consistent with the model, the students were divided into teams that remained together throughout the duration of the season. After the initial lessons focused on skill learning, students competed in non-consequential practice games and later took part in official competition that culminated in play-off matches and an awards ceremony. Students also participated in administrative roles as officials, scorekeepers, statisticians, and managers during the course of the season. The complete outline of the season along with lesson content is presented in Table 1. This season plan occupied one complete term (quarter) of the school year.

Table 1

Sport Education Modified Volleyball Season Plan

Lesson	Content	Teacher Role	Student Role
1	Introduction Initial techniques practice	Class leader	Participants
2	Skill practice	Class leader Observation & assessment	Participants
3	Skill practice Coaches selection	Class leader Further observation & assessment	Select coaches Participant
After class	Team selection	Moderator	Coaches' panel selected teams
4	Team announcement Team skill practice	Present teams Discuss roles Discuss fair play	Choose team name Select team roles
5-7	Pre-season team training Match rules and protocols Officiating	Head coach	Coaches Players
8-12	Practice competition	Head coach Referee advisor	Coaches, players Duty team roles
13-15	Formal competition	Program manager	
16-17	Play-offs	Program manager	Coaches, players Duty team roles
18	Awards ceremony	Master of ceremony	Participants

Rules Modification

The rules of the game of volleyball were modified to provide developmentally appropriate involvement while "preserving the primary rules, or essence, of the game"

(Siedentop et al., 2004, p. 13). The modifications of the volleyball rules for this Sport Education season included: (a) small-sided matches (3 on 3), (b) lowered height of the net, (c) sets being played to 15 points instead of 25 (due to time constraints), (d) elimination of the serve (teacher placed the ball in play), and (e) an allocation of two points for scoring a winner following a spike (any other winner resulted in one point). The rules modification allowed students to achieve more touches on the ball during matches and to increase their success rates (especially on the initial serve-receive). The rule modification served to focus students' attention on the process of the game, thereby creating an environment that encouraged the most exciting part of the game, namely spiking.

Treatment Validity

Hastie (1998) recommends validation of a Sport Education season by examining the teacher's instruction as well as student participation during the unit. In order to confirm that a season in fact follows the key principles of Sport Education, the following evidence should exist: (a) a decrease in teacher's organization and direct instruction as the season progress, (b) an increase in the percentage of frequency of observing behaviors, and (c) an increase in student participation in game play and refereeing commitments as the season progresses.

To validate the Sport Education season completed in this study, the frequency and percentage of selected teacher behaviors were collected during two representative lessons of each of the phases (skill practice, practice competition, formal competition). The BEST software (Sharpe & Koperwas, 2000) was used for data collection training and actual data collection procedures of the treatment validity portion of the study.

Figure 1 shows the summary data for teacher behavior and time allocation across the three phases of the season. This figure shows how both teachers replicated the expected teaching behaviors of Sport Education instruction. During the early lessons, there was significantly more time spent in class management with the teacher being the primary provider of organization and lesson content. Also in these early lessons, there was significant involvement by the students in skill practice, but minimal involvement by the students in game play. During the later lessons, these features were reversed, with the students taking primary responsibility for the conduct of lessons and taking the roles of players and officials.

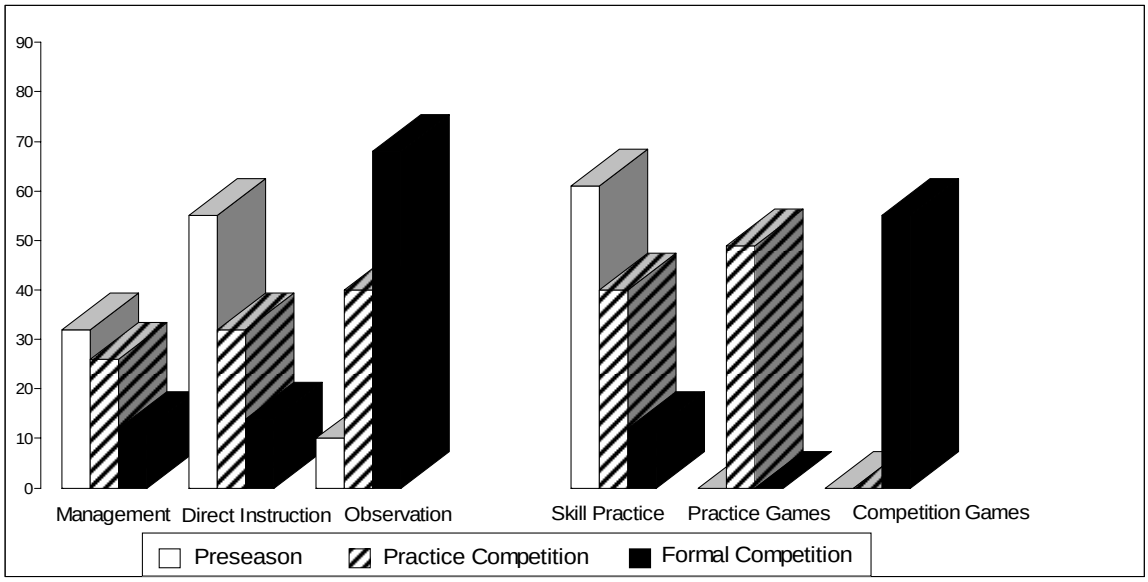

Figure 1. Teacher behavior and time allocation to practice and games across the season.

Data Collection

The following data were collected for the study: (a) variables associated with different types of objective motivational climate created by the teacher in the course of Sport Education, (b) students' situational motivation in three key phases of the season, and (c) students' perceptions of the critical events of the physical education lessons.

Motivational climate variables. Each lesson of the season was videotaped using a portable digital video disc (DVD) camera mounted on a tripod. Due to the small size of the gymnasium area, the DVD camera was situated inside the room that was located just off the corner of the gymnasium. This location allowed the camera to be unobtrusive, but capture as much of the class as possible, leaving only a very small entrance corner portion of the gym not covered. However, students rarely used this area of the gymnasium during lessons because it was the entrance/exit. The resulting high quality video and audio recordings on DVDs were then transformed into Moving Picture Experts Group (MPEG) standard for compression and storage of motion video on the computer hard drives for the subsequent video analysis.

The collection of the TARGET motivational climate variables (Ames, 1992) was conducted by analyzing the video using the layout keyboard configuration of the BEST software (Sharpe & Koperwas, 1999) developed by Morgan, Kingston, and Sproule (2005). Three categories (mastery, neither, and performance) of each TARGET structure (task, authority, recognition and evaluation, grouping and timing) were identified and letters of the computer keyboard were assigned to behaviors in each category. Pressing of appropriate letters allowed recordings of multiple and overlapping frequency behaviors as well duration behaviors (Morgan, Kingston & Sproule, 2005). Table 2 provides TARGET structures, categories, the descriptions of behaviors, and corresponding layout keys.

Table 2

TARGET Coding for the Analysis of Teaching Behaviors Related to Motivational Climate

TARGET structure	Mastery		Neither		Performance	
Task (frequency)	Self-referenced/group-referenced goal	1	No clear goals	3	Competitive goal	2
	Multidimensional/different tasks	5	Warm-up/Cool	4	Unidimensional/ same task	6
	Differentiated/suitably challenging for all	7	Down goal		Undifferentiated/not suitably challenging for all	8
Authority (duration)	Pupils involved in leadership roles and/or decision-making	9			Teacher makes all the decisions	0
Recognition and evaluation (frequency)	Recognition/evaluation focused on self-referenced effort, improvement, attainment, knowledge in private	R	General assessment/ feedback (to no one in particular)	G	Recognition/evaluation focused on normative ability, knowledge and comparisons	N
	Recognition/evaluation focused on self-referenced effort, improvement, attainment, knowledge in public	E	Focus on luck	L		
Grouping (duration)	Small heterogeneous/mixed ability groups	M			Homogeneous/ability groups	A
					Competitive groups	C
	Cooperative/individualistic groups	H			Large groups/whole class	W
Timing (duration)	Flexible time to practice, plan or evaluate	F	Inactive time	I	Inflexible time to practice, plan or evaluate	P

Note. "Effects of different teaching styles on the teacher behaviours that influence motivational climate and pupils' motivation in physical education," by K. Morgan, K. Kingston and J. Sproule, 2005, *European Physical Education Review, 11*(3), p. 265. Copyright 2005 by North West Counties Physical Education Association and SAGE Publications.

This study employed identical procedures for TARGET coding used in the Morgan, Kingston and Sproule's study (2005), where frequency (how many) of master, neither, and performance of task, recognition/evaluation, and timing were recorded and the duration (how long) was recorded for the authority, grouping and time structures of TARGET (Ames, 1992).

Validity and acceptable intra- and inter-reliability greater than .80 (Sharpe & Koperwas, 1999, 2003) were established during the development of the measure (Morgan et al., 2005). In this study, the procedure to ensure interrater reliability involved independent training of two researchers to use the behavioral measure of motivational climate, simultaneous practice session, and interrater reliability checks. Independent training of researchers included reading and understanding of the categories and corresponding keys and practicing using the measure on videotaped lessons. During the simultaneous practice session, two researchers used the behavioral measure to simultaneously watch and code physical education lessons. For each coding sequence, both video and BEST software were paused to allow researchers reach a 100 percent agreement before advancing to the next segment. After the completion of the simultaneous practice session, one researcher used the behavioral measure to code all of the Sport Education season lessons and another researcher independently coded four random complete lessons, at least one from each phase of the season (lessons 2, 6, 8, and 16). The coding results from same lessons were compared between two researchers and the percent agreement for each behavior resulted in acceptable levels of agreement suggested by van der Mars (van der Mars, 1989). The interrater reliability is reported in Table 3. An intrarater reliability was established by the researcher re-coding two random

lessons of the season with the reliability levels for each behavior exceeding recommended levels .95 (see Table 3).

Table 3

Intrarater and Interrater Reliability Levels for Coded Behaviors

TARGET structures category and behavior descriptions	Intrarater reliability	Interrater reliability
Task (frequency)		
Mastery	.95	.88
Neither	1.00	1.00
Performance	.97	.90
Authority (duration)		
Mastery	.96	.95
Performance	.96	.95
Recognition and evaluation (frequency)		
Mastery	.95	.88
Neither	1.00	.82
Performance	1.00	.93
Grouping (duration)		
Mastery	.99	.96
Performance	.95	.98
Timing (frequency)		
Mastery	1.00	.83
Neither	.98	.80
Performance	.95	.88

Note: Categories and behavior descriptions are defined by Morgan, Kingston and Sproule (2005)

Situational motivation measurement. A modified version of the Situational Motivation Scale (SIMS) described by Guay, Vallerand and Blanchard (2000) was used to measure the students' motivational responses to various phases of their seasons. SIMS has been found to be a valid and reliable instrument measuring situational motivation

across diverse physical activity contexts (Standage, Treasure, Duda, & Prusak, 2003). The scale involved students responding to 14 statements on a 7-point Likert scale. The stem of the scale was "Why are you currently engaged in this activity?" Depending on the phase of the season, the words "activity" was substituted for the following words: "skill practice", "officiating", and "game play/play in this match." Questions related to one of four dimensions of situation motivation, those being *intrinsic motivation* (e.g., "because this skill practice is fun"), *internal regulation* (e.g., "because I think this officiating is good for me"), *external regulation* (e.g., "because it is something that I have to do") and *amotivation* (e.g., "I play in this match, but I am not sure it is worth it").

All students anonymously completed the SIMS three times during the season. The first administration of SIMS followed the skill practice sessions during the first phase of the season (lesson 6). The second and third administrations were conducted during lessons 11 through 13 either after the students had played in a competitive game, or been an official. Students completed the SIMS in the immediate gymnasium area and the issue of privacy of answers was addressed by having students sit far apart from one another. The teacher read a consistent script to students providing the instructions on how to complete the questionnaire in all three settings.

Critical incident reports. The critical incident technique (Flanagan, 1954 cited in O'Sullivan & Tsangaridou, 1992) was used for reflection on the lesson content. The researcher administered and collected the critical incident reports that included a twofold question - What was your most meaningful experience in today's physical education class and why? Students completed the critical incident reports immediately following each lesson, and a total of 278 critical incident reports were collected. The critical incident

reports were anonymous and students were encouraged to provide their honest thoughts and opinions. In addition, the researchers informed students that the critical incidences would not have any affect on students' participation or grades in the class. This technique has been previously used to gain children's perceptions of their most meaningful experience during physical education lessons employing a hybrid Sport Education and Teaching Games for Understanding approach (see, Hastie & Curtner-Smith, 2006).

Data Analysis

Motivational climate variables. Following the protocol of Morgan, Kingston, and Sproule (2005), the mean percentage of 'mastery', 'performance' and 'neither' teaching behaviors were calculated for each of the TARGET categories individually in each of the phases of the Sport Education season (skill practice, practice competition, formal competition) as well as the total for the entire season. The mean percentages of frequency of coded behaviors for task, recognition/evaluation, and timing were calculated, whereas mean percentages of duration of coded behaviors were calculated for the authority, grouping and time structures of TARGET.

Situational motivation. The 14 items of SIMS were reduced to four subscales (intrinsic motivation, internal regulation, external regulation, and amotivation), and internal consistency for each of the four scales was determined using the Cronbach alpha technique. Thereafter, means and standard deviations for each of the subscales were calculated for skill practice, officiating, and competition phases of the Sport Education season.

Critical incident reports. Thematic coding was used to analyze critical incident reports and identify common themes (Denzin & Lincoln, 2003). First, the categories were

identified. The next step of the thematic analysis was to identify all the data that related to the already classified category. If data did not fit into an already classified category, a new category was created. The next step was to combine and catalogue related categories into subcategories. The frequency and percentage of each identified category and subcategory was calculated for skill practice, practice competition, and competition phases of Sport Education. The qualitative data analysis was performed in Russian language and resulting themes were later translated into English for the purposes of reporting. This method was used to reduce the possibility of inconsistencies that may arise from translation.

