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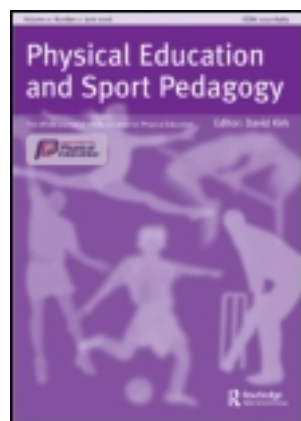
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Sport Education: physical education for the new millennium?

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The purpose of this review was to establish what is currently known about the effect of the Sport Education (SE) curriculum model (Siedentop, 1994a) on various indices of student learning in physical education. A total of 62 peer-reviewed journal articles pertaining to the SE model were collected and separated into two broad categories of theoretical/application articles ($n = 34$) and data-based empirical studies ($n = 28$). This review of the 28 empirical SE studies highlights the effectiveness of the model in facilitating student engagement within student-centered learning tasks of the curriculum. Evidence suggests that SE, with its emphasis on persistent team membership, promotes personal and social development in the form of student responsibility, cooperation and trust skills. Student leadership within the model has been identified as potentially problematic for effective content development and the promotion of equitable participation. Further research is required to examine the dynamics of peer interaction and subsequent content learning and performance that occurs during student-led tasks of the curriculum. Contemporary theorization on the model proposes that SE has the potential to promote more positive cultural dimensions of sport and physical activity and offer a challenge to the exclusionary discourses of much of institutionalized sport. Further empirical evidence is required to validate this claim.

Keywords: *Sport education; Physical education; Review*

Over two decades ago, in an address to the curriculum and instruction section of the Commonwealth Games conference in Brisbane, Daryl Siedentop (1982) posited his belief that sport could be viewed as a subject matter of physical education. This belief was, however, tempered by his concerns regarding many pedagogical approaches to the teaching of sport in physical education where content was decontextualized from the associated sport culture. Siedentop (1982) argued that sport could only be viewed as a subject matter of physical education if this situation was remedied

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and student experiences of sport in physical education were both educationally rich and contextualized within their understandings of contemporary sport culture. Siedentop (1982) proposed a curriculum and instructional model that simulated key contextual features of sport with a student-centered pedagogy where students gradually assume greater responsibility for learning. The curriculum model was named Sport Education (SE) and represented the genesis of a physical education curricular innovation which has subsequently proliferated across the globe.

Although originally manifesting itself within a mid-western elementary school in the USA, the SE curriculum model has since been implemented in physical education programs across many areas of the English-speaking world, including initiatives in Australia (Alexander *et al.*, 1993, 1996), New Zealand (Grant, 1992), the USA (e.g. Hastie, 1996, 1998a, b, 2000), and the UK (e.g. Kinchin *et al.*, 2002; Wallhead & Ntoumanis, 2004). Interest in the model by teachers has attracted the attention of sport pedagogy researchers, such that, over 60 peer-reviewed articles have been published on SE over the past two decades. Despite this plethora of scholarship, to date no attempt has been made to synthesize this knowledge base. Given contemporary discourse within the physical education community pertaining to the effectiveness of specific curricular programs in meeting established standards and goals (e.g., National Association for Sport and Physical Education [NASPE], 2002) a review of the research evidence relating to the efficacy of the SE curriculum in eliciting identified student learning outcomes seems pertinent at this time.

The objectives for this review are threefold. The first objective is to provide an overview of the SE curriculum model including its basis for conceptualization, goals, and structural features. The second objective is to establish what is currently known about the effect of SE on student learning in physical education by providing a synthesis of the data-based research which has examined the effects of curricular implementations. Finally, the review will provide a summary and critique of this empirical evidence and propose potential directions for future research on the model.

What was the stimulus for the conceptualization of SE?

According to Siedentop (1987) the SE curriculum model emerged as a coalescence of his interest in defining the subject matter of physical education in relationship to play and his involvement in teacher effectiveness research in school physical education. Drawing heavily on the work of Huizinga and Caillois, Siedentop (1982) argued that physical education was best explained by reference to play education. Play theory argued that cultures of physically active playful persons were fundamentally important to collaborative social life and that bringing children and youth into contact with those cultures through educationally sound practices was sufficient to justify physical education as a school subject (Siedentop, 1968). Siedentop (1982) went on to assert that, 'sport, when done well and properly, is the apotheosis of play' (p. 2). Play education, as promulgated by Siedentop during the 1970s, was insufficiently adaptive to guide and sustain practice within school physical education

programs and so, 'Sport Education was developed as a logical extension and concrete form of play education' (Siedentop, 1987, p. 80).

In addition to his support for the manifestation of play education within physical education, the conceptualization of SE also resulted from Siedentop's reflections on teaching effectiveness research (Siedentop, 1986). In observing pre-service and in-service teachers, Siedentop (1987) reflected that, 'teachers could utilize reasonably effective managerial and instructional strategies and still have a lesson that was sometimes dull and uninspiring to students' (p. 80). He posited that the lack of appeal of these games-based physical education lessons was, 'because the skills of the game were being taught in isolation of the contextuality that provided the framework within which the sport was defined' (p. 80). In other words, students were experiencing activities within physical education that were decontextualized from the associated sport culture they had been socialized into during their out-of-school sport experiences. In essence, the SE model was devised in response to Siedentop's search for more educative ways of presenting sport in the school curriculum and allowing the sport-based activities to have more meaning and value for the students. Siedentop (1987) stated that, 'this search for contextuality gave birth to Sport Education' (p. 81).

What are the structural features of SE?

Siedentop's goal of providing opportunity for contextualized learning stimulated him to define SE as, 'a curriculum and instructional model designed to provide authentic, educationally rich sport experiences for girls and boys in the context of school physical education' (Siedentop, 1994a, p. 3). To achieve this 'authenticity of experience,' Siedentop integrated six key features of institutionalized sport within the SE model. These features were seasons, affiliation, formal competition, record keeping, festivity and culminating events. Siedentop (1994a) suggested that students in a SE curriculum unit should participate in a 'season' that was two to three times longer than the typical physical education units. His basic premise was that fewer activities covered in greater depth would elicit more substantial student learning outcomes. Coining the term 'affiliation', Siedentop (1998) delineated that within SE students become members of a team immediately. Use of persisting small groups allowed students, 'to plan, practice and benefit from the social development opportunities that accompany membership in a persistent group' (Siedentop, 1998, p. 18). Although not specifically designed in response to the substantial evidence for the efficacy of small, heterogeneous learning groups (e.g. Cohen, 1994), this research has subsequently provided credibility to Siedentop's 'grouping' feature of SE. Another essential feature of SE is the 'schedule of competition' which is organized at the outset of the unit and devised to allow all students to practice and play within a predictable schedule of equitable competition. Siedentop (1998) suggested that 'records' of student performance should be kept for purposes of motivation, feedback, assessment, and to build standards and traditions. Finally, Siedentop (1994a) emphasized that the SE season should be 'festive', in other words, continuous efforts should be made by the teacher and students to celebrate student success and a 'culminating

event' provided to mark the end of the season and recognize students' accomplishments.

Implementation of the features of sport within the model brought with it a reliance on different instructional methodologies. Within SE, students learn sport roles in addition to that of player including referee, captain, scorer, statistician or coach. Siedentop (1998) suggested that these roles were best learned, 'through a combination of instructional strategies including direct instruction, co-operative small-group work, peer-teaching and conflict-resolution mechanisms' (p. 19). Siedentop (1998) stated that, 'conflict-resolution mechanisms are necessary and become important aspects in the Sport Education format as with students participating on teams for the duration of a season, conflicts will arise' (p. 19).

What are the goals of SE?

Siedentop (1982) believed that physical education should not only teach students to perform skills and strategies but also educate them in aspects of positive sport culture so as to make them advocates for good sport practices. To avoid problems associated with professional sport culture, such as elitism, inequity and cheating (Curnow & McDonald, 1995), Siedentop (1987; 1994a) proposed that, during the curriculum, participation should be emphasized and 'all students should play equally and have equal opportunity to learn positional play' (p. 81). Siedentop (1987) delineated that the sport forms used in SE should be matched developmentally to the abilities of students. 'While playing hard to win should be stressed, the dominant "ethic" of Sport Education is to participate fairly and to focus on the improvement of individual performance' (Siedentop, 1987, p. 83).

