

ABSTRACT

Title of Thesis: GAMES FOR UNDERSTANDING: A
CONSTRUCTIVIST CURRICULUM THAT PROMOTES
GENDER EMPOWERMENT

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According to constructivist theories, learning must be meaningful and actively engage students in decision-making and understanding. This study examined how the games for understanding (GFU) curriculum created a social constructivist learning environment that influenced eighth grade girls' levels of engagement within a sport based physical education program and identified pedagogical methods that assisted boys to value girls as participants and work to facilitate girls' engagement. Data consisted of teacher journal entries, student questionnaires, focus group interviews, co-teacher interview, and independent observations. Data were analyzed using open, axial, and selective coding. The findings suggested that cognitive aspects of the GFU environment actively engaged both boys and girls through small team activities. Shared responsibilities for team selection and peer coaching enabled students to become decisions-makers. Providing students with choices and minimizing competition helped girls feel supported. Likewise, modified games and ability groups helped boys value girls as participants and facilitate their engagement.

GAMES FOR UNDERSTANDING: A CONSTRUCTIVIST CURRICULUM THAT
PROMOTES GENDER EMPOWERMENT

by

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DEDICATION

Commit thy way unto the Lord; trust also in him; and he shall bring it to pass.

(Psalm 37:5)

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If you should tell me once, and for some reason
I do not understand, tell me that I did not listen-
and I'll doubt that you can reach me.

If you should tell me once, and for some reason
I do not understand you, tell me that perhaps you did not
explain it well- and I'll know that you can teach me.

-Rosalie Bryant

Thank you Dr. Catherine Ennis for opening my eyes to new understandings.

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TABLE OF CONTENTS

List of figures	vii
CHAPTER 1: INTRODUCTION	1
Gender Differences	3
Constructivist Learning Theory	5
Games for Understanding	6
Conclusion	9
Statement of the Problem	10
Research Questions	10
Significance of the Study	11
Limitations of the Study	11
Definition of Terms	12
CHAPTER 2: REVIEW OF LITERATURE	15
Learning Theories	15
Constructivist Theory	18
Constructivism in Educational Practice	19
Conclusion	21
Games for Understanding	22
Historical Perspective	22
Traditional Model or Games Centered Model	23
Games for Understanding	27
Previous Research Findings	31
Conclusion	32
Gender Issues in Physical Education	33
Coeducational Physical Education	33
Gender Differences in Physical Education	35
Teacher's Role in Gender Differences in Physical Education	38
Alternative Physical Education Programs	39
Conclusion	40
CHAPTER 3: METHODS	42
Introduction	42
Participants	42
Teacher -Researcher	43
Students	43
Co-teacher	44
Setting	44
The GFU Curriculum	45
Research Design	46
Entry into the Setting	46
Time Line for Data Collection	47

Data Collection	48
Teacher Journal	48
Questionnaires	49
Focus Group Interviews	49
Co- teacher	50
Independent Observer	51
Data Analysis	51
Journal	53
Questionnaires	53
Focus Group Interviews	54
Co-teacher interview	54
Independent Observer	54
Trustworthiness	55
Personal Biography and Philosophy	55
Personal Observation of Girls' Behavior	57
Researcher Role	58
Reliability	58
External Reliability	59
Internal Reliability	60
Validity	61
Summary	63
CHAPTER 4: RESULTS	64
Overview of the GFU Context	65
Background of Previous Physical Education Lessons	65
GFU Changes in the Physical Education Lessons	65
Tactical Concepts Covered Through the First Five Lessons	67
Tactical Concepts Covered During the Last Five Lessons	69
Student Engagement within a GFU Learning Environment	71
Providing Opportunities for Student Interaction and Participation	72
The Importance of Giving Effort	73
The Importance of Fair Team Selections	75
Students Shared Responsibilities for Coaching	78
Supporting Girl's Effort	79
Providing Students with Choices	80
De-emphasizing Competition	82
Helping Boys Value Girls as Participants and Facilitate Their Engagement	85
Student Perceptions of Equity	85
Student Perceptions of Ability Grouping	88
Summary	91
CHAPTER 5: DISCUSSION	92
Introduction	92
Social Constructivist Pedagogy	92
An Active, Creative Process	93
Shared Decision Making and Problem Solving	93

Facilitating Student Engagement	94
Cognitive Engagement in Physical Tasks	94
GFU as Social, Constructivist Pedagogy	95
Use of Small-Sided Team Games	97
Students' Knowledge Construction	98
Constructivist Pedagogy as a Community of Learners	99
Conclusion	100
Engagement	102
Motivation in Small Tactical Oriented Games	103
Motivational Climate	105
Interest in Small Tactical Oriented Games	107
Conclusion	109
Girls' Empowerment	110
Facilitating a Sense of Inclusion	111
Facilitating a Sense of Influence	113
Facilitating a Sense of Openness	115
Conclusion	116
CHAPTER 6: SUMMARY	119
Theoretical Framework	120
Methods	122
Conclusions	123
Recommendations	128
Recommendations for Physical Education Teachers	128
Recommendations for Future Research	130
Appendix A	132
Appendix B	168
References	172

LIST OF FIGURES

Figure 1: Timeline

47

CHAPTER 1

INTRODUCTION

In 1972, Congress passed Title IX of the Education Amendments, a law which affected virtually every educational institution in the country. The law was originally introduced in 1971 as an amendment to the Civil Rights Act of 1964 (Health Education and Welfare [HEW] Fact Sheet, 1975). Following Congressional debate and changes, Title IX emerged as a broad-scale bill which covered a range of federal assistance programs. The law applied, with a few specific exceptions, to all aspects of education programs or activities carried on by federally assisted school districts, institutions of higher learning, or others receiving federal financial aid. Generally, it covered admissions, treatment of students, and employment. However, during the years 1972 to 1975 the bill underwent a revision, which in part was based on comments from the public. The President signed the final bill, Title IX, on July 21, 1975. This final regulation covered admission and treatment of students, employment, and procedures (HEW Fact Sheet, 1975).

Title IX of the Educational Amendments was the first federal law to prohibit gender discrimination within any educational setting, including physical education. Schools were ordered to provide males and females with the same opportunities to participate in physical activities. This was interpreted as co-educational physical education, although students still could be separated by gender when participating in contact sports such as; wrestling, basketball, and football (HEW Fact Sheet, 1975). Nevertheless, if gender separation was necessary because of bodily contact involved

in the sport, each institution was required to provide equal opportunity for all to participate equitably (HEW Fact Sheet, 1975). However, Nilges (1998) argues that instead of providing females with equal opportunities to play, coeducational physical education was organized to reflect traditional male-oriented physical education. Although girls participated in the same classes, they were less likely to be taught at a level consistent with their current needs. While some authors of Title IX assumed that once girls experienced the same quality of instruction and level of performance expectations as boys they would experience an increase in skill level and competitiveness, this often was not the case. Instead, many girls felt intimidated, unwilling, and, in many instances, unable to compete at the same level and with the same expectations as boys. In reality, the merging of boys and girls in physical education has therefore not always occurred smoothly and often the result has been that girls were merely invited to participate in activities that were previously offered only to boys (Napper-Owen, Kovar, Ermler, & Mehrhof, 1999).

As many coeducational physical education programs continue to focus on sport-related games taught in a multi-activity format, girls, in particular, are often placed in situations which tend to be very competitive, focusing on the masculine attributes of aggression, strength, and speed. Griffin, Mitchell, and Oslin (1997) found that in many classes emphasis was placed on large-sided, zero-sum games in which winners and losers are very obvious and active participation for all students is minimal. As females enter gender-integrated physical education programs, they continue to surface as second-class citizens being left out of games primarily due to lack of skills or game experience (Nilges, 1998). Therefore, it is increasingly recognized that “the social

world of physical activity and sport is not a one-dimensional universe, but a highly complex set of institutions populated by two genders with diverse racial and ethnic backgrounds, cultural values, physical abilities and sexual orientations” (The President’s Council on Physical Fitness and Sports Report, 1997, p.15).

Gender Differences

During each 180 day school year, elementary classroom teachers have about six hours a day to influence the knowledge, skills, and attitudes of the students under their supervision where physical education teachers have thirty to ninety minutes a week. Still, Beveridge and Scruggs (2000) observed that at the early elementary level students often seem to like physical activities and teachers are able to work with motivated students. However, as students get older this seems to change. Sarkin, McKenzie, and Sallis (1997) found that in fifth grade physical education boys and girls had a similar activity level. At recess, however, when physical activity was voluntary, the girls tended to interact socially while the boys participated in physical activities. During adolescence this difference becomes more apparent. As girls reach adolescence, a high percentage dislike physical activities so much they drop out of elective physical education altogether, leaving teenage girls as the least active segment of the population (Beveridge & Scruggs, 2000; Ennis, 1999; Sarkin et al., 1997).

Gender differences are thought to be influenced by several biological, developmental, sociocultural, and environmental factors. Although the extent and nature of the interaction is unclear (Beveridge & Scruggs, 2000), we do know that

from birth, boys and girls are influenced by different social and cultural roles. Parental and cultural expectations for physical activities are usually higher for boys than for girls. Therefore, by the time students come to school, they have very specific ideas about gender-appropriate physical activities and their activity choices and behaviors matches these ideas (Beveridge & Scruggs, 2000). Sarkin et al., (1997) research confirmed that boys were more physically active than girls and that boys and girls tend to engage in different activities. Ennis (1999) and Hastie (1998) concluded in their studies that girls do not necessarily engage in different activities, but they approach activities differently than boys. Girls tend to participate in physical activities with an emphasis on fun and friendship while boys participate for competition and dominance.

Boys and girls also have different perceptions towards physical activities. Treanor, Graber, Housner, and Wiegand (1998) found that boys generally perceive themselves to have more skills, strength, and endurance than girls. This can unknowingly be reinforced by teachers who implement rules that are specific to females. For example, by requiring girls to touch the ball (e.g., receive a pass) before a point can be awarded, teachers imply that all girls are unable to play competitively without special rules. Usually, there are some girls who are very capable of competing with boys and some boys who are low skilled and may need assistance with skills or a less competitive game in which to practice skills appropriately. By creating a rule or a special game situation specifically for girls, rather than for all boys and girls who need assistance, teachers are reinforcing a gender stereotype.

At times girls demonstrate a lack of effort and persistence in those activities not considered gender-appropriate perhaps because they receive a hidden message of inferiority. If girls are lacking in skills, experience, and confidence, large competitive game situations only perpetuate and reinforce their incompetence. The highly skilled players will dominate leaving the less skilled players out of the games. In such situations, girls are often ridiculed and excluded by highly skilled boys who are using games to prove themselves to their male peers (Ennis, 1999). Participation in games of this type educates boys and girls about gender inequality and male superiority and are often more influential than lessons learned from textbooks. Life experiences such as these are emotionally charged and ego-involved leaving a lasting impression on both boys and girls, and may greatly influence life-long physical activity choices.

Constructivist Learning Theory

Learning, whether it occurs in the classroom or the playing field, is generally defined as a change in an individual's behavior or ability to do something (Shuell, 1986). Learning that represents an enduring change is the result of practice or experience. There are two main categories of learning, behavioral and cognitive. Behavioral learning focuses on changing the environment in order to influence learning, while cognitive learning focuses on changing the learner to be better able to learn more effectively (Shuell, 1986). Constructivism is a cognitive, meaning-making learning theory suggesting that individuals construct or create their own new understandings based upon the interaction between their current knowledge and beliefs and new phenomena with which they come into contact (Richardson, 1994).

A social constructivist perspective assumes that learners are active and creative, interacting with other learners and the environment. Students teach each other while simultaneously learning new concepts (Hausfather, 1996). Students jointly accomplish goals that they could not have performed individually. Cooperative learning is, therefore, an important part of constructivism. Ennis et al., (1999) found that both boys and girls were willing to participate and interact positively in physical activity and sport settings when the curriculum was based on a constructivist approach.

In research examining the Sport for Peace constructivist curriculum, units were longer to provide more opportunities for students to interact positively, affiliate with their teammates, and learn new skills (Ennis, Solmon, Satina, Loftus, Mench, & McCauley, 1999). Games were conducted on a small scale, with fewer participants on a team to increase each student's opportunity to learn skills and engage meaningfully. Teachers shared the responsibility for learning with students. Each student was not only responsible for his or her own learning, but also was entrusted with the responsibility to help other team members. Therefore, for the high skilled students to succeed, the lower skilled students had to increase their skill level and understanding of game tactics and be included meaningfully in the game. This approach created trust, respect, and a sense of family among the team members. Both high and low skilled students felt successful regardless of gender.

Games for Understanding

Another example of constructivist teaching in physical education is the games for

understanding (GFU) curricular approach (Rink, French, & Tjeerdsma, 1996). This approach was developed in Britain as a way to teach college students a better appreciation and understanding of the similarities and differences between game forms (Rink et al., 1996). Skill development occurs after a tactical understanding has been exhibited (Rink et al., 1996).

The assumption is that games with similar purposes share common tactics (Rink et al., 1996). Advocates of the GFU approach classify games into five different game categories based on concepts that develop or build progressively across game categories. For example the first category, tag games, represents relatively simple games that introduce children to fundamental game concepts of chasing, fleeing, and dodging. Target games, the second games category, emphasize the concepts of spatial awareness and accuracy as children learn to send an object through space to a designated area. Net/wall games, category three, increase students' understanding of more complex uses of space and involve moving and controlling an object, purposefully making it difficult for opponents to gain possession or send the object back to the wall or across the net. When playing games in the fourth category, fielding/ run-scoring games, the sender propels an object into an open space and attempts to run to a goal or base and possibly return before the fielders can collect the object and send it back to a specified place. Both net/wall and field/run scoring games emphasize placing the ball into a space, keeping it away from opponents. Finally in the fifth and most complex category, invasion games, players focus on controlling an object in a specified area. This includes both defending space as well as attacking space (Belka, 1994).

Instruction in a GFU approach is initiated with a modified game to help students gain a general understanding of key concepts. The modification is used to simplify the game, making it less complex and directing the players' attention to the key aspects of the game that are the primary lesson focus. The purpose is to develop tactical awareness of "what- to-do" in a game. Conversely, basic skills needed to know "how-to-perform" in the game are introduced and taught later when students show an understanding of the tactical concepts. Motor skills needed for the game are substituted or simplified (throwing instead of batting) in the modified game until game awareness is fully developed. The actual skills needed to play the game are taught and incorporated when students realize the need, and skill introduction progresses sequentially as the game becomes more complex (Rink et al., 1996). Because this approach emphasizes discovery and active hands-on learning, it can be very meaningful and authentic to learners. The approach requires students to cognitively engage in the learning process, determining what is processed, how it is processed, and ultimately what is learned (Rink et al., 1996).

Some researchers (e.g., Hastie, 1998) suggest that one reason girls drop out of sports and games are because of they are ill equipped with the necessary skills and game awareness to be competitive and feel competent and successful. Therefore, one objective of a more inclusive sport-based approach to physical education is to keep competition initially at a low level and focus instruction on developing game understanding and appreciation along with skillfulness. Because the GFU approach is game-dependent and student-centered (unlike the traditional multi-activity approach that is skill-centered and teacher-centered), it may serve to motivate girls more

effectively and assist them to develop and achieve success in the game. As girls develop game awareness and tactics, their skill level and game understanding may increase, enhancing their interest and enjoyment (Chandler, 1996).

Conclusion

Since Title IX was put into effect discrimination based on gender has been prohibited in any educational setting. Male and female students are now supposed to receive equal treatment in all areas of education including physical education and sport. However, equal treatment quite often does not exist for boys and girls in the same physical education classrooms (Hastie, 1998; Nilges, 1998). When physical education programs are conducted using multi-activity formats with short units and large competitive games, many students, especially girls, become discouraged because they lack skills and game experience (Griffin et al., 1997; Napper-Owen et al., 1999; Nilges, 1998).

Gender differences are apparent throughout the school environment. Influenced by social and cultural roles, students interact in activities based on what peers, parents, and other adults considered gender appropriate. Because many traditional physical education programs focus on male values, such as aggression, competition, and dominance, girls often respond with a lack of effort and persistence in sport activities, effectively rejecting these male values (Treanor et al., 1998). According to constructivist theorists, learning must be meaningful (Shuell, 1986). Students should be encouraged to actively engage in activities that allow them to develop their own understanding based on an interaction of what they already know with new ideas and

concepts (Richardson, 1994). As students learn concepts that can be transferred across different game categories they will be able to link “old” knowledge with new knowledge thereby creating their own personal understanding. This approach emphasizes discovery-oriented, hands-on learning. The GFU approach can be meaningful and authentic to all learners because it is game centered and student centered instead of skill centered and teacher centered (Rink et al., 1996).

Statement of the Problem

Although the GFU approach has been examined relative to skill and cognitive development, the model’s contribution to gender equity has not been investigated. This study examined the elements of a GFU curricular model that contributed to a social constructivist learning environment and promoted gender equity.

Research Questions

My research question was: “How does a constructivist curriculum (i.e., GFU) influence the learning environment in physical education for both boys and girls?” Specifically,

- (a) How do constructivist methods influence eighth grade girls’ levels of engagement within a sport based physical education program?
- (b) What methods assist boys to value girls as participants and work to facilitate their engagement?

Significance of the Study

This study contributed to the body of knowledge by providing additional insight into the role of constructivist curricula in facilitating gender equity. Because boys and girls are often taught using the same curriculum within the same environment, it is vital to understand how a particular curriculum influences gender-related participation in different activities. By understanding how constructivist teaching methods enhance female engagement in activities and male acceptance of their engagement, teachers can develop a physical education program in which boys and girls accept and value physical participation for all students, regardless of gender. Therefore, the results of this study were valuable, because the study was conducted in a school context and findings were applicable in co-educational, sport based physical education. Student insights regarding their learning and engagement were invaluable in designing future curricula that engage all students in a physically and psychologically safe environment.

Limitations of the Study

According to Rossman and Rallis (1998) collecting data over a period of time rather than in a one-shot manner enhances the trustworthiness of a qualitative research study. This is particularly critical in curricular research because measurable change in student learning and attitude require relatively long instructional periods in which key concepts are introduced, reinforced, and integrated into students' gradually evolving knowledge structures. Even though data for this particular study were collected over an extended time period rather than in a one-time manner, the length of

this curricular research, ten weeks, could be a limitation. The student sample selected from my eighth grade classes, might also act as a threat to the trustworthiness of this study. Because these students were already very familiar with my philosophy and teaching, their reaction and response to the GFU model might have been influenced by prior experience with me and not the model. This could potentially have limited the applicability of the findings to another set of students.

Definition of Terms

Active Learning: An individual derives personal meaning from an experience, shaping that meaning based on prior knowledge and experience (Richardson, 1994).

Behaviorism: A learning theory that focuses on changing the environment in order to influence learning (Shuell, 1986).

Coeducational Physical Education: Males and females included in the same class and taught the same curriculum (Treanor, Graber, Housner, & Wiegand, 1998).

Cognitive Theory: A learning theory based on the belief that knowledge is the result of learning rather than that which is learned (Shuell, 1996).

Community Of Practice: Any group of individuals working together to contribute to a shared practice in a particular realm of life (Kirk & Macdonald, 1996).

Constructivism: A personal meaning-making theory based on active learning suggesting that individuals create new understandings based on an interaction of prior knowledge with new ideas (Richardson, 1994).

Declarative Knowledge: Factual information such as rules and goals of a game (Turner & Martinek, 1999).

Empowerment: A process by which individuals develop skills and abilities to gain control over their lives thereby enabling them to actively improve their life situation (Sørensen, 2003).

Games for Understanding (GFU): A physical education curricular model based on a conceptual framework, which classifies games into core categories providing a developmental structure for teaching and learning games (Griffin et al., 1996).

Gender: Classification based on biological, developmental, sociocultural, and environmental factors (Beveridge & Scruggs, 2000).

Hidden Curriculum: Planned and unplanned curriculum content that is not revealed explicitly to students (Dodds, 1985).

Null Curriculum: Content that is not included in the physical education program either intentionally or unintentionally (Dodds, 1985).

Operational Curriculum/ Functional Curriculum: The school curriculum (i.e., null, hidden, and overt) experienced by students (Dodds, 1985).

Overt Curriculum: Explicitly stated, intended content components taught to students (Dodds, 1985).

Procedural Knowledge: Cognitive knowledge of how to perform (i.e., skills and tactics) used to generate action in a game (Kirk & MacPhail, 2002).

Social Constructivism: Theory that states that learning as an active, creative process involves individuals interacting with their environment and with other learners (Haufather, 1996).

Tactical Games Approach: A model for physical education with the aim to improve students' game performance, tactical awareness, and skill execution

(Griffin et al., 1997).

Tactical Understanding: Knowing what-to-do in a game situation to gain a tactical advantage or to constrain opponents' attempts to gain an advantage (Griffin et al., 1996).

Title IX: Originally introduced in 1971 as a part of the Civil Rights Act of 1964.

Title IX, was put into effect on July 21, 1975. It covers all aspects of educational programs or activities carried on by Federal assisted school districts, institutions of higher learning, or others receiving Federal financial aid (HEW Fact Sheet, 1975)

Traditional Model: Also called a multi-activity approach. Characterized by multiple, short-duration units with limited instruction and numerous opportunities for highly skilled students to engage in physical activities (Ennis, 1999).

Transfer of Learning: Commonly applied principle in education which assumes that skills and understandings learned in one context can be used effectively in a different, yet related context. Transfer can be positive aiding learning when concepts are carried over from one game to another or negative when learning one skill/concept interferes with learning of another (Magill, 1993).

Zone of Proximal Development: The difference between a child's actual developmental level and their potential for development within that domain. The zone is developed when students work cooperatively to solve problems that could not be solved effectively by one student alone (Vygotsky, 1978).

CHAPTER 2

REVIEW OF LITERATURE

This review of literature is divided into three main sections. The first section is a review of three learning theories; behaviorism, cognitivism, and constructivism.

Included in this discussion is a brief history of the different theories, the characteristics of the theories, and how the theories, especially constructivism, is used in educational settings.