Results

Mean percentages of combined TARGET structures in the season are presented in Table 4. The results of video analysis demonstrated that this Sport Education season had more mastery-oriented and less performance-oriented teacher behaviors. The objective motivational climate of skill practice and practice competition phase had more of a mastery oriented climate, while performance TARGET behaviors in the competition phase were more prevalent. Indeed, results of the video analysis of those teacher behaviors that influence motivational climate indicated that mastery-oriented teaching behaviors occurred 54% of the time during skill practice and 60% during practice competition phases, with performance-oriented teaching behaviors reaching 41% and 32% percent respectively. However, during competition phase of Sport Education performance TARGET behaviors increased to 50%, while mastery teaching behaviors declined to 44%.

Table 4

Mean Percentages of Combined TARGET Structures in a Season of Sport Education

TARGET behaviors	Skill practice		Practice competition		Competition		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Mastery	54.36	21.98	59.86	23.23	44.30	11.61	52.84	6.38
Performance	41.41	20.07	32.05	22.61	50.18	14.98	41.21	3.89
Neutral	4.23	13.60	8.09	19.51	5.52	12.28	5.97	3.85

The complete breakdown of all TARGET structures is presented in Tables 5 through 7. Table 5 shows the mean percentages of task structures in the three phases of the season, while mean percentages of authority and recognition/evaluation structures are presented in Table 6. Table 7 displays mean percentages of grouping and time structures.

Table 5

Mean Percentages of Task Structures in a Season of Sport Education

TARGET behaviors	Skill practice		Practice competition		Competition		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Master goals	47.62	15.27	27.98	16.25	38.07	11.18	37.89	2.69
Performance goals	53.38	15.45	52.86	13.99	41.71	8.89	49.98	3.44
Warm-up goals (neither)	0.00	0.00	0.00	0.00	19.07	15.48	6.36	8.94
No clear goals (neither)	0.00	0.00	19.16	11.12	1.15	3.87	6.77	5.58
Multidimensional tasks (mastery)	33.73	20.34	89.13	19.77	52.63	11.43	58.50	4.99
Unidimensional tasks (performance)	66.27	20.34	10.87	19.77	47.37	11.43	41.50	4.99
Differentiated tasks (mastery)	76.24	23.68	62.86	45.59	70.33	15.65	52.32	15.50
Undifferentiated tasks (performance)	23.76	23.68	37.14	45.59	29.67	15.65	47.68	15.50

Table 6

Mean Percentages of Authority and Recognition/Evaluation Structures in a Season of Sport Education

TARGET behaviors	Skill practice		Practice competition		Competition		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Student authority (mastery)	40.65	24.32	75.25	20.2	85.28	9.48	53.90	8.67
Teacher authority (performance)	59.35	24.32	24.75	20.2	14.72	9.48	46.43	8.67
Mastery recognition and evaluation in private	14.9	20.57	36.00	16.52	0.00	0.00	16.97	10.90
Mastery recognition and evaluation in public	62.02	25.23	26.67	15.16	22.24	23.63	36.98	5.41
Performance recognition and evaluation	0.00	0.00	0.00	0.00	60.17	32.08	20.06	18.52
General recognition and evaluation (neither)	23.08	9.24	37.33	22.61	17.59	11.87	26.00	7.08

Table 7

Mean Percentages of Grouping and Time Structures in a Season of Sport Education

TARGET behaviors	Skill practice		Practice competition		Competition		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Large groups (performance)	51.99	23.79	1.4	2.39	5.28	9.31	19.56	10.92
Cooperative groups (mastery)	39.84	18.24	42.59	16.25	25.48	14.37	35.97	1.94
Competitive groups (performance)	8.17	21.49	56.01	29.47	69.24	14.86	35.97	7.32
Mixed ability groups (mastery)	66.89	26.01	42.68	27.27	19.94	5.68	43.17	12.12
Ability groups (performance)	33.11	26.01	57.32	27.27	80.06	5.68	56.83	12.12
Flexible time (mastery)	52.98	21.29	75.73	32.08	40.45	9.46	56.39	11.31
Inflexible time (performance)	36.25	24.15	16.04	18.35	53.24	13.09	35.18	5.53
Inactive time (neither)	10.77	5.12	8.23	12.03	6.31	4.35	8.44	4.23

Situational Motivation

Reliability and internal consistency. The distributions of all scores were found to be normal, and all subscales showed internal consistency scores equal or above .80. Acceptable inter-item reliability scores are generally considered to be those that exceed .70 (Nunnally, 1978). The reliability statistics of the SIMS subscales were then as follows: for skill practice α (IM) = .84, α (IR) = .96, α (ER) = .85, α (AM) = .81; for officiating α (IM) = .85, α (IR) = .82, α (ER) = .81, α (AM) = .85; and for game play α (IM) = .85, α (IR) = .89, α (ER) = .80, α (AM) = .95.

Situational motivation response. The means and standard deviations of intrinsic motivation, identified regulation, external regulation, and amotivation are shown in Table 8. The group means of more self-determined attributes of behavior such as intrinsic motivation and identified regulation were on relatively high levels regardless of the season phase, while student amotivation remained low.

Table 8

Means and Standard Deviations of SIMS Subscales

	Skill Practice		Officiating		Competition	
Subscale	*M*	*SD*	*M*	*SD*	*M*	*SD*
Intrinsic motivation	6.09	1.00	6.63	0.73	6.60	0.63
Identified regulation	5.93	1.47	6.39	0.98	6.36	0.81
External regulation	5.58	1.50	4.63	1.21	6.03	1.20
Amotivation	2.88	1.86	2.00	1.51	2.25	1.80

Critical Incident Reports.

The following categories were identified from critical incident report analysis: skill improvement, team related, game related, officiating, fairness, winning, and festivity. Table 9 shows the frequency and percentage for each identified category. The most meaningful experience during skill practice phase of Sport Education for students in this study was skill improvement, and officiating and playing together had a strong focus during practice competition. While officiating and playing together remained important for students during competition; a focus on fairness, winning and festivity also emerged.

Table 9

Frequency and Percentage of Critical Incidence Categories

Category	Skill practice		Practice competition		Competition	
	Frequency	*%*	*Frequency*	*%*	*Frequency*	*%*
Skill improvement	65	54.62	7	6.86	1	1.25
General positive	*9*	*7.56*	*3*	*2.94*		
Spiking	*38*	*31.93*				
Setting	*8*	*6.72*	*2*	*1.96*		
Passing	*7*	*5.88*	*1*	*0.98*		
Improvement	*3*	*2.52*				
Team related	30	25.21	39	38.34	15	18.75
Play/work together	*24*	*20.17*	*39*	*38.34*	*15*	*18.75*
General positive	*4*	*3.36*				
General negative	*2*	*1.68*				
Game related	24	20.17	14	13.73	7	8.75
Officiating			42	41.18	22	27.5
Positive			*36*	*35.29*	*19*	*23.75*
Negative			*8*	*7.84*	*3*	*3.75*
Fairness					13	16.25
Winning					11	13.75
Festivity					7	8.75

Discussion

The purpose of this study was to measure and describe the objective motivational climate of a Sport Education season, and to examine students' situational motivation during skill development, officiating, and game play. Although, Hastie and Sinelnikov (2006) made an initial attempt to describe a Sport Education season from a motivational climate perspective, and Wallhead and Ntoumanis (2004) suggested that the Sport Education curriculum may increase perceptions of a task-involving climate and perceived autonomy, this is a first study to measure and report objective motivational climate of Sport Education.

Objective Motivation Climate

The overall objective motivational climate of this Sport Education season was more mastery-oriented than performance-oriented. Several studies demonstrated that motivational climate influences students' goal involvement (Lloyd & Fox, 1992; Solmon, 1996; Todorovich & Curtner-Smith, 2002) and manipulating the motivational climate of physical education lesson has a significant impact on the goal involvement of students. It is, therefore, reasonable to assume that the goal involvement of students who participated in the Sport Education season was affected, and the impact may have been towards mastery orientation.

While Wallhead and Ntoumanis (2004) theorize that participation in Sport Education leads to students' perceptions of a task involving climate and perceived autonomy, the present study provided empirical evidence as to why this might be the case. Since congruency between the objective assessment and the subjective perceptions of the climate is evident (Morgan, Sproule, et al., 2005), the more mastery-oriented

objective motivational climate of Sport Education in this study may have influenced student perceptions of the season to be more mastery-oriented. That, in turn, has had a positive impact on indices of situational motivation, increasing intrinsic motivation and identified regulation and decreasing levels of amotivation.

Researchers have suggested an existence of an additive relationship between the TARGET structures (Wallhead & Ntoumanis, 2004) with recognition and evaluation being the most influential in determining students' climate perceptions (Morgan, Sproule, et al., 2005). A future direction for research may include investigations to further understand and confirm the additive nature of the relationships as well as development of a measuring method or formula that would attribute different weights to TARGET structures according their significance.

As previously reported, in this study, the season had a greater degree of mastery oriented climate and less so of the performance-oriented climate. However, since Sport Education is characterized as a rather flexible curriculum model, each Sport Education season may be different. The difference can depend on the variety of factors, some controlled by the teacher. These may include the choice of the activity for the season, grade level, or length of the season. In addition, some teachers may not or choose not to have immediate control over some of the dimensions of a season. As a case in point, depending upon the teacher's and students' prior experiences with Sport Education students can be responsible for choosing the season activity, or creating a new game altogether, establishing rules and competition format, and regulating conflicts. In addition, student population, class numbers, or even the events that transpire during the season, how a team decides to divide players for small-sided games, for example, may

influence the climate of the season. These global or contextual variations that are known in advance or materialize during a Sport Education season may affect the TARGET structures of classroom environment, thereby varying the percentages of mastery or performance teaching behaviors. For example, grade level may have an effect, where in the upper grades the teacher may allow for more student authority than in the elementary grades. However, in order for students to experience the full potential of Sport Education, the objective motivational climate in a season of Sport Education needs to remain mastery-oriented, since mastery goals and perceptions of mastery focused climate are beneficial to student motivation and learning in physical education (Xiang & Lee, 2002; Parish & Treasure, 2003; Solmon, 1996; Treasure & Roberts, 2001).

While this particular iteration of Sport Education had more of a mastery-oriented climate (53%), performance-oriented teacher behaviors still accounted for a large portion of the TARGET structures in the season (41%). While some of the performance-oriented features are inherent in the Sport Education model (e.g., formal competition, public evaluation with league tables), it is possible that the lack of prior student experiences with Sport Education may have had an effect on the distribution of performance- and mastery-oriented climate structures in this season.

The Sport Education season was the first Sport Education experience for all the students in this study. The teacher had to spend an additional time on explanations and demonstrations of the features of the model which may have resulted in the higher performance-oriented behaviors of task, teacher authority and grouping structures of the season. It is not unreasonable to assume that less time would be needed for the teacher to elucidate Sport Education specific features (role duties, home base, fair play and etc.) in

subsequent Sport Education seasons with the same group of students. This would, therefore result in the decrease of performance-oriented and increase in mastery-oriented teacher behaviors in season furthering the mastery-oriented climate of the Sport Education season. More longitudinal studies on the objective motivational climate during several seasons of Sport Education climate with same group of students and teachers are needed to confirm this assumption.

In addition, teachers must be cognizant of the motivational climate and understand that some elements in Sport Education contribute to the mastery climate and others to performance climate. Therefore, it is important to stay true to the model when teaching, recognize the elements that contribute to performance orientation, and when possible, emphasize mastery structures. One of the ways of promoting mastery structures in Sport Education that is not frequently discussed seems to be in increasing the mastery oriented teacher behaviors in evaluation and recognition structures. Due to the student involvement in the management of the season, teachers report having more time for individualized instruction (Grant, 1992). This "additional" time for teachers during the lesson may be well spent providing mastery recognition and evaluation in private and in public to advance the mastery climate.

Teachers express concerns over the effectiveness of student coaches (Alexander & Luckman, 2001) and student coaches in Sport Education may not always provide quality practices to their teams (Hastie, 2000). While the content and pedagogical knowledge of student coaches may be at issue, from the motivational standpoint, it is important to allow considerable time for student coaches to peer teach as it impacts the authority structure creating more of a mastery-oriented objective motivational climate as

evidenced in this study. Further research into the effectiveness of student coaches, nature of the relationships between teachers and students coaches as well as effective instructional strategies that can be used during Sport Education may be of significant value to practitioners of the model. Wallhead and O'Sullivan (2005) also recommend further examination of the dynamics of peer interaction and subsequent content learning and performance that occurs during student-led tasks of the curriculum.

Situational Motivation

The perceptions of a mastery climate is a strong predictor of intrinsic interest in physical education (Cury et al., 1996). While we know that the situational level of motivation can fluctuate in a physical education lesson when the activity changes (Prusak et al., 2004), in this study students' intrinsic motivation and identified regulation remained high during skill practice, officiating, and game play. Students also reported low amotivational levels throughout. This finding is consistent with previous reports on situational motivation levels during Sport Education (Sinelnikov, Hastie, & Prusak, 2007; Wallhead & Ntoumanis, 2004) with students reporting high levels of intrinsic motivation and low levels of amotivation throughout Sport Education. It is also in line with tenets of the self-determination theoretical perspective which postulates that the more self-determined the motivation type (i.e., high levels of intrinsic motivation and identified regulation) the more positive the cognitive, affective, and behavioral consequences. When the motivational regulations are low in autonomy (i.e., high in external regulation and amotivation), consequences are less positive (Deci & Ryan, 1985). The self-determined motivation types are predictive of positive outcomes in a number of contexts, including education (Miserandino, 1996; Vallerand & Bisonnette, 1992) and children's

physical activity (Chatzisarantis, Biddle, & Meek, 1997; Parish & Treasure, 2003; Prusak, et al., 2004).