Through the utilization of these specific structural and instructional features, Siedentop (1994a) posited that SE could 'educate students to be players in the fullest sense and to help them develop as competent, literate and enthusiastic sportspeople' (p. 4). Siedentop (1994a) also delineated his interpretation of what it meant to be a competent, literate and enthusiastic sportsperson. A *competent* sportsperson was defined as someone 'having sufficient skills to participate in games satisfactorily, can understand and execute strategies appropriate to the complexity of play, and is a knowledgeable games player' (p. 4) and defined an *enthusiastic* sportsperson as, 'someone who participates and behaves in ways that preserve, protect and enhance the sport climate, whether it is a local youth sport culture or a national sport culture' (p. 4). A *literate* sportsperson understands the values and rituals associated with the sport and can distinguish between good and bad sport practices whether in children's or professional sport. Siedentop's (1994a) goals for the curriculum were firmly embedded within his belief that learning in physical education should be contextualized, but also shaped by his desire that students take from the SE experience a motivation to positively contribute to the sport culture within the wider context of society. 'The enthusiastic sportsperson must further develop sport at the local, national or international level . . . the enthusiastic sportsperson is involved' (Siedentop, 1994a, p. 4).

To achieve the goals of the curriculum, Siedentop (1994a) proposed that students who participated in the curriculum would have to achieve specific objectives. In common with the objectives of many contemporary sport-based curricular programs, SE emphasized that students should develop their motor skills, tactical decision-making and fitness specific to the characteristics of the specific sport. In addition to these traditional objectives, Siedentop (1994a) delineated that students provide responsible leadership whilst working effectively within small groups toward common performance goals. He also noted that students should become critical consumers of the sport experience by appreciating the rituals and conventions of sport.

Theoretical framework used to organize studies

Peer-reviewed SE journal articles formed the basis of the review. Initial articles were gathered using a search from 1982 to 2004 in the ERIC, Education Abstracts and Physical Education Online databases using the recognized descriptors of Sport Education and physical education. From these initial searches further journal articles were obtained through citations and references. To cite Wideen *et al.* (1998, p. 134), 'it is always difficult to know how and when to stop adding papers to a review' and, despite the undoubted quality of several dissertations that have been conducted investigating SE, it was decided dissertation abstracts in their primary form would not be included within the review.

From extensive reading of the SE literature for this review, two broad categories of publications became apparent. The first type of publication revolves around discussion of the practical strategies required to implement the SE curriculum within various physical education settings. Issues addressed within this literature base include pedagogical strategies for use with the curriculum (e.g. Bechtel *et al.*, 2001; Kinchin, 2001b; Mohr *et al.*, 2001, 2002; Dyson *et al.*, 2004), assessment (Taggart, Browne & Alexander, 1995) and the models' applicability to different activity areas (Bell, 1998; Graves & Townsend, 2000; Penney, Clarke *et al.*, 2002; Richardson & Oslin, 2003). This literature base also provides examples of how to implement SE within different educational settings, including elementary schools (e.g. Taggart *et al.*, 1995; Bell, 1998), secondary schools (e.g. Jones & Ward, 1998; Kinchin & O'Sullivan, 1999; Kinchin *et al.*, 2001) and pre-service teacher education (Collier, 1998; Jenkins, 2004).

The second category of SE publication includes studies designed to evaluate the educational impact of the model on various dimensions of student learning. To meet the objectives of this review and provide a synthesis of the empirical evidence on the efficacy of the SE curriculum in facilitating student learning, the review focused on this second type of publication.

The proliferation of the SE curriculum suggests that practitioners and researchers across various countries see its potential to elicit student learning aligned with the physical education standards of their relative governing bodies. In the USA, for example, the National Association for Sport and Physical Education (NASPE, 2002) national content standards for physical education emphasize student

competency (skill and tactical learning), physical activity and fitness, and personal and social development. Within the National Curriculum for Physical Education in England and Wales (National Curriculum Council [NCC], 1991) skill and tactical application of skills are emphasized along with the maintenance of a health-enhancing level of physical fitness and the development of social and personal skills, such as cooperation and leadership. Alexander and Luckman (2001) delineated that within Australasia there are traditionally '5 big aims of PE' (p. 254) that include 'motor skill development, knowledge and understanding, fitness, social development (e.g. co-operation, empathy, self-discipline, self-reliance) and values and attitudes (e.g. loyalty, fairness, liking for physical activity)' (p. 255). From a review of the standards and aims it can be seen that these countries view motor skill development, tactical knowledge and understanding, fitness, social development and positive student attitudes as legitimate student learning outcomes of physical education programs. These five common content standards and aims seem to provide an appropriate framework to organize and evaluate the existing research evidence on the utility of the SE curriculum to facilitate student learning in physical education. Therefore, for the purpose of this review, the data-based SE research articles included within the review are organized based upon the evidence each provides for the development of the '5 big aims of PE' (Alexander & Luckman, 2001, p. 255), namely motor skill development, tactical knowledge and performance, fitness, social development, and student attitudes and values. Table 1 provides an overview of each of the 28 data-based empirical articles that have formed the basis of this review. Studies are summarized by focus, participants/setting, data collection methods, type of analysis and results.

Motor skill development

One of the major goals of SE is for students to become competent performers in the focused activity. Siedentop (1994a) defined competency within SE as students having 'sufficient skills to participate in games satisfactorily and being able to understand and execute strategies appropriate to the complexity of the game being played' (p. 4). Early large-scale trials of SE (Grant, 1992) provided some evidence that the curriculum may be effective in facilitating motor skill improvement. Teachers' anecdotal accounts from New Zealand (Grant, 1992) and Australian initiatives (Alexander *et al.*, 1996) revealed that students' skills and play improved more with SE than with previous curricular approaches used. Australian teachers attributed student skill improvement to 'a combination of a longer unit of work, increased motivation amongst students as they learn to work effectively in persisting groups, the relevance offered by competition, and the removal of the need for teachers to always be organizers and disciplinarians' (Alexander *et al.*, 1996, p. 36).

Studies of student perceptions of skill improvement (Carlson, 1995; Pope & Grant, 1996) provided evidence that the SE curriculum facilitated motor skill improvement. Carlson (1995), utilizing a combination of student reflection and non-participant observation data, found that skill development was achieved by lower-skilled female

Table 1. Overview of data-based studies utilizing the SE curriculum

Study	Study focus	Participants/setting	Data sources	Analysis	Results
MacPhail <i>et al.</i> (2004)	Team affiliation development during SE	70 4th/5th grade students 16 lessons Team invasion game	Student and teacher interviews	Qualitative inductive, constant comparison of emergent themes	• Affiliation was an attractive feature of SE • Students made obvious investment towards group identity
Wallhead & Ntoumanis (2004)	Changes in student motivation as a result of SE	2 intact classes (1 exp, 1 control) of 9th grade male students 8 lessons Basketball	Pre- and post-motivation surveys	Comparison, repeated measures ANOVA, regression analyses of SE group	• Increases in SE student enjoyment, perceived effort • Perceptions of task-involving climate explained increases in student motivational indices
Brunton (2003)	Hierarchies of power during SE unit	2 intact classes of 9th grade students 20 lessons Badminton	Lesson observations Focus group and individual student interviews Post-unit teacher interview	Qualitative inductive, constant comparison of emergent themes	• Preference for responsibility expressed by female students • Erratic student commitment to role responsibility
Clarke & Quill (2003)	SE as a vehicle to enhance learning aligned with the National Curriculum	2 intact classes of 7th grade students Multiple units	Interviews Field notes Teacher journals	Qualitative, longitudinal analysis of themes	• Increased tactical understanding • Greater inclusion of less able students • Less teacher-dependent
Kinchin & O'Sullivan (2003)	Student support/resistance to cultural studies SE unit	25, 9th/10th grade students 20 lessons Volleyball	Student interviews Non-participant observations Student journals	Qualitative inductive, constant comparison of emergent themes	• Student support for opportunity to discuss issues of social justice • Student resistance to pedagogical approach to presentation of content

(continued)

Table 1. Continued

Study	Study focus	Participants/setting	Data sources	Analysis	Results
MacPhail <i>et al.</i> (2003)	Student conceptions of sport in school and as a community of practice	76, 5th/6th grade students 16 lessons	Student interviews Student drawings	Qualitative constant comparison, thematics	• High compatibility between students experiences of SE and community sport
O'Donovan (2003)	Effect of SE on student social goals and peer culture	68, 6th grade students 7-month case study	Individual informal student interviews	Qualitative ethnographic, longitudinal	• SE challenged social hierarchical groups to provide opportunity for transformation of PE culture
Hastie & Trost (2002)	Student physical activity levels and skill development during a SE season	19 male 7th grade students 22 lessons Floor hockey	Accelerometers (MVPA & VPA) Discrete skill tests	Pre-, post- Repeated measures ANOVA Paired sample t-tests	• Greater than 50% level of MVPA during lessons • Increase in performance of discrete skills by high and low skilled students
Alexander & Luckman (2001)	Teachers' perceptions and uses of SE	377 Australian teachers	Teacher questionnaire	Cross-sectional, quantitative descriptives	• Motor skills and fitness outcomes less achievable • Greater emphasis on social skills • SE is inclusive and promotes gender equity • Positive effect on teacher efficacy
Kinchin (2001a)	A high skilled student's perceptions of SE	1 high skilled, male 10th grade student 20 lessons Volleyball	Non-participant observations Student journal writing Interview Informal conversations	Qualitative, constant comparison of emergent themes	• Initial resistance to leadership role Appreciation of the value of inclusion of the lower skilled players • Potential of SE to promote inclusion in sport