The second section is a review of the games for understanding (GFU) curriculum model. Included is a historical perspective of the model, a comparison of the traditional model to the GFU model, main components and characteristics of the GFU model, and previous research findings. The final section is a review of gender issues found in physical education. Areas covered include a historical perspective, gender differences observed in educational settings, teachers' roles, and alternative coeducational physical education programs.

Learning Theories

Learning and how learning is achieved are concepts which have fascinated individuals since the beginning of time. The origin of the body-mind dualism dates well back to Plato and Descartes who might have been instrumental in originating what we in the Western World, call cognitive psychology (Abernethy, Burgess-Limerick, & Parks, 1994). However, research on learning as we know it did not start until the early part of the twentieth century (Shuell, 1986). Although psychologists

between 1910 and 1940 occasionally discussed learning from a cognitive perspective, traditional research on learning was still primarily focused on behavioral approaches to animal learning. One aspect of this animal – environment concept was the premise that mind and body are separate, independent, and distinct. Behavioral approaches to learning focused on changing the environment, or stimulus, to influence the learning response, such as providing reinforcement when appropriate responses were made (Shuell, 1986).

During the 1960s, researchers refocused their interest on human learning (Shuell, 1986). Investigators started to look at learning not only in laboratories, but also in more authentic, complex situations such as classrooms (Shuell, 1986). Learning was defined as the way in which people acquire new knowledge and skills and the way in which existing knowledge and skills are modified. Hence, cognitive approaches to learning focus on changing learners by having them use appropriate learning strategies (Shuell, 1986). Therefore, learning represents an enduring change which is the result of practice or experience. In order for learning to take place both environmental and internal factors contribute interactively (Shuell, 1986). Learning is connected to knowledge (Nespor, 1987; Shuell, 1986) which can be defined as either (a) objective, factual information that has been agreed upon publicly or within a community of scholars, or (b) subjective, encompassing personal values and beliefs. Knowledge can be subdivided into declarative, procedural, and conditional knowledge (Kirk & MacPhail, 2002; McPherson, 1994; Paris, Lipson, & Wixson, 1983).

Declarative knowledge is factual information that is agreed upon by experts and transmitted to learners. In physical education declarative knowledge includes fitness concepts, biomechanical principles, and game rules, aims, terminology, and etiquette (Kirk & MacPhail, 2002; Paris, Lipson, & Wixson, 1983). Declarative knowledge is valued information that is transferred from generation to generation and teacher to student. It is perceived to be essential to effective decision making and performance.

Procedural knowledge consists of information on how to generate various actions (Paris, Lipson, & Wixson, 1983). In reading this is exhibited by knowing how to skim, how to scan, and how to summarize a text (Paris, Lipson, & Wixson, 1983). In physical education, procedural knowledge is defined as knowledge of how to perform a skill or other physical tasks (Kirk & MacPhail, 2002; McPherson, 1994), and is exhibited by students when they understand how to play. An example is dodging past an opponent in a one-on-one game situation. However, McPherson (1994) suggests that in motor development, procedural knowledge might at times be complicated to describe in that the “doing it” or “how to” could refer to either the selection of a movement or its execution.

Therefore, it is important to develop conditional knowledge such as “knowledge of ‘when’, ‘why’, and ‘under what conditions’ declarative and procedural knowledge should be used” (Paris, Lipson, & Wixson, 1983, p.303). When playing games, conditional knowledge is knowledge of when to perform a particular offensive or defensive tactic to gain an advantage over opponents. To reach a conditional knowledge level, individual knowledge must develop and expand to encompass different contexts and situations (Brooks & Brooks, 1993), creating links between

new and old information. The learner is able to take skills and concepts learned in one area and applying them appropriately in other subjects and contexts.

Constructivist Theory

Constructivism is a cognitive learning theory (Hausfather, 1996; Kirk & Macdonald, 1998; Richardson, 1994) concerned with personal meaning-making. It suggests that individuals create their own new understandings, based upon the interaction of what they already know and believe with new ideas with which they come in contact (Richardson, 1994). Kirk and Macdonald (1998) explain that constructivist learning is an active process in which students test to the best of their capabilities the applicability of information to specific tasks at hand and in the environment.

The central role of the social and cultural contexts in learning was articulated in a social constructivist theory developed by Vygotsky, a Russian who lived between 1896- 1934 (Hausfather, 1996). Vygotsky (Vygotsky, 1978) theorized that child development is a process occurring between the child and the social environment. Learning is defined, therefore, not as development, but as a process that results in development. Each child has an “actual development level” and a potential for development within this domain. Vygotsky used the metaphorical “zone of proximal development” to describe the realm of shared understanding that students access to solve a problem when working in partners or small groups which could not be solved by one student alone. Hence, for development to occur, each individual must take an active role in sharing understandings. Kirk and Macdonald (1998) stated the main

focus of constructivism is that learning is an active, creative process, which involves individuals interacting with their physical environment and with other learners.

Constructivism in Educational Practice

Historically, one limitation of formal schooling is that it has failed to provide students with context-generalizable learning. School specific knowledge is limited to school settings and often criticized as impractical (Hausfather, 1996). A constructivist approach, therefore, must approach learning with more than just a look at schools' effects on individual students' cognitive development. Learning should also be understood as socially constructed (Hausfather, 1996) or as Kirk and Macdonald (1998, p. 380) describe it "the legitimate peripheral participation in communities of practice."

A community of practice refers to any group of individuals who work together to contribute to shared practices in a particular realm of life. In a school, this could be teachers, students, and/or administrators as a group (Kirk & Macdonald, 1998). Legitimate peripheral participation represents authentic or genuine participation in tasks, where students' participation is both meaningful to them as individuals and significant for others in the community (Kirk & Macdonald, 1998). Thus, for students to have a legitimate peripheral participation in learning, activities should be meaningful to them, and they should be able to transfer school knowledge into their real world (Kirk & Macdonald, 1998).

In physical education several approaches have emerged to link motor skills learning and sport participation to students' lived experience. One approach in particular which emphasizes game appreciation and tactical awareness is the games

for understanding (GFU) curriculum model. Kirk and Macdonald (1998) explained that this approach is consistent with the constructivist approach to learning due “to the emphasis placed on active learning; the involvement of processes of perception, decision making and understanding; and the developmental factors involving the modification of games to suit the learner” (Kirk & Macdonald, 1998, p. 377).

Constructivist teaching methods are also important in regular classroom settings, occurring in the form of group work, discussions, problem solving, and hands-on activities. Freedman (2001) and Ray-McCutcheon and McCoy (1996), found that during science classes, girls flourished in settings where they could work cooperatively using hands-on experiences. Freedman (2001) found that girls who attended science classes with practical laboratories achieved more than girls who did not have the opportunity to participate in these experiences. Likewise, Ray-McCutcheon and McCoy (1996) observed that not only did cooperative approaches seem to benefit girls, but they were also necessary for girls’ empowerment. They argued that in traditional educational contexts boys tended to take charge in large classroom settings and dominate the discussions. In order for girls to have a voice, structured small group activities were needed. Further, in a study of mathematics learning by Walton and McCoy (1996) results showed that all students, regardless of gender, benefited from constructivist learning approaches. Because students are unique, two people can take the same information and apply it differently in similar situations. Therefore, it is important to individualize instruction as much as possible and provide students with opportunities to apply the information in settings that are personally relevant and meaningful (Walton & McCoy, 1996).

Conclusion

Historically, learning theorists have focused on ways people acquire new knowledge and skills, and on ways existing knowledge and skills are modified through instruction and practice (Shuell, 1986). Learning was approached in the early twentieth century from a behavioral perspective where changes in the environment are made to reinforce or shape the nature of the performance or response (Shuell, 1986). More recently learning has been conceptualized cognitively where the learners are changed by encouraging them to use appropriate learning strategies (Shuell, 1986).

Constructivist learning is cognitive learning. It is an active process (Kirk & Macdonald, 1998) in which individuals seeks out information in relation to task and environmental conditions prevailing at any given time, testing their own capabilities within this context. Vygotsky (1978) theorized that social constructivism is found in learning situations in which learners working within social relationships construct reciprocal knowledge. A constructivist approach to teaching and learning used in physical education is the GFU approach (Kirk & Macdonald, 1998). This curricular model uses active learning to involve individuals in the processes of perception, decision-making, and understanding. In this model the teacher uses developmental factors to modify the games to suit the needs and interests of the learner (Kirk & Macdonald, 1998).

Games For Understanding

Historical Perspective

During the last century, games and sports have been a large part of most physical education programs. In 1995, the National Association for Sport and Physical Education (NASPE) recognized the importance of the development of competence and proficiency in games and sports as one of seven National Student Content Standards in physical education programs (NASPE, 1995; Rink, French, & Tjeerdsma, 1996). The major assumption of this standard was that individuals who have developed such competence and proficiency would continue to participate in the activities and have active lifestyles (Rink et al., 1996).

Sports and games curricula, however, have had their share of negative publicity, particularly by fitness advocates, who have labeled them elitist, overly competitive, and not beneficial to health and fitness development (Griffin et al., 1997).

Fernandez-Balboa, Barrett, Solomon, and Silverman (1996) found that when physical education programs are centered exclusively on the concept of movement as sport activities and games, the programs fail to meet the needs of all students. They argue that because competitive sports-based programs are readily available outside of school settings, school physical education programs instead should strive for educational programs where students are taught physical activities as a way to achieve lifelong learning, enjoyment, and well-being.

Yet as dissatisfaction has grown with sports and games physical education programs, innovation has been slow to come (Waring & Almond, 1995). Quite often in physical education, games are taught continuously with an emphasis on large-

sided, zero-sum activities in which competition plays a major role and active participation for all students is minimal (Griffin et al., 1997). In response to these concerns, curricular designers have developed new teaching approaches or models, such as the “teaching GFU” approach (Griffin, et al., 1997; Rink, et al., 1996; Turner, 1996; Waring & Almond, 1995). In this approach, the “game” is seen as the center of the learning process (Waring & Almond, 1995). The approach grew out of teacher educators’ desire to give college students a more generic appreciation for games and an understanding of the similarities and differences between game forms (Rink et al., 1996). In England, the British word “game” does not necessarily mean sport, instead, the word refers more to a simpler form of play, usually with fewer players, less complex rules, and modified equipment (Rink et al., 1996).

Traditional Model or Games Centered Model

During the last decade, educators have debated the role and function of games in the physical education curriculum and how games should be taught to students. The traditional model follows a series of highly structured lessons, which rely on skill drills and carefully analyzed techniques (Werner, Thorpe, & Bunker, 1996). The offensive and defensive game tactics are usually taught by direct teaching and the instruction occurs over several stages. At the first two game stages in the traditional model, teachers are primarily concerned with the development of motor control of an object and utilize a combination of experiences through which extending, refining, and application tasks are learned leading towards skillfulness (Werner et al., 1996). The general belief is that once the skills have been mastered, the student can transfer these skills into a game situation. At stage three, students typically enter a modified

game situation, where numbers of players, rules, and conditions of the game are gradually introduced. Stage four, the final stage, students participate in games under conditions and rules representing the standards of the official games (Werner et al., 1996).

A traditional lesson often consists of three parts – (a) an introductory activity, (b) skill or technique practice, followed by (c) a game (McMorris, 1998). This approach is based on the assumption that skills must be learned before a game can be played (Turner, 1996). The teaching of techniques or skills is seen as the critical part of the lesson (Thorpe & Bunker, 1982), and each week new skills are learned and assessed. The traditional lesson plan is highly structured and teacher directed (Thorpe and Bunker, 1982). The lesson starts with an introductory or warm-up activity to develop student fitness, followed by a skill or technique practice in which skills the teacher deems essential are practiced and refined (Werner, Thorpe, & Bunker, 1996). The lesson concludes with a game which serves to develop an understanding and appreciation of both skills and tactics (Turner, 1996). Teachers can modify games, for example, by limiting the field size or number of players, or emphasizing representative rules or offensive and defensive tactics (Werner, Thorpe, & Bunker, 1996).

Opponents of the traditional games model argue that in physical education settings, teachers often select an introductory activity that is unrelated to the skill or technique practice. Unfortunate, because students are not taught the role or meaning of the skill/ technique, they often perceive the skill and technique practice as an end in itself. Opponents further contend that advocates' assumption of skill transfer from

drills to game play rarely occurs, resulting in poorly skilled students engaged in complex, frustrating games. Another minus of the traditional model is the assumption that ample time will be allotted for skill practice. Quite often constraints in the form of infrequent, limited time lessons do not allow students to gain skill competence or proficiency. In these all too frequently occurring programs, less able students are unsuccessful, while more competent students become bored and disengaged (McMorris, 1998).

Like the traditional games model, the GFU model also follows instructional stages. However, where teachers in the traditional model teach skills first and tactics later, advocates of the GFU model promote tactics first (what to do), while skills (how to do it) are introduced later (Turner & Martinek, 1999; Werner, et al., 1996). In a GFU lesson, students first are exposed to a mini-game-like experience, which includes basic rules and other constraints of the full game (Turner & Martinek, 1999). As the game progresses, students and teacher together develop effective tactics used during offensive and defensive play. In other words, teachers introduce game decisions or tactical understanding (what to do) and then assist students to develop the skill execution necessary to complete or perform the tactic. Performance is measured by assessing the outcomes of the decisions as they are executed during game play (Turner & Martinek, 1999).

The debate between the traditional approach and the GFU approach focuses on how games should be taught and learned. Both the traditional model and the GFU model include cognitive outcomes, declarative, procedural, and conditional knowledge -- as well as skill outcomes. The main difference is the order of teaching

skills and tactical understanding (Turner & Martinek, 1999) and the methods used to engage students cognitively in the thinking process. In the GFU model, declarative knowledge is factual information, which incorporates knowledge of rules and goals of the game. A lack in declarative knowledge is reflected by an inability to conceptualize how the game is played, state tactics that place ones own team at an advantage and opponents at a disadvantage. Procedural knowledge is characterized by students being able to perform or execute tactics in “if-then” situations. A lack in procedural knowledge is reflected by students’ inability to make and execute good decisions during game play (Turner & Martinek, 1999).

Another important part of the GFU model is the issue for transfer of learning such as tactical understanding carry over from one game to another as it is presumed in the GFU approach (Griffin et al., 1997). According to Magill (1993) transfer of learning involves the influence of previous experiences on new concept learning or on practical skill performance in a new context. Magill (1993) suggests that the amount and the direction of transfer can be influenced by different factors such as, similarities of the cognitive processing demands of the two situations, and/or similarities in the components of motor skills and contexts in which the skill is performed. Griffin et al. (1997) explains that if students are well acquainted with tactics, the carryover of tactical performance from one game to another within a category will be more effective than if skills are emphasized in isolation. Although skills needed in invasion games of soccer, basketball, and hockey are very different, the tactical offensive and defensive concepts are very similar and can create positive transfer from one game to another.

Werner, Thorpe, and Bunker (1996) explain that the concept of tactical complexity suggests an ideal order in which to introduce games to children. Tasks can start with the simplest games, such as tag games, and move through progressively more complex games to invasion games. As students learn the tactical aspects of each category, they build on this knowledge as they progress through the different categories. Games within each category have common principles. As students understand these principles they can transfer them to other games within the category. As this cognitive understanding is not directly linked to motor skill performance, every student should be able to participate regardless of skill level (Griffin, et al., 1997; Werner, et al., 1996). Mitchell and Oslin (1999) found that change in cognitive aspects of game performances, particular decision making abilities, might be more easily gained within this approach than changes in skill related aspects of game performances. This suggests that teaching students from a tactical or GFU perspective might be beneficial, especially to students with lower skills and limited experience (Griffin, et al., 1997).

Games For Understanding

The games for understanding (GFU) model was developed by Thorpe and Bunker (1982) as a tactical approach to learning games (Waring & Almond, 1995). The GFU conceptual framework is based upon five different categories of games; tag, target, net/wall, fielding/scoring, and invasion (Belka, 1994). The first category, tag games, include chasing, fleeing, and dodging concepts that assist student to develop basic skills and understandings necessary for success in more complex games. The second category, target games, focuses on accuracy in sending an object to a

particular area. Examples include golf and bowling. The third category, net and wall games, involves controlling or redirecting an object, making it difficult for opponents to gain possession. Tactics in this category include those used to attack or send the object back to the wall or across the net, such as in tennis and volleyball. In the fourth category, fielding games, players send an object into an area and the sender tries to run to a base or safe area and return before the fielders can collect the object and send it to a specified place. Examples include softball and cricket. The fifth category, invasion games use tactics to move an object across an opponent's goal line or to a goal, invading space while at the same time defending one's own goal or space. Examples are soccer, basketball, hockey, and football (Belka, 1994).

Each category represents games that require similar use of space, purpose, and offensive and defensive tactics. For example, all of the games in the target category, as the name implies, focus on accuracy where winning or scoring is based on hitting a target. Likewise, invasion games, such as soccer, basketball, and hockey, are territorial. The purpose is for players to defend the goal in their territory, while attacking and scoring in their opponents' territory and goal. Games within each category are analyzed by examining essential tactical problems related to scoring (attacking) and score prevention (defending). In each game category, teachers and students examine off-the-ball movements as well as on-the-ball skills necessary to execute the tactical problems (e.g., attacking, defending, restarting the game) (Mitchell, 1996). Tactics applicable in each game category follow a simple to complex instructional sequence or the set of six student-centered stages originally proposed by Thorpe and Bunker (Thorpe & Bunker, 1982; Waring & Almond 1995).

In the first stage students participate in a game form where the learner will be introduced to a modified game, which will consider the age and experience of the learner. Equipment and space are also modified as well as the number of players (Waring, & Almond, 1995). Belka (1994) suggests that teachers need to help students understand and focus on key concepts and tactics that directly affect the nature of games. Examples of key concept lessons might find students examining several different sizes of the playing area to determine how space influences attacking and defending tactics, thus enhancing students' declarative knowledge.

In stage two of the instructional sequence, teachers introduce a variety of elementary tactical problems for learners to solve. For example, students might examine how tactics change as rules are changed. This instructional stage allows students to begin using procedural knowledge while simultaneously developing declarative knowledge (Waring & Almond, 1995). In stage three, the principles of play common to all games, the teacher introduces basic game elements and tactics, such as recognition of playing roles and responsibilities on offense or defense. In stage four students identify the differences between decisions of what to do and when and how to do it. As game circumstances constantly change, students need to recognize evolving situations, and know how to time their movements within the playing space appropriately to gain an advantage. These temporal and spatial aspects of games are essential to success and represent procedural and conditional knowledge. In stage five, students focus on skills and techniques needed to execute tactics. At this stage, teachers emphasize procedural knowledge necessary to accomplish personal and team goals. In stage six, the final performance stage,

teachers emphasize the importance of both skill execution and tactical awareness. As students learn to execute the correct tactics at the right moment in the game, they gain greater appreciation of the game, itself. When students are able to execute skills and tactics in a particular game successfully, they are then ready to move to a different game within that games category. Students then practice playing the new game using the tactics generic to that game category (Waring & Almond, 1995).

Griffin, Dodds, and Rovegno (1996) suggest that the GFU is a holistic model that integrates knowledge of content, teaching strategies, and student learning. Teachers need a deep content knowledge to utilize this model because they are responsible for breaking down games to focus on key elements and tactics. Knowledgeable teachers then sequence these from simple to complex and introduce each as students' declarative, procedural, and conditional knowledge develops. Because the model consists of "building blocks," teachers are encouraged to focus on the least complex games and smaller goals first, teaching a few skills well, rather than rushing to expose students to many games and skills that they may not have the opportunity to learn thoroughly. The teacher's focus should be on what students actually need to learn and not just on the activity itself (Griffin et al., 1996). Since it is critical in this model to link specific skills and movements to solve tactical problems in the game, teachers use a "game-question-practice-game" cycle within each lesson. This involves students making appropriate decisions about how and when to apply the skills and movements learned. Teachers, therefore, are often indirect problem - posers rather than direct problem - solvers (Griffin et al., 1996).

Previous Research Findings

Research conducted with the GFU approach has shown mixed results. Chandler and Mitchell (1990) have observed that there is very little empirical evidence to support that a GFU approach is any more effective in teaching games to physical education classes than other approaches. A GFU approach is basically a pedagogical curriculum approach to a teaching problem. Studies conducted by French, Werner, Rink, Taylor, and Hussey (1996), and by French, Werner, Taylor, Hussey, and Jones (1996) examined effects of different approaches to games instruction. The studies focused on cognitive outcomes (e.g., decision making, declarative knowledge, and procedural knowledge) as well as skill or procedural outcomes. The participants in each study were ninth grade students who had randomly been assigned to three treatment groups and a control group. The treatment groups played badminton and the control groups played other sports such as tennis. The study participants were assigned to one of three groups, (a) skills, (b) tactics, and (c) combination of tactics and skills. The first study was a three weeks study and the second study was a six weeks study. The results of the three weeks study showed that all three treatment groups performed better than the control group on decision-making components and at some measures of skill execution. The treatment groups also played more competitively than the control group. There were some differences between the treatment groups. The combination group did not show as much improvement in terms of skills or tactical understanding after 3 weeks as was exhibited from the tactical and the skills group. However, in the six weeks study, which replicated the first study, the combination group had improved significantly. The second study had

new participants and new teachers, but otherwise followed the first model. These results show that a combination of skills and tactics takes time to develop where skills alone or tactics alone might be acquired more readily.

In another study, McMorris (1998) found that students needed to learn skills before teachers introduce tactical knowledge. McMorris suggested that students learn skills at an earlier age when they do not mind skill drills. Tactical understanding can then be taught more easily at a later age. As previous research focused on cognitive and skill performance aspects of GFU a third aspect, motivation, may be included. Belka (1994) found that even though there might not be evidence to show that one approach is more efficient than the other in terms of skill performance, there might be evidence to show that the GFU model is more efficient in the affective area. Students who are skilled and fit appear to enjoy opportunities to participate in games. Therefore, teaching GFU might be an avenue to motivate students into more active lifestyles. Werner et al. (1996) agreed that students like game activities in a GFU approach rather than a teacher- determined skill practice.