Consistent with previous Sport Education literature reporting that an emphasis on teamwork, cooperation and an opportunity for affiliation are attractive attributes of the model (Bennet & Hastie, 1997; Carlson & Hastie, 1997; Grant, 1992; Hastie & Carlson, 1998; MacPhail, Kirk, & Kinchin, 2004; O'Donovan, 2003), being able to play and work together as a part of a small group, was a strong feature that remained important for students throughout this Sport Education season. The notion of working together as a team toward a common goal of improving as a team was notable. The skill improvement was meaningful to students during skill practice. However, during later phases of the season, students shifted their focus towards officiating duties. Working and playing together to improve and skill improvement can be construed as variables contributing to a mastery orientation. Students recognized officiating, and more importantly quality and fair officiating, as an important feature of Sport Education, the finding that was previously reported by Hastie and Sinelnikov (2006). Winning, which is a normative comparison and performance-oriented construct, became meaningful during competition phases of this season, which made the season appealing to some students. The contribution to the attractiveness may be a variable associated with the performance climate such as self-confidence and pre-competition vigor; however, the performance climate also results in the post-competition stress (Cecchini et al., 2001). The recommendation for the competition phase of Sport Education is therefore to place emphasis on mastery oriented variables, such as fair play, duty roles and responsibilities,

and team roles, to avoid the pronounced performance oriented shift and increase mastery climate orientation.

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CHAPTER V

STUDY III: SPORT EDUCATION FOR TEACHERS: PROFESSIONAL DEVELOPMENT WHEN INTRODUCING A NOVEL CURRICULUM MODEL

Abstract

Empirical evidence of effective professional development programs in physical education is limited. The purpose of this study was to add to this limited research base by providing a description of an on-site professional development program for physical education teachers as they learned to teach Sport Education. A concurrent objective was to investigate the effectiveness of this professional development opportunity. Participants were two physical education teachers (one with 27 and one with 3 years of experience) who taught separate sixth grade physical education classes in a school in the central region of Russia. The data sources included the researcher's log, semi-structured interviews (audio recorded), lesson and season plans, and video records of lessons. Four themes were generated about teacher learning and how to enhance it: (a) the need for sample lesson observance in the training phase, (b) teaching-to-model congruency validation, (c) difficulties of "letting go of the control," and (d) the establishment of the new partnership relationships. The findings of the study are discussed using theoretical framework on factors influencing professional development (Birman et al., 2000) and model of teacher change (Guskey, 1986; 2002).

Introduction

"The easier it is for the teacher to teach, the more difficult it is for pupils to learn." Lev Tolstoy

Teaching is a complex and ever-changing task. As knowledge expands and the world around us changes in ways not previously imagined, teachers' knowledge, practices, and strategies cannot remain stagnant in local or global environments. One of the keys to professional growth for the teaching profession is a never-ending inquiry, reflection, quest for new knowledge, and a better understanding of the knowledge we already have.

The support for such inquiries to extend effective teaching practices and content knowledge may come in the form of professional development. The value of using professional development lies in the notion that it may have a positive effect on teacher knowledge and motivation as well as improve students' learning (Armour & Evans, 2006). As Little (1993) comments, "The test of teachers' professional development opportunities resides in their capacity to engage teachers in the kinds of study, investigation, and experimentation required to understand and undertake the multiple challenges… and to grasp the relationships among them" (p. 129).

Nevertheless, teachers cannot be left alone in their pursuits of professional growth, as research indicates that teachers are unlikely to change their classroom practice on their own (Hawley & Rosenholtz, 1985; Little, 1993; Sykes & Darling-Hammond, 1999). When designing professional development it is "to build upon a teacher's desire to make a difference in the lives of pupils because it is here that a teacher's 'moral purposes' can most easily be found" (Armour, Moore, & Stevenson, 2001, para. 7).

Over ten years ago in the United States, the Consortium for Policy Research in Education published Policy Briefs (Corcoran, 1995) that provided starting points for several approaches to teacher professional development. These included (a) join work and job enrichment, (b) teacher networks, (c) collaboration between schools and colleges, (d) professional development schools, (e) national board certification, and (f) teachers as researchers.

Around the world and in most districts of the United States, professional development is thought of almost exclusively in terms of formal education activities, such as courses or workshops. However, such "in-service" programs may or may not be relevant to teachers' professional development needs, and districts often receive little guidance about how to manage and improve their efforts in the area of professional development (Corcoran, 1995). While the ideas that contribute to enhancing professional development are available, very few professional development programs follow them (Guskey, 1991).

There is an agreement in the literature about the ineffective practice in professional development for teachers, and evidence exists suggesting that sporadic “one-off” professional development activities are unlikely to have lasting impact upon teachers' practice (Armour & Yelling, 2002, 2004; Connelly & James, 1998). Moreover, the National Partnership for Excellence and Accountability in Teaching (1999) has suggested that single workshops unconnected to a schoolwide improvement plan do not provide adequate professional development in any topic. In the field of physical education, teacher’s experiences in such programs are said to lack coherence and

relevance (Armour & Yelling, 2004), as well as appropriate progression (Ward & Doutis, 1999).

The National Council of Staff Development (NSDC) identified three types of standards for staff development that improves the learning of all students: context, process, and content standards (NSDC, 2001). The context standards include organizing adults into learning communities, requiring school and district leadership, as well as resources to support adult learning and collaboration. The process standards include six components: data-driven (uses student data to determine adult learning priorities), evaluation (uses multiple sources), research-based (prepares educators to apply research to decision making), design (uses learning strategies appropriate to the intended goal), learning (applies knowledge about human learning and change), and collaboration (provides educators with knowledge and skills to collaborate). The content standards account for equity, quality teaching and family involvement.

From the available literature and survey data, Birman, Desimone, Porter and Garet (2000) identified and described six factors (three structural and three core features) that have potential for an effective professional development. The structural features included form, duration, participation, while core features comprised of content focus, active learning and coherence. WestEd, a non-profit agency, serving as a regional education laboratory, based on the research and several exemplary programs outlined several principles of the effective professional development (WestEd, 2000). The effective professional development program is one that "(1) focuses on teachers as central to student learning, yet includes all other members of the school community; (2) focuses on individual, collegial, and organizational improvement; (3) respects and nurtures the

intellectual and leadership capacity of teachers, principals, and others in the school community; (4) reflects best available research and practice in teaching, learning, and leadership; (5) enables teachers to develop further expertise in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards; (6) promotes continuous inquiry and improvement embedded in the daily life of schools; (7) is planned collaboratively by those who will participate in and facilitate that development; (8) requires substantial time and other resources; (9) is driven by a coherent long-term plan; and (10) is evaluated ultimately on the basis of its impact on teacher effectiveness and student learning; and this assessment guides subsequent professional development efforts" (WestEd, 2002, p. 2).

While there is a consensus in the literature that in-service education is still necessary to provide on-going professional development to teachers (Epstein, 2005), it is also recognized that the quality of professional development can only improve if it is clearly focused, team-based, welcoming of newcomers to the school community, aligned with school and district policies, goal-oriented, activity based, with shared experiences and interactions, and is also on-going (Desimone, Porter, Garet, Yoon, Birman, 2002; Sparks, 2002; Sparks & Hirsh, 1997). Several authors have suggested that addressing teachers' learning *during* professional development is a good measure of its effectiveness, and contend that professional development would be more effective if it could be described as "school-based" (NPEAT, 1998); "contextualized" or "situated to fit the school" (Brown, Collins, & Duguid, 1989; Guskey, 2002; Lave & Wenger, 1991; Sparks, 1997); or "anchored" (Bransford, Sherwood, Hasselbring, Kinzer, & Williams, 1990). In addition, while Fullan (2001) viewed professional development as a goal oriented and

continuous process supported through mentoring, coaching and feedback, Little and Houston (2003) have demonstrated that continued support was one of the required key variables in the process of teachers altering their teaching in a meaningful way through professional development.

Recognizing the deficiencies in professional development and addressing the need for quality professional development for physical education teachers, on January 23, 2006, the Senate Committee in the state of California amended several sections and added to articles of the Education Code relating to physical education, and more importantly, made an appropriation of the funds. The amended Senate Bill 362, originally introduced by Senator Torlakson, established the Physical Education Professional Development Program in the state of California to provide training to physical education teachers (California State Senate, 2006). This Physical Education Professional Development Program is to be administered by the Superintendent with the approval of the State Board of Education and intended to serve K through 8th grade physical education teachers employed in public schools.

The Physical Education Professional Development Program will consist of physical education programs conducted by institutions of higher education or an approved training. The local educational agency's training curriculum needs to be approved by the state board and be consistent with state-adopted physical education model content standards and with physical education curriculum frameworks. While the effectiveness of the Physical Education Professional Development Program in the state of California remains to be investigated (since this section of the Senate bill becomes

effective on July 1, 2007), the mere fact of the establishment of such program provides a legislative support to the importance of the continuing professional development.

In England, the national professional development program for physical education teachers, called The National Physical Education and School Sport Professional Development Programme has been in effect for the past three years (Armour & Makopoulu, 2006). The program aims to improve the quality of physical education and sport in all schools in England through the provision of high quality professional development for teachers and other adults. There is government support and funding for the program and in addition, funds were recently extended for the program's comprehensive evaluation.

One of the ways to ensure meaningfulness of the teaching practice change could be an introduction of a curriculum and instructional model that has been shown to be successful in school settings. In recent years, one particular curriculum model in physical education, Sport Education, has been developed aimed to create a developmentally appropriate and authentic sport experience for girls and boys (Siedentop, 1994). Sport Education is an instructional and curriculum model designed to develop competent, literate, and enthusiastic sportspeople (Siedentop, 1994; Siedentop, Hastie, & van der Mars, 2004). It employs small learning groups throughout the season, called teams, and has been described as student-centered learning (Alexander, Taggart, & Luckman, 1998). Sport Education aims to provide an authentic approach to teaching sport by encompassing its essential characteristics: (1) seasons, (2) constant team affiliation, (3) formal competition interspersed with practices, (4) culminating event, (5) keeping statistics and records, and (6) festivity (Siedentop et al., 2004).

The curriculum philosophy of Sport Education has two distinct features. These are first, a greater depth of coverage of content and second, an expanded set of content goals (Siedentop et al., 2004). As a result, in Sport Education, students participate in seasons lasting longer than typical units in physical education. Almost immediately, students are divided into teams that they remain with throughout the entire season, providing for team affiliation. Throughout the season, students participate in playing and non-playing roles. Within each team there are different roles that students assume, such as coach, statistician equipment manager, and other roles. In addition, students are involved in non-playing roles, for example, officials or judges. Teams participate in formal competition where records are kept and results count. The festive culminating event usually concludes this season.

A number of studies have reported positive benefits of Sport Education to students and teachers such as students working "harder than in regular PE", showing greater effort, and taking more leadership roles and cooperation, and increased levels of enthusiasm (Carlson & Hastie, 1997; Grant, 1992; Alexander & Luckman, 2001). While investigating the influence of Sport Education on students' motivation responses in a high school physical education setting, Wallhead and Ntoumanis (2004) reported significant increases in levels of student enjoyment and perceived effort.

Other positive outcomes of research on Sport Education include high levels of student engagement (Hastie, 1996), teachers' perceptions that adopting the model invigorates them (Alexander, Taggart, & Thorpe, 1996), and that student interest in physical education is greater in this format than in their previous approach to teaching sport in physical education (Alexander & Luckman, 2001). In addition, because of the

student involvement in the management of the season, teachers report having more time for individualized instruction (Grant, 1992).

Team affiliation in Sport Education has also been recognized as a factor in changing the ways students socialize during class, with a particular emphasis on the development of teamwork and cooperation (Carlson & Hastie, 1997). A recent study of elementary aged children in the United Kingdom schools (MacPhail, Kirk, & Kinchin, 2004), supports earlier reports (Bennet & Hastie, 1997, Hastie & Carlson, 1998) that the opportunity to become affiliated with a team was an attractive feature of the students' physical education experience.

In terms of learning to teach Sport Education, several authors have mentioned the common avenues for learning the key elements of Sport Education. The introduction of Sport Education to physical educators has been accomplished mainly through one of five approaches: (1) the use of printed materials such as books or guides (Grant, Sharp, & Siedentop, 1992; Siedentop, 1994; Siedentop et al., 2004); (2) the development of teaching material (e.g., printed guides and video) and its distribution to teachers (Alexander & Taggart, 1995); (3) the integration of key features of the model throughout physical education teacher education curriculum and teaching students how to teach Sport Education (Curtner-Smith, & Sofo, 2004; McCaughtry, Sofo, Rovegno, & Curtner-Smith, 2004; Jenkins, 2004); (4) the presentation of Sport Education at conferences (Siedentop, 2002); and (5) the introduction to the model through workshops and seminars (Ko, Wallhead, & Ward, 2006).

Not all professional development opportunities are created equal, however, and the effectiveness of such opportunities remains to be investigated. Given that the

important element of any professional development effort is the measure of its effectiveness in terms of changing teaching practices and ultimately enhancing student learning, that effectiveness needs to be assessed through observation of actual teaching practices within the school setting (Morris, Chrispeels, & Burke, 2003). As student learning is yet another crucial outcome of professional development (Armour & Evans, 2006), the notion of validating the effectiveness of professional development through direct observation of actual teaching and student learning is critical. In physical education, Ward and Doutis (1999) noted the deficiencies in research concerning the processes and effectiveness of professional development, while Ko, Wallhead and Ward (2006) have suggested that physical education teachers often do not use the knowledge and skills provided to them in workshops, which in that respect would make them no different to other teachers.

Purpose of the Study

The purpose of this study was to provide an exploration of the implementation of the on-site professional development program and its essential elements for physical education teachers as they learned to teach Sport Education. In addition, the measurement of the degree of effectiveness or ineffectiveness of such a professional development program was investigated through the observation of actual teaching practices within the school setting. Since research indicates that effectiveness of one day, one shot, out of context inservice workshops is questionable at best (Armour & Yelling, 2004) and research on the effectiveness of the suggested school-based forms of professional development for physical education teachers is limited, this study will serve as foundational research on this important but little examined topic.