(continued)

Table 1. Continued

Study	Study focus	Participants/setting	Data sources	Analysis	Results
Strikwerda-Brown & Taggart (2001)	A 'non-sporty' primary school teacher's perception of SE	1 female generalist primary school teacher Volleyball	Field notes Teacher interview Student journals and surveys	Qualitative inductive, comparison of themes	• Greater participation, enjoyment and learning by students • More teaching confidence • Limited interaction between teacher and coaches due to lack of content knowledge
Hastie (2000)	Ecological analysis of a SE season	8 (4 male, 4 female) middle school students 23 lessons Floor Hockey	Videotape observations Post-intervention student interviews	Quantitative OTR data, ALT-PE Qualitative task type, inductive analysis of interviews	• High levels of student engagement and compliance, due to managerial system being supported by content-embedded accountability and student social system
Hastie & Buchanan (2000)	Analysis of the combined SE-TPSR model	45, 6th grade male students 26 lessons Modified Australian football	Field notes Daily teacher debriefs Informal student interviews Formal post-curriculum student interviews	Qualitative constant comparison of themes	• Hybrid model effective in facilitating personal responsibility, student empowerment and problem-solving • New model has potential to foster ecological integration

(continued)

Table 1. Continued

Study	Study focus	Participants	Data sources	Analysis	Results
Hastie & Sharpe (1999)	Effect of SE curriculum on pro-social behavior	20 'at risk' male 6th/7th grade students 20 lessons Modified football	Videotape observation of social-conflict behaviors Perception of positive social behavior questionnaire	Quantitative behavior categorization across phases of SE, correlation analyses	Formalized fair play accountability system within formal competition phase increased compliance, reduced negative peer interactions and increased instances of leadership
Hastie (1998a)	Student skill and tactical development during SE unit	6 (4 male, 2 female) 6th grade students 30-lessons Ultimate Frisbee	Videotape observation Sample student interviews	Quantitative pre-post t-tests of game efficiency Qualitative inductive analysis	- Significant improvement in team game-play efficiency performance - Factors affecting increase included persistent teams and extended length of season
Hastie (1998b)	Participation and perception of girls within a co-ed SE curriculum	35 female 5th/6th grade students 20-lesson Floor Hockey	Videotape observations of OTR's Post-intervention group interviews	Quantitative descriptive ANOVA across gender Qualitative inductive content analysis	- Success rates and OTR's increased as the season progressed - Boys significantly higher OTR and success rate during formal competition phase - Females preferred SE due to being more actively involved and part of a team - Gender stereotype socialization existed, with boys dominating power roles

(continued)

Table 1. Continued

Study	Study focus	Participants	Data sources	Analysis	Results
Hastie & Carlson (1998)	Student experiences of SE across culture: Upper middle-class Australians and African-American in Southern states =	Single American class, 3 Australian classes	Videotape of lessons Post-intervention Student interviews	Qualitative constant comparison of emergent themes	• Increase in personal meaning of physical education, team affiliation, and increase in student responsibility across cultures • Divergence of results due to personal history rather than country of origin
Bennett & Hastie (1997)	Examine adoption and attraction of principles of SE	Single co-ed class of college students 20 lessons Softball	Student logs Student questionnaires Teacher reflective journal	Qualitative deductive analysis of themes	• High level of commitment to the principles of SE • Team affiliation and formalized competition were most attractive features • High levels of engagement in tasks
Carlson & Hastie (1997)	Examination of the social system as it occurred in a unit of SE	Single class of 9th grade female students Netball Two classes of co-ed 8th grade students Touch football 18 lessons	Fieldnotes Videotapes Post-curriculum student group interviews Teacher interviews	Qualitative inductive, constant comparison of themes	• Increase in socializing due to increased interaction time • Increase in opportunity for personal and social development, e.g. leadership, trust • Greater perceived effort due to competition

(continued)

Table 1. Continued

Study	Study focus	Participants	Data sources	Analysis	Results
Alexander <i>et al.</i> (1996)	Australian national trial of SE: Program change, educational impact, inclusivity, SE as a management tool	53 teachers (SPARC, 1995)	Teacher questionnaires Teacher teleconference interviews Student journals	Qualitative Post-intervention evaluation Deductive analysis of themes	• Widespread program restructuring • Significant improvements in skill development especially for lower skilled students • Development of social outcomes including leadership, teamwork, peer support and equitable participation • Student understanding of rules and strategies • Potential for gender marginalization
Hastie (1996)	Student role involvement in SE	Single class of 6th grade students 12 lessons speedball	Videotape observation Student questionnaires Post-intervention interviews	Quantitative ALT-PE Qualitative inductive constant comparison of themes	• High levels of student engagement with both playing and non-playing roles • Student preference for responsibility and persistent team membership
Pope & Grant (1996)	Student perceptions of the SE curriculum	Single class of 5th grade students 28 lessons touch football	Field notes Early, mid, post focus group student interviews Student journals	Qualitative constant comparison of emergent themes	• Increase in practice time • Improvement in student knowledge and game understanding • Increase in student co-operation

(continued)

Table 1. Continued

Study	Study focus	Participants	Data sources	Analysis	Results
Ormond <i>et al.</i> , (1995)	Comparison of SE with traditional unit approach on student cognitive learning, game-play performance and attitude to lessons	Two intact classes (SE and TUA) of 9th grade students 12 lessons basketball	Videotaped game-play Pre-post- cognitive test Student attitudinal written statements	Quantitative comparison of descriptives of pre-post scores Qualitative expert analysis of game play strategy	• No difference in gain in cognitive understanding of game • TUA students concerned with fun, SE students concerned with team unity and team strategy • More strategies apparent in SEM student game-play
Curnow & McDonald (1995)	Gender inclusivity of SE	25, 6th grade students 20 lessons Touch rugby	Pre-post student surveys Videotape observation Teacher diary notes	Qualitative constant comparison of themes	• Boys occupied more dominant student roles • Limited skill development of girls due to male domination of contact with ball • Freedom allowed enforcement of gender stereotype
Carlson (1995)	Low-skilled female students reaction to curriculum	8, 9th grade female, students 20 lessons Flag football	Videotape observation Teacher interview Student interviews	Qualitative Constant comparison of emergent themes Quantitative analysis of frequency of touches of ball	• Student perceptions of greater learning, more responsibility, received more peer support and were more valued as a member of the team than with traditional style • Student concern about quality of feedback been given by peers • Increase in number of touches of ball

(continued)

Table 1. Continued

Study	Study focus	Participants	Data sources	Analysis	Results
Alexander <i>et al.</i> (1993)	Teachers response to curriculum Student perceptions of curriculum	27 teachers 19 high schools	Teacher log books Pre/post student interviews mid/post teacher interviews	Qualitative cross sectional content analysis	- Teacher perceptions that students had increased attitude to co-operate, enjoyed it more than traditional - Teacher concerns about educational aspects e.g. development of leadership skills - Student perceptions that tried harder, enjoyed responsibility, competition provided gender inclusion
Grant <i>et al.</i> (1992)	Student perceptions of SE	24, 10th grade students 4 high schools	Post-intervention student interviews	Qualitative interview content analysis	Increase in student enthusiasm due to increased team affiliation, appropriate competition and involvement in decision-making
Grant (1992)	Teacher reflective writing	86 teachers 14 sports 16–22 lesson units	Teacher perspectives of curriculum in terms of student gains	Qualitative analysis of emergent themes	Teacher perceptions of increase in: - student ownership and responsibility - student decision-making - student co-operation - student enthusiasm for competition

students within a mixed ability class. Hastie and Trost (2002) found that as a result of a 22-lesson unit of floor hockey, students of differing entering skill levels performed better on related discrete skill tests at the end of the season.

Some studies have questioned the viability of SE as an effective vehicle to promote skill improvement across the ability range. Curnow and McDonald (1995) conducted a study to investigate gender inclusivity of a co-educational SE unit. Using field notes taken from videotape observations and student surveys the authors revealed that skill development of low-skilled girls may not be easily achieved within a SE season as males often dominated possession and contact with the ball.

Unfortunately, little of the research empirically validated teacher and student perceptions of increased motor skill competency. Hastie (1998a), in a study designed to quantitatively assess the effect of the model on student game competency, provided a rigorous evaluation of student skill development during a SE season. Observing a team of six students throughout a 30-lesson unit of ultimate frisbee, Hastie (1998a) revealed a significant improvement in team game-play efficiency performance (Grehaigine *et al.*, 1997) as the season progressed. Results indicated a significant increase in team catching competence, however, it should be noted that there were no significant improvements in individual player passing or catching competencies.