Conclusion

During the last decade educators have debated the most effective approach for teaching games and sport. Discussions between advocates of the traditional approach to teaching sport and games and those proposing an alternative GFU approach have led to research comparing these models in practice. The GFU approach developed in Britain, by Thorpe and Bunker in 1982 emphasizes that games are taught developmentally using tactical understanding and knowledge before skills are learned. In other words students are taught “what-to-do” in a game before learning

“how-to-do” or perform skills (Griffin et al., 1996). This GFU model categorizes games into five main categories; tag, target, net/wall, fielding, and invasion (Belka, 1994). Each game category consists of tactical concepts (e.g., offensive, defensive) that pertain to all games in that group. Advocates assume that when students learn the tactical concepts associated with one game, or game category, knowledge will transfer to other like or similar games, making it easier for students to understand and play successfully (Griffin et al., 1997).

Gender Issues in Physical Education

Coeducational Physical Education

In 1972, the United States government passed into law Title IX, which stated that no person should be excluded from participation or subject to discrimination in any education program (HEW Fact Sheet, 1975). This was the first federal law to prohibit gender discrimination within any educational institution; it changed significantly the way educational opportunity was viewed (Nilges, 1998). The bill's authors intended to create equal access to sport and physical education programs for males and females (Treanor, Graber, Housner, & Wiegand, 1998).

One implication of Title IX was that public school physical education changed from single - gender to coeducational classes, integrating males and females into non-contact sports (Treanor et al., 1998). The assumption was that once females experienced the same performance expectations and instruction as males, their skill level would increase and physical/sport aspirations would follow (Nilges, 1998). However, as Nilges (1998), and Treanor et al., (1998) explained there continues to be

a difference between the opportunities provided for females and males in coeducational physical education settings. “Males still tend to monopolize playing time, while females are harassed for lack of skills, left out of the games and may experience performance anxiety ” (Nilges, 1998, p.173). This was also observed in studies (Ennis, 1999; Ennis et al., 1999; Napper-Owen, Kovar, Ermler, & Mehrhof, 1999) that found most physical education programs remain sport oriented, with an emphasis on team and lifetime sports. These programs are often taught through a traditional multi-activity recreational format as teachers find it difficult to teach classes with students of diverse interests and skill abilities. The result is that activities often favored by girls such as dance, gymnastics, and swimming are dropped from the program and girls are merely invited to participate in physical education team sports which traditionally were offered only to boys.

Activities left out of the program are part of what Dodds (1985) called the null curriculum. The null curriculum refers to content which is not included in the program either intentionally or unintentionally. The null curriculum sends messages to students about what is and is not valued and accepted in physical education. The absence of certain activities, such as movement forms that girls prefer, sends clear messages to teachers, students, and administrators about valued content in the physical education curriculum. To compound this issue Nilges (1998) found that girls continue to avoid “gender inappropriate” activities and frequently display nonassertive participation patterns during team sport play. Likewise, when possible they tended to elect out of physical education altogether at the secondary level. The same observation was made by Treanor et al., (1998) who found that gender

stereotypes can have a powerful influence on student acceptance of sport activities, which might in turn limit girls' effort and persistence in those activities that are not considered gender appropriate for females. Further, Daley and Buchanan (1999) found that adolescent girls are subjected to societal expectations and a culture of femininity which expects them to act ladylike and be attractive. Therefore, in order to make physical education meaningful for these girls, activities must be conducted in such a way that they do not conflict with their femininity and gendered identity. The more masculine a task is perceived to be, the less likely girls are to willingly participate.

Other researchers have found that fitness-based coeducational physical education is less negative for females and yet, accepted by males. In a study, Sarkin, McKenzie, and Sallis (1997) found that fifth grade boys and girls demonstrated the same activity level during physical education with no observable gender differences. In two earlier studies, Griffin (1984, 1985) observed that skilled girls proved themselves to be "formidable" opponents to their male classmates and were regarded by the boys as good players.

Gender Differences in Physical Education

According to Nilges (1998) although liberal proponents of gender-integrated physical education do not considering gender as a problematic category in achieving equality, they are concerned that unequal access to resources and opportunities prevent girls from participating in physical activities. From this perspective, boys and girls are seen as entering coeducational physical education classes on equal terms and success is based on individual effort rather than on gender advantages. Conversely,

studies by Beveridge and Scruggs (2000), Daley and Buchanan (1999), Ennis (1999), Ennis, et al., (1999), Foster (1999), Hastie (1998), Napper-Owen et al., (1999), and Nilges (1998), show that boys and girls come to school with definite ideas about gender appropriate physical activities, and their physical activity choices and behaviors reflects these preconceived beliefs. Gender differences are thought to be the result of biological, developmental, sociocultural, and environmental factors. From birth, parents and caretakers, teach boys and girls to behave according to social and cultural roles. These roles are reinforced through childhood and adolescence

Competition is a fundamental characteristic of many physical education programs. Male values such as competition, aggression, and toughness flourish (Napper-Owen et al., 1999). Bradley and Stark (2001) observed that males are generally more competitive than females, fostering an environment which is counter-productive to skill development in all students. Many male students believe they should be involved in activities in which they can display speed, skill, and strength. This may foster a belief system that reinforces the idea that male students need competition to support feelings of accomplishment, while female students are satisfied with activities that encourage socializing.

Ennis (1999) found in her study that male students show aggressive behavior during physical activities because other males encouraged and rewarded these behaviors. Boys often display a total disregard for others, especially students who are perceived to be weak or unskilled. Sport activities, therefore, become an acceptable means to mark and defend a psychological territory. As a result, girls were viewed as a hindrance to the boys' mission and they were bullied or intimidated to stay out of

the game. Conversely, girls viewed the boys as being too intense and dominating (Ennis, 1999). The girls were reluctant to participate in sport because they lacked the skills and experience needed to compete successfully. They had no desire to subject themselves to the boys' ridicule. Such role conflicts may contribute to female's negative experience and reinforce masculine stereotypes associated with many sports and physical activities (Treanor et al., 1998).

Gender also plays an important role in the perception of ability. March, Barnes, Cairns, and Tidman (1984) found that boys reported higher overall perceptions of physical competence and ability when comparing themselves with girls. Boys, even as young as in first grade, rated themselves more able than girls in sports. They also rated sports more important, useful, and enjoyable than did girls. Self-perceptions are an important aspect of identity. Fox (1994), for example, found that children constantly rated themselves on appearance factors, demonstrating that physical make-up is an important component of identity development in adolescence. It seems that girls, unlike boys, are more concerned with their physical appearance than their physical performance. Bradley and Stark (2001) confirmed this finding pointing out that females often participate in physical education to stay in shape and look good.

Despite the differences between males and females, Ennis and her colleagues (Ennis et al., 1999) found that girls can be willing participants if they do not encounter a male dominant and aggressive environment. Female students responded well to sport activities in a supportive, nurturing environment where they are encouraged rather than ridiculed. Napper-Owen et al.'s research (1999) extended this finding to boys as well. In their study, athletes, regardless of gender, valued

competitive environments, while male and female non-athletes preferred a less competitive, more nurturing environment.

Teacher's Role in Gender Differences in Physical Education

Napper-Owen et al. (1999) found that teachers, themselves, have mixed reactions to coeducational physical education classes. Those who are willing to accommodate all students often find themselves confronted with problems from a vocal group of male students as they try to merge a range of activities, physical skills, and abilities. Male athletes often have shown a strong resentment to certain activities such as dance and gymnastics resulting in these activities becoming de-emphasized or omitted. This has resulted in a situation where female teachers, more than male teachers, find themselves teaching outside of their socially accepted area (Napper-Owen et al., 1999).

Dodds (1985) showed that physical education programs often have "hidden" curricula. Hidden curricula are those in which planned and unplanned messages and content are conveyed consciously and unconsciously to students. When gender stereotypes are part of the hidden curriculum, teachers may not consciously recognize the hidden message conveyed to both boys and girls. In this case, teachers do little to intervene in the gender-interactions and participation patterns of the students. Consequently, teachers fail to alter the attitudes and perceptions of the students. Ennis (1999) and Ennis et al., (1999) found that teachers are sometimes overwhelmed by the aggressive attitude of male students and find themselves in situations where they cannot control the sport activities. This can spiral into a situation in which the less-

aggressive and weaker students are neglected. Teachers ultimately experience burnout and frustration when aggressive males dominate sport programs.

Alternative Physical Education Programs

Although coeducational physical education classes were supposed to create equality between males and females, the opposite may be happening, (Ennis, 1999; Ennis et al., 1999; Hastie, 1998; Napper-Owen et al., 1999; Nilges, 1998; Treanor et al., 1998). Traditional multi-activity coeducational physical education classes are often dominated by team sports creating an intense competitive environment emphasizing male values of aggression, strength, and speed. In these physical education classes sport activities are taught over short units with limited instruction, constraining opportunities for low-skilled boys and girls to increase their skills (Ennis, 1999; Ennis et al., 1999). To counter the negative aspects of traditional multi – activity programs, researchers and teachers can teach sport-based coeducational physical education using new formats, such as the games for understanding approach (Beveridge & Scruggs, 2000; Ennis, 1999; Ennis, et al., 1999; Hastie, 1998). The difference is that emphasis is no longer on highly competitive large games taught over short units. Instead, games are taught with smaller teams where students take ownership of their own learning. Students are responsible not only for their own success, but also for the team's success. Students, therefore, are not just passive receivers of activity, but they actively take part in all aspects of the game (Ennis, 1999; Ennis et al., 1999; Hastie, 1998). Highly skilled players can no longer gain respect through aggressive behavior, but through their legitimate educational efforts. Students, who before were reluctant to participate, eagerly practice because they are

showered with support and encouragement (Ennis, 1999; Ennis et al., 1999). Understanding and effort from all team members become the main ingredients of the successful team experience. In this environment, it is in the interest of the highly skilled players to teach and assist less skilled team members (Ennis, 1999; Ennis et al., 1999). Sport-based physical education activities become more authentic and meaningful to all the students. Because students willingly control more of their own learning, teachers can assume the role of facilitator rather than disciplinarian (Hastie, 1998). As physical education classes become less competitive, studies by Bevridge and Scruggs (2000) and by Sarkin et al., (1997) show that boys and girls participate equally, benefiting not only female students, but male and female students alike (Ennis, 1999; Hastie, 1998; Nilges, 1998).

Conclusion

With the passage of Title IX, many professionals assumed that coeducational classes would be places where all students could be taught in similar ways and achieve the same success (Napper-Owen et al., 1999). However, recent studies have found that boys and girls come to school with distinctly different ideas about gender-appropriate sport activities, and their physical activity choices and behaviors often reflect these beliefs (Bevridge & Scruggs, 2000). As many coeducational sport programs became predominately competition oriented, female students are uninterested in activities that they perceive to be gender inappropriate. (Ennis, 1999; Hastie, 1998; Treanor et al., 1998). Researchers and teachers have therefore put more TLC (Teaching, Learning Environment and Curriculum) into their classes (Bevridge & Scruggs, 2000). These curricula, such as the GFU model, emphasize not only

teamwork and cooperation, but also a general understanding of games along with a focus on skillful performances. Students are more in control of their own learning and work cooperatively to enhance success. Highly skilled male students earn respect through aiding others in legitimate learning situations and less skilled female students are more apt to participate because of encouragement and support (Ennis, 1999; Ennis et al., 1999).

CHAPTER 3

METHODS

Introduction

Although researchers have examined the games for understanding model's potential to enhance skill and cognitive development (French, Werner, Rink, Taylor, & Hussey, 1996; French, Werner, Taylor, Hussey, & Jones, 1996), they have not yet investigated the model's contribution to gender equity. The purpose of my research was to investigate elements of the games for understanding curricular model that contributed to a social constructivist learning environment and promoted gender equality. The research question that guided this research was "How does a constructivist curriculum (i.e., games for understanding or GFU) influence the learning environment in physical education for both boys and girls? Specifically,

- (a) How do constructivist methods influence eighth grade girls' levels of engagement within a sport based physical education program?
- (b) What methods assist boys to value girls as participants and work to facilitate their engagement?

In this chapter I describe the participants, setting, curriculum, research design, data collection, data analysis, and threats to the reliability and validity of the research.

Participants

The participants in this study were the students in my eighth grade physical

education classes and my co-teacher, who assisted me in teaching using the games for understanding approach. I begin by describing my dual role as the teacher-researcher in my research.

Teacher-Researcher

I received my bachelor's degree in physical education and health education from the University of the District of Columbia (UDC) in 1993. My undergraduate training was focused on student skill development and was mastery and technique oriented. I have been teaching physical education primarily using a traditional sport-based curriculum to students in grades one through eight at the same school for ten years. As the researcher for this study, I collected data from five sources: my own journal, questionnaires and interviews with my students, observations by an outside observer, and an interview with my co-teacher. I kept a journal recording my observations and reflections on using the GFU model. Because I knew the students well, I could comment on their reactions and interactions, and how these changed with the introduction of the model. I interviewed students and my co-teacher to understand their perspectives on the model and the influence of the model on gender issues.

Students

There were 48 eighth grade students participating in this study, 27 girls and 21 boys. The students represented several ethnic backgrounds, including 84% Caucasian, 8% African-American, 4% Asian, and 4% Hispanic. Twenty-nine students (69%) had attended the school seven years or more and additional nineteen students (40%) had attended the school at least one year. The students'

responses to me and my co-teacher's physical education program had generally been positive. Most seemed to enjoy the activities and looked forward to attending class. Most girls, however, did not seem to understand the games and were not as well skilled as most of the boys. Although the girls participated regularly, they seemed to be giving only enough effort to appear to be participating.

Co-teacher

My co-teacher, Tom, has taught physical education twelve years, and he is in his third year of teaching at St. Willow. Tom came to St. Willow from a metropolitan city on the West Coast where he taught physical education to inner city high school students. Being an avid athlete, himself, Tom's strong focus is on students' skill development, and his value orientation tends to be on mastery of techniques. However, experience taught him that the technique approach does not reach all students and therefore he was interested in the GFU approach. Although, I planned and led each of the 10 lessons, Tom readily agreed to assist me and he was instrumental in these lessons.

Setting

My setting, St. Willow, is a small parochial school founded by the Jesuits in 1818. The school is located in a metropolitan city on the East Coast and serves students from both the neighborhood and the suburbs. Although the majority of the students and teachers come from a Caucasian, high socioeconomic

backgrounds, several other racial, cultural, and socioeconomic cultures are represented.

The school enrolls 340 students attending nursery through eighth grade. There is one homeroom for each grade, nursery through fifth, and two homeroom classes for grades sixth through eighth. The school has a multipurpose room which is used for physical education classes for grades nursery through second grade. Students in third through eighth grade meet for physical education at a nearby university, requiring a 15-min. walk each way. Each homeroom has one physical education class per week lasting 120 min. Included in this time is the walk to and from the university gymnasium, dressing, and activity time. Because the university site is off school grounds, two teachers must be present to supervise students at all times. The physical education department has a budget of \$ 4/ student/year, which provides an adequate supply of equipment.

The GFU Curriculum

For this research study I examined students' responses to tasks within the invasion games category of the GFU curriculum model. As the tactics of invasion games can be complicated for students to understand, I focused on two concepts: attacking and defending space. These two concepts were explored over 10 lessons that progressed from simple to more complex tactics. The ten GFU lesson plans used in this research can be found in Appendix A.

A variety of sports and activities were used to ensure that students understood the tactical principles involved. The invasion games category was chosen for several

reasons. First, this category incorporated tactics that girls, in particular, had difficulty conceptualizing during traditional sports-based programs. Secondly, the concepts in the invasion category were the concepts that boys seemed to value during traditional sports-based programs. Examples and tasks were selected from a number of invasion game contexts with an emphasis on transferring the concept from game to game. Particular teaching strategies, such as shared decision-making, peer coaching, and choice of playing levels, were used to include girls as central to the tactic and emphasize to boys the importance of girls' contribution on the team. These were introduced indirectly and covertly as part of the hidden curriculum.

Research Design

This research study was conducted during a ten week period from October to February. Each eighth grade class attended 10 physical education lessons during the study. Each class was taught the same lessons. This section includes my introduction of the research to students and parents (entry into the setting), timeline for data collection, and the methods used for data collection and analysis.

Entry into the Setting

Prior to the beginning of the study, eighth grade students and parents were informed of the general purposes of the study, to examine the effectiveness of the games for understanding model as my thesis at the University of Maryland. I did not inform them of my intent to modify the gender interactions in class because this could have influenced student receptivity to the innovation. I explained to the students that

co-teacher was conducted after lesson 10. I kept a journal throughout the data collection period and responded to several predetermined questions following each class. An observer, not connected with St. Willow School observed three classes during weeks two, four, and eight. Additional detailed information about each of these data collection methods is discussed in the next section.

Data Collection

There were five sources of data for this research: (a) the teacher's journal notes following the completion of each lesson, (b) open-ended questionnaires completed by each student in the study, (c) four student focus group interviews per class, (d) an analysis of lessons by an independent observer, and (e) an interview with my co-teacher.

Teacher Journal

My journal notes were entered into a computer file after each class lesson. A total of 20 lessons entries (two 8th grade classes @ 10 lessons) represented my descriptions, impressions, and reflections of the class. Specifically, each journal entry included: (a) my overall impression of the lesson, (b) observation of transfer of tactical knowledge and skill from one activity to the other, (c) observation of the amount of decision making afforded to the students (e.g., cooperative learning and peer coaching), (d) observation of the girls' responsiveness and engagement in activities, and (e) observation of the boys' reaction to girls' and their willingness to include girls in sport tasks.

Questionnaires

Students responded to three open-ended questionnaires consisting of three questions each during the 10 week data collection period. I administered the questionnaires to the students prior to the first lesson and after lessons 5 and 10 (See Timeline Fig. 1). Students responded to the questions at the beginning of class ensuring that each student had ample time to answer each question. Appendix B presents examples of the three questionnaires used in this study. The questionnaires examined students' perception of what they had learned in a coeducational physical education setting, tactics and strategies used in the GFU approach, team concerns and successes, definition of personal success and gender relationships and interactions. The questionnaires indicated if students were operating in a socially constructed learning environment that fostered girls' engagement in activities and boys' acceptance of this engagement.

Focus group interviews

Each student in the two eighth grade classes was invited to participate in group interviews. The students responded willingly and were placed in teacher-created groups based on demographics such as gender, athletic skills/game experience, and responsiveness to the model and the social constructivist environment. None of the students wanted to be interviewed alone, so all the interviews were conducted with small groups. I had enough responses to convene two focus group interviews after each lesson three, five, seven, and nine. Interviews took place during lunch periods or immediately after school. The interviews lasted about 25 -30 min. and were recorded and transcribed for analysis. The interviews were conducted in an open-ended format

which provided flexibility to have different conversations with different groups. The questions focused on (a) students' tactical knowledge and skills and how these concepts were transferred from one activity to the other, and (b) the decision making and communication process relative to cooperation of peers to organize play, alter rules, develop strategies, and solve problems.

Indication of socially constructive learning occurred through construction of new knowledge based on prior experiences and was demonstrated when students applied knowledge learned in previous lessons to tasks in the latter part of the 10 week unit. Indication of gender equality was girls' willingness to engage and succeed in sport tasks and boys' positive acceptance and encouragement of girls' engagement. Each student was informed that his or her honest opinions were needed and valued. What they said during the interview would not affect their grade in any way.

Co-teacher

Because I regularly team-teach with a colleague, I expected that my co-teacher, Tom, would informally assist me in teaching the lessons and provide helpful insights into both the nature of the class environment and students' responses to the curriculum. Therefore, I collected data from my colleague through both informal conversations before, during, and after class (later noted in my journal) and formally through an open-ended interview which was conducted immediately following the conclusion of the 10 lesson unit. The focus of this interview was Tom's impressions of the learning environment, his insights into both the boys' and girls' reactions to the GFU model, and his assessment of the extent to which the girls' level of interest and participation increased, and the boys' perspective and acceptance of girls'

participation changed. The interview lasted 35 minutes and was conducted after school in the third grade classroom. Like the student focus group interviews, Tom's interview was audiotaped and transcribed for analysis.

Independent observer

An outside observer attended three classes to examine my presentation of the game for understanding approach. The observer is an experienced ethnographer and a former elementary and middle school teacher familiar with the games for understanding curriculum approach. The observer had access to all the lesson plans, including past and future lessons. The students were introduced to the observer and informed that the observer was interested in learning more about the GFU model. The observer recorded field notes regarding (a) the fidelity of my GFU implementation with the original model, (b) the nature of the learning environment (e.g., Were students engaged in a socially constructive learning environment?), (c) the nature and level of girls' engagement, (d) the boys' acceptance and support of girls' engagement, and (e) the nature and quality of social interactions between the boys and girls during the lesson.

Data Analysis

The data analysis focused on creating concepts, sub-categories, categories, and themes relevant to socially constructive learning and gender behaviors. I used open, axial, and selective coding to analyze the data. Open coding was a process where journal entries, interview transcripts, and observer comments were examined closely to identify relevant concepts. The concepts were grouped into categories and compared for similarities and differences. This was the beginning of theory building

called category conceptualization (Strauss & Corbin, 1998). During this process I identified concept properties associated with GFU, constructivist environments, and gender issues and located the properties along dimensions.

The next step in theory building was axial coding (Strauss & Corbin, 1998). This was a process of relating categories to their sub-categories to give a more precise and complete explanations of the phenomena under study. Concepts were grouped into families and relationships elaborated to address my research questions.

The last step was selective coding where categories were integrated and refined (Strauss & Corbin, 1998). As this process of integration and refining took place the central categories emerged representing the main themes of the study. This occurred over time and continued until the final writing was done. According to Strauss and Corbin (1998) it is important to remember that concepts that reach the status of a category are abstractions representing not one individual's or group's story but rather the stories of many people or groups. Therefore, the categories were defined in general terms, had relevance for and were applicable to all cases of the study. The task of the researcher was to present an account of participants' views as honestly and fully as possible. Rossman and Rallis (1998) explain that what has been learned during a study essentially is an interpretation by the researcher of the interpretations presented by the participants. Therefore the truth-value of a study depends on how adequately multiple understandings are presented. The details under each category and sub-category, as developed through specific properties and dimensions, are what bring out the case differences and variations within a category.