Method

Design of the Study

Since one of the strengths of qualitative research is its strong potential for revealing complexity and opportunities to examine situations in-depth (Miles & Huberman, 1994), an ethnographic case study approach was used to reflect the descriptive nature of the study. Data were gathered through e-mail correspondence, telephone conversations, a researcher's log, briefing and debriefing sessions, semi-structured interviews, as well as lesson and season plans. Using these data sources within and across contexts facilitated data triangulation during analysis.

The determination of the degree of effectiveness of the professional development model also included the investigation and the comparison of the actual and the expected behavioral patterns of the students and teachers as well as time allocations to different activities during the course of the Sport Education season. Hastie (1998) provided recommendations for objectively establishing the validity of the Sport Education model. By observing teacher and student behaviors as well as time allocation to different activities throughout the course of the season, Hastie (1998) suggested that one would expect to see evidence of the following in a Sport Education unit: (a) a decrease in the teacher's organization and direct instruction as the season progresses, (b) an increase in the percentage and frequency of observing behaviors, (c) a decrease in involvement in skill instruction from the teachers and increasing participation in game play and officiating commitments by the students as the season progresses.

Participants

Participants in this study were two physical education teachers, one with 27 years of experience and other with only three, who taught separate sixth-grade physical education classes. The terms *expert* and *advanced beginner* were assigned to these two teachers in accordance with the skill acquisition model (Dreyfus & Dreyfus, 1986). In this study, the person delivering continuous professional development was also the researcher.

Expert teacher. The expert teacher had taught physical education for 27 years and was considered one of the premier physical education teachers in Russia. Indeed, he held the title of an "Honor Teacher of Russian Federation", which is the highest teaching honor awarded by the government. For the last 16 years, he had worked in the same school where the study took place. Of particular note was that he had been employed in this school since its opening in 1990 and was instrumental in designing the layout of facilities used for physical education for the school.

Advanced beginner teacher. The advanced beginner was a graduate student at the local state university and had three years of experience teaching physical education in the same school. In addition to teaching physical education classes at this school, the advanced beginner teacher also coached basketball and gymnastics.

Both teachers were familiar with their respective sixth-grade classes, as they had taught them for the previous three quarters of the academic year. Following Siedentop and colleagues' (2004) recommendations to consider the existing school environment and advice to choose a familiar sport for an initial Sport Education season, both teachers chose basketball. The expert teacher taught a class of 20 students and the advanced

beginner teacher one of 17. Both classes were coeducational and met three times a week over a period of six weeks (which corresponds to one full academic quarter in all Russian schools).

Setting

The school in which this study occurred has a total enrollment of nearly 600 students in the first through eleventh grades. The school is located in a small rural city (population 30,000) in the central part of Russia. The gymnasium available for teaching physical education lessons had a regulation size basketball court and an additional 6 basketball goals mounted on the side walls across from each other. Sufficient basketballs were available so that each student could have a ball.

Professional Development Program Outline

The professional development plan was to provide the teachers with resources for physical educators who were unfamiliar with Sport Education and have them implement the model. This plan included three steps. First, teachers were to be provided with printed materials on the benefits and the main features of the model, as well as detailed explanations on how to implement Sport Education. This step was similar to the way Australian educators proceeded with a national implementation of the model and the development of the SEPEP materials for Australian schools (see Alexander & Taggart, 1995). The materials used in this study were based on the most recent book about Sport Education (Siedentop et al., 2004) and consisted of several articles published in Russian journals that described the model in detail (see Sinelnikov & Hastie, 2004, 2005; Sinelnikov, Hastie, & Sychev, 2004).

Second, a two-day Sport Education workshop focusing on specific features of Sport Education was planned. During the workshop, the teachers and the researcher jointly designed a Sport Education season outline and wrote sample lesson plans. The arrangement was for the researcher and teachers to meet at the school during the spring break, a week prior to the beginning of the academic quarter in which implementation of Sport Education commenced.

The final, and most time consuming portion of the professional development program, was to attempt a positive connection of the theory (Sport Education curriculum) to practice (actual teaching) using a Reflective Framework for Teaching in Physical Education suggested by Tsangaridou and O'Sullivan (1994). The framework for debriefing divides the reflective process into three categories of focus: technical, situational, and sensitizing. A technical focus includes instructional or managerial aspects of teaching; contextual issues of teaching are characterized as situational reflection; and sensitizing reflection deals with the social, moral, ethical, or political aspects of teaching (Tsangaridou & O'Sullivan, 1994). Although devised for preservice teachers, the framework was deemed appropriate for use in the study as a de-briefing guide to focus teachers' comments after the lessons. In order to accomplish this step, a researcher observed teaching of two of three lessons each week, and conducted briefing and debriefing sessions with the teachers.

Data Collection

The data sources for this study included e-mail correspondence, telephone conversations, a researcher's log, informal discussions, briefing and debriefing sessions, semi-structured interviews, lesson and season plans, and video records of lessons.

E-mail correspondence. Due to the complexity of conducting research between foreign countries, the researcher and the teachers communicated via e-mail over a period of several months. The initial materials describing Sport Education written in Russian language were e-mailed to teachers.

Telephone conversations. Several telephone conversations also took place between the researcher and both teachers several weeks after the receipt of the e-mailed materials. In addition to the discussion and clarification of the main concepts in the e-mailed material, the telephone conversations aimed at resolving logistical issues for the upcoming study. These included equipment needs, scheduling of physical education classes and the availability and size of space used in teaching physical education.

Researcher's log. The researcher kept a log that contained accounts of his personal experiences of communication with teachers, as well as field notes and audiotaped notes. In order to organize and preserve data of the research experience, and to allow quick access in subsequent months of analysis, all data were entered into Microsoft word documents, with each entry separately labeled. For example, if the researcher spoke with the expert teacher about the upcoming lesson and then took field notes while observing the lesson, later the same day, the researcher would type his personal account of the conversation under the heading of "Communication" and included field notes under "Field Notes" heading. Both headings appeared under the same title "Expert Teacher Lesson 3 Preseason" and the document was dated. All audiotaped notes were transcribed verbatim and also entered in the same document under appropriate headings.

Informal discussions. Throughout the duration of the implementation of Sport Education, informal discussions between researcher and teachers were also recorded, entered into the word document, and labeled as such.

Briefing and debriefing sessions. Briefing sessions consisted of the researcher meeting with both teachers twice a week in the mornings prior to their teaching. Such meetings were held at the teachers' request in order to reiterate the key points of the upcoming lessons. The meetings were informal and sometimes held in the hallways in between classes.

For the debriefing sessions, the researcher individually met with each teacher immediately after they taught their lessons. The questions posed during these meetings were congruent with the three levels of reflection in the Reflective Framework for Teaching in Physical Education (description, justification, and critique) (Tsangaridou & O'Sullivan, 1994). The teachers were encouraged to provide descriptions of meaningful events that happened during the course of the lesson, and then justify their own and the students' actions or reactions, as well as provide a critique.

This format, however, was only the starting point that provided an initial focus, as the teachers were free to discuss and explore any issues that seemed relevant to them. Personal accounts of briefing and debriefing sessions were typed into a Microsoft document on the day of occurrence.

Semi-structured interviews. These interviews were conducted prior to the beginning of the Sport Education season, once a week when teaching Sport Education, and at the end of the season, for a total of seven interviews with each teacher. The interviews were conducted individually with each teacher in their own physical education

office and depending on a week lasted between thirty to ninety minutes. The decision to conduct interviews individually resulted from the initial informal communications with teachers where the expert teacher dominated the conversation. Questions were based upon the researcher's observation of lessons, the participants' self-analysis of their teaching, their perceptions of Sport Education, and any obstacles and challenges that they felt arose. Questions were constructed to encourage teachers to think critically about their teaching, their students' participation and learning, and Sport Education as a curriculum model. All interviews were audiotaped and transcribed verbatim immediately following the interviews.

Lesson & season plans. The lesson and season plans for each teacher were collected throughout the season. Although Sport Education as a curriculum is rather flexible, the review and analysis of these plans helped to determine the compliance of lesson and season plans with model's main features.

Teacher behaviors and student lesson participation. Both variables were collected from video records of the physical education lessons, as two out of three weekly lessons were video recorded. The video recordings were made using a portable digital video disc (DVD) camera mounted on a tripod. The DVD camera was situated inside the entrance hallway to allow the camera to be unobtrusive, but capture as much of the class as possible. The DVD camera recorded lessons onto digital versatile disc rewritable (DVD-RW) media. The recorded digital files were later converted to an MPEG format (Moving Picture Experts Group) that is the standard for compression and storage of motion video, and stored on the external hard drive. This procedure allowed for easy organization of all video records for subsequent video analysis.

During the Sport Education season, the patterns and time allocation of teacher behaviors and patterns of student lesson participation should change (Hastie, 1998). To document the change, the amount of time spent on selected teacher behaviors such as management, instruction, and observation as well as the amount of time students spent during the lesson participating in skill practice, practice games, and competition games during three phases of the Sport Education season (preseason, practice competition and formal competition) were collected following real time recording principles and using the Behavioral Evaluation Strategies and Taxonomies software developed by Sharpe and Koperwas (1999).

The software is sophisticated, yet user-friendly, software that facilitates collection, analysis, and visual representation of complex multi-event configuration of behavior interactions. A researcher assigns each particular behavior or behavior interaction to a specific letter or a number on a keyboard and when that behavior is observed on the video, the researcher through pressing and holding of the appropriate key allows for event and duration recording of that behavior.

To record the duration of the selected teacher behaviors and student lesson participation, a specially designed configuration of the Behavioral Evaluation Strategies and Taxonomies software was used. The category descriptions of the selected teacher behaviors and the student lesson participation and its assigned computer keyboard keys used in the analysis are presented in Table 1.

Table 1

Category Description of Teacher Behaviors and Student Lesson Participation and Keyboard Layout

	Category description	Keyboard key
Teacher behaviors		
Instruction (94.6%)	Teacher's "specific intent to influence learning in a particular direction" (Rink, 2006, p. 23).	I
Management (96.8%)	"Everything a teacher does that is not directly related to the content to be taught" (Rink, 2006, p. 52).	M
Observation (98.2%)	An attentive visual examination of students and their activities by the teacher.	O
Student lesson participation		
Skill practice (95.4%)	Individual or team practice aimed at developing skills (techniques and tactics).	S
Practice games (100%)	Non-consequential games used to learn protocols, rules, and student roles such as officiating in addition to developing technical and tactical skills.	P
Competition games (100%)	Games that matter in the formal competition and in league standings.	C

Note. Intrarater reliability scores are provided in parenthesis.

Sport Education specific teacher pedagogical behaviors. The modified Sport Education benchmark observational instrument (Ko et al., 2006) was used to discriminate teacher pedagogical behaviors necessary for the delivery of a "typical" Sport Education season. The instrument allows an observer to code specific teacher behaviors that sufficiently reflect a pedagogy that emphasized each of the core principles of the Sport Education model, such as season, affiliation, student responsibility, formal competition, and record keeping. The author coded Sport Education specific teacher pedagogical behaviors from the video records as they occurred in all of the recorded lessons. Intra-observer reliability was conducted on two representative lessons from each of the phases of the Sport Education season for each teacher. The intra-observer reliability equaled 98% indicating an acceptable levels of agreement suggested by van der Mars (1989).

Data Analysis

Qualitative analysis. The qualitative data analysis was performed in Russian language and resulting themes were later translated into English for the purposes of reporting. This method was used to reduce the possibility of inconsistencies that may arise from translation.

Audio-recorded data were transcribed verbatim and other qualitative data were entered in the Microsoft document, labeled by type and categorized by date. Thematic coding was used to analyze all data and identify common themes (Spradley, 1979). First, the patterns were identified. The next step of the thematic analysis was to identify all the data that related to the already classified pattern. If data did not fit into an already classified pattern, a new pattern was created. The next step was to combine and catalogue related patterns into subthemes. Themes are defined as units derived from patterns such

as "conversation topics, vocabulary, recurring activities, meanings, feelings, or folk sayings and proverbs" (Taylor & Bogdan, 1984, p.131). The data analysis was ongoing during the investigation and then continued after of the seasons were completed.

The Sport Education benchmark observational instrument allowed the researcher to confirm the existence or non-existence of benchmarks elements of Sport Education season in the lesson and season plans as well as during actual teaching.

Trustworthiness of the data. Data were gathered through e-mail correspondence, telephone conversations, a researcher's log, briefing and debriefing sessions, semi-structured interviews, as well as lesson and season plans. During triangulation all data from multiple sources were reviewed and analyzed. Using these data sources within and across contexts facilitated data triangulation during analysis. Such presence of multiple data sources allowed the creation of an extended data bank that also permitted data triangulation (Denzin & Lincoln, 2003; Janesick, 2004). Findings were confirmed through within-context triangulation by a minimum of three confirming items such as combination of statements made by teachers and evidence found in other records. Across contexts triangulation meant that the findings were supported by data gathered from planning, teaching or reflective context of teaching Sport Education.

Quantitative analysis. Using the video records of physical education lessons, the frequency and percentage of selected teacher behaviors and student lesson participation in each phase of the Sport Education season were analyzed using the Behavioral Evaluation Strategies and Taxonomies analysis software (Sharpe & Koperwas, 1999). For student lesson participation, a different team was chosen at the beginning of each lesson and was followed to the completion of the lesson. This method ensured multiple

observation opportunities of all the teams while the category coding was performed based on the prevailing activity of the majority of students from the observed team.

In agreement with Sharpe and Koperwas's (1999) recommendations, the interrater reliability greater than .80 was established during the development of the selected teacher behaviors and student lesson participation categories, while intrarater reliability conducted with repeated segments of video records reached levels reported in Table 1.

Results

Themes

Four themes were generated during analysis of the researcher's log, informal discussions, briefing and debriefing sessions and semi-structured interviews. These have been identified as (a) the need for sample lesson observance in the training phase, (b) model congruency validation, (c) difficulties of "letting go of the control", and (d) the establishment of the new partnership relationships between teachers as well as teachers and students.