Evidence from large-scale studies of teacher perceptions of SE (e.g. Alexander *et al.*, 1993; Alexander, 1994) revealed that teachers are skeptical of the development of motor skill as an outcome of SE. This teacher concern was more recently reflected in Alexander and Luckman's (2001) survey of over 377 Australian teachers' perceptions of the educational impact of SE. Only 54 percent of the teachers agreed or strongly agreed that motor skill development was more achievable under SE than their previous approach, 'It appears at least while teachers are using the Sport Education model they believe motor skills are less achievable' (Alexander & Luckman, 2001, p. 254). A potential rationale for this skepticism may be the perceived lack of student leadership exhibited within the peer-assisted learning tasks of the curriculum. Alexander *et al.* (1993) found that many teachers had concerns about the model in developing leadership skills. Alexander and Luckman (2001) also revealed that secondary teachers were more critical of students' performance, especially in relation to the effectiveness of student coaches. Research suggests some coaches may be quality players but are not able to provide quality practices for their students (Hastie, 2000), or are unable to provide the quality of error detection feedback needed by peers to develop skill competency (Carlson, 1995).

Tactical knowledge and performance

Evidence from teacher anecdotal accounts (Grant, 1992) and student reflections (Hastie & Buchanan, 2000; Pope & Grant, 1996) provide some support for the efficacy of SE in developing student game play competency. Siedentop (1994a) defined this dimension of competency as, 'someone who can understand and execute strategies appropriate to the complexity of the game being played' (p. 4). New Zealand teachers reported that, 'students were more interested in tactics as well as a desire

for self-improvement and personal success as the season progressed' (Grant, 1992, p. 311). This perspective was reflected by teacher participants in the Australian national trial who suggested that cognitive outcomes such as better student understanding of rules and strategies became evident through student judgements made during daily competition (Alexander *et al.*, 1996). Descriptive field note data taken from observations of 5th grade (Pope & Grant, 1996), 6th grade (Hastie & Buchanan, 2000) and 9th grade students (Carlson & Hastie, 1997) during extended seasons of SE have provided evidence that increases in student knowledge of strategy concepts manifests within improved game-play performance.

As with student motor skill development, the systematic quantification of changes in student tactical knowledge and performance as a result of SE unit/s has been sparse. In one of the few studies to utilize a comparison group within a quasi-experimental design, Ormond and his colleagues (Ormond *et al.*, 1995) analyzed student cognitive and behavioral learning of game play concepts. Using a traditional unit approach (TUA) as the comparison group, mean scores on pre- and post-cognitive tests revealed minimal differences between the two approaches. To assess game play tactics employed during scrimmage games, a panel of four basketball experts were asked to view the games and critique the quality of play. The panel's evaluation of the TUA games revealed little or no team play, with a 'run and gun' style of play dominating. The SE model was, 'marked by a gradual improvement in team play, and utilization of defensive and offensive strategies' (Ormond *et al.*, 1995, A-66). To date, only a single published study (Hastie, 1998a) has quantitatively assessed students' game-play tactical performance (as opposed to skill execution) during a SE season. Utilizing Grehaigne *et al.*'s (1997) efficiency index of performance, Hastie (1998a) monitored both individual and team efficiency as 6th grade students progressed through a season of ultimate frisbee. Analysis of specific tactical dimensions revealed an increase in the teams' utilization of short, efficient passes and an improved percentage of intercepted opposing passes. Rationales provided by the participants for their development of competence included the extended duration of the unit and persistent team membership which allowed for significant practice opportunities within consistent groupings. A potential limitation of this study may have been the choice of instrument used to assess tactical behaviors. Although Grehaigne *et al.*'s (1997) efficiency index includes several tactical decision-making dimensions, the instrument does not take into account offensive off-the-ball support movement which, arguably, is a large tactical component of team invasion games.

Fitness

Though Siedentop did not advocate a fitness objective for SE, scholars (e.g., Tannehill, 1994) have noted the potential applicability of SE to fitness activities. Yet research examining the efficacy of these applications on indices of student fitness is virtually non-existent. Alexander and Luckman's (2001) survey of Australian teachers' perceptions of the model provides the only study, to date, that has investigated the effect of SE on student fitness. Findings suggest that changes in student

fitness may be an elusive outcome of the curriculum. Results revealed that only 50 percent of the elementary teachers and 47 percent of the secondary teachers believed fitness outcomes were achieved more successfully under SE than previous approaches.

Contemporary health-related discourse regarding the prevention and treatment of childhood obesity has created a renewed emphasis on physical education not only as an agent of change for student fitness levels but also for the provision of physical activity. In the USA, Objective 22.10 of *Healthy people 2010* stipulates that students in physical education should spend a minimum of 50 percent of lesson time participating in moderate-to-vigorous physical activity (MVPA) (United States Department of Health and Human Services [USDHHS], 2000). In Australia, evidence from Alexander and Luckman's (2001) survey suggests that many of the teachers who have utilized the model believe that the maintenance of higher levels of student physical activity within lesson time is a realistic goal. Hastie and Trost (2002) provided some initial evidence to support this claim. Using a single group of 19 seventh grade boys within a 22-lesson season of floor hockey, Hastie and Trost revealed that both high and low skilled students averaged greater than 50 percent MVPA during SE lesson time. The higher levels of physical activity were not at the expense of motor skill development.

In light of previous research (e.g. Simons-Morton *et al.*, 1994) which indicated that less than 10 percent of physical education class time was spent in MVPA, Hastie and Trost's (2002) study provides some encouragement that SE may be effective in maintaining high levels of student activity within physical education lessons. If the curriculum is to be vaunted as an effective agent of change in eliciting *health-enhancing* levels of MVPA its effect on out-of-school student physical activity requires investigation. With the decline over the past decade in the percentage of students who attend physical education daily, it is clear that having increased student physical activity within physical education lessons is insufficient for many students to meet the Centers for Disease Control (CDC) recommendations for health-promoting levels of physical activity (Wallhead & Buckworth, 2004). Unless the trend to decrease required daily physical education is reversed, physical education programs, including SE, must motivate children to participate in frequent sessions of moderate to vigorous activity *outside* of PE classes. Evidence for the efficacy of the SE curriculum in promoting out-of-school physical activity through extra-curricular participation currently remains unexamined and warrants further attention.

Personal/social development (cooperation, empathy, self-discipline)

The large-scale national trials of SE in New Zealand (Grant, 1992) and Australia (Alexander *et al.*, 1996) provided evidence of renewed teacher enthusiasm for physical education's potential to produce more meaningful personal and social development student outcomes. According to the teachers, SE was beginning to act as 'a phoenix and take physical education from the ashes of Locke's (1992) dominant model of physical education' (Tinning, 1995, p. 19). This model included lessons/programs with no

choice of activity, student allocation to classes that ignored need and achievement, low learning time and assessment criteria that focused on keeping students 'busy, happy and good'. Teachers reported that SE increased the level of interaction and cooperation between students and served to change their thinking about how the more general aims of child-centered education, like personal and social development, could be achieved (Grant, 1992). Teachers perceived the model to be fostering students to, 'develop qualities such as leadership, teamwork, peer support and active pursuit of socially responsible and equitable participation beyond what was evident in previous teaching' (Alexander *et al.*, 1996, p. 37). Student data supported these findings with participants reporting an increase in cooperation with peers (Pope & Grant, 1996). Carlson and Hastie (1997) proposed that the increase in socializing between students was as a result of the increased opportunity students had to interact within the student-led instructional tasks and provided the opportunity for a greater level of personal and social development including leadership and trust skills.

To specifically examine the efficacy of the SE curriculum in modifying students' levels of positive social behavior, Hastie and Sharpe (1999) utilized a fair play behavioral intervention within a season taught to a cohort of 'at risk' adolescent males. Results indicated that exposure to the curriculum and the two specific fair-play interventions produced increased positive peer interactions and accurate self-monitoring by students of their social interactions.

Despite the body of evidence that SE is effective in developing student social skills, the competition aspect of the curriculum elicits negative social behaviors for some students. Ennis (2000) described how, 'for some students, in urban schools where we have conducted research, the canaries are no longer singing' (p. 125). 'Within units of Sport Education some individuals engage in violent behavior and disrupt the role of the coach and refuse to comply with the strategies that reward affiliation and permit low skilled students to participate' (Ennis, 2000, p. 125). In response, several researchers (e.g., Ennis, 1999; Hastie & Buchanan, 2000) have looked to adapt and modify the structure of the SE model to promote greater pro-social behavior.