Once the data were collected there were five sources of data representing the perspective of four categories of participants: the students, the teacher, the co-teacher, and the outside observer. The individual sources were: (a) the teacher's reflective journal, (b) student questionnaires, (c) student focus group interviews, (d) co-teacher interview, and (e) the independent observer's field notes. These data were analyzed to learn if the teacher followed the games for understanding approach and if a socially constructive environment was created where girls were engaged and participating while boys were accepting of this participation, supporting, and respecting it.

Journal

My journal was analyzed for patterns that indicated whether a GFU approach was followed and a socially constructed learning environment was developed. I looked for the extent to which students constructed their own knowledge, made decisions, and interacted positively with their peers. Some indicators were student-centered exploratory activities, problem-solving activities, and small group activities. The data were also analyzed for indicators of girls' willingness to engage in activities and boys' acceptance of this engagement.

Questionnaires

The three student questionnaires were analyzed for indicators that students were operating in a socially constructed learning environment. Signs were that students constructed their own new knowledge based upon prior activities and that they transferred concepts learned in one activity to another. The questionnaires were also analyzed to determine the nature of gender relationships in class and the extent to which gender equity was present. Indicators showed student references to girls' active

participation and engagement as well as boys' acceptance and respect of this engagement.

Focus group interviews

The focus group interviews were analyzed to identify the extent to which students operated in a socially constructive and gender equitable learning environment. Student responses referred to transfer of knowledge and skills from one sport task to others and a construction of new knowledge based upon previous experiences were signs of constructivist learning. Student responses to girls' active participation and engagement and boys' acceptance and respect of this participation indicated gender-related changes in the learning environment.

Co-teacher interview

The interview data were analyzed to examine Tom's insights and interpretations associated with (a) the nature of the learning environment and (b) the social interactions between boys and girls in the classes. Because he was fully informed of the purposes of the study and the hidden elements of the curriculum designed to influence gender relations, he was a valuable informant for this research.

Independent observer

The field note data collected by the independent observer were analyzed for indicators of the teacher's adherence or fidelity to the GFU model and creation of a socially constructive learning environment where girls were engaged in activities and boys were accepting of this engagement. In particular the data were analyzed for the: (a) nature of game modifications, (b) the transfer of tactical skills from one sport task

to others, (c) positive peer interaction, in particular boys acceptance of girls' engagement, and (d) evidence of girls' willingness to engage and participate.

Trustworthiness

According to Rossman and Rallis (1998) qualitative researchers are searching for many context-relevant truths, not one universal Truth. Reality, therefore, is an interpretive phenomenon and meaning is constructed by participants as they live their everyday lives. In order for a qualitative study to be truthful, or trustworthy, and render an account of the participants' views as accurately, honestly, and fully as possible, several strategies are put in place. Strategies to enhance the trustworthiness of the research include reliability issues of replication as well as validity issues of accuracy of the results.

Rossman and Rallis (1998) describe six strategies that I implemented in my research. I (a) acknowledged how my personal history and philosophy could bias the findings, (b) designed the study so data were collected over a period of time rather than in a one-time manner, (c) shared findings with members in a "member-check", (d) designed the study to be an active or participatory from beginning to end, (e) triangulated data from several data sources, and (f) understood that the findings were conditional and approximate parts of a complex social phenomena. I explain each of these below.

Personal Biography and Philosophy

As a physical education major at the University of the District of Columbia my

lesson plans had to provide maximum learning times for the participants. Lessons were evaluated based on effective classroom structure and management, including warm-up activities, skill practice, drills, and games consistent with a traditional, multi-activity approach to physical education. During my undergraduate studies I worked part-time as a teacher's assistant at my current school setting. Upon my graduation I was offered a full-time physical education position at the school and I have been there ever since.

During the first years of my teaching career, I developed lesson plans consistent with the multi-activity approach to physical education. I taught a variety of activities because I felt that by exposing students to different skills they would find something they could participate in and enjoy. Unfortunately, because students were scheduled for physical education only once each week, many students did not develop their fitness or skill levels that I intended and expected. While they seemed to enjoy my classes, I became more concerned about the learning that was actually taking place, particularly among the girls. While the girls always came to class and seemed to participate, they did not seem to engage in activities wholeheartedly. Therefore, I felt that I needed to learn more about alternative curricular models for me to reach all my students.

In 1998 I enrolled in the graduate program at the University of Maryland at College Park. I entered the Department of Kinesiology with an emphasis on curriculum and instruction. Through my graduate studies I was introduced to several alternative models which I started to implement into our curriculum, although I never completely implemented any one model. Because I am one of three physical

education teachers at my school, it requires teamwork to implement new ideas, especially with my co-teacher. However, as I learned more about the games for understanding model and shared my knowledge with him, we both wanted to discover the effects of implementing this model into our program on a broad scale.

Since I have a traditional view on gender, a goal of my classes was to focus on including both boys and girls in an equitable environment rather than totally disrupting boys' and girls' perspective on gender. I believed that to work within the current structure would be most effective. Therefore, I strived to develop lessons where boys are willing to step back from demonstrating aggressive, competitive behaviors thereby encouraging girls to develop confidence and skills. The girls would then be able to step forward and fully participate in the activities. Within the reality of my context I felt this was the best way to proceed.

Personal Observation of Girls' Behavior

Through my studies of constructivist engagement in physical activities and my observations of my students, I recognized that the girls, in particular, did not appear to be well served by our traditional teaching methods and content. I observed that a core group of girls lacked game understanding as well as skills. Although they did not refuse to participate, this group of girls seemed to "hang back" or "give away" as Griffin (1984) calls it. In other words, they appeared to go through the motions of the task or game the best that they could without calling too much attention to themselves. Although the girls had come to believe that this was sufficient and acceptable behavior, I did not believe that they received the benefits of physical education. I believed that implementing the GFU approach would have a positive

impact on these girls' appreciation of sport and physical activities, on their motivation, and on our curriculum in general. Because the GFU approach is based on small student centered activities with a focus on cooperation rather than bigger games with a focus on competition it provided more opportunities for girls to gain game tactics and to practice skills at an appropriate level of difficulty.

Researcher Role

I had a dual role in this research in that I was the primary teacher as well as the researcher. This presented a challenge in that I had to take great care not to bias the data collected. When collecting and analyzing data, I had to report objectively what I found and analyzed it based on my understanding of constructivism, the GFU approach, and gender. My involvement in the setting posed a threat to the reliability of the research as it related to objectivity and reproducibility of this research. I took specific steps to address these threats which I will explain in the follow sections. Conversely, the knowledge I had of my students and their personalities assisted me in making more effective instructional decisions, and thus were an asset to this research. In other words, because I am a physical educator, my implementation of the model was likely to be similar to the way other physical educators would use this model in similar settings. Because my curricular and instructional decisions were authentic, my role as a researcher-teacher could contribute to the internal and external validity of the research.

Reliability

The reliability of a study refers to the extent to which the study could be replicated by other researchers using the same methods (LeCompte & Preissle, 1993).

There are two aspects of reliability, external reliability and internal reliability, which can affect study results.

External reliability. External reliability is concerned with the researcher's status position, informant choices, social situations and conditions, analytic constructs and premises, and methods of data collection and analysis. According to LeCompte and Preissle (1993) the social relationship between the researcher and the participants is very important and requires that the researcher's role and status within the group is clearly identified. In this study I was the researcher, the teacher, and the designer of the lessons. Therefore, if this study is to be replicated the researcher should also be a physical education teacher and use my lesson plans. The issues of informant choices, social situations, and contextual conditions were closely related in this study. The informants were myself, the eighth grade students, my co-teacher, and the independent observer. The social context of the study was the physical education setting for the lessons and the gymnasium-classroom settings for the student respondents to the model. The informants' choices and the social context can be replicated with the exception of the cultural characteristics of the students.

The issues of analytic constructs and premises and the methods of data collection were also related. The analytic constructs and premises refer to assumptions, terminology, and definitions of concepts to be studied. LeCompte and Preissle (1993) note that it was important to identify the assumptions and metatheories underlying the study in order to prevent misinterpretations in both internal and external reliability. In this particular study, the constructs and premises included the concepts and terminology of the games for understanding approach, the characteristics of a socially

constructed learning environment, and gender. The review of literature presented in the previous chapter discussed these constructs in detail.

Reliability of data collection and analysis referred to a clear presentation of how the data were collected and a step-by step explanation of data analysis. Failure to do so threatened both internal and external reliability as well as the validity of the study. The description of questionnaires, interview focus, and observation techniques in the research design section gave this study a reasonable measure of external reliability. Because only one out of five games categories (i.e., invasion) was used, lessons were focused. This focus will enhance both internal and external reliability and facilitate replication.

Internal reliability. Internal reliability refers to whether multiple observers would agree that events, phenomena, and interpretation occurred as reported (LeCompte & Preissle, 1993). To reduce the threats to internal reliability five strategies were used: low-inference descriptors, multiple researchers, participant-researchers, peer examination, and mechanically recorded data (LeCompte & Preissle, 1993). Low-inference descriptors are unemotional descriptions of actual events and conversations. In my journal, I recorded my impressions, emotions and feelings in one section and my more objective, descriptive reports of student interactions and responses to the curriculum in other sections. I also audio-taped students' focus group interviews and co-teacher interview and transcribed them verbatim.

A second method used to guard against threats to internal validity is to use multiple researchers, or peer examination. Because of my direct involvement in the

study as both teacher and researcher, I used an independent observer to evaluate the extent to which I was teaching using the GFU model, creating a constructivist approach, and interpreting gender-related student responses. Therefore, this study appeared to have a reasonable measure of internal and external reliability.

Validity. The validity of a study refers to the accuracy of results to replicate the participants' perspectives and interpretations and the extent to which data generated match what actually occurred in the real life situations (LeCompte & Preissle, 1993). Since qualitative research occurs in real settings as opposed to laboratory settings, measures of validity are usually high. According to LeCompte and Preissle (1993) an observer, or reactivity, effect is a threat to the validity of the study that must be addressed. In this study, all but one of the participants (i.e., the independent observer) were legitimate members of the school context. However, my role as teacher expanded to include that of researcher as well. This insider-outsider perspective could, on one hand, be beneficial in that students knew me well and acted normally and naturally in my class. On the other hand, some students could have hesitated to express negative feelings about the GFU approach to me, fearing that it might have had a negative impact later on their grade. Although I assured them that their honest opinions were valued, they each decided what and how much to reveal.

In order to strengthen the internal validity of this study, I triangulated, or compared, data from several data sources, methods, and investigators (Rossman & Rallis, 1998). This study had a teacher, co-teacher, and student participants as well as an external observer to provide four diverse perspectives on the learning environment. I triangulated data collected from student questionnaires and focus groups, teacher's

journal and lesson plans, co-teacher interview, and the independent observer's field notes to determine the accuracy of the findings. If data showed consistency in all four perspectives and five different methods, I was confident that the findings were accurate. However, in cases in which one or more perspectives or sources disagreed or were inconsistent, I was less convinced of the validity. In these instances I examined the situation further by conducting additional interviews with my co-teacher or with small student focus groups. The selection of specific instances or participants late in the data collection and analysis period to shed light on particular phenomena were examples of or the result of selective coding (Strauss & Corbin, 1998).

The research design, therefore, addressed threats to the trustworthiness of the results. It appeared to have validity because it was conducted by the teacher with her own students in her physical education setting. The descriptions of the participants and setting provided a clear description for future researchers who might choose to replicate the study or use findings to inform their own lessons. Researchers examining different settings, however, may not find these results relevant. The authenticity of student responses was addressed by assuring the students of the value of their true and honest responses as well as by documenting the setting through my lesson plans and journals. An independent observer observed classes to insure that the GFU model was being followed. With these precautions in place, the validity of the study was adequate.

Summary

This study investigated how a games for understanding approach contributed to a socially constructive learning environment where girls engaged and participated in activities and boys accepted this participation. The study took place at St. Willow, a small, private school in a metropolitan city at the East Coast. The participants in the study were 48 eighth grade students and two of their physical education teachers, one of whom was also the researcher. The students experienced 10 lessons from the invasion games category of the GFU model. Data were collected through daily teacher's journaling, student questionnaires, student focus-group interviews, co-teacher interview, and independent observation. Data were analyzed using open, axial, and selective coding (Strauss & Corbin, 1998). A threat to the reliability and validity could be the dual role of the teacher as the researcher. However, with a clear description of the participants and setting, the study is replicable. Because the class was conducted by the teacher with her own students, students were likely to act and behave normally. Conversely, my relationship with the students also could have hindered the results because students might be have been hesitant to express negative thoughts about the study. The authenticity of student responses was therefore addressed by assuring the students of the value of their true and honest responses. Lastly, an independent observer observed classes to insure that the GFU model was followed. With these precautions in place, the reliability and validity of the study were adequate.

CHAPTER IV

RESULTS

The purpose of this study was to examine the elements of a GFU curricular model that contributed to a social constructivist learning environment and promoted gender equity. Research questions examined were: How does a constructivist curriculum (i.e., GFU) influence the learning environment in physical education for both boys and girls? Specifically, (a) how do constructivist methods influence eighth grade girls' levels of engagement within a sport based physical education program? and (b) what methods assist boys to value girls as participants and work to facilitate their engagement?

The findings suggested that this constructivist curriculum (i.e., GFU) influenced the learning environment in eighth grade physical education for both boys and girls by actively engaging them in constructing knowledge and meaning through small team activities. Specifically, students helped select teams thereby learning about team balance, and cohesion. They also worked as coaches learning to become decision-makers. Providing students with choices, and with less emphasis on competition, helped the girls feel supported in their efforts. Modified games and ability groups, helped the boys value the girls as participants and facilitated their engagement.

In this chapter, findings that addressed the research questions were arranged in four sections: (a) overview of the context of GFU, (b) student engagement, (c) supporting girls' efforts, and (d) helping boys value girls as participants and facilitate their engagement.

Overview of the GFU Context

Background of Previous Physical Education Lessons

Since the students in our program have one physical education lesson per week, traditionally the focus of the lesson had been to expose students to different sports and skills through a multi-activity sport program. We [the physical education teachers] reasoned that when students were exposed to these different skills and sports, they would develop an enjoyment for physical activities and thereby better their personal fitness. Therefore, the students, in the study, had primarily been taught using traditional methods and sport activities where short skill drills were emphasized followed by regulation games. These games featured large teams playing on adult-sized regulation fields with sport activities which were mainly teacher directed. We selected weekly sport activities based on what we [the teachers] deemed important.

GFU Changes in the Physical Education Lessons

The decision to teach using the GFU model resulted in lesson changes for both teachers and students. From the first GFU lesson, students became involved in creating their own knowledge through guided discovery and team problem solving situations. No longer did the teachers tell them what was the “right” way, but the teachers stepped back and acted as facilitators of the learning process. This was implemented slowly in a step by step process with both students and teachers learning from each other. For us, [the teachers], this meant that we had to learn how to present questions and problems to the students in such a way that they were able to discover the answers rather than receiving the answers directly from us. Consistent with the GFU approach, instead of large games with numerous participants, the GFU games

were smaller with one to a maximum of five members per team. Skills and equipment were modified to fit students' needs and they were given choices of playing levels. This meant that students had a choice between three playing levels, (a) pro level, (b) college level, and (c) high school level. Students assigned themselves to the appropriate level based mainly on emotional comfort and physical skill. Depending on the activity, some students played at the pro level for one activity and high school for another. Therefore, students were no longer placed by the teachers on teams, but were able to choose when selecting teams. They also had several opportunities to coach their team thereby participating in team decisions. Allowing the students responsibilities and shared decision making, provided them with responsibilities they had not had before. As teachers, we quickly had to learn that each class was different. Where one class flourished with responsibilities and choices and did not need much intervention, the students in the other class had more difficulties. Although they participated in the activities and enjoyed the choices provided them, they at times had problem making sound decisions. This created tensions in the class between students and students, and teachers and students. Hence, as teachers we had to learn when to step in and when to let the students resolve their conflicts.

Throughout the GFU unit, the teachers also had to learn that the concepts covered in each class often progressed for students in a different way than we had originally thought. We had to be able to change and follow the way the students lead us. This meant that if one concept was not fully understood by the students, we would explore it again during the next class instead of proceeding on to the next concept.

Tactical Concepts Covered Through the First Five Lessons.

In the GFU unit, the first tactical concepts taught were dodging and faking. The students worked on the ability to quickly change directions within boundaries in small games of keep-away soccer. Between the games, students sat down as teams and answered tactic-oriented written questions presented on worksheets. Writing in physical education was new for them. While both boys and girls were involved, girls often took the lead on the written assignments. They were able to understand and practice the tactical concepts as quickly as the boys, thereby creating an equitable context in which all students focused on tactics, de-emphasizing the competition of the activity.

During the second lesson, students reviewed the concepts learned using their answers from the first class presented to them on poster boards. As they considered their answers, they became very involved. In this second lesson, we progressed into the topic of how to maintain possession of the object using the small-sided games of ultimate Frisbee and ultimate football. Between each game, the teams answered worksheet questions, focusing on successful and unsuccessful tactics. The girls, in particular, seemed to like this format and were very engaged in answering the written questions.

As the class discussed the answer sheets, it became clear that many students were concerned about how to create space in an attack. This led us to our third lesson; investigating how to create space by using the length of the playing area. I gave the students a handout depicting different lead passes which they could use as a guide if needed. Skilled students, many of whom were boys, demonstrated several kinds of

lead passes in activities in which all students had a chance to practice the skills with a partner. As the students felt more comfortable with the levels of passes, they played small-sided games of ultimate football on long, narrow fields, providing an opportunity for students to try several ways to adjust tactics to different configurations of the game situation. At the end of the lesson, students acknowledged that some teams had been more successful than others and realized that team member support was critical to team success in these unusual settings.

Because creating space in game play is exceptionally difficult for children to comprehend, during the fourth lesson we further explored this concept using field length and width. We discussed several concepts with the class, such as give-and-go passing. This tactic was especially well understood by all the students and they demonstrated it during small-sided games of ultimate Frisbee.

As we approached the half-way mark in the 10 lesson unit, students asked if they could play basketball, and soccer as well as ultimate games. Therefore, during the fifth lesson, they had the opportunity to participate in four different sports: (1) ultimate Frisbee, (2) ultimate football, (3) basketball, and (4) soccer. During these invasion games, they had opportunities to transfer concepts such as, dodging, faking, maintaining position of the ball, and using space in an attack, from one sport to another. The students enjoyed these games and were able to transfer concepts between the ultimate games and basketball. However, soccer was a bit more difficult for them due to the size of the playing area and students' lack of skills.

Tactical Concepts Covered during the Last Five Lessons.

During the sixth lesson, we focused specifically on soccer, since teams experienced problems in the previous class. The students started by working in small two-on-two games. This was a challenge for most teams because players lacked the skills necessary to keep the ball inside the narrow boundaries and therefore had difficulty supporting the ball carrier. To alleviate some of these problems, two person teams were combined into four person teams. This seemed to help in that the students felt they had more support on the offense, and did not have to work as hard as they did with the smaller teams. At the end of the class, many students commented that the soccer games were challenging because they had difficulties dodging opponents while maintaining the ball.

Therefore, support of the ball carrier became the focus of our seventh lesson while students participated, this time, in basketball activities. The students began by working in small groups coached by a peer coach. The job of the coach was to help the player dodge around an opponent, cut to get open, as well as drive by to make a basket. The coaches worked with their partners before, during, and after the games. They helped each other by demonstrating skills and providing suggestions and encouragement. As the students moved through the games and developed a clearer understanding of tactics and strategies, we combined the smaller teams, and students had a chance to play full-court games with four members on each team. During these four-sided, full court games, they demonstrated the concept of supporting players by getting open, using the whole court area, and communicating with each other. However, many had difficulty keeping up with the pace towards the end of the games.

This led to the topic of our eighth lesson, which was to allow students a choice of playing levels.

We started the eighth lesson by talking about creating space in an attack and supporting the ball carrier. After the students reviewed the concepts, we introduced the “pacman” tag game to provide a vigorous activity upon which to build endurance. This game develops spatial awareness using a constrained playing area. In this game, students could move only along the lines of the gym floor. To stay in the game, students must constantly look for escape routes and strategies. The taggers worked in teams of four and had three minutes to catch as many “opponents” as they could.

To help students work on keeping up with the pace of a game, we introduced playing levels. Students were able to choose among a high school, a college, or a pro level. They were to choose two teams for each level and play basketball on each level. The students easily assigned themselves to levels and created teams.

During the basketball games, we observed that, although students had worked on defense, they continued to experience difficulty playing zone and person-to-person defense in larger games. Therefore, in the ninth lesson, we discussed the two defenses and students demonstrated different situations in which each could be used. The students played full court, peer-coached, five-on-five basketball. The goal for this activity was for the coach and players to set up and play three games using; (1) zone defense only, (2) person-to-person only, and (3) a mixture of each. They were to play different teams and keep track of the team score. The students became very engaged in coaching and setting up good team strategies.

During the tenth and final lesson, students were given opportunities to demonstrate their tactical knowledge and playing ability, which was practiced over the past ten weeks. They participated in the following four different sports: ultimate Frisbee, ultimate football, basketball, and soccer, while having assigned themselves to levels and teams. Although this worked well during the ultimate games, students realized that in basketball and soccer, they required more help with team assignments. This was particularly true in soccer games because the game would otherwise have been too large for the playing area available.

Clearly, the GFU unit changed the way our students learned, and the way we [as teachers] taught. No longer did the lessons consist of teacher directed multi-activity sports, but our classes were student centered with small-sided games. Students became involved in developing their own knowledge through problem solving and guided discovery. They were given choices in team selection and playing levels thereby raising the engagement level in the activities as well as improving gender acceptance.