Need for sample lesson observance prior to teaching. After the teachers read the guides and articles about Sport Education and attended a two-day workshop to learn about key elements of the Sport Education, they recognized the need to observe the actual teaching of Sport Education. As the expert teacher noted, "The picture of the lesson organization is not clear in all of the moments. I need to see it. What we say here is 'Don't tell me, but show me.' Then you understand the concept and it becomes interesting."

The main concern for the teachers was the managerial or "organization" structure of the lessons and having students take responsibility in organizational tasks, while the

concept of all students being involved at all times during the lesson not necessarily in skill development but in other tasks such as officiating or scoring was a novel but certainly beneficial idea. Since direct instruction is one of the prevailing teaching methods of physical education in Russian schools, the teachers expressed the need of observing practical ways of lesson organization that allows students take leadership roles.

> Children will understand, it is different organization, different methods of conducting the lesson. Usually children come and we play and run for 45 minutes, but now they need to think before they run, and lead. How do I make them lead?

During peer teaching and consequential sample teaching lesson with a class not participating in the project, the advanced beginner teacher remarked that seeing the actual lesson helped him understand student participation in small groups and the nature of student responsibilities during the lesson. The simulation of a draft procedure also took place to assist teachers in their understanding of how to select coaches and select students to teams.

Teaching-to-model congruency validation. The teachers reported the need for constant validation of the accuracy of their teaching or model implementation to the Sport Education instructional and curriculum model. This following comment of the experienced teacher during an interview is representative of this particular sentiment, "Just tell me if the way I am doing it is how it must be done." That need for model congruency validation of teaching and how teaching and student behavior corresponded with Sport Education was especially evident during the early lessons of the season. During debriefing following one of the initial lessons an advanced beginner made this representative remark, "I need to know that was OK that teams did their own shooting

exercises and I did not have to tell them what to do." As the season progressed, however, the instances when a model congruency validation was required diminished. By becoming familiar with Sport Education and having taught the lessons, the teachers were able at that time to reflect on their own teaching and key elements of the model. Speaking about allowing coaches to take responsibility, the advanced beginner teacher commented:

> After I taught the lesson I see that any test will do. There are three of us [teachers] and each one of us can do it differently. The main part is that coaches took the initiative and were standing ready with pencils and recorded the results.

Difficulties of "letting go of the control." During the initial meetings and skill practice phase of the Sport Education season, both teachers, (but especially the expert teacher), expressed concerns over students being able to take leadership responsibilities and accomplish the lesson tasks. The teachers had difficulties with organizational complexity of conscientiously delegating class management to students and more importantly students being able to teach other students. However, the underlying motif of the responsibility issue centered over relinquishing control of the gym. "It [Sport Education] is difficult in organization. We [when teaching traditionally] have it easier. I am the conductor; it will be how I say it. Now they [students] decide."

During the early lessons in the seasons, the teachers reverted at times to direct teaching while still attempting to promote student responsibility. For example, during lesson 3 the expert teacher commanded the entire class to stop, then called the coaches to the center of the gymnasium and explained the next task for coaches to teach to their teams. After a brief explanation and demonstration by the teacher, the coaches returned to their respective teams. Naturally, since all teams already observed the next task there was

little for the coaches to do once they returned, and each team began an activity without each coach's leadership.

When student coaches were responsible for organizing activities with their teams, the overall appearance of the gymnasium appeared disorganized to these teachers who were used to a strict order. As the expert teacher noted, "It is chaos. It is porridge. When I teach…what I say is accomplished. Clear and precise." However, as the season progressed, the benefits of students coaching as well as coaches' enthusiasm towards teaching peers were evident to the teachers.

> Coaches now begin to help and assist classmates if they are not capable of performing something. Coaches literally fly to them and begin to explain what to do. It means they are living the role of a coach, they even began giving tasks for out of class practices. They help teammates, it is interesting to watch, one coach even threw down his notebook and began an explanation with such an enthusiasm. He did it so well. (Advanced beginner teacher)

> Excellent! I explain less to children. When I explain to coaches, they do it, and you walk around and help out. Coaches are on their own. Some coaches have a healthy fervor…they quickly gather the team around and explain everything. They really show their organizational abilities.(Expert teacher)

By the end of practice games and beginning of the formal competition, the issue of "letting go the control" lessened and teachers commented that teaching became easier.

> It is easier for me. First, I found helpers in the faces of my children who are given responsibilities. If I tell them what to do, they do it with the team. I only have to walk up to the group and give feedback and see if it is done correctly or not correctly. When I have twenty five children, I cannot do that. In terms of competition, I do not have words to describe how excellent it is. Everyone is doing something.

By giving up the control, teachers were able to step back from the center stage of the gym and became an interested observer allowing for the following comment: “Each team is performing its functions. It is like a theater production, each one has its own role.” “Children are on their own. They even ask each other, without the teacher, ‘which team are you scoring for?’ I look at them and this is true independence and democracy, and this different approach [to teaching] reflects on children and children act differently than during traditionally organized lesson.”

Forming a partnership between a teacher and students. The relationship between teachers and students during the beginning of Sport Education was one of an authoritarian regime based upon strict standards and tight management accountability. The expert teacher summed up his approach to teaching physical education and his relationships with students reminiscent of military line of command: “When I teach, I am the general and students are my soldiers. What I say is accomplished. No doubts, no sounds, without resistance.” The gymnasium was his “battlefield” and events in the gym should happen on his command.

The advanced beginner teacher’s analogy about his relationships with students was not as blunt but still portrayed the expected obedience by students: “I am the conductor; it will be how I say it.” There was a definite distance between students and teachers during lessons as well as outside class time. However, as the season progressed teachers found “helpers” in their classes, (i.e. student coaches), and felt sharing the responsibility provided different connections to students. That sense of shared responsibility allowed new partnership relationships between teachers and students to form, which permitted expert teacher to comment about his students, “They are my

partners." At some stage of the formal competition, the expert teacher began to position himself visibly close to children, coming over and putting his hand on students' shoulders when speaking and commenting during debriefing, "I feel a connection with them." However, the most telling event occurred at the end of the season after the awards ceremony when the expert teacher walked around the gymnasium and personally shook every single student's hand in the class, a sign of the ultimate respect in Russia.

During interviews, the teachers also described what they perceived as a higher level of student enthusiasm in their lessons. The teachers attributed the perceived higher levels of student enthusiasm to allowing students to participate in the decision making process. The advanced beginner teacher provided an example of such an enthusiastic approach to the lessons of physical education, something that was out of the ordinary during the traditional physical education. He commented:

> Listen, during the break between classes, they [students] ran down to my office and brought pieces of paper with their anonymously elected coaches for teams. They had an enormous interest; but I told them that we will select coaches later, during our next lesson, next week. But they already gave it to me in advance.

The high levels of enthusiasm were especially evident during the practice games and formal competition phases of the season. "We do not have such things during regular lessons; that is children being emotional. In reality, to have children jump up and down and applaud to each other during the lesson, such thing does not happen." The enthusiasm is contributed to the design of the Sport Education curriculum since the traditional physical education "lessons are designed differently and there are no opportunities for such things" as displaying investment and show of emotions during the lesson.

The expert teacher seconded the advanced beginner's observations, and during the later stages of the season further extended the notion of high levels of enthusiasm to the girls, a group described as previously a mostly inert group of students during lessons.

> The boys definitely have higher motivation, but let's talk about girls. We always have problems with girls participating during lessons of physical education, especially when we teach team sports. Now, look, the girls are out playing. As a rule, take for example any class anywhere, even in our school, half the class plays, the other half sits on the benches. Here, girls are excited and motivated to play, irrespective of their skill level, all trying to help their team out. Big advantage.

It is interesting to note that one of the driving forces behind the positive change in enthusiasm in girls by the expert teacher's account was the notion of team affiliation and providing individual contribution towards a common goal of the team. This in turn was seen as fostering a sense of usefulness. "They [girls] organized themselves, once they understood how important their success is and how it counts for team's success."

Forming a cooperative partnership between teachers. The teachers involved in the professional development opportunity spent a significant amount of time working cooperatively, especially during the initial training when both teachers alongside the researcher devised season and lesson plans. During the initial training and throughout the implementation phases of the Sport Education curriculum both teachers, expert and advanced beginner, continued to have discussions about the model and their teaching practices amongst themselves. An expert teacher noted during an interview the frequent opportunities for dialogue between teachers, "Sasha and I meet and talk during lunch and on breaks. I want to see how he plans to organize the skill testing before the teams are chosen."

While not required nor asked, on several occasions the teachers observed lessons taught by the other. Most of the time, following those lessons, spontaneous discussion, reflection or simple sharing took place. An advanced beginner teacher once commented after observing a lesson taught by the expert teacher: "I understand it now. The coaches are the teachers when they go back to their teams."

Even though the teachers shared their experiences and sometimes planned together before the lesson, there were differences in each teacher's teaching practices. For example, after a lengthy discussion the expert teacher decided that student officials would not use whistles when refereeing the games, thinking that multiple whistles in the gym would result in chaos. The advanced beginner teacher, on the other hand, decided to emphasize the use of whistles by officials.

Since both teachers taught the same grade and used similar season and lesson plans, the managerial needs to prepare for classes were similar. For instance, both teachers needed to develop scoresheets for record keeping during the season. The advanced beginner teacher created the officiating scoresheets, while the expert teacher prepared portable boards for scorekeepers to use during matches that could be used by both classes. This aspect fostered cooperation among teachers and a sense of shared goal emerged. "We (the teachers) are doing the same thing, we can work together."

Sport Education Specific Teacher Behaviors

The Sport Education specific teacher pedagogical behaviors displayed by the teachers during the Sport Education season are provided in Table 2. In addition to the existing elements of the instrument, the categories of festivity and culminating event were also added to provide for the inclusion of all key features of Sport Education.

Both teachers exhibited the greater majority of the Sport Education specific pedagogical behaviors considered benchmark elements of the Sport Education model. Although the teachers did not provide task sheets for coaches to complete with the team, both teachers did provide verbal instructions to team coaches as to what activities to perform. They also demonstrated the activity to the coaches when necessary.

Table 2

Demonstration of Sport Education Specific Pedagogical Behaviors During the Season

The Benchmark Element		*Expert*		*Advanced beginner*	
		Planned	*Actual*	*Planned*	*Actual*
The teacher plans the unit around the principle of a "**season**"	Management/organizational phase	√	√	√	√
	Team selection phase	√	√	√	√
	Pre-season scrimmage phase	√	√	√	√
	Regular season phase	√	√	√	√
	End of season event	√	√	√	√
The teacher promotes the "**affiliation**" concept	Students involved in the process of team selection	√	√	√	√
	Persisting teams for duration of unit	√	√	√	√
Teacher promotes students taking "**responsibility**"	Incorporates student duty roles within lessons	√	√	√	√
	Establishes contract and/or accountability for student performance in roles	√	√	√	√
	Teacher holds student accountable	√	√	√	√
	Teacher provides training for referees	√	√	√	√
	Teacher utilizes tasks to train students on effective verbal communication and feedback	√	√	√	√
	Teacher provides task sheets for coaches/captains	**X**	**X**	**X**	**X**
	Teacher adopts a facilitator approach during interactions with student groups	√	√	√	√
	Teacher encourages students to resolve conflict within groups	√	√	√	√
Teacher uses "**formal competition**" within unit plan	A formal schedule of competition is established	√	√	√	√
	Fair play and sportsman awards utilized	√	√	√	√
Teacher utilizes a form of **"record keeping**" within unit	Teacher provides rubrics for scorekeeper	√	√	√	√
	Incorporates peer assessment as part of record keeping process	**X**	**X**	**X**	**X**

The following elements were added by the author

Teacher uses **"culminating event"** near the end of the season	Culminating event is festive in nature	√	√	√	√
	Teams are easily identifiable (team names, team colors, team t-shirts)	√	√	√	√
Teacher creates **"festivity**" within unit	Regular postings of team/individual performances	√	√	√	√
	Teacher emphasizes the celebration of fair play	√	√	√	√

Actual Teacher Behaviors Across Sport Education Phases

Mean, standard deviations and percent values of teachers' behaviors across Sport Education season phases are presented in Table 3, while Figure 1 provides the visual representation of the observed teachers' behavior patterns across Sport Education season phases.

As can be seen from Table 3, as the Sport Education season progressed from preseason to practice competition and to formal competition, there was a decline in the expert teacher's total time spent during the lesson on management behaviors (*Mep* = 997.9; *Mepc* = 698; *Mefc* = 495.9) and instructional behaviors (*Mep* = 385.6; *Mepc* = 280.7; *Mefc* = 58). On the other hand, the percentage of lesson time the expert teacher exhibited observing behaviors more than quadrupled from 16% in preseason to 73% in formal competition phases of the Sport Education season.

The advanced beginner teacher also exhibited an expected pattern of observed behaviors consistent with Sport Education model (Hastie, 1998) with the decline of percentage lesson time spent managing the class from preseason 48% to 16% in practice competition and 14% during formal competition. The lesson time percentage devoted to instructional behaviors by the advanced beginner teacher declined from 31% in preseason and 28% during practice competition to 6% during formal competition. The advanced beginner teacher's lesson time percentage of observing behaviors almost doubled from preseason (29%) to practice competition (56%), thereafter increasing to 79% during formal competition phase of Sport Education.