Hastie and Buchanan (2000) developed the 'Empowering sport model' (p. 35) which was a hybrid model designed to examine the extent to which the teaching of Hellison's (1995) personal and social responsibility approach could form a coalition with SE to promote social skills. Research on the model suggested that the hybrid was effective in facilitating a greater level of personal responsibility, student empowerment and problem-solving than previous approaches. Hastie and Buchanan (2000) proposed that the empowering sport model which fostered an ecological integration perspective, 'one in which the teachers attempt to balance the social, student, and subject matter emphases' (Jewett *et al.*, 1995, p. 29). Ennis (1999) also devised a modification to the curriculum that incorporated anti-violence, peace-oriented themes and strategies such as conflict negotiation and self and social responsibility. The adaptation was entitled 'Sport for Peace' (Ennis, 2000, p. 125) and along with the 'Empowering Sport Model' (Hastie & Buchanan, 2000) represents the genesis of a productive line of inquiry that extends the boundaries of Siedentop's (1982) initial SE curriculum to elicit specific social learning goals.

Student attitudes (enthusiasm, enjoyment)

One product of the SE experience Siedentop (1994a) envisioned students would attain was the development of *enthusiasm*. Siedentop (1994a) defined enthusiasm in terms of an outcome behavior, namely student participation within class. Throughout the SE literature, a common theme of student engagement in tasks and participating within the defined roles seems to have emerged. Teacher anecdotal accounts (Alexander *et al.*, 1996; Strikwerda-Brown & Taggart, 2001) have provided evidence of a greater level of equitable participation by students within both practice sessions and game-play. Student reflections of their experiences within SE seem to suggest a higher level of engagement (Bennet & Hastie, 1997) and a greater amount of practice time in relation to previous teaching approaches (Pope & Grant, 1996).

Studies that have utilized systematic observations of student behavior (Carlson, 1995; Hastie, 1996, 1998b) have provided empirical evidence to validate these claims. Carlson (1995), coding student interaction with the ball during flag football, found that as low skilled females progressed through a SE season they received more touches of the ball within games and practices. Utilizing the Academic Learning Time-Physical Education (ALT-PE) systematic observation instrument (Siedentop *et al.*, 1982) to quantify task accomplishment Hastie (1996) replicated these findings of increased student participation during practice tasks and game-play. ALT-PE data also revealed high levels of student engagement and accuracy whilst participating in the non-playing roles. In a subsequent study designed to investigate the participation and perception of girls within a co-educational unit, Hastie (1998b) found the girls had high levels of opportunity to participate in skill practice and game play during the unit. However, levels of female opportunities to respond (Silverman, 1991) decreased during the competition phase of the season.

Researchers have suggested that students' increased enthusiasm for SE is the result of increased team affiliation and the responsibility given to them for decision-making (Grant *et al.*, 1992; Hastie, 1998a). Participants in Hastie's (1998a) study reported that the formalization of competition aided team involvement, especially with the lower skilled students. To provide a theoretical explanation of the high levels of student engagement, Carlson and Hastie (1997) examined student participation from an ecological perspective as theorized by Doyle (1977). He postulated that classroom events are the result of dynamic interplay between task systems and that two task systems operate in the classroom: the instructional task system (those relating to the skills and knowledge) and the managerial task system (those relating to behavior and class organization). Subsequent research within physical education (Siedentop, 1988) proposed a third task system, namely the student social system relating to the intentions students seek for interaction within the class. Siedentop (1988) suggested that the maintenance of an effective program of work required the alignment of the student social system with a focused instructional task system. Utilizing a combination of qualitative data sources, including fieldnotes, interview and videotape data, Carlson and Hastie (1997) revealed that a SE season changed the way students socialized within class, such that they exerted greater effort within the instructional

task system. 'The data suggested that because students were placed in both instructional and managerial leadership roles, the typically teacher-driven task system became an integral part of the student social system' (Carlson & Hastie, 1997, p. 176). In a follow-up study Hastie (2000) revealed a similar theme of high levels of student engagement and compliance within tasks. Hastie (2000) proposed that the high level of student engagement observed within the SE season was a result of the managerial system being supported by the student social system and the tasks of the curriculum having inherent content-embedded accountability. Hastie suggested that within the curriculum, games 'counted' (p. 310) and fostered an accountability system within the model which focused students' engagement with the assigned tasks.

Values (affinity, equity, culture)

Siedentop (1998) argued that the use of persisting groupings is an important feature of the SE model as it allows students the opportunity to work towards common group goals and grow as an individual within a group identity. Researchers noted that 'team affiliation' is one of the most attractive features of the model (Grant *et al.*, 1992; Bennet & Hastie, 1997; O'Donovan, 2003). It was particularly effective in developing team affiliation as it allowed all children the benefits of extended team membership that may have previously been denied because of perceptions of low ability or social isolation (MacPhail *et al.*, 2004). Grant (1992) noted group affiliation should be part of any physical education program and, 'the teachers in this project claimed that what usually transpired in physical education did not promote such qualities in the same way as Sport Education' (p. 311). Increased student affinity and affiliation during SE units has also been shown to exist across cultures. Hastie and Carlson (1998) showed that the model, with its emphasis on persisting teams, student-led tasks, and extended duration, promoted affiliation and student responsibility for both African-American and Australian Caucasian students. Divergent responses to the curriculum were due to variation in personal history and sport experience rather than country of origin (Hastie & Carlson, 1998).

One of the most controversial student value issues to have emerged from the SE research surrounds the model's efficacy in promoting gender equity. Alexander (1994) reported the model may have the potential to be a change agent in altering student attitudes towards gender inclusion noting that 'students' attitudes to the level of competition in Sport Education also included comments on gender issues including, the girls weren't dominated by the boys' (p. 9). This finding was endorsed by the survey of a large cohort of Australian teachers who had used SE for several years. Over 90 percent of elementary teachers and 70 percent of secondary teachers agreed or strongly agreed that the model catered for the inclusion of girls (Alexander & Luckman, 2001).

Alexander *et al.*'s (1996) earlier findings on gender inclusivity elicited somewhat contradictory responses. Analysis of student's journals revealed that teachers' perceptions of equitable arrangements seemed to be overly optimistic. Non-gender

inclusiveness was also reported in a case study of a co-educational unit of SE in an upper elementary Australian school by Curnow and MacDonald (1995). Videotape observations and student surveys suggested that boys dominated possession of the ball within games and occupied many of the central roles of power within the season. Curnow and MacDonald (1995) proposed that the increased freedom associated with the SE approach allowed the reinforcement of gender stereotypes. In a study specifically designed to investigate gender inclusivity within SE, Hastie (1998b) found that many of the sixth grade girls found the SE experience to be more attractive than their regular physical education. Student interviews revealed that the increased personal investment came not from the coercion of the more talented boys but from everyone working as a team. Observations revealed that aspects of gender inequality were, however, evident within the season. Boys were given power positions and some gendered notions became evident as in 'boys are naturally better at sports, boys automatically make better players and boys are more serious about sport' (Hastie, 1998b, p. 169). The author proposed that, 'the Sport Education unit, although not outwardly promoting these opinions, did nothing to correct or modify them. It may have provided equal opportunities for girls to practice and become skillful but it did not overtly address equality issues' (p. 169). Kinchin (2001a) studied a high-skilled 10th grade male student who performed the role of team coach and provided evidence that the SE structure may have the potential to promote positive change in a high-skilled male's attitudes towards inclusivity (p. 7). Observations and student reflections showed that as the season progressed, resistance to the leadership role seem to disappear and the student began to appreciate the value of the inclusion of lesser skilled players on his team.

Summary of Sport Education curricular research and future considerations

Siedentop (1994a) delineated that the SE curriculum should 'educate students to be players in the fullest sense and to help them develop as *competent, literate and enthusiastic* sportspeople' (p. 4) and meet the demands of contemporary and future content standards in physical education. This review of the data-based research on SE conducted over the past two decades has served to provide empirical evidence on the efficacy of the model in eliciting sport education goals. The synthesis points to the success of the SE curriculum in facilitating student outcomes that were objectives of many previous physical education programs but were not always realized (Locke, 1992).

SE has been shown to motivate students to participate in peer-assisted learning tasks associated with the curriculum. Evidence suggests students are willing to take responsibility in coaching and managing their peers within a persisting small group structure. From a cognitive perspective, the instructional structure fosters a task-involving class climate which serves to intrinsically motivate students to engage within the curricular tasks (Wallhead & Ntoumanis, 2004). From an ecological perspective, evidence suggests SE serves to embed the students' social

agenda within the instructional and managerial task systems (Hastie, 2000). The notion of seasons and student-led tasks seem to provide an inherent accountability system where students realize the worth and value of applying effort within learning activities.

What also seems clear from the research is the powerful role persistent group membership and the subsequent development of 'affiliation' plays in SE achieving many of its participation and social development goals (e.g. O'Donovan, 2003). Siedentop (1995) commented on the importance of team continuity during his reflections on ways to improve SE: 'we have known for some time that, within teams, players not only gain experience in anticipating and preventing arguments, but they also have the opportunity to deal with disagreements in ways that require them to face directly the consequences of their solutions' (p. 22). Evidence suggests that through the extended team membership of the curriculum students are willing to invest efforts into the achievement of group goals and, in so doing, learn to cooperate and develop leadership that allows for the inclusion of less able students.