Student Engagement within a GFU Learning Environment

As the students participated in the GFU unit, they had opportunities to interact with their team members in small teams consisting of one to five members. Many students enjoyed the extra practice and opportunity to play, while others felt the smaller teams made games more difficult, especially when some team members chose not to show effort. Therefore, team selection became an important aspect of the GFU learning environment, which involved a joint effort between students and teachers.

Students also had opportunities to become coaches for individuals as well as teams, further enhancing their interest and engagement.

Providing Opportunities for Student Interaction and Participation

Throughout the GFU unit, students participated in small team activities ranging from one-on-one games to five-on-five games with a coach. The games consisted of small-sided ultimate Frisbee, ultimate football, basketball, and soccer. Students felt the smaller-sided games were different from larger games. Most students acknowledged that by limiting the number of players on each team, they had more opportunities to actively learn tactical strategies, practice skills, participate, and contribute to the team, as well as share knowledge with their team members. Both boys and girls expressed positive comments about this approach, and the girls in particular seemed to benefit.

One girl, Porter, wrote, “I like the small team selection because it gives us a chance to interact with classmates we don’t play with all the time. Each person also gets to be able to play a big part in each of the activities.” Her classmate, Megan, agreed, “Small teams work better than big teams because we stay more focused on what we are doing. In big teams, cliques form and people think that the game is a joke.” One of the boys, Daniel, agreed, “I think the small team has been working because people with experience can teach strategies to people that haven’t played it.”

As students had more chances to play and acquire “hands-on” experiences, both teachers noticed that students’ skills and tactical understandings improved. During an interview with my co-teacher, Tom, he said,

Small teams, for sure, have helped out. I think a lot more kids have gotten

involved and have touched the ball a lot more. They have gotten a lot more experience than when we play the bigger games. [In these large games] some of the less experienced boys and girls do not touch the ball at all. [In the smaller sided games], I got the feeling that they were really improving as the time went on. That was the biggest benefit.

Although many liked the changes, some students initially expressed a dislike at the beginning of the GFU unit. They preferred the more traditional teaching style perhaps because they were more familiar and thus more comfortable with this format. One girl, Kelsey said, “I do not like it because I do not like playing a lot of smaller games. I like last year because the games were longer and bigger.” Her classmate, Danny, agreed when he said, “I do not like it. It is too small and I can’t get other people’s opinions.”

However, as the GFU unit progressed, students became more used to the format and seemed to like it more. Kelsey in a later interview, explained, “You get to participate more in team work, cause when you have a smaller team, everyone is more focused on each other, you get more active games, and you play more in the game.” Daniel also changed his mind later, “Well, [in smaller-sided teams] you can focus more on people rather than in a huge team, while in a huge team, it is harder to get personal attention. In small teams you can focus on one person.”

The Importance of Giving Effort

Many students liked the smaller teams, but pointed out that the games and activities would only flow if everyone tried their best and showed effort. One of the boys, John, explained, “I think the small team selection has been going okay, but

some of the teams I have been on have had players who did not even want to try.”

This concern was also expressed by Julie, who said, “One thing is also that not all in your group want to participate and it makes it even harder and especially with small sports.”

On closer analysis of the activity and student comments, it appeared that some students may have chosen not to “try” for several reasons. Some girls indicated that they were simply not interested in playing particular sports. After further discussion, they attributed their lack of interest to the perceived gender-relevance of certain sports. Julia explained,

...certain sports or things we do only interest the guys because they know that a lot of girls have problems playing football. I know, because I am scared of it, but it is also... well, it is not a girl sport. Well, I mean it is fun to play, but we do not get as in to it because we cannot really do anything with it. And the guys they like it a lot more...

Other students may have become disengaged during the activities due to lack of skillfulness. Students who were not skilled in a particular sport may have chosen not to show effort due to fear of embarrassment. Tori explained that skillfulness contributed to a personal interest in a sport:

No, it is more a difference in skills. Because I know that a lot of the guys like, Kieran, Jeremy, and Brendan, are really, really good at soccer. Some of the girls might be good, but not as good. So, usually, when people are not as good or they do not understand a sport, they tend to not put a lot of interest into it. Whereas the guys, like Kieran, love soccer, so he is all into it. It all depends

on if you like the game, really. I do not think it really matters if you are a boy or a girl. I just think that if you like the game and you understand how to play, then you would probably be more interested in it than somebody else.

Therefore, despite the benefits of the small-sided games to most students, other may have chosen not to fully participate due to a lack of interest or a perceived lack of skillfulness.

The Importance of Fair Team Selections

Because of the emphasis on student decision making in the GFU model, students were given opportunities to engage in the team selection process. In GFU, team selections became the students' responsibility. The class and the teachers agreed on six team captains who would get together privately before the weekly class and make up the teams. Because the teams and team captains changed every week or every two weeks, it gave students opportunities to become team captains and choose teams. Students began to focus on the impact of particular players on the team and role of team members in team success. For example, girls became very concerned with the team composition. While they wanted to be supportive of teammates, they discussed at great length the question of whether selecting "friends" to the team was beneficial to team success. Cathy explained, "Well, when you get a team it is not really if they are good at something. It is basically are they friends?" Betsy expanded on the argument when she commented, "Well, if I got someone who is not my friend, but the best basketball player ever, I would be happy that they were on my team,. But I would still want to be with my friends."

Tori added,

But actually it is kind of good for us to be with other people we do not know, because then we get to know them more. ...Jeremy used to annoy the hell out of me last year. He would do this little thing and I could not stand it. But now we have been in groups a couple of times together and ...I think he is really funny. So, I think it helps to put people in other groups where they are not really comfortable. It gets them out of their comfort zone and they get out to meet other people and learn how to play.

Boys also seemed concerned about friends being on teams, but were much more willing to accept a teammate because of their high skill level, even if they were not friends. However, boys, emphasized that if the skill levels were not balanced across teams; the teams would be unfair in competitive situations. John explained:

I have been on some really good teams where they were pretty balanced. I mean, we were not the best people there, but it was pretty balanced so you can challenge other people and you get challenged by other people.

This element of challenge seemed important for the boys who enjoyed interacting with others through sports activities. Despite an effort to de-emphasize competition, the boys tended to construct competition in the games which demanded equal skilled team members and opponents. John went on to comment that another concern was when he was placed on teams in which players did not care or want to give effort: "Then we switched teams where people really did not want to participate and then that causes problems. We were playing the teams with the really, really good people and we just did not have much of a chance." Danny expressed the same thought, "... I prefer to do activities with my friends or people who actually want to play to a sport,

just ‘cause it is hard when people do not really care and just want to sit to the side. It is a lot better if everyone wants to participate.”

Through the process of choosing teams, students learned that it was quite complicated. The students had to consider fairness in terms of gender, skill levels, and friendship, which was difficult as each class did not have an even number of boys and girls. However, this might have worked to an advantage as Porter noticed,

Boys and girls are okay on teams together, because if the classes were not coed then the girls would just hang out and talk. If the teams have one boy and three girls, that is okay; or two girls and two boys, but definitely not three boys and one girl. The boys would never pass to a girl on such a team.

The independent observer noticed that the students managed quite well, as she wrote, “From my observations, it was interesting to see that not all of the groups had the same percentages of girls and boys. Despite this fact, most of the groups seemed to be actively engaged in the activity.” Giving students responsibility for their own team provided them with real life situations where they had to listen carefully to each other and cooperate. They realized, at times, that choices were difficult to make and that pleasing everyone, all the time, was not possible.

Therefore, as students participated in the GFU unit and engaged in smaller games, the team selections became very important to them. They understood that the teams had to be fair in terms of gender, skill levels, and friendships in order for all to actively participate. Hence, the team selection became a joint effort on the parts of students and teachers, enabling the students to make decisions affecting their own participation.

Students Shared Responsibilities for Coaching.

One aim of the GFU approach is to help students take more responsibility for their own learning while at the same time cooperating with team members to develop knowledge and skills. In our GFU lessons, students had the opportunity to coach their teams as well as be coached by a team member. The coaching jobs ranged from coaching a single peer to coaching a team of five. Students took turns coaching and setting up plays. Many players, and many girls in particular, seemed to like the role of being in charge of the team and being able to help their team members.

Betsy said, “Well, like if someone has been playing soccer for a long time they can teach you some thing or skill that they normally do when playing soccer and that is helpful.” Megan also liked the benefits of having a peer teacher during an activity and said,

I think it is better when you have people on the team who know what they are doing. For me for example, I do not get the sport; I just do not understand it. I find, that if I am with someone who really understands the sport, then they will teach me how to do it.

Although several boys initially tried to avoid coaching, over time, this gradually changed. During the seventh lesson, for example, I observed that the boys seemed to become more aware of the importance of coaching:

The boys genuinely accepted the girls today as their team members and passed to them or helped them set up some good plays. During the one-on one games several boy coaches could be heard calling out “ good job”, and “she has an awesome shot”. The girls flourished under this and tried their best, which made

the boys work more with them.

However as my co-teacher, Tom, noticed, coaching takes time to implement and the students could easily have spent more time learning to be supportive and to instruct others:

I think we could have pushed the coaching a little more, you know, and really asked them, “ All right coaches, what were some of the things that were beneficial? What were some things that were not beneficial?” Maybe if we are going to do this in the future we can have them draw up their own plays to create space, which kids love to do.

An aim of the GFU unit was to help students take more responsibility for their own learning while at the same time, work with team members to help them construct their knowledge. Therefore, the students were provided with opportunities to coach single peers or teams. The girls, in particular, seemed to relish this and enjoyed being in charge of teams and helping team members learn.

Supporting Girls' Effort

As the GFU unit continued, it became apparent that providing students with choices not only heightened their engagement, but also gave them more of a sense of ownership of the lessons and activities. Choosing team members and partners for activities, provided a more comfortable environment. Girls believed they could be successful and supported while boys knew they would compete against worthy opponents who could give them a fair challenge. For teachers, preserving the competitive edge in the games was important while at the same time enabling all

students to participate. As students were presented with tactical aspects of games, such as passing to spread the defense, competition was evident while yet allowing participation opportunities for lower skilled students and girls.

Providing Students with Choices

As the students became decision-makers and accepted responsibilities associated with team selections and coaching, girls' engagement seemed to increase.

I explained in one observation:

The students chose their own team today and they worked actively at peer teaching. It seemed to help that the team captains today were girls, who usually do not say much or play many team sports. The girls were more involved in the plays, actively moving on the court, getting open for passes and communicating with team members. They especially worked on engaging all members on the team, including everyone in the activities.

In the role of captain, girls suddenly found themselves in situations where they had to make decisions, and the team looked to them for answers. This responsibility lifted them to a higher level of engagement where they felt important and needed. Being able to choose team members and partners gave the students a chance to select or create teams on which they felt comfortable participating and leading. This seemed to be very important to Anna who commented, "Yeah, because once I was on a team with people I did not know that well and it was difficult. However, when I was with Beckey, or any of my friends, then it was a lot easier. I felt a lot more comfortable, and I played better." Cathy commented on the importance of being able to choose a playing partner not just for friendship, but for skill level as well,

Well, I had a really good time when we were playing one-on-one, like I was playing Myra, I was playing basketball and it was a lot of fun for me because I was playing someone who has been playing as long as me and we have played together so we are at the same level.

According to Julie, having a choice of teammates and opponents was also beneficial to peer acceptance. She explained, “I do feel that we do treat each others as equals because if we pick our own teams it is not only the boys that are considered the best for the activity. There are also girls, so there is a balance there.” Daniel added, “Yeah, I agree. I do not think that it is the boys that are the only good ones. I mean, there are definitely girls who are better than a lot of us at the sports, so we are definitely equals.”

Providing students with choices and responsibilities gave them more ownership of their classes and raised the girls’ engagement and comfort level. The girls seemed to appreciate this new sense of teamwork and commented on how this could carry over into other areas as well. Erica said,

.....wherever you learn teamwork you can use it somewhere else, not only for sport activities, but also for academic projects with a group. So team work helps. Teamwork follows you for the rest of your life because when you are working with a group of people, like for a job, you need to get along with you co-workers.

Therefore, providing students with choices and responsibilities in team selections and coaching enabled the students to have more ownership of their own learning. They were able to choose team members and learn from each other thereby creating an

environment that was encouraging and comfortable for the girls, enabling them to participate more, while at the same time providing enough challenges for the boys.

De-emphasizing Competition

As competition is a part of all sport activity it can either hinder participation or propel students into vigorous engagement. In co-ed physical education classes where students have different skill levels, interests, and experiences, it was important to keep competition at a level where it challenged students, yet did not intimidate or hinder participation. During the GFU unit, competition was de-emphasized. Students participated in small team activities, where they quickly learned that the keys to success were participation and effort from all team members. As the main focus was no longer only on scoring, students worked together to set up good plays and follow different strategies. This was further developed, as peer coaches helped out teams and written team assignments followed most activities.

During the first lesson, students were asked two questions, “What makes you feel successful in physical education?” and “How much competition do you want in games?” Several girls expressed that they felt successful if they improved themselves and reached personal goals. Competition was not important for them to feel successful. Megan wrote, “I feel successful when I do something I didn’t think I could or participating and having fun in something that I didn’t want to do.” Alicia agreed, explaining, “When I feel most successful is when I master, or learn to play a sport, I either couldn’t before or were new to me. That gives me a sense of accomplishment and joy that I know something new. That I can improve.”

Boys, on the other hand, tended to look at personal success as being able to win in a competitive situation. John wrote, “I feel most successful when I can help my team win, whether making a shot or throwing a touchdown pass or scoring a goal.” This thought was also expressed among some of the girls. Margo wrote, “I feel most successful when I score a goal or make a basket because I feel like I have impressed my teammates and myself, and that I’m not just the kid who sits there and doesn’t do anything for the team.”

Therefore, one way competition was appreciated was as a personal success goal. A second purpose of competition was to earn respect from peers. Bridget wrote, “I feel most successful when a guy tells me I’ve done well. It’s hard to get compliments out of guys, and they are so competitive that a compliment means I’m really doing good.”

Therefore, for us to de-emphasize competition and yet, not totally eliminate it, we focused on instructional strategies from the constructivist approach. During constructivist lessons, students actively engage in activities developing hands-on knowledge and meaning based on previous individual experiences and understanding. Students work together on problem solving creating knowledge while at the same time learning from each other. During the GFU unit, students were able to actively engage through small team activities where the focus was on tactics. Peer coaches helped team members develop skills and understanding, and the teams worked together on written assignments.

As the main focus of the small team activities was not on scoring, but how to set up good plays and follow different strategies, boys and girls started to work more

together instead of against each other. Students had to pass the ball a certain number of times between team members, before scoring was allowed. Christine wrote, “Some benefits of the Games for Understanding unit is that you work more as a team because you usually have to pass a certain amount. That was one tactical component of the games.”

Julie said,

It is a lot easier, because if participation is only skill and some people who may not be the best at that activity..., sometimes they get really upset and then the whole team gets messed up. But if the focus is on positioning yourself, then you can really focus on that and that can be their strength.

The girls, in particular, seemed to enjoy this component in that they could learn the tactical approaches just as quickly as the boys and were in some instances more tactically advanced than the boys.

Another aspect of the tactical approach which helped de-emphasize competition was the constructivist component of learning from peers and the written team assignments. Christine wrote, “I think discussing the plays after each game was beneficial because we got to see how everyone else was doing and learn from each other.”

The tactical aspects of the activities did seem to benefit the girls’ engagement because the games did not focus on a winning result, but on spatial awareness and how to create strategies for team advantages, thereby getting everyone involved to the best of their ability. My co-teacher, Tom, summed it, up when he said,

I think that the biggest component is spatial awareness. That is the most

important thing, angles and spaces, and creating space. I think of it less as tactics, but kind of a spatial awareness kind of thing.... I think when you get into spaces that will get you most chances for success and even if you are not perfect with the ball, you know, it is kind of secondary.

Helping Boys Value Girls as Participants and Facilitate Their Engagement.

Sport activities, especially invasion sports, often carry with them a perception of male ownership, superiority, or fierce competitiveness. As some girls enter this environment, they at times, feel insecure and uncomfortable. They may not want to fully participate due to a fear of embarrassment and the potential for public failure. In the GFU approach, traditional sports were modified to include small-sided games and emphasize cognitive tactics. In this environment, the sport setting became new and different for both boys and girls. Being able to compete against equally skilled opponents was very important. Students advocated strongly for being able to play in ability groups and showed an increased engagement in the activities when they were able to choose their own playing levels.

Student Perceptions of Equity

As traditional invasion sports often carry with them a perception of male superiority, our challenge was to create games which consisted of invasion games, but in such a non-traditional way that both girls and boys would find them interesting.

We [the teachers] decided to focus on four main sports, Frisbee, football, basketball, and soccer. These four sports represent both non-traditional sports and traditional sports that both boys and girls play frequently. The students seemed to

enjoy these sports games and caught on quickly. I wrote during one of my observations, “During the ultimate games both boys and girls engaged in the activities. They ran to get open for passes using the whole playing area. They communicated with team members and covered every opponent on defense. The boys did not ignore the girls on the teams, but involved them in the games, passing to them, defending them, and communicating with them.” The students also commented on this and Margaret said,

I think that girls who have played soccer so long and boys who play soccer think that they are better than anyone else and can intimidate [others]. We are just so used to those sports. They are involved in our culture so much that we are just... getting a little bit tired of it. We just know what it is and we do not have to participate as much because we already know what it is. But with something like ultimate Frisbee, ...at least not many of us usually play it on a regular basis. So I think, if we tried newer sports or sports that we are not really familiar with, that people will get more into it.

This could help explain the high engagement level, which was observed during the ultimate games. As many students had already had extensive experience with traditional sports outside school, these old activities may not have challenged or interested them in physical education. The students seemed to feel that the non-traditional games enabled all to participate on equal terms because it was different and new and no one had previous experience or skills they could boast off. For example, during the soccer games, both boys and girls had a difficult time adjusting to the smaller games. The main problem for many students was a lack of ball skills

which prevented them from keeping the ball inside the court areas. Boys appeared to respect the girls' soccer abilities and valued their participation. John said,

Well, I think they are accepted, because I know that especially in soccer, they are much better than I am and some of them are really good at basketball.

Some of them are really good at football and ultimate Frisbee. So I think it is pretty much equal.

Basketball was a game played by both boys and girls and many students participated on the school's athletic teams. They had skills and experience, but were not used to coed basketball. During the GFU unit students had to work on the tactics of the game, written assignments, and coaching. This seemed to help the boys accept the girls as participants and play with them rather than around them. Bridget commented on this, "The smaller games helped where everyone had to get passed to because the boys or girls couldn't just pass to their own sex."

As the students moved through the unit of tactical games, we [teachers] taught spatial awareness through some team tag games. This was different from traditional units, because concepts, such as chasing, fleeing and dodging needed for success in basketball, soccer, and ultimate games, were taught in tag games without the competitive sport emphasis. The games were called "pacman" and "the blob". Both boys and girls enjoyed these games and Jeremy wrote, "I think activities like "The Blob" and ultimate Frisbee would be good, because some sports like football and basketball are sports some people don't like." Christine agreed when she wrote, "Blob tag, because everyone's equal, and Frisbee, because almost everyone is bad at it, so we're on level playing field."

During an interview with Kelsey and Margo, Kelsey said,

I think, Margo is right, because in traditional sports, boys tend to think that they have to win and they have to play and they have to be the best...When we play “pacman” there is not really any way that you can be beat.

Therefore, practicing tactics used in traditional sports in “non-traditional” ways furthered the cooperation between the boys and the girls and helped the boys appreciate and value the girls as participants at the teams.

Student Perceptions of Ability Grouping

During sport activity competition, gender perceptions play large roles. However, during the GFU unit students realized that differences in achievement and success were not a gender issue, but an issue of skill and activity.

Megan said,

I feel totally accepted. Like, I do not notice, like in my head I do not think, “Oh, My God, with two boys, what are they going to think”. My first thought is, who is the best player, you know, I do not think, “ Oh, my God, two boys,” so.....

Several girls remarked that it, “depends on the sport,” and “that it is not a thing of boys being better than girls, but a thing of skill and experience.”

During an interview Julie said, “A lot of girls are not that quick and it is not a gender participation thing, it is just an interest participation thing. Victoria wrote, “I don’t think the number of boys or girls influences the team success. I think good cooperation and skill of a team would benefit the team a lot and lead to success.”

Daniel said,

Um... I think there is a difference, but it is not that every single girl likes this and every single guy likes that, but some guys and girls have different opinions and that is okay, but some guys and girls like to play basketball or soccer, so it is not totally different.

The students, therefore, were suggesting that, although boys and girls are different in some aspects of sport participation, it might not be as much gender related as it is interest, skill, and experience related. They expressed that one way to make the teams fair would be to “make teams according to the player’s skill level” and as Harry put it,

Also have the players who have played before play the people who have played before, and have the people who have not played before play each other so they are not so pressured to be really good, and so they do not feel that they have to go up there and compete against all the good players.

In order for students to participate in ability groups and not have anyone feel stigmatized, we set up a three ability level system. Students could assign themselves to a high school, a college, or pro level, depending on the activity of the day.

On each level, they chose two teams, which played each other. This solution worked well for the students. They did not need much help from the teachers in making fair and level teams. My co-teacher, Tom said,

Now, when you put the high school, college and pro [levels in place], all the girls a lot of times would go to the high school level even though some could have been at the pro level. That high school game was sometimes the best when all the girls were together....The

best thing about it is that it was a good group of girls who were trying hard, but also had a positive attitude. I think that is when they got the most out of it. I think that the girls, when they are together, they are willing to try more. You know, when you are with boys you do not want to try hard and fail and look bad. But with them it is a much more of a focal think, you are not trying to impress anyone, and you just want to play. I was surprised how well that worked out and that it was split pretty evenly.

The students also commented on this and Catherine said,

I think that people feel like threatened almost. So, if they play against someone that they know they can beat they would want to play on their level. Like we did a couple of weeks ago,...like with the high school level. I thought it made a lot more people comfortable and just more fun, I guess.

Stephen said, “Yeah, it was helpful because you could be with people who wanted to participate with you rather than the ones who really do not care.” Kelsey backed him up when she said, “Yeah, because you could choose your team and the level you wanted to play at.”