Table 3

Mean, Standard Deviations and Percent Values of Teachers' Behaviors Across Sport Education Season Phases

Behavioral category	Preseason			Practice competition			Formal competition		
Expert	Mean	SD	Percent	Mean	SD	Percent	Mean	SD	Percent
Management	997.94	753.24	50.13	698.01	204.93	33.48	495.91	238.25	24.17
Instruction	385.57	545.23	21.09	280.65	73.13	13.46	58.06	3.06	2.98
Observation	295.52	417.92	16.17	1106	240.51	53.06	1436.62	206.94	72.85
Total	1679.03			2084.66			1990.59		
Advanced beginner	Mean	SD	Percent	Mean	SD	Percent	Mean	SD	Percent
Management	743.21	410.29	48.03	311.82	19.78	15.67	172.85	126.87	14.44
Instruction	482.91	341.47	31.19	563.82	234.93	28.37	73.97	11.24	6.18
Observation	448.84	634.75	29.08	1115.08	273.18	55.95	950.04	120.51	79.38
Total	1674.96			1990.72			1196.86		

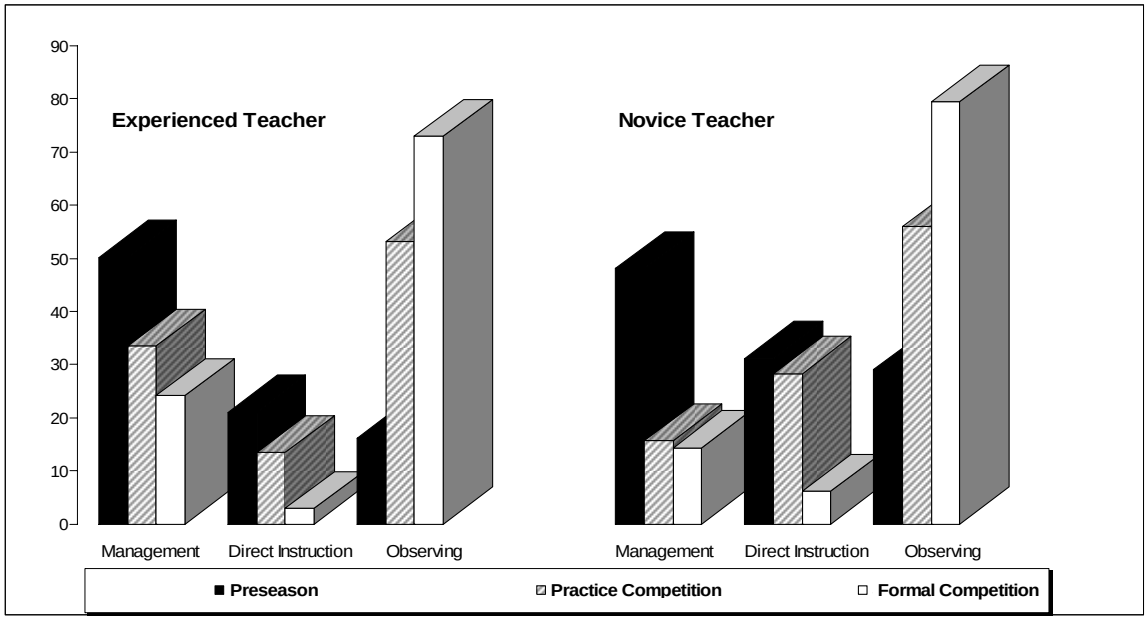

Figure 1. Lesson time percentage of actual teachers' behaviors across Sport Education season phases.

Student lesson participation. The means, standard deviations and percent values of lesson time allocated by the expert and advanced beginner teachers for student participation in skill practice, practice games and competition games across Sport Education season phases are presented in Table 4.

Table 4

Time Allocations to Practice and Games Across Sport Education Season Phases

Season Phase	Preseason			Practice competition			Formal competition		
Expert	Mean	SD	Percent	Mean	SD	Percent	Mean	SD	Percent
Skill Practice	994.84	108.74	60.55	752.37	493.11	39.57	213.77	61.45	10.57
Practice Games	0	0	0	922.38	203.99	48.5	0	0	0
Competition Games	0	0	0	0	0	0	1124.88	313.67	54.66
Advanced beginner	Mean	SD	Percent	Mean	SD	Percent	Mean	SD	Percent
Skill Practice	996.78	192.74	59.79	576.88	232.03	27.89	0		0
Practice Games	0		0	1110.95	381.83	57.62	0		0
Competition Games	0		0	0		0	726.47	413.82	60.71

Figure 2 presents a visual representation of the percent lesson time allocated to skill practice, practice games and competition games across phases of Sport Education seasons by the expert and advanced beginner teachers respectively.

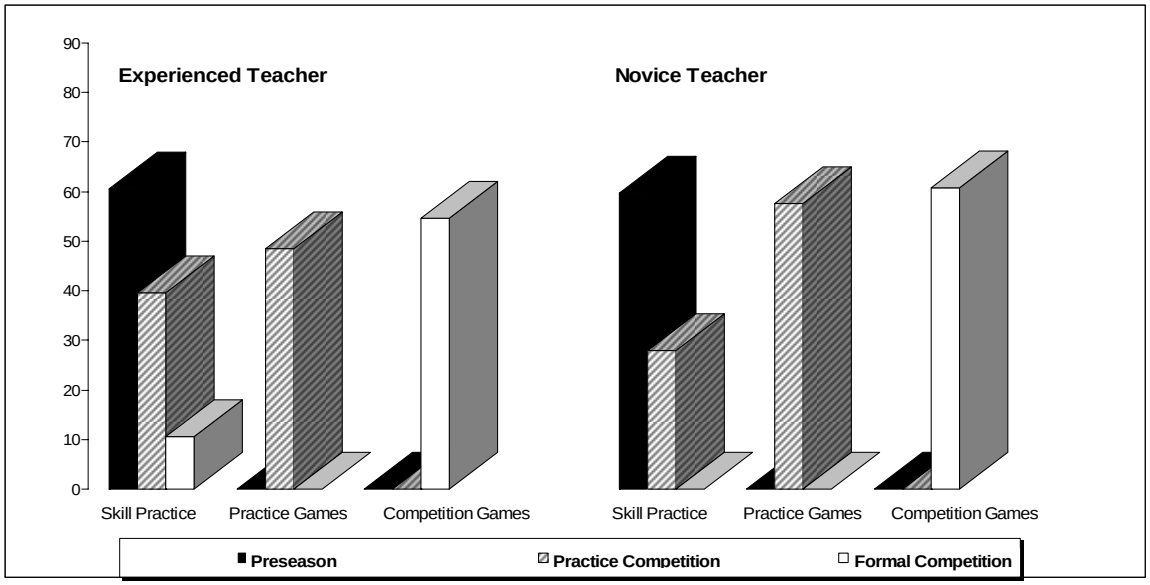

Figure 2. Percentage lesson time allocation to student lesson participation across Sport Education season.

As can be seen from Figure 2, the percentage of lesson time allocated to skill practice by the expert teacher declined from 61% in preseason to 40% during practice competition with further decline to 11% during formal competition. The practice games were only evident during practice competition phase of Sport Education taking up 49% of lesson time, with competition games ensuing only during formal competition phase accounting for 55% of lesson time.

Likewise, there was a decline in advanced beginner teacher's time allocation to student skill practice during the season with 60% during skill practice and less than half of that (28%) during practice games. Moreover, when formal competition began, the students in the advanced beginner teacher's class did not participate in skill practices. Similarly to the expert teacher's time allocation, the advanced beginner teacher allocated time for practice games (58%) only during practice competition and only during formal

competition students participated in competition games for the average of 61% of the total lesson time.

Discussion

The purpose of the study was twofold. The first was to provide a description of the implementation process of the school-based on-site professional development program. In this case, particular interest was placed on the essential elements of this professional development for physical education teachers as they learned to teach Sport Education. The second purpose was to measure the effectiveness of this professional development program.

The theoretical framework for this discussion is based on factors influencing professional development postulated by Birman and colleagues (Birman et al., 2000). They describe the essential components for a professional development program to include form, duration and participation as structural features that set the context for professional development. On the other hand, content, active learning and coherence are features that characterize the processes that occur during professional development (Birman et al., 2000). Steyn (2005) expands on the categories that have an impact on the effectiveness of the professional development to include learning styles of teachers, educator commitment, transformational leadership, out-of-school conditions, in-school conditions and requirements of programs. A diagrammatical representation of the relationship between these categories is shown in Figure 3.

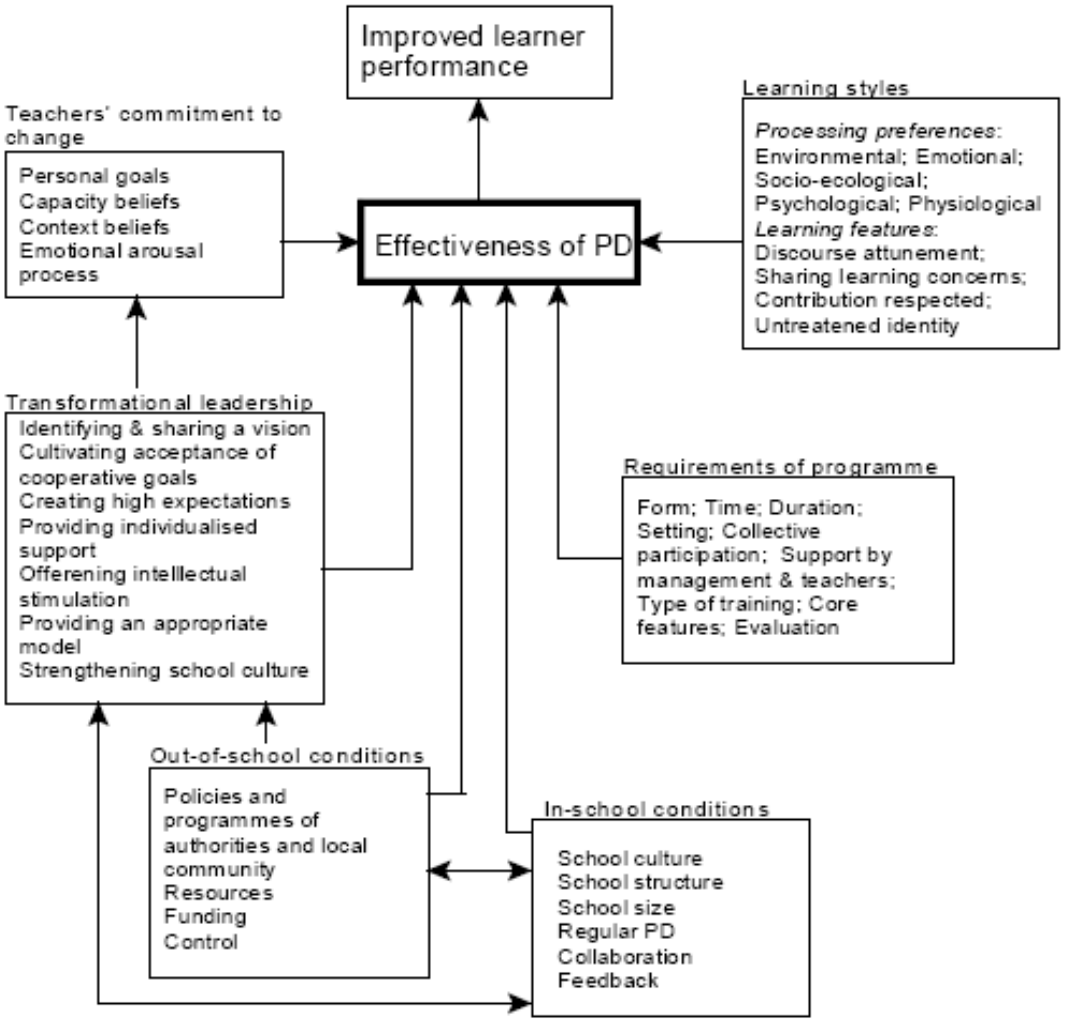

Figure 3. Factors influencing professional development (Steyn, 2005).

According to Steyn (2005), in order for a professional development program to be effective, the following structural aspects are considered to be important: (1) form, (2) time, (3) duration, (4) collective participation, (5) support of management and teacher, (6) type of training, (7) core features, and (8) evaluation. To address the specific purposes of the study, this discussion focuses on the required elements of professional development program outlined by Birman and colleagues (Birman et al., 2000).

Form

Some researchers advocate the change of form for professional development, more specifically the change of traditional practices in favor of reform approaches. The rationale for the transformation is largely attributed to the greater influence on changing teaching practices that reform approaches provide (Ball, 1996; Fullan, 1995, 2001; Little, 1993; Sparks, 2002). Conversely, Birman and colleagues (2000) argue that the form of the professional development is not a leading factor in the effectiveness of the program, but its duration and thus having more content focus, active learning opportunities and coherence is the prominent factor in the effectiveness of professional development.

In this study, the central reform feature of the professional development program was the *extensive on-site presence* of a person delivering professional development to train, observe, and assist in curriculum implementation. The professional development program in this study included initial training in the instructional principles and curriculum design of the model, systematic observation of the lessons, and continual feedback and counselling from experts in the model.

Duration

Consistent with previous suggestions highlighted in the professional development literature, the professional development in this study took place over an extended period of time. The entire program took place over the course of the year, with the most active phase of on-site development occurring during a full academic quarter. The initial training included acquaintance with the model, mutual planning, and sample lessons. In this particular case, due to the cumbersome nature of the project being located in a foreign country, the initial training of the model took up almost a year.

Acquaintance with the model was achieved through the initial informal discussion meeting that outlined the main features of the model and through the discussion teachers expressed interest in the model. This suggests that teachers were prepared to make changes to their teaching practices. Later, the teachers received printed materials describing the model in detail and went through the two day workshop focusing on distinct features of Sport Education.

Yet other important aspects of professional development program in this study were the teacher and researcher briefing and de-briefing meetings held twice a week prior to and after the teachers taught the lessons. Similar to findings from other projects such as Project Science (Birman et al., 2000), such extensive involvement resulting from an extended duration contributed to and facilitated the high-quality substance of the program. The results of this study showed the teachers exhibiting the greater majority of the Sport Education specific pedagogical behaviors, an expected pattern of observed behavior and student lesson participation following the expected pattern consistent with Sport Education. Conversely, the findings of a previous study that utilized similar approach in initial training of physical education teachers to deliver Sport Education curriculum, but did not have briefing and de-briefing sessions (Ko et al., 2006), demonstrated teachers excluding some Sport Education specific pedagogical strategies requiring high levels of complexity.