Across the globe, a common goal of physical education is the development of students' skill and tactical competency. Although a body of student and teacher anecdotal evidence has been provided to support the assertion that SE is effective in increasing student competency, there remains a dearth of empirical evidence to validate these claims.

Student leadership skills during peer-assisted learning tasks have been identified as potentially problematic for content knowledge development (Hastie, 2000). Since the early large-scale trials of SE in Australia and New Zealand, teachers have been skeptical of the efficacy of a model which relinquishes much of the responsibility for the delivery of content to students, be it skill execution or tactical decision-making. Despite this concern, research examining the effectiveness of student task leaders in developing their own pedagogical content knowledge (PCK) (Shulman, 1986) and facilitating peer content knowledge and performance is virtually non-existent. Siedentop (1995) noted that, 'currently a void exists in how to identify, teach, and provide practice for the leadership skills necessary for successful coaching' (p. 22). Hastie (2000) suggested that researchers determine ways in which teachers can improve the performance of coaches in their instructional roles without diminishing the strength of the student social system.

A research approach with the potential to fill this void and provide a richer description of the development of student content knowledge and performance during the student-led tasks of the curriculum is didactics (Amade-Escot, 2000). In common with the ecological paradigm, didactics provides a micro-analysis of the teaching-learning process. Unlike the ecological perspective, which takes into account the managerial and student social task systems, there is an assumption within didactics that the content knowledge to be taught is the salient variable in the teaching-learning process. Using the didactic methodology, the focus is on the instructional task system and a qualitative examination of the content to be taught and learned within the instructional tasks of the lesson/s. The focus on content taught and learned may allow for a richer description of the evolution of student content knowledge

and performance using peer-assisted learning and provide greater insight into the efficacy of this SE approach in developing student competency.

In addition to descriptive research on the dynamics of content development, future research should also look to provide a comparison of the SE model with alternative teacher-directed approaches to teaching sport in physical education. Hastie's (2000) proposition that the structure of SE provides tasks that have inherent content-embedded accountability warrants further investigation as it may provide a powerful catalyst in motivating students to understand and perform more effective strategic decisions within game-play. In addition to qualitative descriptive or evaluative research designs, researchers could look to utilize *appropriate* comparison groups within experimental, or more probably, quasi-experimental research designs in the future.

Several researchers have questioned whether students who are given responsibility are able to act in ways that do not alienate or oppress their teammates (Curnow & McDonald, 1995; Hastie, 1996, 2000). It seems that SE, if left unattended to, may also bring with it some of the less desirable aspects of elite sport. During co-educational classes of SE, evidence suggests that boys tend to dominate the positions of power and privilege within the curriculum and unless specifically targeted, a number of gendered notions become evident. Within much of contemporary sport culture gender inequity exists through the establishment of a mode of thinking which emphasizes patriarchal consciousness (Lorde, 1984). Within a patriarchal society, power is held by and transferred through males, so being male automatically conveys privilege and superiority that carries over into educational settings (Satina *et al.*, 1998). Although not overtly promoting these values, many of the features of SE do nothing to correct or modify these stereotypical styles (Hastie, 1998b). A recent study of changing hierarchies of power during an initial unit of SE highlighted that the initial difficulties associated with the devolution of power from the teacher to the students, such as role responsibility and gender separation, may be overcome with strategies implemented within subsequent seasons (Brunton, 2003). As with the majority of SE research, to date, our knowledge of the effect of the curriculum on varying dimensions of student learning is predominantly limited to inferences made from a single unit or season experience of the model. To gain better insight into students' perceptions and use of power and their motivations to promote equity during the SE curriculum, a more longitudinal data collection protocol which extends past the end of one or two units is required. Contemporary case study projects (e.g. Clarke & Quill, 2003) that have adopted an extended duration of data collection over multiple SE units have the potential to better address this issue.

Sport Education as an agent of change in promoting a positive sport culture

Scant research attention has been focused on Siedentop's (1994a) vision that the SE curriculum would develop *literate* sportspeople that would contribute to the wider sport culture. Specifically, the aims of the model were to facilitate enhanced and

explicit links between student experiences in physical education and those in the wider world of sport. Siedentop (1987) envisioned that as a result of extended participation in the model students would embrace a positive sport culture activism. 'I do not pretend that a one semester Sport Education experience in the 10th grade is going to have any far reaching implications for our collective life. On the other hand, I would be most distressed if students who experienced Sport Education repeatedly over several years of schooling were not somehow changed in ways that eventually impact on the larger sport culture' (Siedentop, 1994b, p. 9). To date, no empirical evidence exists that such an ideal is possible or feasible.

The World Summit on Physical Education (1999) emphasized the importance of physical education as a life-long process and Penney, Clarke and Kinchin (2002) discussed the potential of SE as a foundation for students' ongoing involvement in sports, outside of physical education. They suggested that to attain this goal, physical education curricular programs should focus on being 'connective specialisms' (p. 55), in other words, agents of change that provide 'life chances' for students in arenas of physical activity. Penney *et al.* (2002) proposed that, although SE was conceptualized to enhance the explicit links between experiences in physical education and the promotion of a positive sport culture, so far SE has largely failed to pursue socially transformative agendas. Penney *et al.* (2002) suggest that much of the research to date has demonstrated that SE is an effective mechanism in positively transforming students' experiences of physical education but this transformation has been confined to school allocated curricular time. This review lends some credence to Penney *et al.*'s claim. Sport Education, thus far, cannot be justified as an effective 'connective specialism,' and promote social transformation in the wider world of sport.

Much of the existing SE research (e.g. Hastie, 1996, 1998a, 1998b; Wallhead & Ntoumanis, 2004) has focused on lesson context and predominantly assessed student outcomes based on experience of a single unit or season of the curriculum. There remains a dearth of research on the critical discussion of sport issues within SE interventions and the impact of this content on the development of *literate* sports-persons. Although exemplars of SE models that focus on the discussion of contemporary sport issues exist (Kinchin & O'Sullivan, 1999; O'Sullivan & Kinchin, in press), to date, only a single study (Kinchin & O'Sullivan, 2003) has looked to empirically validate this approach. Results of this study suggested that, 'students appreciated opportunities to discuss gender, body image and sport media, and deemed such content to be significant to their life in school and the wider society' (Kinchin & O'Sullivan, 2003, p. 257). Although encouraging for the efficacy of the content, the results of the study revealed some student resistance to the choice of pedagogy adopted in the program. Further research is required to examine more effective ways to present content related to the cultural dimensions of sport and physical activity within or in addition to the SE context.

Despite the lack of empirical evidence to validate the claim that SE can promulgate a transformative agenda, Kirk and his colleagues (Kirk & MacDonald, 1998; Kirk & Kinchin, 2003) have theorized that, through situated learning and

the legitimate, peripheral participation within 'communities of practice' in persisting groups, Siedentop's (1994a) goals could be attained and sport could not only be reproduced but *transformed*. Kirk and MacDonald (1998) advocate that SE has the potential to transform what constitutes sport as 'It can be transformed through young people acquiring the skills of a critical consumer of sport and of the many varied products of the sport industry' (p. 384). Although initial research has provided evidence that students' experiences of SE may be compatible with their wider conceptions of sport (MacPhail *et al.*, 2003) additional research is required to support assertions of student transformation to active critical consumerism.

Although Siedentop's vision that SE make connections between learning in physical education and experiences beyond school remains, there is a dearth of empirical evidence that validates this claim. Several hypotheses have been presented to explain the lack of emergence of evidence that SE would be a catalyst for the genesis of a more mature youth sport culture. Oslin (2002) suggested that, 'although the structural characteristics of Sport Education such as longer seasons, small teams, and peer coaching improve the plight of the lower skilled, the values and beliefs held by teachers and students about sport may limit the degree to which the goals of Sport Education can be achieved.' (p. 421). In other words, the Western ideologies that pervade and sustain contemporary sport culture in their present form may be too strong to overcome (Nilges, 1998). Oslin (2002) believed that to achieve the goal of 'Sport for All' within SE, a broader definition of sport to include all forms of play, was required. Although SE has been utilized for a variety of content, including dance (Graves & Townsend, 2000) and gymnastics (Bell, 1994), Oslin's (2002) definition of sport implies the inclusion of more *paidiac* activities within physical education such as hiking, biking and ice-skating. Oslin (2002) proposed that only by widening the continuum of sport included in SE will physical educators be able to provide 'bridging activities that link what students learn in SE to the larger sport and physical activity cultures of the community (cf. Siedentop, 2002, p. 416), which may serve to enhance visibility as well as transferability' (p. 423).