The ability groups helped the girls’ engagement and helped the boys encourage the girls while working with them. During basketball activities, in the later part of the GFU unit, a couple of the girls joined the pro team where all other players were highly skilled boys. One girl, in particular, was not skilled and greatly out of shape,

but she loved the game. The boys did not seem to notice her lack of skills and totally involved her and the other girl in the game.

Summary

The purpose of this study was to examine the elements of a GFU curricular model that contributed to a social constructivist learning environment and promoted gender equity. The question, “How does a constructivist curriculum (i.e., GFU) influence the learning environment in physical education for both boys and girls?” was examined by ways in which constructivist methods influenced eighth grade girls’ levels of engagement within a sport based physical education program. Additionally, I tried identifying methods that assisted boys to value girls as participants and encouraged them to work to facilitate girls’ engagement.

The findings suggested that this constructivist curriculum (i.e., GFU) influenced the learning environment in eighth grade physical education for both boys and girls by actively engaging them in constructing knowledge and meaning through small team activities. Students shared responsibilities for team selections and coaching, thereby becoming decision-makers. Providing students with choices and with less emphasis on competition, helped the girls feel supported in their efforts. Likewise, modified games and ability groups helped the boys value the girls as participants and facilitate their engagement. These findings will be analyzed further in the next chapter as they will be examined and compared to findings from other studies and research projects.

CHAPTER V

DISCUSSION

Introduction

The purpose of this study was to examine how a constructivist curriculum (i.e. GFU) influenced the learning environment in physical education for boys and girls. In particular, the focus was on how constructivist methods influenced eighth grade girls' participation within a sport based physical education program, and what methods assisted the boys to value the girls as participants and work to facilitate their engagement.

The findings indicated that providing students with small team activities with a tactical focus positively influenced the engagement of both boys and girls. Making the students decision-makers by giving them choices and responsibilities for team selections and coaching roles helped the girls feel supported in their effort. Likewise, permitting the students the choice of ability groups helped the boys value the girls as participants and facilitate their engagement. These findings will be discussed in this chapter within three larger themes of (a) social constructivist pedagogy, (b) engagement, and (c) girls' empowerment.

Social Constructivist Pedagogy.

Participation in active learning, according to Anderson (2002), suggests that students not only work with and apply established knowledge to problems, but they also participate in the *inquiry process* by which this knowledge is generated.

Therefore, the constructive approach incorporates and values the learner. Learners are engaged in a learning process that is characterized as individualized, developmental, and social in character (Kirk & MacDonald, 1998). In physical education, this means that students actively engage in activities both physically and through cognitive engagement in decision making and problem solving.

An Active, Creative Process

In contrast to traditional pedagogy in which student learning is dominated by individualism, social constructivist pedagogy considers student learning a social enterprise. In this context, learning is an active, creative process where students interact with their physical environment and other learners to create new understandings based on interactions among previously learned knowledge, currently held beliefs, and new ideas with which they come in contact (Kirk & Macdonald, 1998; Richardson, 1994). For example, during the GFU unit, our students worked in teams answering written assignments. These worksheets posed tactical questions and problems which enabled students to discuss, problem solve, and discover new understandings by linking previous learned tactics to new tactics.

Shared Decision Making and Problem Solving

As learning takes place within a community of learners, decisions about curriculum are shared between teachers and students (Fernandez-Balboa, Barrett, Solomon, & Silverman, 1996). Therefore in GFU, rather than using teacher demonstrations or having students practice correct techniques for a skill, teachers create problem-solving situations that require students to discover key elements of an efficient way to produce the skill needed. Then, as other activities and concepts are

introduced, students are asked to link prior knowledge to the new information and apply it in a new setting (Fernandez-Balboa, et al., 1996). For instance, during our GFU unit, rather than demonstrating the “correct” way of dodging and faking, we created small keep-away games which required students to discover the best way to dodge and fake an opponent. As students developed a good understanding of this concept, we introduced progressively more difficult games, such as two-on-two games or three-on-three games. In these games, students had to develop an understanding of dealing with multiple defenders as well as attackers. This required them to work together linking prior knowledge to the new information.

Facilitating Student Engagement

Effective teachers, therefore, are not merely able to deliver content, but are able to actively engage students in learning activities that are appropriate for the desired outcomes (Shuell, 1986). Adults, peers, and cultural tools, such as language and customs, jointly influence cognitive development. This interdependency of social activity facilitates students’ higher order thinking (Hausfather, 1996).

Cognitive Engagement in Physical Tasks

According to Kirk and Macdonald (1998) the GFU approach appears consistent with the social constructivist approach to learning in that it emphasizes cognitive engagement through active learning, requiring student perception, decision making, and understanding. Games are modified to suit the learners’ current knowledge and ability. Tasks are designed initially to teach concepts in simple games, such as chasing, fleeing, and dodging in tag games, to progress through more complex games and tactics in target, wall, and fielding games, and finally to reach the most

sophisticated and complex tactics found in invasion games. This hierarchical progression permits teachers to adapt and modify game structures and tactics to students' different cognitive and physical levels particularly benefiting students with lower skills and limited experience (Griffin et al., 1997). Because games taught in the GFU approach have fewer participants and emphasize tactical understanding, competition can be de-emphasized to foster an atmosphere of student cooperation and mutual support (Belka, 1994).

GFU as Social, Constructivist Pedagogy

The Games for Understanding approach taught as a constructivist model changed our physical education program for both teachers and students. In contrast to our previous program where students mainly participated in skill related drills followed by large sports games, students now actively assumed responsibility for their own learning as well as constructed knowledge and meaning through (a) smaller tactically-oriented game activities, (b) guided discovery tasks, (c) problem solving situations, (d) peer coaching opportunities, (e) and shared decision making.

During the GFU unit, tasks and activities were adapted and designed to help students develop an understanding of tactics. They started with simple games, such as keep-away, and progressed to more complex tactics used in games of five versus five players. Limiting the number of players on each team provided each student with opportunities to learn tactical strategies, practice skills, participate and contribute to the team, and share knowledge with team members.

Consistent with constructivist approaches to curriculum, our students also became involved in creating their own knowledge through guided discovery and team

problem solving situations. No longer did we [the teachers] tell them the “right” way, but we stepped back and acted as facilitators of the learning process. This meant that each student was encouraged and challenged to contribute something of genuine value to the lesson and to the other classmates.

As students worked in small teams developing knowledge and skills, they had opportunities to coach their teams and be coached by a team member. This provided students with responsibilities for their own learning as well as that of their team members. We supplied coaches with guides or check sheets which taught them what to look for in a small game, providing opportunities to give feedback to their player and constructively facilitate others’ learning. Because students understood more about instructing each other, they also seemed to become more supportive of each other.

As students became more involved in constructing new knowledge, they also were engaged in decision making and taking more responsibility for their own learning. They had opportunities to engage in the team selection process and choose playing levels. Because, students were able to make decisions which affected their own participation, they understood more about the other players’ impact on the team and each team member’s role in team success. Later, students were able to assign themselves to a playing level during different activities. In these activities, they realized they enjoyed and could play successfully with other similarly skilled players, regardless of gender. During this process, they gradually realized that differences in achievement and success were *not* a gender issue, but rather an issue of interest and skill.

Use of Small-sided Team Games

During the GFU unit in our physical education classes, students were actively engaged in constructing knowledge and meaning through small team activities. The teams consisted of one to five members which gave students more opportunities to participate, learn tactical strategies, and practice skills. Consistent with the social constructive approach, both boys and girls explained that they were able to contribute to the teams and share knowledge with their team members. For example, Megan, said, “Small teams work better than big teams because we stay more focused on what we are doing. In big teams, cliques form and people think that the game is a joke.” One of the boys, Daniel, agreed, “I think the small team have been working because people with experience can teach strategies to people that haven’t played it.”

Students discovered that teams had to be fair in terms of skill level, gender, and friendships. As teachers shared the responsibility for team selection with students, students discovered through feedback from team members that balancing player selection on skill level, ability, and friendships, actually made the games fairer than selecting teams based solely on gender. The students suggested that, although boys and girls were different in some aspects of sport participation, these differences probably were more related to interest, skill ability, or previous sport experience rather than gender alone.

Students appeared to make this discovery as they participated in smaller game activities where everyone depended on each other for tactics, and physical effort was instrumental to success. Early in the GFU unit, as some teams struggled to encourage and motivate team members to participate and give effort, students and teachers

discovered that this lack of effort might have occurred because some students did not feel compatible with their team members and, as a result, may have given up.

However, when teachers shared responsibilities with students to select teams and playing levels, students typically created opportunities to play with friends and equally skilled opponents. In these situations, students seemed more comfortable and eager to participate. They appeared to want to participate against a worthy opponent who could challenge them and elevate their learning, while simultaneously not overwhelming and defeating them in every activity.

Vygotsky (1978) describes this as the zone of proximal development where students develop their understanding and skills by interacting with adults or more capable peers. This relationship assists them to move from a development level where they need adult guidance to a level where they can work independently. Therefore, the team selection responsibilities taught students how to analyze factors in team success, such as skill, compatibility, and team spirit. It encouraged the students to look beyond gender to include all players regardless of individual skill and experiences.

Students' Knowledge Construction

Throughout the GFU, students had more opportunities to interact in “hands-on” experiences, constructing knowledge through small team activities, peer and team coaching opportunities, written team assignments, and choices of playing levels. During this time, we noticed an improvement in students’ tactical understanding and skill development. In this study, we described tactical understanding in terms of procedural knowledge, defined as the ability to make appropriate decisions regarding

types of passes to be made or movements (e.g., cuts, repositioning) during game play, regardless of successful skill execution or lack thereof.

We observed, for example, that during the unit our students were able to utilize space more effectively, both on offense and defense. Additionally, for example, instead of shooting at every opportunity, they gradually learned to look for team members who might be in a better position to score. Specifically they learned to move to open areas, support their ball carrier, and communicate with each other before, during, and after games.

Students also constructed knowledge of complex tactics as they participated in small-sided, modified games. As the students' understanding of tactical complexity within offensive formations increased, defenders had to use equally sophisticated defensive tactics to counter these scoring efforts. Students who had experienced difficulty on defense were helped and instructed by team members or coaches. They worked in one-on-one games where each student had a peer coach. Lessons gradually progressed into larger, more complex games following along with Vygotsky's (1978) theory of the zone of proximal development. We provided different written assignments for the teams, challenging them to create defensive plans for their team using zone, person-to-person defenses, or a combination of both.

Constructivist Pedagogy as a Community of Learners

Students became a community of learners actively sharing information and helping each other regardless of gender. The teachers provided written assignments, one-on-one peer teaching opportunities, and choices of playing levels to facilitate team play and encourage team affiliation.

In physical education, belonging to a community of learners, or a team was most beneficial to the students if everyone on the team was willing to participate. During the beginning of the GFU unit, some students reported they did not find the small team format beneficial. Instead, they preferred larger games and more skill development. They reported they did not want to “try” or give effort because the games were not interesting and the teams were not compatible. On closer analysis of the activity and student comments, this lack of “trying” may have been associated with a lack of interest in the activity or perceived lack of skills. However, as students became more involved in team selections, coaching, and personal ability grouping, they vested in the experience, took ownership of their team, and became more content and involved in the games.

Therefore, throughout the variety of small team activities in which students worked closely with each other, they came to realize that each student had something special to contribute. The cooperative learning environment endorsed in the GFU approach provided students of all abilities with opportunities to participate and develop personal skills.

Conclusion

Griffin, Dodds, and Rovegno (1996) suggest that the GFU is a holistic model that integrates knowledge of content and teaching strategies with student learning. As we found out, to fully utilize this model, we needed a deep content knowledge of each sport in our curriculum, the pedagogical procedures necessary to teach them, and the ability to analyze skills and tactics effectively. Because the model consists of sequential “building blocks,” such as simple tag games and target games leading to

complex invasion games, teachers are encouraged to focus first on the least complex games and smaller goals. They teach a few skills and tactical concepts well, rather than rushing to expose students to the complex, adult game before they have acquired skills and tactical concepts to play successfully.

Participation in active learning, therefore, emphasizes not only understanding of already established knowledge and skills, but also *participation in the inquiry process* by which this knowledge is generated (Anderson, 2002). In physical education, this means that students engage in activities both physically as they play and cognitively through engagement in decision making and problem solving. The Games for Understanding approach taught as a constructivist model, emphasized cognitive engagement through active learning, requirement of student perception, decision making, and understanding.

Students worked in small problem solving teams to discover and create tactical strategies needed to gain a competitive advantage. The tactical games were modified to suit the learners' physical, cognitive, and emotional levels. They progressed from simple tactics, such as chasing, fleeing, and dodging used in tag games to more complex and sophisticated tactics incorporated in invasion games. Teachers gave students responsibilities for their own learning and challenged them to aid team members during peer and team coaching activities. Because one concept of constructivist pedagogy is to share decision making with students; eighth graders in our GFU model were given opportunities to engage in team selections as well as choosing an appropriate physical/competitive playing level. Throughout this process, they learned basic principles of teamwork and respect for the ability of every player

on the team. Finally, as students constructed knowledge and meaning through small team activities and instructional strategies (e.g., guided discovery, problem solving activities, peer and team coaching, decision-making, team and playing level selections), they seemed more content with the teams while the engagement in the activities increased.

Engagement

Engagement in learning occurs when students feel they can interact with the content and feel that their lives are in some way “touched” by the lessons in front of them (Anderson, 2002). Therefore, participating in physical activity not only incorporates that which is observed such as skill development and performance, but also that which is not seen such as emotions, goals, and a sense of one’s own abilities.

Walling and Duda (1995) suggest that motivation and personal interest link to individual goal orientation and beliefs about what causes success. Students can associate success with superior ability thereby having a predominately ego-goal orientation. Ego-goal oriented students rely on social comparison for motivation and tend to view a task as a means to an end, such as being the best. They prefer being able to complete a task quickly without effort which reinforced the feeling of being of high ability compared to classmates. On the other hand, students who associate success with hard work and high effort, express a task-orientation. Such students are motivated by the personal success from individual effort and do not view effort as sign of low ability. However, as students are uniquely different, so are goal

orientations and, at times, they perceive success as associated with both superior ability and effort, depending on the circumstances.

Chen and Darst (2000) agree that motivation is a precursor for exercise and found that interests also play a major role in engagement in physical activities. Scholars view interest in terms of both personal or situational interest. Personal interest is associated with individual preferences and develops over time during constant and consistent interaction with an activity in a particular environment. It matures as each individual is exposed to more knowledge and values (Krapp, Hidi, & Renninger, 1992).

Situational interest, on the other hand, is defined as an activity's appealing effect to an individual at a given time (Krapp, et al., 1992). Situational interest occurs when students interact with activities and recognize the appealing features associated with the specific learning tasks (Mitchell, 1993). Chen and Darst (2000) found that novelty, challenge, attention demand, exploration intention of a learning task, and instant enjoyment of learning are involved in situational interest.

Therefore, during our GFU unit, it was important to create lessons which provided our students with opportunities to develop reasoning and contribute personal insights into the value of their learning experiences. Our goal was to motivate and interest students in activities which would help them develop autonomy and self-mastery while providing challenges, excitement, and achievement (Bain, 1995).

Motivation in Small Tactical Oriented Games

In contrast to our previous program where students mainly participated in skill related drills followed by large sports games, students were now able to engage in

small tactical oriented games. By focusing on tactics, and de-emphasizing competition, students attributed their success to effort and cooperation with peers. This was different in that, in previous classes, during team sport activities, we had often observed this particular group of students having problems with aggressive boys who controlled the games. As a result, girls chose not to fully participate. Working in small tactical oriented games created a task oriented environment which was beneficial to all students. These findings were consistent with those reported by Walling and Duda (1995). Students who put more effort into the activities, found that this involvement benefited both the individual and the team. This was also found to be the case in classrooms. Jobe (2003) examined classroom learning environments and found that an increased emphasis on teamwork and collaboration benefited girls and boys equally and taught them important interpersonal skills.

Ennis et al. (1999) also suggest that modifying games and rules can improve students' ability to play sport more successfully and help enhance their enjoyment of the activities. The small tactical oriented games provided students with novel learning experiences such as written assignments, where students had to develop tactics and strategies collectively. Peer coaching (Ennis, et al., 1999) was a novel experience for many students who learned that cooperation had to be carefully constructed. The students had to make decisions, contribute ideas, and negotiate effectively within the team. This gave students a chance to recognize others' viewpoints and feelings. Peer coaches provided feedback to their team members and constructively helped others develop their skills (Ennis et al., 1999). As the students came to understand the

process, they also seemed to become more supportive of each other and physical education.

Motivational Climate

According to Nicholls (1989), students perceive success and judge their abilities from two main goal orientations. Task-oriented individuals tend to view success and judge their competence in terms of their own effort and improvement. Ego-oriented individuals, in contrast, compare themselves to others and need to show superior ability in activities in order to feel successful. However, these are not polar opposites. Students can be high and/or low in both task or ego orientation.

One determinant of individual achievement goal orientation is the “motivational climate” of the class. Ames (1992) refers to six areas of climate that facilitate student learning. These strategies grouped into the acronym, TARGET, describe six components of motivational climate that teachers can readily control. *Task* refers to class activities which are interesting and motivating to students, *authority* refers to student participation in the instructional process, such as involving them in the decision-making. *Recognition* refers to opportunities for rewards, *grouping* is concerned with how students work together, *evaluation* concerns feedback and monitoring, while *time* refers to the pace of learning and class management. Studies (Cury, Biddle, Famose, Goudas, Sarrazin, & Durand, 1996; Walling & Duda, 1995) show that creating a task oriented class environment benefits students of both ego and task orientation.

Therefore, during the GFU unit, we provided students with new *tasks* such as the small tactical oriented games. The students also actively participated in the creation

of their own learning thereby sharing in the authority of instructional process. We no longer told them the “right” way to perform. Instead, they worked with team members to create their own knowledge through guided discovery and team problem-solving situations.

In our lessons, the students also shared *authority* through shared decision making, especially when conflicts about team make-up arose. Sharing in the decision making, gave students responsibilities and ownership for their own classes and learning. It provided the students with *recognition* of each other in real life situations where they had to listen carefully to each other and cooperate.

At St. Willow, the students expressed concerns about the *grouping* of teams and felt the activities only flowed well when everyone participated and gave effort. Teachers provided opportunities for students to share in team selection and learn from each other. This helped create an environment that was encouraging and comfortable for the girls while at the same time provided enough challenge for the boys. Azzarito (2000) also found that when students actively participated in decision making and constructed meaning through real life learning situations that had characteristics, students related their learning in physical education to future goals such as becoming successful in a business or job.

Ennis et al. (1999) suggested that providing students with responsibilities for team roles enable them to discuss problems, express feelings, and listen to others. At St. Willow, students *evaluated* each other, providing constructive feedback and taking leadership roles. They were able to make decisions which affected the *timing* or pace of the activities. By actively making decisions about their own participation, they

were able to slow down the activities if needed. Further, they understood the impact of other players on the team and the role of each team member in team success. In addition to increase their understanding of the topic at hand, giving students choices sent the message that the teachers cared about and tried to accommodate their interests (Marzano & Marzano, 2003). Students participated in a motivational climate which was created through smaller games, shared decision making, responsibilities, and choices. This mastery-oriented environment benefited both boys and girls and contributed to student ownership and cooperation.

Interest in Small Tactical Oriented Games

Research findings (Chen & Darst, 1999; 2000) show that students have individual interests which motivate them to learn. Individual interest operates on knowledge and values that an individual has acquired (Hidi, 1990). Since students tend to rely on their prior knowledge to motivate and regulate their learning behavior, individual interest can become a compelling factor in student engagement or disengagement. Teachers face a huge challenge trying to guide these diverse, individual interests in a unified direction to focus on learning a particular content. Conversely, situational interest is associated with variables over which teachers have control, such as task design and teaching methods. Teachers can structure novel, interesting environments that attract student interest, regardless of student background. Furthermore, situational interest can provide even learners who have little knowledge with novel, unique, or surprising tasks to motivate and regulate their learning (Hidi, 1990). Thus, situational interest has a stronger potential than individual interest to motivate diverse students to learn (Hidi & Anderson, 1992).

In this research, we presented students with small tactical-oriented games during the Games for Understanding unit that enabled them to participate in novel, unique, and surprising learning tasks. The small games format and tasks also created new challenges for students in which we raised the cognitive task demand rather than reducing the physical task requirements (Chen & Darst, 1999).

One way in which we enhanced our students' situational interest in the sport activities was to provide opportunities for them to assign themselves to a playing ability level of their choice. This strategy was novel to the students. They seemed to find participating at a level that was consistent with their skill level to be more challenging, attention demanding, and enjoyable than playing on mixed ability teams (Chen & Darst, 2000). We provided students three ability levels from which to choose: (a) high-school, (b) a college, and (c) professional. They could assign themselves to a different level for different sport activities. For instance, some played at the pro level during Ultimate Frisbee and at the high school level during basketball activities. Both boys and girls explained that playing equally skilled players, regardless of gender, made the activities more enjoyable and challenging.

Affiliation with a team for an extended time period appeared to be particularly motivational for girls. Team membership may have provided the initial motivation for the girls to give effort. As they achieved success, girls who had not worked previously began to sense that "knowledge is power." They realized the immediate benefits of their efforts in enhanced skillfulness that also may have led to increased peer respect and self-esteem. This resulted in a desire to work harder (Glasser, 1986). Similar to research by Ennis and her colleagues, (1999) highly skilled students,

mostly boys, found the team situation changed when girls participated. When girls gave effort, boys assumed the role of mentor and coach, gaining respect and support for their positive, team-oriented behavior. Interestingly, they were no longer able to gain respect through dominant play, but *earned* respect through thoughtful decision making, effective peer teaching, and positive support for every player. Teachers' efforts to modify the situation provided students with opportunities to make decisions about their engagement levels and activity choices. They became more interested in the equitable team sport situation and tended to be more appreciative of the opportunity to engage which further enhanced their value for physical activity (Scrabis, 2003).