Collective Participation

The benefit of collective participation, or "participation of teachers from the same department, subject, or grade" (Birman et al., 2000, p.30), may contribute to a shared professional culture (Bernauer, 2002) and more likely result in active learning

opportunities (Birman et al., 2000). During evaluation of the national physical education and school sports professional development programs in the United Kingdom, Armour and Makopoulu (2006) also confirmed the ability of teachers to engage in effective and sustained learning when teachers from the same school participate together in a continuous professional development activity. Moreover, there is some evidence suggesting that such an effect is long-term (Armour & Makopoulu, 2006). In this study, the cooperation among the two teachers began from the initial training phase, where they jointly planned season and lesson plans, and continued throughout the implementation of the season.

Similar to previous findings (Armour & Makopoulu, 2006; Blackmore, 2000; Dixon, 1998; Shelton & Jones, 1996), the results of the study demonstrated that collective participation encouraged sharing knowledge, provided the basis for peer support, and stimulated teacher reflection. In addition, both teachers in the study developed a common understanding of goals, objectives, instructional strategies, and shared understanding of how to support effective student learning which allowed for considerable cooperation between teachers and created a sense of shared professional culture. Dixon (1998) has suggested that one of the barriers to this sharing of knowledge is finding available time. In this setting, however, since both participating teachers worked in the same school, taught the same grade, finding the time to develop cooperative ties, work in collaboration and allow for collective reflection was not an impediment.

Core Features

The more meaningful features that characterize the processes that occur during professional development include content, active learning and coherence (Birman et al., 2000; Steyn, 2005).

Content focus. In general, teachers do not view generic professional development as effective (Steyn, 2005). As a consequence, targeting a professional development activity on a specific subject area or subject specific teaching method is preferable (Birman et al., 2000). During professional development teachers wish to gain specific, practical and concrete ideas that can relate to everyday operations of their classrooms (Fullan & Miles, 1992). In this study, the focus of the professional development was on the content specific to Sport Education (such as team affiliation, responsibility, etc.). In addition, Sport Education specific teaching and management strategies were modeled, discussed and observed. These include situations such as choosing captains, teams, dealing with officiating and others. The Sport Education specific content focus could also partly explain the results of the study showing teachers utilizing Sport Education specific pedagogical behaviors considered benchmark elements of Sport Education during their teaching.

Active learning. Research suggests that when teachers are involved in active learning during their professional development, they are more likely to increase knowledge and change classroom practices (Birman et al., 2000). On the other hand, teachers report the lack of practical learning that is not tailored to their specific needs and situations when describing an ineffective professional development (Armour & Makopoulu, 2006). As Birman and colleagues (2000, p. 31) note, "Active learning

includes opportunities to observe and be observed teaching; to plan classroom implementation; …to review student work; and to present, lead, and write." The results from this study empirically support one of the notions of such active and practical learning - opportunities to observe. Specifically, the teachers reported a need for observation of a number of sample lessons taught by the experts in Sport Education prior to the start of their own teaching. Analysis of the data also suggests for the need of those observations to have a clear focus on specific pedagogical strategies that are novel or extend outside of common teaching practices currently utilized by teachers. In this case, establishing student leadership practices during the course of the lesson was one of the most significant concepts of the Sport Education that required considerable attention. This can be explained by a high level of pedagogical complexity required to ascertain student responsibility tasks in the lesson.

Two other aspects of active learning were inherent in the provided model of professional development. These included the provision for teachers to be observed when teaching (Birman et al., 2000) and the opportunity to obtain coaching and feedback on their teaching (Fullan, 2001; Little & Houston; 2003). The findings of the study suggest that regular lesson observation as well as briefing and debriefing sessions may provide the feedback necessary for teachers to provide validation of the congruency of their teaching to Sport Education. The data also suggest that regular teaching-to-model congruency validation between the teacher and an expert in Sport Education contributed to the effectiveness of the professional development.

Coherence. Birman and colleagues (2000) define coherence as "the extent to which professional development experiences are part of an integrated program of teacher

learning – activities that are consistent with teacher goals, build on earlier activities, are followed by additional activities…" (p. 31). This study supported the notion of coherence in that it was an isolated program delivered in a particular school. While the results validated the effectiveness of the delivered professional development in this study, the connection to a wider set of opportunities for teacher knowledge and development was not established. Partly, this can be explained by a lack of professional development opportunities that exist in Russia, especially for physical education teachers. Consequently, there is a need for the establishment of professional development opportunities for physical education teachers in the Russian Federation, especially since effective professional development have a positive effect on teacher knowledge and motivation, and improves students' learning (Armour & Evans, 2006).

Teacher Change

The results of this study support the notion of a gradual process of teacher change. This is in line with Guskey's model of teacher change (Guskey, 1985; 2002). According to the model, there is a certain order to the sequence of the three major outcomes of professional development. The significant changes in teacher beliefs and attitudes occur after they gain evidence of improvements in student learning. In turn, the improvements in student learning result from the teacher changing the classroom practices. More specifically, Guskey (2002) writes that "it is not the professional development …, but the experience of successful implementation that changes teachers' attitudes and beliefs" (p. 383). This study provides empirical evidence for this notion as teachers had difficulties of letting go of the control of the events that transpire in the gym until they saw evidence of the desired outcomes in student learning. This confirmation resulted in teachers

attempting a different approach to teaching and developing a partnership with the students, which in fact is an alteration of teachers' prior beliefs about order and life in the gym. The findings also suggest that process of teacher change may be more difficult for more experienced teachers.

Implications of the Study

The significance of this study is in the provided description of the continuous professional development and the empirical support of its effectiveness. Although the findings demonstrated the effectiveness of professional development in this study, the disadvantages of the suggested method of delivery of professional development lie in the considerable time demand required from both sides of the program; the teacher and the person delivering professional development program. The second limitation is inherent in the first, namely the nature of the on-site extensive presence limits the number of teachers and schools that could participate in the professional development opportunity.

Nevertheless, consistent with theoretical postulates articulated by several authors on professional development, the findings from this study empirically demonstrated that if professional development takes place over an extended period of time, is continuous (Fullan, 1995), and school based (NPEAT, 1998) as well as contextualized in teaching practices (Lave & Wenger, 1991; Sparks, 1997), physical education teachers can effectively implement a novel curriculum. Through the development of professional learning communities it may be possible to continue to support this learning and, importantly, grow it. These findings are important because while in the field of physical education, and more specifically, with regard to the gaining popularity of Sport Education, there is some evidence of ineffective professional development such as

workshops (Ko et al., 2006), lack of research literature providing an evidence-based description of the effective professional development is evident.

In addition, the findings of the study showed that active learning seemed to be a large part of the effectiveness of professional development with teachers requiring sample lesson observations and continuous feedback and coaching. Since this study was an initial attempt to deliver a situated professional development to physical education teachers in Russia, more studies are needed to further investigate the potential of professional development in Russian schools. It is also worth noting that even if we apply even a little of what is known about effective learning to professional development, we would end up with better structures and more effective processes.

Ko and colleagues (2006) demonstrated that the highest level of content "washout" (Zeichner & Tabachnick, 1981) occurs between the teacher planning and implementation phases. In this study, the continuous feedback and reflection in briefing and de-briefing sessions minimized the effects of content washout and allowed teachers implement a valid Sport Education season, deeming the professional development program to be effective. Although the teachers articulated an understanding of the importance of permitting students take leadership roles during the lesson of physical education, during actual teaching, teachers experienced difficulty letting go of the control of the lesson.

Moreover, the findings of the study seemed to show that the more teaching experience one has, the more difficult it may be to enact a change of teaching practices. Therefore, from the professional development standpoint, when working with expert teachers we need to be aware of their previous experience being a potential barrier to

enacting a change in teaching. The process of teacher change is gradual, and a change in teacher attitudes and beliefs may not manifest until teachers see the emerging evidence of desired outcomes in student learning. However, looking on the optimistic side of our data and consistent with previous reports (Alexander & Luckman, 2001), it seems once the process of change is accomplished, it can potentially lead to rewarding experiences for the teacher and students allowing new partnership relationships take place.

The future direction of the research may be in determining the balance between time demands without sacrificing the effectiveness of the professional development program. Yet another approach for teachers to change their teaching practices, and more specifically, to learn and implement a novel curriculum and instructional model could be through the development of mentoring relationships. Weaver and Chelladurai (1999) provided the initial efforts of conceptualizing the mentoring framework for physical education and sport settings suggesting four phases in the mentor-protégé relationships: initiation, cultivation, separation, and redefinition.

We see the most critical part of the professional development process in the notion of "facilitating a change from within". In this study, it meant for the person delivering professional development to be immersed in the school setting and work with teachers in their natural teaching environment for an extended period of time. Knowing created in one place does not easily transfer, in the form of knowledge, to another (Dreyfus & Dreyfus, 1986), and results of the study suggest that on-site, school-based and contextualized approach combined with active learning is indeed an effective way of providing teachers with knowledge and skills to implement a new curriculum and instructional model. The study also demonstrated a change in teachers' beliefs about the

nature of student and teacher relationships. However, what remains to be investigated is first, how permanent the change of teaching practices is, namely whether or not the teachers continue use of Sport Education in their teaching, and second, in the event that physical education teachers continue teaching through Sport Education, if their teaching practices and student lesson participation remain true to the principles of the model. Therefore, further longitudinal studies are indeed needed to investigate those phenomena

This study was what Borko (2004) labeled as Phase 1 research activity, where the focus was on the individual professional development program at one site. Future studies refining the program, investigating its effect on across different grade levels may be beneficial. Yet another potential for future research may involve a Phase 2 research activity, an investigation of a single professional development program enacted by more than one facilitator at more than one site.

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APPENDICES

APPENDIX A

STUDY I: GENERAL INTERVIEW QUESTIONS

General

1. What is your name?
2. Describe your class for me?
3. Describe your subject lessons for me?
4. What usually happens in class?
5. How do you work during class?
6. Describe physical education for me?
7. Tell me about your physical education lessons now.

Perceptions of the Season

8. Tell me about your season, please.
9. What is happening?
10. What do you like about it?
11. What do you dislike about it?
12. What is your favorite thing about this season?
13. What is your least favorite thing about this season?
14. What is unfamiliar about it?

Perceptions of the Team

15. What team are you on?

16. Tell me about your team.

17. What is your team role?

18. What do you like about your team?

19. What don't you like about your team?

20. How do you communicate within the team?

21. Tell me about how your team makes decisions.

22. Tell me about your team atmosphere.

Perceptions of the Competition

23. Tell me about competition.

24. What do you think about it?

25. What do you talk about?

Perceptions of the Officiating

26. Tell me about officiating.

27. What do you like about it?

28. What don't you like about it?

29. Tell me about yourself when you officiated.

Perceptions of the Awards Ceremony

30. Tell me about awards ceremony.

31. What do you think about it?

Comparative

32. What do you think about the subject of physical education?

33. Compare your previous physical education with what is happening now?

34. How is it different?

35. How is the same?

36. What is the most challenging part?

37. What is the easiest part?

38. What did you learn about yourself?

39. What did you learn about others?

40. How do you communicate with others?

41. What do you talk about?

42. Is there anything you would like to add?

STUDY III: GENERAL INTERVIEW QUESTIONS

General Questions

1. Tell me about the lessons so far?
2. What do you think about the lessons?
3. Tell me about your teaching.
4. Tell me about student participation.
5. Tell me about student learning.
6. What were attempting to achieve?
7. Tell me about your teaching Sport Education.
8. What were the challenges or obstacles during the lessons?
9. How did you deal with these challenges?
10. What would you do differently?
11. Why would you change it?

Questions Related to Features of Sport Education

12. What do you think about Sport Education features in relation with what is happening during teaching?
13. Tell me about student roles.
14. Tell me about teams in the season.
15. Tell me about formal competition.
16. Tell me about record keeping.

17. Tell me about festivity.

18. Tell me about culminating event?

19. Is there anything you wish to add?

APPENDIX B

STUDY II: CRITICAL INCIDENT REPORT

PLEASE ANSWER THE FOLLOWING QUESTIONS
(All information provided is confidential and will not influence your grade in this course).

Date:

Question 1: What was your most meaningful experience in today's physical education class?

Question 2: Why was it meaningful to you?

APPENDIX C

INFORMED CONSENT FOR STUDENTS

"Implementing Sport Education in Russian Physical Education."

You are invited to participate in a research study conducted by Oleg Sinelnikov and Peter Hastie. The purpose of the study is threefold: (1) to gain students' perception and responses to an implementation of the Sport Education in a Russian school; (2) to describe classroom ecology during implementation of Sport Education in a Russian school; and (3) to describe how a physical education teacher learns how to teach Sport Education. I hope to learn what students think about Sport Education. You were selected as a possible participant because you were enrolled in the physical education class at your school.

If you decide to participate, I will ask you to complete a log describing the course of the season and you may participate in a 30-minute interview. You may also be asked to answer a question about your perceptions of what had happened during the lesson. The physical education lessons that you will participate in will be videotaped.

There are no known risks or discomforts associated with participation. This research will serve the future of the implementing Sport Education in Russian schools. Your perceptions may also serve as a vehicle to implement changes in the instruction of the physical education courses at your school. I cannot, however, promise you that you will receive any or all of the benefits described.

Any information obtained in connection with this study will remain anonymous. Information collected through your participation may be used to evaluate instruction, published in a professional journal, and/or presented at a professional meeting. You may withdraw from participation at any time, without penalty, however, after you have provided anonymous information you will be unable to withdraw your data after participation since there will be no way to identify individual information.

Your decision whether or not to participate will not jeopardize your future relations with Auburn University or with Department of Health and Human Performance. If you have any questions I invite you to ask them now. If you have questions later, Oleg Sinelnikov (334-844-1497, sineloa@auburn.edu) or Dr. Hastie (334-844-1464, hastipe@auburn.edu) will be happy to answer them.

For more information regarding your rights as a research participant you may contact the Office of Human Subjects Research by phone or e-mail. The people to contact there are Executive Director E.N. "Chip" Burson (334) 844-5966 (bursoen@auburn.edu) or IRB Chair Dr. Peter Grandjean at (334) 844-1462 (grandpw@auburn.edu).