Other explanations for the lack of evidence to support Siedentop's (1982) postulation for the evolution of a more positive sport culture point to SE's hegemony with institutionalized sport. Shehu (1998), speaking in sociological terms, suggested that 'Sport Education is not about the evolution of a culture but is, instead, an ideological apparatus for the reproduction of a culture, the *laissez-faire* of competitive capitalism in the classroom' (p. 232). He argued that in attempting to contextualize student learning in physical education, Siedentop created a model which 'adopts prevailing political practice in the West and redefines physical education in terms of this practice' (Shehu, 1998, p. 232). Shehu stated that this conceptualization was based on Siedentop's (1982) assumption that the cultural evolution of humankind may be quickened when more and more people participate in sport. Shehu's (1998) comments provide reflection on the possibility that through adopting many of the structural features of institutionalized sport, SE may have created a hegemony of Western competitive sporting ideals. These 'competitive market features' of SE may

serve to limit the emergence of critical consumerism and the activism to promote an evolving sport culture based on equity and participation.

In addition to the concerns of content (Oslin, 2002) and structure (Shehu, 1998), a factor which has also been highlighted as potentially critical to SE's lack of success in transforming sport culture is the lack of an overt connection between the curriculum and the wider sport community. Penney *et al.* (2002) suggested that, although students may become competent, literate and enthusiastic through their SE experiences they do not have the opportunity to utilize these skills in the 'real world of institutionalized sport where different values and interests frame opportunities in openly inequitable ways' (p. 61). Penney *et al.* (2002) proposed that, to resolve this conflict, connections and collaborations with the junior sport community should be built such that the principles of SE can be moved from curricular to extra-curricular and community-based junior sport contexts. This theorization of the critical role that collaboration between schools and the community plays in the development of a positive sport culture is not new (O'Sullivan & Kinchin, in press). After the statewide trials of SE in Western Australia in 1992, Aussie Sport Action (1995) produced an article delineating potential strategies on how SE could develop school-community linkages. These included organizing class attendance at a game or senior training session, inviting local referees to attend a class session, having the class participate in a local competition and arranging for class coaches to coach other teams in the community. 'With teachers and sport officers working together, positive outcomes are more likely to eventuate' (Aussie Sport Action, 1995, p. 7).

The question of whether schools utilizing SE as part of their physical education program have established collaborative links with the junior sport community and, as such, infused some of the values, ethics of SE within the wider context of sport remains unanswered within the research literature. Future research must examine the existence and/or nature of the school-community partnerships that have been formed between curricular SE and junior sport and evaluate the efficacy of these collaborations. If these partnerships do not exist researchers must be activists in facilitating a view of curriculum development and research as inter-related. Irrespective of the quality of curricular provision, it seems 'achieving 'real' or sustainable connections for students demands action that embraces and engages with agencies beyond education' (Penney *et al.*, 2002, p. 62). Students who are developing into competent, literate and enthusiastic participants must be provided with an outlet to activate their skills, otherwise we may be 'setting children up for rejection and failure as they attempt to move from their school-based Sport Education experiences to the 'real world' of adult sport' (Penney *et al.*, 2002, p. 61). Only when projects have been designed to extend and evaluate professional development programs and local school networks will we know if SE promotes 'sport culture activism' and offers a serious challenge to the exclusionary discourses of much of institutionalized sport (O'Sullivan & Kinchin, in press). Until then, whether Sport Education has the potential to fulfill some of the goals of physical education for the new millennium remains unanswered.

References

- Alexander, K. (1994) Developing sport education in Western Australia, *Aussie Sports Action*, 5, 8–9.
- Alexander, K. & Luckman, J. (2001) Australian teacher's perceptions and uses of the sport education curriculum model, *European Physical Education Review*, 7, 243–267.
- Alexander, K., Taggart, A. & Medland, A. (1993) Sport education in physical education: try before you buy, *Australian Council for Health, Physical Education, and Recreation National Journal*, 40, 16–23.
- Alexander, K., Taggart, A. & Thorpe, S. T. (1996) A spring in their steps? possibilities for professional renewal through sport education in Australian schools, *Sport, Education and Society*, 1, 23–46.
- Amade-Escot, C. (2000) The contribution of two research programs on teaching content: pedagogical content knowledge and didactics of physical education, *Journal of Teaching in Physical Education*, 20, 78–101.
- Aussie Sport Action (1995) Sport education: a proven alternative, *Aussie Sport Action*, 6, 5–8.
- Bechtel, P. A., O'Sullivan, M. & Oliver, R. M. (2001) Implementing sport education: staying sane when making change, *Strategies*, 15, 19–24.
- Bell, C. (1998) Sport education in the elementary school, *Journal of Physical Education, Recreation and Dance*, 69, 36–39.
- Bennet, G. & Hastie, P. (1997) A sport education curriculum model for a collegiate physical activity course, *Journal of Physical Education, Recreation and Dance*, 68, 39–44.
- Brunton, J. A. (2003) Changing hierarchies of power in physical education using sport education, *European Physical Education Review*, 9(3), 267–284.
- Carlson, T. B. (1995) 'Now I think I can': the reaction of eight low-skilled students to sport education, *Australian Council for Health, Physical Education, and Recreation Healthy Lifestyles Journal*, 42, 6–8.
- Carlson, T. B. & Hastie, P. A. (1997) The student social system within sport education, *Journal of Teaching in Physical Education*, 17, 176–195.
- Clarke, G. & Quill, M. (2003) Researching sport education in action: a case study, *European Physical Education Review*, 9(3), 253–266.
- Cohen, E. (1994) *Designing groupwork: strategies for the heterogeneous classroom* (2nd edn) (New York, Teachers College Press).
- Collier, C. S. (1998) Sport education and pre-service education, *Journal of Physical Education, Recreation and Dance*, 69, 44–46.
- Curnow, J. & Macdonald, D. (1995) Can sport education be gender inclusive: a case study in an upper primary school, *Australian Council for Health, Physical Education, and Recreation Healthy Lifestyles Journal*, 42, 9–11.
- Doyle, W. (1977) Paradigms for research on teacher effectiveness, in: L. S. Shulman (Ed.) *Review of research in education* (Itasca, IL, F. E. Peacock).
- Dyson, B., Griffin, L. & Hastie, P. (2004) Sport education, tactical games, and cooperative learning: theoretical and pedagogical considerations, *Quest*, 56, 226–240.
- Ennis, C. D. (1999) Creating a culturally relevant curriculum for disengaged girls, *Sport, Education and Society*, 49(1), 31–49.
- Ennis, C. D. (2000) Canaries in the coalmine: responding to disengaged students using theme-based curricula, *Quest*, 52, 119–130.
- Grant, B. C. (1992) Integrating sport into the physical education curriculum in New Zealand secondary schools, *Quest*, 44, 304–316.
- Grant, B. C., Treddinick, P. & Hodge, K. (1992) Sport education in physical education, *New Zealand Journal of Health, Physical Education and Recreation*, 25, 3–6.
- Graves, M. A. & Townsend, J. S. (2000) Applying the sport education model to dance, *Journal of Physical Education, Recreation and Dance*, 71, 50–54.
- Grehaigne, J-F., Godbout, P. & Bouthier, D. (1997) Performance assessment in team sports, *Journal of Teaching in Physical Education*, 16, 500–516.