Conclusion

Anderson (2002) suggests that engaged students experience a sense of connection to the tasks at hand and as a result contribute to the meaning and value of what is studied. Therefore, students need to be invited to reason within physical activities, to contribute personal insight that not only enriches their own understanding, but also that of their class mates and teachers.

The Games for Understanding approach provided an alternative to the large games approach. The motivational climate became task oriented where students actively engaged in small tactically oriented game activities. They were able to interact constructively gaining game experience and confidence. Further, when teachers focused on the TARGET areas of class climate; *Task, Authority, Recognition, Grouping, Evaluation, and Time* (Cury et al., 1996), students became

involved in decision-making concerning team selection and curriculum, affording them opportunities to take on leadership roles and become responsible team members.

The students also became involved in peer coaching where they co-constructed knowledge and meanings through social exchanges. They were then able to provide feedback to their peers, support them, and work through disagreements. During the last part of the GFU unit, students were able to choose playing levels for different activities assigning themselves to different playing levels. Enabling the students to have choices heightened their engagement and gave them a sense of ownership. Creating a task oriented motivational climate, seemed to benefit ego-oriented as well as task-oriented students. Therefore, providing students with novel, challenging, attention-demanding activities, enabled students to participate in enjoyable tasks which they deemed worthy of exploration. The de-emphasis on competition and the focus on tactics provided a more comfortable environment where team members felt supported and encouraged. In turn, this seemed to help empower the girls and gave them a sense of lesson ownership.

Girls' Empowerment

Fostering an atmosphere of acceptance and encouragement in game play is important, especially during physical education classes, where students play games publicly and others observe one's achievements and mistakes (Anderson, 2002). Teaching boys and girls in co-educational classes can be especially problematic when physical education programs primarily focus on large-scale invasion sports, such as soccer, hockey, and football. This often places girls in an unfamiliar environment

where competition is high, males' sport experience and knowledge are well developed, and males' physical attributes of strength, aggression, and speed enhance their opportunities for success. These factors combine to limit girls' desire to participate and contribute to girls' and boys' perceptions of girls' failure (Ennis, 1999; Niles, 1998).

High-quality physical activity lessons, must invite all students regardless of gender to interact equitably and purposefully with the content (Weiss & Pasley, 2004). Effective lessons use various pedagogical strategies to engage students, building on their previous knowledge using real-world examples. Engaging students in firsthand experiences, provides students with tools for empowerment such as, (a) inclusion, (b) influence, and (c) openness (Obenchain & Abernathy, 2003; Vaughn, 2002; Weiss & Pasley, 2004).

Facilitating a Sense of Inclusion

Because students of all abilities, ages, and backgrounds benefit from learning in a safe and supportive educational community (Obenchain & Abernathy, 2003), teachers use of empowering pedagogical methods allow students to realize their capacity to author their own worlds (Vaughn, 2002). In physical education, the GFU approach has emerged as a model that emphasizes active learning and involvement, decision making, and understanding modified to suit the students' needs (Kirk & Macdonald, 1998). Therefore, using the GFU model, might inspire students to develop a critical consciousness. In these situations, students' primary goal evolves from a desire to please the teacher, to one of performing well as an individual within the class community. If teachers and students believe that community is important, then their

actions will convey this message and students can begin to trust themselves and the people around them (Obenchain & Abernathy, 2003).

During the GFU unit at St. Willow, as students shared in the decision making responsibilities for peers, both boys and girls expressed greater comfort and compatibility with each other. This finding is consistent with research by Ray-McCutcheon and McCoy (1996), who observed that small group, hands-on activities conducted in a cooperative environment, greatly benefited girls attending science classes with boys. The authors argued that in traditional educational settings with large classrooms, boys tended to take charge and dominate discussions. Therefore, the smaller cooperative activities were necessary for girls' empowerment. Robertson (2003), Sadker (2002), and Sanders (2002) argued, however, that empowerment is not strictly a gender issue, but more a human issue. They suggest that providing students with individualized instruction in settings that are personally relevant and meaningful will benefit girls and boys alike.

The tactical aspect of the GFU games, emphasized cognitive development that permitted every student to participate regardless of skill level (Griffin et al., 1997). It created a genuine responsibility and respect among boys and girls on the teams. As the students defined and determined the roles they played in the team community, the girls, in particular, may have come to understand the place they each had in this small community. A true team community allows each team member to feel free to be herself, while simultaneously restricting this personal freedom for the sake of adjustment to the team (Vaughn, 2002).

Peer monitoring and classroom interaction were also vital aspects of this team community focus (Vaughn, 2002) as students worked as peer coaches for single peers or for teams. The girls enjoyed being coached by peers as well as coaching others. Additionally, they seemed to relish being in charge of teams and helping team members. Although the boys initially were hesitant to coach, they also gradually developed a clearer understanding of their part in this process and participated more willingly. As the emphasis on competition diminished, both boys and girls realized they had to work cooperatively, ask questions, and share information to solve team assignments. This enhanced the meaningfulness of the activities, especially to the girls. Unlike the competitive focus, the tactical orientation of the GFU model, did not conflict with the girls' perceptions of femininity and gender identity (Daley & Buchanan, 1999). Empowering students, therefore, consists of a community process where individuals learn to exercise their individual freedom (Vaughn, 2002) and are afforded liberty and influence in the decision making process.

Facilitating a Sense of Influence.

As the students worked in team communities, both boys and girls learned that their comments were valued and important, leading to their perceptions of power. They felt free to contribute new ideas, question peers, and exchange constructive criticism (Obenchain & Abernathy, 2003; Weiss & Pasley 2004).

Because of the decision making focus of the GFU model, the girls, in particular, had an active role in classroom learning experiences (Obenchain & Abernathy, 2003). Their sense of individual freedom was regulated by a community code that fostered

the climate of the learning community (Vaughn, 2002). They took greater ownership of their learning time, minimizing the need for teachers to control that time.

This meant that we gave up some of our control and let the students control the pace and selection of lesson concepts. Instead, we focused more on designing instructional “building blocks.” We re-taught the conceptual concepts several times within different game and tactical contexts, rather than rushing to expose students to many games and skills that they would not have an opportunity to learn thoroughly. Therefore, we often became indirect problem posers rather than direct problem-solvers (Griffing et al., 1996).

Providing students with choices enable them to influence their own learning. Burkhalter and Wendt (2001) concluded that gender influences can be minimized in a setting where activity choices are provided and student autonomy is emphasized. Therefore, enabling our students to choose playing levels and teams empowered and allowed them to consider their own strengths and weaknesses (Obenchain & Abernathy, 2003; Vaughn, 2002). It diffused the sense of power in the class community as the students found themselves class citizens rather than subjects (Vaughn, 2002). Both boys and girls were encouraged to think about their individual choices and check their behavior against a community or team ethic rather than a teacher’s decree. Therefore, permitting students to influence their class community gave the girls, in particular, a *voice* and enabled them to realize the important role they played in the community.

Facilitating a Sense of Openness.

An emotionally healthy physical education classroom community exists when students feel included in the teams, understand their influence in class functioning, and trust classmates to accept and value their feelings, abilities, and opinions (Obenchain & Abernathy, 2003). Thus, for students to be able to share academic as well as affective experiences, the class environment must be safe and conducive to positive active learning experiences.

During the GFU unit, students were encouraged to work together in concrete and relevant situations. In these instances, they collectively deliberated on different tactical team assignments and participated in coaching opportunities where they learned how to mediate, negotiate, and build consensus. They were encouraged to identify and discuss the problem or issue from different perspectives and work on a satisfactory solution (Obenchain & Abernathy, 2003). This developed a relationship among students, and between teachers and students that was more fluid, encouraging students to take responsibility for teaching others. The girls positively commented on this approach, suggesting that their participation and learning increased more than it otherwise would in larger games. They felt comfortable and encouraged by team members, perhaps because the tactical aspect allowed them to contribute authentically to team assignments despite a lack of physical skills.

The GFU team assignments also provided opportunities for teams and team members to assess their own performances. These opportunities suggested to the students that the teachers trusted them to be accurate, honest, and thoughtful (Obenchain & Abernathy, 2003). It also created an open environment where teachers

were removed from a controlling role in rule and decision making. Rather than following the teacher's rules to satisfy that central authority, students were motivated by team community rules, enforced by all, to maintain an optimal learning environment (Vaughn, 2002). Team assessments provided us with insight into the value students placed on the GFU unit and their interest and commitment to particular tasks. We learned which concepts had been difficult for students to understand and which ones needed further development during the next class period. Therefore, providing students with peer teaching and team assessments seemed to benefit the girls who, as they worked with peers in small teams, gained more understanding and skills while developing a sense of belonging to the team.

Conclusion

In this research, I examined how a constructivist curriculum (i.e., GFU) influenced the learning environment in physical education for boys and girls. In particular, the study examined how constructivist methods influenced eighth grade girls' participation within a sport based physical education program, and what pedagogical methods assisted the boys to value the girls as participants and work to facilitate their engagement.

The findings indicated that providing students with small team activities with a tactical focus positively influenced the engagement of both girls and boys. Making the students decision-makers by giving them choices, and responsibilities for team selections, and coaching roles, helped the girls feel supported in their effort. Likewise, permitting the students ability group choices helped the boys value the girls

as participants and facilitated their engagement. These findings were consistent with the expectations of social constructivist pedagogy, and led to greater student engagement and girls' empowerment.

The Games for Understanding approach taught as a constructivist model, emphasized cognitive engagement through active learning, requirement of student perception, decision making, and understanding. Students worked in small problem solving teams to discover and create tactical strategies needed to gain a competitive advantage. Teachers modified the tactical games to suit the learners' physical, cognitive, and emotional levels, progressing from simple to complex tactics. As teachers shared responsibilities with students for their own learning, students learned to help classmates during peer and team coaching experiences. Moreover, they learned basic principles of teamwork and respect for each individual's abilities. Because students were able to construct knowledge and meaning through small team activities and instructional strategies (e.g., guided discovery, problem solving activities, peer and team coaching, decision making, and team and playing level selection), they seemed more content with their teams' assignments and their engagement level increased.

Focusing on the TARGET areas of the class climate (i.e., *Task, Authority, Recognition, Grouping, Evaluation, and Time*; Cury et al., 1996) enabled students to participate in a task-oriented motivational climate. Students experienced success through teamwork and personal mastery rather than by public comparison and competition. Thus providing the students with novel, challenging, and attention-demanding activities with a strong emphasis on cooperation and teamwork. This

enabled the girls to feel supported and encouraged which resulted in greater lesson ownership.

At St. Willow, building a safe and supportive classroom community was important for both boys and girls. Teachers designed a positive classroom and facilitated a community where students, especially the girls, had a sense of inclusion, influence, and openness. Being included in the class and team community meant that the students came to know and trust their peers and teachers. Through shared decision making, peer coaching, and student choices, the girls developed a sense of power and acknowledgment that their contributions were important to their team's success.

CHAPTER VI

Summary

In 1972, Congress passed Title IX of the Education Amendments, a law that affected virtually every educational institution in the country (HEW Fact Sheet, 1975). This was the first federal law to prohibit gender discrimination within any educational setting, including physical education. Schools were ordered to provide males and females with the same opportunities to participate in physical activities. This was generally interpreted as co-educational physical education, although students could be separated by gender when participating in contact sports such as wrestling, basketball, and football (Hew Fact Sheet, 1975).

Nevertheless, equal treatment quite often does not exist for boys and girls in the same physical education classroom (Ennis, 1999; Hastie, 1998; Nilges, 1998). When physical education programs are conducted using multi-activity formats with short units and large competitive games, many students, especially girls, become discouraged, in part, because they lack skills and game experience (Ennis, 1999; Griffin et al, 1997; Napper-Owen et al, 1999; Nilges, 1998). Instead of providing females with equal opportunities to play, co-educational sports based physical education programs often reflect traditional male-oriented activities requiring aggression, competition, and strength for success. Because some girls do not consider these characteristics gender-appropriate, they may respond with a lack of effort and persistence (Ennis, 1999; Nilges, 1998). Thus, merging boys and girls into co-

educational physical education classes has not always occurred smoothly, leading to unpleasant environments for some students, particularly girls.

The Games for Understanding (GFU) approach is an alternative physical education approach to traditional physical education. The GFU model advocates small game activities that permit all students to focus on tactics within a team setting. This environment appears to be more meaningful and authentic to students because of the de-emphasis on competition and focus on student learning (Rink et al., 1996).

Although researchers (French et al., 1996) have examined the GFU approach relative to skill and cognitive development, the model's contribution to gender equity has not been investigated. This study examined the elements of the GFU curricular model that contributed to a social constructivist learning environment and promoted gender equity.

The research question guiding this study was: "How does a constructivist curriculum (i.e., GFU) influence the learning environment in physical education for both boys and girls?" Specifically, (a) how do constructivist methods influence eighth grade girls' levels of engagement within a sports based physical education program? and (b) what methods assist boys to value girls as participants and work to facilitate their engagement?

Theoretical Framework

Historically, learning theorists have focused on ways people acquire new knowledge and skills, and how they modify existing knowledge and skills through instruction and practice (Shuell, 1986). During the early twentieth century, behaviorists viewed learning as a response to a stimulus. In education, teachers used

environmental changes to reinforce or shape the nature of the learner's performance or response. More recently constructivists have re-conceptualized learning as a more cognitively oriented process which encourages students to use appropriate learning strategies (Shuell, 1986). According to constructivist theorists, content must be meaningful (Shuell, 1986), and students should be actively engaged in learning tasks that allow them to develop their own understanding of the content as it influences their lives. As students make connections between previously learned knowledge and new information, they apply established or authoritative knowledge to problems and participate in the inquiry process by which knowledge is generated (Anderson, 2002). During active learning, students seek information in relation to the tasks and environmental conditions prevailing at any given time and test their own capabilities within this context. Working within social relationships, students work with a more knowledgeable peer or adult to construct knowledge in a process Vygotsky (1978) described as the zone of proximal development.

The GFU is a constructivist physical education curriculum model in which students use active learning to construct new understandings within team decision-making and problem solving situations. The GFU model, developed in Great Britain by Thorpe and Bunker (1982), emphasizes that games are taught developmentally using tactical understanding and knowledge *before* skills are learned. Therefore, students are taught "what-to-do" in a game before learning "how-to-do" or perform skills (Griffin et al., 1996).

The GFU model categorizes games into five simple to complex categories: tag, target, net/wall, fielding, and invasion games. Each game category consists of tactical

concepts (e.g., offensive, defensive) that pertain to all games in that group. Advocates assume that when students learn the tactical concepts associated with one game, or game category, knowledge will transfer to other like or similar games, making it easier for students to understand and play successfully (Griffin et al., 1997).

With the passage of Title IX, many professionals assumed that co-educational physical education classes would provide opportunities for all students to be taught in similar ways and achieve the same success (Napper-Owen et al., 1999). However, recent studies have found that boys and girls come to school with distinctly different ideas about gender-appropriate sport activities, and their physical activity choices and behavior reflect these beliefs (Beveridge & Scruggs, 2000). Because many co-educational physical education classes consist predominately of large competitive games, female students often are not interested in the activities which many perceive to be gender inappropriate (Ennis, 1999; Hastie, 1998; Treanor et al., 1998).

Through alternative curriculum models, such as the GFU approach, students control their own learning and work cooperatively to enhance success. Highly skilled male students earn respect through aiding others in legitimate learning situations. Less skilled female (and male) students are more likely to achieve success because of the encouragement and support they receive from team members (Ennis, 1999; Ennis et al., 1999).

Methods

This study investigated how the Games for Understanding approach contributed to a socially constructive learning environment where girls engaged and participated in activities and boys encouraged this participation. The study took place at St.

Willow, a small private school in a metropolitan city on the East Coast. The participants were 48 eighth grade students and two of their physical education teachers, one of whom was also the researcher. The students participated in ten lessons from the invasion games category of the GFU model.

The data consisted of teacher journaling, student questionnaires, student focus-group interviews, a co-teacher interview, and independent observations. The data were analyzed using open, axial, and selective coding. Although the dual role of the teacher as the researcher and the teacher could have been a threat to data reliability and validity, great care was taken to provide a clear description of the participants and setting to enhance the study's replicability. Because the teacher conducted the classes with her own students, the students acted and behaved normally and did not hesitate to express their "honest" feelings about the study. To ensure that the GFU model was followed, an independent observer came to the classes and observed three lessons.

Conclusions

Conclusion 1. The constructivist curriculum (i.e., GFU) influenced the learning environment in eighth grade physical education for both boys and girls by actively engaging them in constructing knowledge and meaning through small team activities. Consistent with a social constructivist approach, both boys and girls expressed that, by limiting the number of players on each team, they had more opportunities to learn tactical strategies, practice skills, contribute and participate in the team assignments, and share knowledge with team members. The tactical focus of the games challenged students to participate in novel, unique, and surprising learning tasks, such as written

team assignments, which required student perception, decision making, and understanding. As the students collectively deliberated in these concrete and relevant situations, they experienced success through teamwork and personal mastery rather than by public comparison and competition.

Conclusion 2: The GFU context created a constructivist learning environment that provided opportunities for content ownership by both boys and girls. The decision to teach using the GFU model resulted in lesson changes for both teachers and students. From the first GFU lesson, students became involved in creating their own knowledge through guided discovery and team problem solving situations. Instead of large games with numerous participants, the GFU games were smaller with one to a maximum of five members per team. Skills and equipment were modified to fit students' needs and they were given choices of playing levels, (a) a pro level, (b) a college level, and (c) a high school level. The students influenced their own learning, controlling the pace and selection of lesson concepts. As we [the teachers] gave up some of our class management and content control, we focused, instead, on designing pedagogical "building blocks." For example, we re-taught concepts several times rather than rush to expose students to many games and skills they would not have an opportunity to learn thoroughly.

Conclusion 3: The GFU context increased girls' engagement in the sport activities by providing learning tasks that were meaningful and valuable to them. The tactical aspect of the GFU games provided students with small hands-on activities that emphasized cognitive development. These activities permitted every student to participate regardless of skill level. As the competitive aspect was de-emphasized, the

traditional male attributes of aggression, speed, and strength were no longer the primary concepts of successful participation. This made the games more relevant for the girls in that the tactical orientation did not conflict with their perceptions of femininity and gender identity. Participating in the smaller games and sharing in the decision making gave the girls responsibilities and ownership for their own understanding. It provided them with real life situations where they could contribute valuable knowledge and influence the outcomes.

Conclusion 4: The GFU environment assisted boys to support girls' efforts by providing choices of teams and playing levels. Providing students with choices enabled them to influence their own learning and minimized gender influences. When students participated in team selections and chose playing levels, student autonomy and empowerment were emphasized. Students were able to consider their own strengths and weaknesses as well as those of the team members. As the GFU unit continued, it became apparent that choices not only heightened their engagement, but also gave them more of a sense of ownership of the lessons and activities. Choosing team members and partners for activities provided a more comfortable environment where the girls believed they could be successful and supported, and the boys knew they could compete against worthy opponents who could give them a fair challenge.

Conclusion 5: The GFU environment helped the boys to value girls' effort because the tactical aspect of the games enabled all students to contribute to the teams regardless of skill level. Because sport activities, especially invasion sports, often carry a perception of male ownership, superiority, and fierce competition, one aspect of this study was to help boys to value girls as participants and facilitate this

engagement. As some girls enter the invasion sport environment, they at times feel insecure and uncomfortable. Often they do not want to participate due to fear of embarrassment and the potential for public failure. The tactical approach emphasized a task environment where students succeeded by working together on team assignments, enabling all students, regardless of gender, to contribute to the team. However, being able to compete against equally skilled opponents was very important, and the students advocated strongly for the opportunity to play in ability groups. As we provided opportunities for them to decide on teams, peer coach, and choose playing levels, the boys came to value the girls' effort and worked to facilitate it.

Conclusion 6: Making students decision-makers by giving them choices and responsibilities for team selections and coaching roles helped the girls feel supported in their effort. One aim of the GFU approach is to help students take more responsibility for their own learning while at the same time cooperating with team members to develop their knowledge and skills. During the GFU lessons, many students liked the smaller teams, but pointed out that small-sided games would flow only if everyone tried their best and showed effort. They preferred to participate with teammates who supported and encouraged them, challenging but not overwhelming them. Therefore, we provided students with opportunities to decide on the team selection and participate in decision making and problem solving. The students had opportunities to coach their teams as well as be coached by a peer. Many girls, in particular, seemed to like the role of being in charge of a team and being able to help their team members.

Conclusion 7: The Games for Understanding approach taught as a constructivist model provided a task oriented motivational climate where students engaged in small tactical oriented game activities and contributed to the teams.

Enabling students to participate in small-sided tactically oriented activities provided the students with a mastery climate, which enabled both boys and girls to view personal effort rather than personal ability as critical to success. Because lessons focused on the TARGET areas of class climate such as; *Task, Authority, Recognition, Grouping, Evaluation and Time* (Cury, et al., 1996) students participated in novel, challenging, attention-demanding activities where cooperation and team work were avenues to success. These activities enabled the girls, in particular, to feel supported and encouraged while providing them with opportunities to take on leadership roles and be responsible for team members.

Conclusion 8: The Games for Understanding approach taught as a constructivist model provided the girls with a sense of inclusion, influence, and openness in the activities. A healthy physical education classroom community exists when students feel included in the teams, know that they have influence in class functioning, and trust they can be open with their feelings, abilities, and opinions (Obenschain & Abernathy, 2003). During the GFU unit, the students were able to work together in concrete, relevant situations where they collectively deliberated on different tactical team assignments. They participated in shared decision-making concerning team selections, and had opportunities to peer coach each other and choose playing levels. This developed a relationship among students, and between students and teachers that was more fluid. The girls, especially, commented on this

approach and expressed they felt more supported and encouraged than they would have been in the traditional larger games.

Recommendations

Implementing the GFU model in our physical education classes changed the program at our school, St. Willow. Where students previously had been predominately exposed to skill drills followed by large games directed by the teachers, students were now participating in small, student-centered, tactical activities. Our role as teachers became more facilitators than directors. Through the small team activities, shared decision making, peer coaching, and choices of playing levels, students, were empowered and felt included in the activities.