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____	_____
Participant's signature Date	*Investigator's signature Date*
_____	Oleg Sinelnikov
Print Name	*Print Name*
_____	_____
Parent's or Guardian Signature Date	*Investigator's signature Date*
_____	Peter Hastie
Print Name	*Print Name*

INFORMED CONSENT FOR STUDENTS

RUSSIAN VERSION

ИНФОРМАЦИОННОЕ ПИСЬМО ДЛЯ ШКОЛЬНИКОВ

проект “Спортивное Образование в школе”

Вы приглашены для участия в педагогическом исследовании проводимым Олегом Синельниковым и Питером Хасти. Целями исследования являются: (1) получения информации от школьников о методики «Спортивное Образование» (2) описание экологии учебного занятия в процессе методики «Спортивное Образование»; и (3) описание впечатлений учителя физической культуры. Вы были выбраны как участник исследований, так как Вы участвуете в уроке физической культуры.

Если Вы согласитесь на участие в педагогическом исследовании, то с Вами могут быть проведено короткое интервью (30 мин.) или Вас могут попросить заполнить анкету. Целями проведения интервью или анкетирования является выявление впечатлений о проведенных уроках физической культуры.

Проведение данного педагогического исследования не должно ассоциироваться и не предусматривает никаких дискомфортных чувств.

Вся информация, полученная в результате педагогического исследования, является конфиденциальной и анонимной. Вы можете отказаться от участия в педагогическом исследовании, однако если Вы откажетесь после предоставления анонимной информации, у нас не будет возможности идентифицировать и уничтожить предоставленную Вами информацию.

Ваше решение не повлияет на отношения с Оберн Университетом и Факультетом Здоровья и Человеческого Совершенствования. Если у Вас возникнуть какие-либо вопросы, мы будет рады на них ответить. Если у Вас возникнут вопросы в дальнейшем, пожалуйста, присылайте сообщения на электронный адрес Олега Синельникова (334-844-1497, sineloa@auburn.edu) или доктора Хасти (334-844-1464, hastipe@auburn.edu).

Также Вы можете получить ответы на вопросы о ваших правах как участника педагогического исследования от Office of Human Subjects – директора Е.Н. «Чип» Берсон (334) 844-5966 (bursoen@auburn.edu) или декана доктора Петера Гранджина (334) 844-1462 (grandpw@auburn.edu) .

Ваша Подпись *Дата*	*Подпись исследователя* *Дата*
Фамилия и Имя	Олег Синельников *Фамилия и Имя*
Подпись родителя *Дата*	*Подпись исследователя* *Дата*
Фамилия и Имя	Питер Хасти *Подпись исследователя* *Дата*

ПРОЧИТАВ ВЫШЕНАПИСАННОЕ, ВЫ МОЖЕТЕ ДАТЬ СВОЕ СОГЛАСИЕ НА УЧАСТИЕ В ПЕДАГОГИЧЕСКОМ ИССЛЕДОВАНИИ. ВАША ПОДПИСЬ ОЗНАЧАЕТ ВАШЕ СОГЛАСИЕ.

INFORMED CONSENT FOR TEACHERS

"Implementing Sport Education in Russian Physical Education"

You are invited to participate in a research study conducted by Oleg Sinelnikov and Peter Hastie. The purpose of the study is to describe how a physical education teacher learns how to teach Sport Education. You were selected as a possible participant because you expressed interest in learning Sport Education and indicated your willingness to teach it in your school.

If you decide to participate, you will participate in six 30-minute interviews. I will also observe you teach physical education class and keep field notes. During interviews you may be asked to answer questions about your perceptions of what happens during the lesson.

There are no known risks or discomforts associated with participation. This research will serve the future of the implementing Sport Education in Russian schools. Your perceptions may also serve as a vehicle to implement changes in the instruction of the physical education courses at your school. I cannot, however, promise you that you will receive any or all of the benefits described.

Any information obtained in connection with this study will remain anonymous. Information collected through your participation may be used to evaluate instruction, published in a professional journal, and/or presented at a professional meeting. You may withdraw from participation at any time, without penalty, however, after you have provided anonymous information you will be unable to withdraw your data after participation since there will be no way to identify individual information.

Your decision whether or not to participate will not jeopardize your future relations with Auburn University or with Department of Health and Human Performance. If you have any questions I invite you to ask them now. If you have questions later, Oleg Sinelnikov (334-844-1497, sineloa@auburn.edu) or Dr. Hastie (334-844-1464, hastipe@auburn.edu) will be happy to answer them.

For more information regarding your rights as a research participant you may contact the Office of Human Subjects Research by phone or e-mail. The people to contact there are Executive Director E.N. "Chip" Burson (334) 844-5966 (bursoen@auburn.edu) or IRB Chair Dr. Peter Grandjean at (334) 844-1462 (grandpw@auburn.edu).

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____	_____
Participant's signature Date	*Investigator's signature Date*
_____	Oleg Sinelnikov
Print Name	*Print Name*
	_____
	Investigator's signature Date
	Peter Hastie
	Print Name

INFORMED CONSENT FOR TEACHERS

RUSSIAN VERSION

ИНФОРМАЦИОННОЕ ПИСЬМО ДЛЯ УЧИТЕЛЕЙ

“Спортивное Образование в школе”

Вы приглашены для участия в педагогическом исследовании проводимым Олегом Синельниковым и Питером Хасти. Целью исследования является описание как учитель физической культуры осваивает и преподает по методике «Спортивное Образование». Вы были выбраны как участник исследований, так как Вы изъявили желание участвовать в исследовании.

Если Вы согласитесь на участие в педагогическом исследовании, то с Вами могут быть проведено несколько коротких интервью (30 мин.). Также Вас могут попросить заполнить анкету. Целями проведения интервью или анкетирования является выявление впечатлений о проведенных уроках физической культуры.

Проведение данного педагогического исследования не должно ассоциироваться и не предусматривает никаких дискомфортных чувств.

Вся информация, полученная в результате педагогического исследования, будет является конфиденциальной и анонимной. Вы можете отказаться от участия в педагогическом исследовании, однако если Вы откажетесь после предоставления анонимной информации, у нас не будет возможности идентифицировать и уничтожить предоставленную Вами информацию.

Ваше решение не повлияет на отношения с Оберн Университетом и Факультетом Здоровья и Человеческого Совершенствования. Если у Вас возникнуть какие-либо вопросы, мы будет рады на них ответить. Если у Вас возникнут вопросы в дальнейшем, пожалуйста, присылайте сообщения на электронный адрес Олега Синельникова (334-844-1497, sineloa@auburn.edu) или доктора Хасти (334-844-1464, hastipe@auburn.edu).

Также Вы можете получить ответы на вопросы о ваших правах как участника педагогического исследования от Office of Human Subjects – директора Е.Н. «Чип» Берсон (334) 844-5966 (bursoen@auburn.edu) или декана доктора Петера Гранджина (334) 844-1462 (grandpw@auburn.edu) .

ПРОЧИТАВ ВЫШЕНАПИСАННОЕ, ВЫ МОЖЕТЕ ДАТЬ СВОЕ СОГЛАСИЕ НА УЧАСТИЕ В ПЕДАГОГИЧЕСКОМ ИССЛЕДОВАНИИ. ВАША ПОДПИСЬ ОЗНАЧАЕТ ВАШЕ СОГЛАСИЕ.

_____	_____
Ваша Подпись Дата	*Подпись исследователя Дата*
_____	Олег Синельников _____
Фамилия и Имя	*Фамилия и Имя*
	_____
	Подпись исследователя Дата
	Питер Хасти _____
	Подпись исследователя Дата

APPENDIX D

MEMORANDUMS OF UNDERSTANDING
BETWEEN RESEARCHERS AND RUSSIAN SCHOOLS

Department of Health and Human Performance
2050 Beard-Eaves Memorial Coliseum
Auburn University, AL 36840
334-844-1450
(fax) 334-844-1467

Меморандум о Взаимопонимании Между

Олегом А. Синельниковым, Магистром Наук в области Педагогики, Питером Хасти, Доктором Наук, Факультет Здоровья и Человеческих Достижений, Оберн Университет, США и Владимиром С. Карнауховым, зам. Директора по спортивной и физкультурно-массовой работе школы #4, г. Котовск, Россия

Обе стороны соглашаются на партнерство, в процессе которого несколько уроков физической культуры в школе #4, г. Котовск, будут проведены по методике преподавателей из Оберн Университета. Преподавателям из Оберн Университета будет предоставлена возможность для посещения и для проведения наблюдений за ходом уроков, а также возможность проинтервьюировать преподавателя физической культуры.

Данное партнерство основано для развития принципов международного взаимопонимания и обмена опытом между странами.

Memorandum of Understanding Between

Oleg A. Sinelnikov, M.A., Peter Hastie, Ph.D., Health and Human Performance Department, Auburn University and Vladimir S. Karnayhov, vice-director of sport & physical culture at School # 4, Kotovsk, Russia

Both parties agree to set up a partnership where several physical education classes at school #4 of the city of Kotovsk, Russia will be taught using methods of Sport Education. Faculty from Auburn University, Alabama, USA will have access and be allowed to observe the teaching of physical education and conduct an interview process with the teacher of physical education.

This partnership is based on promoting international understanding and advance good will between Russia and USA.

Oleg Sinelnikov, Peter Hastie

Oleg Sinelnikov,
Dr. Peter Hastie
Auburn University, USA

Vladimir S. Karnayhov
School #4
Kotovsk, Russia

Department of Health and Human Performance
2050 Beard-Eaves Memorial Coliseum
Auburn University, AL 36840
(334) 844-1450
Fax: (334) 844-1467

Меморандум о Взаимопонимании Между

Олегом А. Синельниковым, Магистром Наук в области Педагогики Питером Хасти, Доктором Наук, Факультет Здоровья и Человеческих Достижений, Оберн Университет, США
И
Кац Алексеем Петровичем, Директором Средней Общеобразовательной Школы № 30, г. Тамбова, Россия

Обе стороны соглашаются на партнерство в процессе которого преподаватели из Оберн Университета, штат Алабама, США проведут несколько уроков физической культуры в школе №30, г. Тамбова, Россия. Преподавателям из Университета Оберн не требуется никакой компенсации за преподавание уроков. В ходе этого сотрудничества, ни в какой мере не должны быть ущемлены права учителей школы.

Данное партнерство основано для развития принципов международного взаимопонимания между странами.

Memorandum of Understanding Between

Oleg A. Sinelnikov, M.A., Peter Hastie, Ph.D., Health and Human Performance Department, Auburn University and Kats Aleksey Petrovich, Director of the School № 30, Tambov, Russia

Both parties agree to set up a partnership with faculty from Auburn University, Alabama, USA teaching some physical education classes at School №30, Tambov, Russia. There to be no compensation for classes taught and no disadvantage to teachers from the school.

This partnership is based on promoting international understanding and advance good will between Russia and USA.

Oleg Sinelnikov Peter Hastie

Oleg Sinelnikov,
Dr. Peter Hastie
Auburn University, Auburn
USA

Кац Алексей Петрович
Директор
Средняя Школа №30
Тамбов, Россия

APPENDIX E

STUDY I: TEAM EMBLEMS

STUDY I: TEAM EMBLEMS

STUDY III: TEAM EMBLEMS

APPENDIX F

SAMPLE TEAM INFORMATION SHEET

Заявка Команды/Team Information

Название Команды/**Team Name**: _____

Эмблема/Логотип Команды/**Team Logo**: _____

Тренер Команды/**Coach**: _____

Менеджер Команды/**Manager**: _____

Статистик Команды/**Statistician**: _____

Имена Спортсменов/**Player's Names**

_____

_____

_____

_____

_____

APPENDIX G

SAMPLE MATCH REPORT FORM

Match Report

Team Name	**Rebounds**	**Points**
Player 1		
Player 2		
Team Name	**Rebounds**	**Points**
Player 1		
Player 2		

Winning Team _____ Points _____ Fair Play _____

Losing Team _____ Points _____ Fair Play _____

(Fair Play: 4 x YES = 2 points, 3 x YES = 1 point, 2 or less YES = 0 points)

APPENDIX H

SAMPLE MATCH SCHEDULE

Match 1

	Officiating Team
Court 1 **Eolithic – Unknown**	**M 19**
Court 2 **GKL – Specialists**	

Match 2

	Officiating Team
Court 1 **Eolithic – GKL**	**Specialists**
Court 2 **Unknown - M 19**	

APPENDIX I

STUDY II: RUSSIAN TRANSLATION OF SIMS

Прочитайте внимательно каждое суждение. Выразите степень своего согласия или несогласия, которая наиболее полно описывает причину Вашего участия в данной деятельности. Воспользуйтесь следующей шкалой:

7 — полностью согласен
6 — согласен
5 — скорее согласен, чем не согласен
4 — трудно сказать, и да, и нет
3 — скорее не согласен, чем согласен
2 — не согласен
1 — полностью не согласен

ВОПРОС: Почему вы участвуете в данной деятельности?

1.	Я думаю, что это интересно.	**1 2 3 4 5 6 7**
2.	Это принесет мне пользу.	**1 2 3 4 5 6 7**
3.	Я должен(на) этим заниматься.	**1 2 3 4 5 6 7**
4.	Может быть, есть какая-то хорошая причина для этого занятия, но я ее не вижу.	**1 2 3 4 5 6 7**
4.	Мне это приятно.	**1 2 3 4 5 6 7**
5.	Я думаю, что это полезно для меня.	**1 2 3 4 5 6 7**
6.	Это мне надо делать.	**1 2 3 4 5 6 7**
7.	Я это делаю, но я не уверен, что это того стоит.	**1 2 3 4 5 6 7**
8.	Это здорово.	**1 2 3 4 5 6 7**
9.	Я не знаю, что это даст мне.	**1 2 3 4 5 6 7**

10.	Я себя хорошо чувствую, когда делаю это.	**1 2 3 4 5 6 7**
11.	Я верю, что это важно.	**1 2 3 4 5 6 7**
12.	Я чувствую, что мне надо это делать.	**1 2 3 4 5 6 7**
13.	Я делаю это, но я не уверен(на), что это дело стоит продолжать.	**1 2 3 4 5 6 7**