- Hastie, P. A. (1996) Student role involvement during a unit of sport education, *Journal of Teaching in Physical Education*, 16, 88–103.
- Hastie, P. A. (1998a) Skill and tactical development during a sport education season, *Research Quarterly for Exercise and Sport*, 69, 368–379.
- Hastie, P. (1998b) The participation and perception of girls during a unit of sport education, *Journal of Teaching in Physical Education*, 18, 157–171.
- Hastie, P. (2000) An ecological analysis of a Sport Education season, *Journal of Teaching in Physical Education*, 19, 355–373.
- Hastie, P. & Buchanan, A. M. (2000) Teaching responsibility through Sport Education: prospects of a coalition, *Research Quarterly for Exercise and Sport*, 71, 25–35.
- Hastie, P. & Carlson, T. B. (1998) Sport education: a cross-cultural comparison, *Comparative Sport and Physical Education Journal*, 8, 22–30.
- Hastie, P. & Sharpe, T. (1999) Effects of a Sport Education curriculum on the positive social behavior of at-risk rural adolescent boys, *Journal of Education for Students Placed at Risk*, 4, 417–430.
- Hastie, P. & Trost, S. G. (2002) Student physical activity levels during a sport education season, *Pediatric Exercise Science*, 14, 64–74.
- Hellison, D. (1995) *Teaching responsibility through physical activity* (Champaign, IL, Human Kinetics).
- Jenkins, J. (2004) Sport education in a PETE program, *Journal of Physical Education, Recreation and Dance*, 75(5), 31–36.
- Jewett, A. E., Bain, L. L. & Ennis, C. D. (1995) *The curriculum process in physical education* (Dubuque IA, Brown and Benchmark).
- Jones, D. L. & Ward, P. (1998) Changing the face of secondary physical education through sport education, *Journal of Physical Education, Recreation and Dance*, 69, 40–43.
- Kinchin, G. D. (2001a) A high skilled pupil's experiences of sport education, *The Australian Council for Health, Physical Education, and Recreation Healthy Lifestyles Journal*, 47, 3–4.
- Kinchin, G. D. (2001b) Using team portfolios in a sport education season, *Journal of Physical Education, Recreation and Dance*, 72, 41–44.
- Kinchin, G. D. & O'Sullivan, M. (1999) Making physical education meaningful for high school students, *Journal of Physical Education, Recreation and Dance*, 70, 40–44.
- Kinchin, G. D. & O'Sullivan, M. (2003) Incidences of student support for and resistance to curricular innovation in high school physical education, *Journal of Teaching in Physical Education*, 22, 245–260.
- Kinchin, G. D., Penney, D. & Clarke, G. (2001) Teaching the national curriculum physical education. Try sport education? *British Journal of Teaching Physical Education*, 32, 41–44.
- Kinchin, G. D., Quill, M. & Clarke, G. (2002) Focus on Sport Education in action, *British Journal of Teaching Physical Education*, 33, 10–12.
- Kirk, D. & Kinchin, G. (2003) Situated learning as a theoretical framework for sport education, *European Physical Education Review*, 9(3), 221–235.
- Kirk, D. & McDonald, D. (1998) Situated learning in physical education, *Journal of Teaching in Physical Education*, 17, 376–387.
- Locke, L. (1992) Changing secondary school physical education, *Quest*, 44, 361–372.
- Lorde, A. (1984) Age, race, class, and sex: women defining difference, in: A. Lorde (Ed.) *Sister outsider* (Trumansburg, NY, Crossing Press).
- MacPhail, A., Kinchin, G. & Kirk, D. (2003) Students' conceptions of sport and sport education, *European Physical Education Review*, 9(3), 285–299.
- MacPhail, A., Kirk, D. & Kinchin, G. (2004) Sport education: promoting team affiliation through physical education, *Journal of Teaching in Physical Education*, 23, 106–122.
- Mohr, D. J., Bulger, S. M. & Townsend, J. S. (2001) A pedagogical approach to sport education season planning, *Journal of Physical Education, Recreation and Dance*, 72, 37–46.

- Mohr, D. J., Townsend, J. S. & Bulger, S. M. (2002) Maintaining the PASE: a day in the life of Sport Education, *Journal of Physical Education, Recreation and Dance*, 73, 36–44.
- National Association for Sport and Physical Education (NASPE) (2002) *Shape of the nation report: status of physical education in the USA* (Reston, VA, Author).
- National Curriculum Council (NCC) (1991) *Physical education in the national curriculum*. A report to the Secretary of State for education and science on the statutory consultation for the attainment target and programs of study in physical education (York, NCC).
- Nilges, L. M. (1998) I thought only fairy tales had supernatural power: a radical feminist analysis of Title IX in physical education, *Journal of Teaching in Physical Education*, 17, 172–194.
- O'Donovan, T. M. (2003) A changing culture? Interrogating the dynamics of peer affiliations over the course of a sport education season, *European Physical Education Review*, 9(3), 237–251.
- O'Sullivan, M. & Kinchin, G. (in press) Cultural studies in sport and physical activity, in: J. Lund & D. Tannehill (Eds) *Standards based curriculum development* (Boston, MA, Jones & Bartlett).
- Ormond, T. C., DeMarco, G. M., Smith, R. M. & Fischer, K. A. (1995) Comparison of the sport education and traditional approaches to teaching secondary school basketball, *Research Quarterly for Exercise and Sport (Supplement)*, A–66.
- Oslin, J. (2002) Sport education: cautions, considerations, and celebrations, *Journal of Teaching in Physical Education*, 21, 419–426.
- Penney, D., Clarke, G. & Kinchin, G. D. (2002) Developing PE as a 'connective specialism': is Sport Education the answer? *Sport, Education and Society*, 7, 55–64.
- Penney, D., Clarke, G., Quill, M. & Kinchin, G. D. (2002) Activity selection in sport education, *Journal of Sport Pedagogy*, 8, 53–66.
- Pope, C. & Grant, B. C. (1996) Student experiences in sport education, *Waikato Journal of Education*, 2, 103–118.
- Richardson, M. & Oslin, J. L. (2003) Creating an authentic dance class using sport education, *Journal of Physical Education, Recreation and Dance*, 74(7), 49–55.
- Satina, B., Solmon, M., Cochran, D., Loftus, S. J. & Stockin-Davidson, K. (1998) Patriarchal consciousness: middle school students' and teachers' perspectives of motivational practices, paper presented at the annual meeting of American Educational Research Association, San Diego, CA, April.
- Shehu, J. (1998) Sport education: ideology, evidence and implications for physical education in Africa, *Sport, Education and Society*, 3, 227–235.
- Shulman, L. (1986) Those who understand: knowledge growth in teaching, *Educational Researcher*, 15, 4–14.
- Siedentop, D. (1968) A theory for programs of physical education in schools, *Dissertation Abstracts International*, 30(03), 1006A.
- Siedentop, D., Tousignant, M. & Parker, M. (1982) *Academic Learning Time-Physical Education: Coding Manual* (2nd edn) (Columbus, OH, The Ohio State University).
- Siedentop, D. (1982) Movement and sport education: current reflections and future images, paper presented at the *Commonwealth and International Conference on Sport, Physical Education, Recreation and Dance*, Brisbane, Australia, June.
- Siedentop, D. (1986) Sports education, in: D. Siedentop, C. Mand & A. Taggart (Eds) *Physical education: teaching and curriculum strategies for grades 5–12* (Palo Alto, CA, Mayfield).
- Siedentop, D. (1987) The theory and practice of sport education, in: G. Barrette, R. Feingold, R. Rees & M. Pieron (Eds) *Myths, models and methods in sport pedagogy* (Champaign, IL, Human Kinetics).
- Siedentop, D. (1988) An ecological model for understanding teaching/learning in physical education, in: *New horizons of human movements: proceedings of the 1988 Seoul Olympic Scientific Congress* (Seoul, SOSOC).
- Siedentop, D. (1994a) *Sport education: quality P. E. through positive sport experiences* (Champaign, IL, Human Kinetics).

- Siedentop, D. (1994b) Sport Education, paper presented at the *Sport and Physical Activity Research Center-Australian Council for Health, Physical Education, and Recreation Conference*, Perth, Australia.
- Siedentop, D. (1995) Improving sport education, *Australian Council for Health, Physical Education, and Recreation Healthy Lifestyles Journal*, 42, 22–24.
- Siedentop, D. (1998) What is sport education and how does it work? *Journal of Physical Education, Recreation and Dance*, 69, 18–20.
- Siedentop, D. (2002) Sport Education: a retrospective, *Journal of Teaching in Physical Education*, 21, 409–418.
- Siedentop, D., Tousignant, M. & Parker, M. (1988) *Academic learning time—physical education: coding manual* (2nd edn) (Columbus, OH, The Ohio State University).
- Silverman, S. (1991) Research on teaching in physical education, *Research Quarterly for Exercise and Sport*, 62, 352–364.
- Simons-Morton, B. G., Taylor, W. C., Snider, I. W., Huang, I. W. & Fulton, J. E. (1994) Observed levels of elementary and middle school children's physical activity during physical education classes, *Preventive Medicine*, 23, 437–441.
- Strikwerda-Brown, J. & Taggart, A. (2001) No longer voiceless and exhausted: sport education and the primary generalist, *Australian Council for Health, Physical Education, and Recreation Healthy Lifestyles Journal*, 48(4), 14–17.
- Tannehill, D. (1994) High school fitness applications, in: D. Siedentop, *Sport education: quality P. E. through positive sport experiences* (Champaign, IL, Human Kinetics).
- Taggart, A., Browne, T. & Alexander, K. (1995) Three schools' approaches to assessment in sport education, *Australian Council for Health, Physical Education, and Recreation Healthy Lifestyles Journal*, 42(4), 12–15.
- Tinning, R. (1995) The sport education movement: a phoenix, bandwagon or hearse for physical education, *Australian Council for Health, Physical Education, and Recreation Healthy Lifestyles Journal*, 42, 19–21.
- United States Department of Health and Human Services (2000) *Healthy people 2010* (conference edn) (Washington, DC, United States Government Printing Office).
- Wallhead, T. L. & Buckworth, J. (2004) The role of physical education in the promotion of youth physical activity, *Quest*, 56, 285–301.
- Wallhead, T. L. & Ntoumanis, N. (2004) Effects of a sport education intervention on students' motivational responses in physical education, *Journal of Teaching in Physical Education*, 23, 4–18.
- Wideen, M., Mayer-Smith, J. & Moon, B. (1998) A critical analysis of the research on learning to teach: making the case for an ecological perspective on inquiry, *Review of Educational Research*, 68(2), 130–178.
- World Summit of Physical Education (1999) *The Berlin agenda for action for government ministers*. Summit Statement issued 5 November.