Recommendations for Physical Education Teachers

Recommendation 1: Teachers need to allow time for students to develop both physical skills and tactical understanding. Previous GFU studies (French et al., 1996) focused on cognitive outcomes (e.g. decision making, declarative knowledge, and procedural knowledge) as well as skill or procedure outcomes. The results showed that students taught from a GFU approach improved gradually over time, suggesting that a combination of skills and tactics take time to develop, while skills alone or tactics alone might be acquired more readily. In this research, we developed skill and tactical understanding in 10 lessons that permitted students to acclimate to the new learning environment and have time to develop both physical ability and cognitive knowledge.

Recommendation 2: Teachers need to be knowledgeable about gender influences on participation in physical activities and work actively to structure equitable learning environments in which girls want to participate and boys facilitate their participation. Teaching effectively in coeducational settings requires teachers to use pedagogical strategies to encourage inclusion, nurture girls' influence, and foster openness. Teaching boys and girls together requires an understanding of gender appropriate practices for both. For example, large competitive sports portray an overwhelming perception of male superiority. The skills for success are usually aggression, strength, and speed, which are considered male traits and therefore not meaningful to many girls. Further, if the learning environment is skills-oriented and competitive, lower skilled and less experienced students, many of whom are girls, might prefer not to participate due to fear of public embarrassment and failure. A constructivist curriculum, however, focuses on student construction of meaningful understandings that support and reinforce their vision of themselves within successful situations. In the GFU approach, for example, small tactically oriented games permitted girls to excel by developing cognitive understandings that benefit their team. This enabled students with lower skills and less experience to participate successfully. Higher skilled athletes, many of whom are boys, no longer gain respect through aggressive behavior, but through their legitimate efforts. This enables both boys and girls to have positive learning experiences in physical education.

Recommendation 3: Teachers need to understand the GFU approach and concepts to implement it successfully. The GFU model is a holistic model that integrates knowledge of content, teaching strategies, and student learning, Teachers

need a deep content (skills and games) knowledge to utilize this model because they are responsible for breaking down games to focus on key skills and tactics. In order for the GFU model to be effective, teachers must be able to sequence concepts from simple to complex and introduce them as students' declarative, procedural, and conditional knowledge develops. Teachers are encouraged to focus on the least complex games and smaller goals first, teaching a few skills well, rather than rushing to expose students to many games and skills that they may not have the opportunity to learn thoroughly. The teacher must therefore focus on what students actually need to learn and not just the activity itself.

Recommendation 4: GFU should be implemented in earlier grades with younger students. This study examined participation and gender in physical education in middle school age students with positive results. Future studies of younger participants might provide opportunities to nurture and maintain young girls' sport skill and understanding, leading to greater enthusiasm for sport participation. If boys and girls can learn to accept, respect, and encourage each other during their primary years, girls' lack of effort and unhappiness with sport activities during the teenage years might be prevented.

Recommendations for Future Research

Recommendation 5: Conduct additional action-research studies in the same environment. Conducting this research study in the dual role as the researcher/physical education teacher provided me with insight into the students' lives that I probably would not have had if I were not their teacher. Having taught these eighth grade students, many since first grade, permitted me to conduct research in a situation

where the students felt comfortable and, therefore, did not hesitate to tell me their opinions about the study or the activities. I believe their responses to be honest, portraying their reality and experiences in our physical education classes.

Because we did not attempt to teach the GFU approach until these students were in eighth grade, they did not have the opportunity to learn game tactics or participate in small-sided games until they were 13 or 14 years old. By providing opportunities for first graders to learn the GFU approach with tag and target games as early as age 5 or 6, they can begin to acquire the needed skills and tactics progressively to participate effectively in more complex games. This would enable the students to gain a deeper understanding of games in each category and the relationships between and among games.

Recommendation 6: Examine the GFU approach in different settings with diverse populations. Because the students at St. Willow were predominately affluent and Caucasian, this research provides little information about the benefits of the GFU approach for students of color from less affluent homes. Because of the opportunities within the model for teachers to create equitable settings that benefit all students, the GFU model may be an excellent choice for sport based physical education in diverse, urban settings. Providing students with opportunities to understand and apply tactical knowledge as they acquire physical skills may be an effective way to enhance their learning and value for physical education.

Appendix A.

Lesson Plans For the Invasion Games Category.

Overall conceptual objectives.

- Understand the general ideas of defending space and attacking space.
- Use prior knowledge and skills to develop new understandings and skills.
- Willing engagement from the girls. Cooperate with team members and opponents to organize games and develop strategies and skills.
- Positive interaction. Boys and girls cooperating as equal partners and respecting team members' gifts and talents.

Daily objectives.

- 1. Demonstrate individual tactics to defend space.
- 2. Demonstrate individual tactics to attack space.
- 3. Demonstrate being able to move cooperatively as a small group.
- 4. Demonstrate effective footwork to execute a variety of skills.
- 5. Demonstrate effective basketball passing and dribbling skills.
- 6. Demonstrate effective overhand throwing and catching ability.
- 7. Demonstrate effective soccer passing and trapping skills.
- 8. Demonstrate effective Frisbee throwing and catching skills.
- 9. Agree on rules in a small group setting.
- 10. Demonstrate team tactics to defend space.

- 11. Demonstrate team tactics to attack space.
- 12. Demonstrate strategies to defend space of different sizes.
- 13. Demonstrate the ability to communicate strategies with team members prior to game start.
- 14. Demonstrate the ability to communicate strategies with team members during games and activities.
- 15. Demonstrate quick changes of direction within boundaries.
- 16. Be able to compare and contrast different games to develop an awareness of a variety of tactics.
- 17. Demonstrate ability to alter tactics throughout a game based on ongoing results of the game.
- 18. Demonstrate ability to self-correct mistakes.

Lesson One.

Daily lesson objectives. Each student will be able to:

- 1/2.Demonstrate individual tactics to defend and attack space.
- 10/ 11.Demonstrate team tactics to defend and attack space.
- 3.Demonstrate being able to move cooperatively as a small group.
- 15.Demonstrate quick changes of direction within boundaries.
- 4.Demonstrate effective footwork to execute a variety of skills
- 6.Demonstrate effective overhand throwing and catching.

Equipment. 6-8 soccer balls, 6-8 flag-belts, and four cones to mark each team area (6 teams of four).

Procedure.

Opening. Explain to students that today we start the games for understanding approach and it will last throughout the Fall. Ask them to give examples of invasion games and how they can be similar or different. Ask them to explain what they understand about on-the-ball and off-the-ball movements. Tell them that we will start with some easy concepts and progress through ten weeks of more difficult concepts. Have students fill out the first questionnaire while non-participating students play a game of knockout or two-two basketball. (12min)

Organization.

Explain that the class has been divided into six teams of four people. They are expected to work with their team members and help them along. Each team will use a court that is marked.

Activity 1.

Introduce the game of merry-go-round. In this game there are three people, who move as a circle within the marked area. In each group one person wears a flag-belt. It is up to the group to move together in such a way that the tagger cannot take the flag-belt. Talk about and write down students' ideas about dodging and faking out an opponent. When would these concepts be used? What are some important points for body position and feet position? (Ready position- slightly bent knees and up on front/balls of the feet).

Stop the game frequently to ask students what they are seeing and understanding about effective tactics. Before the game is restarted with a new tagger, remind students of one or two new tactics. When all students have had a chance to be the tagger as well as the flag-carrier, switch the formation to a line formation. The tagger must now take the flag from the last person in line (15min).

Questions.

How did your group best protect the flag-carrier? Did the formation play a role? What was the important concept of this activity? (5min)

Activity 2.

Explain that the next activity is a keep-away game. Three players position themselves within their boundaries and start passing to each other (stationary). The fourth player will try to tag the passer or intercept the ball before the ball is passed around eight times.

Let them play until everyone has had a chance to defend (12min). Change so the offense can now move around at the field. Play for another (12min). On worksheet

ask students questions about defense and offense. Have them work together to come up the answers. *Bring them back in and ask questions:* (Write their answers on a board, poster, or large sheet of paper). (a) How should the defender position her/himself to intercept the ball? (b) What are good offensive ways of moving the ball around? (c) Talk about some differences found between a moving and a stationary offense (8min).

Lesson Two.Daily objectives.

- 1/2. Demonstrate individual tactics to defend space and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 4. Demonstrate effective footwork to execute a variety of skills.
- 7. Demonstrate effective soccer passing and trapping skills.
- 13. Demonstrate the ability to communicate strategies with team members prior to game start.
- 14. Demonstrate the ability to communicate strategies with team members during games and activities.

Equipment. 6 soft footballs, 6 medium footballs, cones, clipboards, and 15-16 scrimmage shirts.

Procedure.

Opening. Ask the students questions that focus them and remind them of the answers or conclusions that were constructed from the class games last week. Show a poster of main concepts we agreed upon from the last class (accurate passing and receiving, dodging, change of speeds and directions). Ask them to review the game of keep-away and the main points learned. Explain that we will focus on maintaining possession of the ball in different activities today. They are going to work within teams of four and the teams are different from last week (5min).

Activity 1. Like last weeks activity we will start out with a keep-away activity of one defender and three offenders. Today we will work with footballs. The offenders will be stationary first and pass the football. The offense is trying to pass the football six

times without being tagged or getting the ball stolen by the defense. Change when every one has had a chance to be defender. Help students to focus attention on the concepts that make a successful offense and defense. Change the stationary offense to a moving offense. (Stop if some students are starting to get frustrated. Do not allow students to give up because they do not understand the tactics or do not have the skills). (10min)

Questions.

Review the main concepts again: (a) Defensive strategies -dodging, faking, marking a player, getting into a passing lane (b) Offensive strategies- look up, wait, and draw defender to you, faking, passing quickly and accurately. (3min)

Activity 2.

The next activity is small ultimate football games. Two on two games. Allow time for a quick strategy talk between team members. The challenge of this game is to pass the football 4-5 times before trying to score a touchdown. The game rules are like ultimate Frisbee (15min).

Questions. Ask the students to explain the differences between a two on two game and a one on three game. What adjustments did they have to make? (3min)

Activity 3.

The last activity will be a small three on three game of ultimate football where each team will have a player coach. The coach will rotate in after one game which will give each student a chance to be a player and a coach. While the students are playing, the coach will write down strategies that are working and not working for the team during the game. The students are to pass to each other four times before they try to

score. Each court will have a blue and a green team. Each game will last five minutes and the green team will rotate. Give students time between each game to decide on tactics. (15min)

Questions. Review the defensive and offensive strategies used. Talk about some team strategies they used. What worked and what did not work? Write their answers so we can use them next week. (5min)

Game StrategiesStrategy that workedStrategy which did not workGame 1

Game 2

Game 3

Game 4

Lesson Three.Daily objectives.

- 1/2. Demonstrate individual tactics to defend and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 6. Demonstrate effective overhand throwing and catching ability.
- 13/14. Demonstrate the ability to communicate strategies with team members prior to game start and during games and activities.
- 15. Demonstrate quick changes of direction within boundaries.

Equipment. 6-8 footballs, scrimmage jerseys, and cones to mark boundaries.

Procedure

Opening. Review the concepts learned during the past lessons and review them from the poster concepts students constructed. Explain that we will continue the work we started last week and today we will work a bit more on creating space in a small game of ultimate football. Ask students for suggestions.

Explain that we will start out with a short two on two game where they have to pass four times before scoring. During this time they should be thinking about using all space available. (5min)

Organization. Students will be in teams of four and each team will have a half-court basketball court to work on.

Activity 1.

Students will play a two on two ultimate football where they have to pass four times before they can score (8min).

Questions. Who can give us some suggestions to how we use space in this game?

(looking up, passing, moving, dodging, faking). What tactics can team members use to support each other? Explain the concept of leadoff passing. (Time it so the pass goes in front of the receiver but he/she should still be able to catch it while stretching for it). Ask students to give examples of when this would be used and in what games. (5min)

Activity 2.

The second activity is a tactical/practical activity. Each team will work in group of twos, a passer and a receiver. Each couple will have a clipboard and a worksheet. Take turn being passer and receiver. For each activity count how many passes were caught (12min).

Questions.

Ask the students to talk about how the passing went and what was successful for them (Timing and strategy) (3min)

Activity 3. The last activity is a small tournament of ultimate football. The object is to try to use the leadoff passes in such a way that everyone is involved in passing or receiving. As this must be arranged, it is important that students are able to strategize as a team. Each team has three players and one coach. The job of the coach is to work with the team on which plays to make, who is passing and who is receiving. If a strategy does not work then the coach can change it. Each game is five minutes long, and students should take time between games to strategize. The coach rotates after each game providing students with chances to both coach and play (25min).

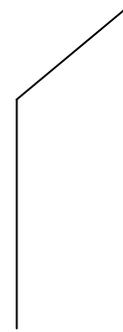
Closing questions. How were you able to use the lead off passes we practiced earlier? Did it make a difference in the way you used the space available? What worked well for your team? What did not work well for your team? (5min)

Lead off Passes

1. Slant right or left

Runner – Go forward 5-6 steps,
cut sharply to right or left.

Passer- Throw the ball in front of the
receiver so he/she has to reach
for it.



Count the catches made out of 10 passes- player _____ player _____

2. Go, Go

Runner- On signal runs straight forward fast,
slow down, and finish fast.

Passer- Pass the ball in front of the receiver
who has to reach to catch it.

fast
|
slow
|
fast

Count the catches made out of 10 passes- player _____ player _____

3. Buttonhook (Stop on a dime)

Runner- Go forward and cut sharply
to face the passer.

Passer- Work on timing the pass
so the receiver can catch it.



Count the catches made out of 10 passes- player _____ player _____

Lesson Four.

- Daily objectives.
- 1/2. Demonstrate individual tactics to defend and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 8. Demonstrate effective Frisbee throwing and catching skills.
- 12. Demonstrate strategies to defend space of different sizes.
- 13/14. Demonstrate the ability to communicate strategies with team members prior to game start and during games and activities.
- 15. Demonstrate quick changes of directions within boundaries.
- 17. Demonstrate ability to alter tactics throughout a game based on ongoing results of the game.

Equipment. 12-14 Frisbees, scrimmage shirts, and cones to mark boundaries.

Procedure.

Opening. Review the leadoff pass concepts learned during the past lesson (write them on a poster board). Explain that we will continue to work on using space and today we will focus on using the width of the courts during ultimate Frisbee games. Ask questions about creating space in the attack while working on maintaining possession of the Frisbee. Talk about the importance of positioning all the team members. How can players support each other? (5-6min)

Organization. Students will be in teams of four and each team will have a basketball court to work on.

Activity 1. Students will play two on two ultimate Frisbee where they have to pass four times before they can score. Both teachers will rotate around and help students remember the tactics we have worked on so far. (6min)

Questions. How did you use space in this game? (looking up, passing short/long, dodging/faking, moving on the wings as well as in the center) What tactics can team members use to support each other? (move forward or to sides)

Ask the students to briefly review the concepts of a lead off pass. (time the pass so it is in front of the receiver, but not any further than it can be caught) How can leadoff passes be used to create width in a game? (5min)

Activity 2. Explain that the next activity is a practice exercise where students will work on two pass patterns called give-and-go and a through-pass. (Have students help demonstrate the pass patterns). Practice with your partner until both understand the pass and running patterns. Take turns being the passer and the receiver (10min).

Questions. Ask students what made up a successful pass and how did they successfully support each other? (3min)

Activity 3. The last activity is a small Frisbee tournament. Each team will get time before each game to decide on a strategy. The team can take two time-outs during the games and time before and after each game to decide on strategies that worked and did not work. Each team will play four on four and the object is to try to use all the pass/ running patterns we worked on. Each game is about 6 minutes. (30 min)

Closing questions. What strategies worked for your team when you tried to create space? What did not work for your team? Which lead off passes and patterns were you able to use? How did the passes change the games? (5min)

Game Strategies

What worked?

What did not work?

Game 1

Game 2

Game 3

Lesson Five.Daily objectives.

- 1/2. Demonstrate individual tactics to defend space and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 6. Demonstrate effective overhand throwing and catching ability.
- 7. Demonstrate effective soccer passing and trapping skills
- 8. Demonstrate effective Frisbee throwing and catching skills.
- 13/14. Demonstrate the ability to communicate strategies with team members prior to game start and during games and activities.
- 16. Be able to compare and contrast different games to develop an awareness of a variety of tactics.

Equipment. 2 Frisbees, 2 soccer balls, 2 basketballs, 2 footballs, scrimmage jerseys, and cones to mark boundaries.

Procedure.

Opening. Before we start the activities, students will answer the second questionnaire (10-12min). The students who are not participating will be able to play a small game of ultimate football on one of the other courts. Review the give-and-go pass pattern. (Show visual on poster board). Talk about the importance of pass patterns (create space in an attack and open the offense up). Explain that we will use the pass patterns we have worked on in several different activities today. We will start with small two on two basketball games where the object is to pass three times before scoring. The students are to use as many pass patterns as possible. (5min)

Organization. Students will be in teams of four and each team will have a basketball court to work on.

Activity 1. Students will play two on two basketball games where they have to pass three times before scoring. Teachers will rotate around and help students remember the pass patterns we have worked on. (5min)

Questions. How did the pass patterns help you in this game (looking for team member, using space on sides as well as center of the court, use cuts and fakes) (3min)

Activity 2. Explain that during this next activity students will rotate through four different stations. They will be in teams of three. The object of these games is to demonstrate pass patterns such as the give-and-go in all the activities. The students will actively discover the similarities between the different activities and how they are different. The teams will rotate and play new teams during the different activities. Before, during and after the games students will have time to strategies as teams. The students have to pass three times during the games before they can score. (25min)

Closing questions. Ask the students about the similarities or differences found in the games. How did the concepts transfer from one activity into the next? What were some strategies that the different teams found useful? Did everyone participate on your team? Why? Why not? (5min)

Lesson Six.Daily objectives.

- 1/2. Demonstrate individual tactics to defend and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 7. Demonstrate effective soccer passing and trapping skills.
- 13/14. Demonstrate the ability to communicate strategies with team members prior to game start and during games and activities.
- 16. Be able to compare and contrast different games to develop an awareness of a variety of tactics.

Equipment. 8 soccer balls, scrimmage jerseys, cones to mark boundaries and goals.

Procedure.

Opening. Before starting the activity review the concepts worked such as creating space and lead off pass patterns. Go over concepts written on board. Ask the students about these concepts such as creating space in an attack and opening the offense up. Explain that during the previous games I observed that several teams had problems with support of the ball carrier. Ask them how they would support their ball carrier. Write their suggestions on the board. Explain that today we will try to work on supporting the ball carrier more while we play small games of soccer. We will make the games a bit more difficult in that we will play soccer, but use ultimate rules. Ask them how they would do that. (kick off, no dribbling, quick passes). The first game will be small two on two games. After this game each couple will answer a work sheet. (10min)

Organization. Students will be in teams of four and each team will have a basketball court to work on.

Activity 1. Students will play a two on two ultimate soccer game, passing three times before they score. Teachers will rotate around and help students work on support of ball carrier as well as the transfer of rules. After the game, students work on the worksheet. (20min)

Questions. How do you support your team member in a two on two game? What must the defense do when the offense plays wide? When they play close? (5min)

Activity 2. The next activity is a four on four ultimate soccer game. Again, students will pass three times before scoring. Keep in mind that ball possession and support of the ball carrier are the keys and not just scoring. After this game students will answer a worksheet (25min)

Questions. What are some advantages or disadvantages of passing only? How did the ultimate rules transfer to soccer? What were some team strategies your team used successfully? (5 min)

Worksheet for Lesson Six**2 x 2 game**

- 1. What did your team do to successfully create space in a 2x2 offense?**
- 2. What did you do to successfully support your teammate during the offense?**
- 3. How did you and your teammate best defend the goal in a 2x2 game?**

Lesson Seven.

- Daily objectives.
- 1/2. Demonstrate individual tactics to defend and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 5. Demonstrate effective basketball passing and dribbling skills.
- 13/14. Demonstrate the ability to communicate strategies with team members prior to game start, and during games and activities.
- 18. Demonstrate ability to self-correct mistakes.

Equipment. 8 basketballs and scrimmage shirts.

Procedure.

Opening. Before starting the activities talk to the students about how to create space in an attack such as supporting the ball carrier while moving to open areas on the court. Explain that during the previous games I observed that several students had a difficult time getting open in the two on two games. Ask for suggestions to help them develop a better understanding. (Go over importance of cutting, faking, and dodging, driving to the basket and ask students to demonstrate). To ensure that everyone gets lots of practice and still have fun we will work in pairs within the teams of four.

Explain that each team will pair up in twos. One player is to play another player while the remaining two team members are coaches helping each player be able to successfully play a game. Explain that each team will have a check sheet which the coaches can use as guides. (8min)

Organization. Students will work in teams of four and each team will have a basketball court to work on.

Activity 1. Students will peer teach each other in one-on-one games. Two students will play each other while the other students help coach them and write suggestions on the check sheet. When the players are able to demonstrate cutting, dodging around the opponent as well as drive to the basket the pairs switch roles. Each team of four is responsible for successful achievement of all the players on the team (10min).

Questions. What did you find worked well for your team member? What did not work so well? (3min)

Activity 2. Explain that as everyone seemed to understand the concepts in one-on-one games we will try two-on-two games. The object of this game is to get open and support the team member as well as trying to score. Ask the students for suggestions (looking up, passing, cutting, and communication). Explain that quite often games consist of lots of dribbling and not enough passing. Therefore, we will try to work on: shooting if close enough, passing if not, and as a last resort dribbling. Again, each team is responsible for helping each other and communicating with each other (15min).

Questions. Similarities and differences between the activities in term of defensive and offensive tactics? (5min)

Activity 3.

As the students have become more comfortable with the smaller games w will try out the concepts in a four on four full court game. The key is to remember all the tactics we have worked on so far. (Creating space- getting open by using different running passes, supporting the ball carrier, and shoot, pass, and dribble concept) Each team

will play one game and during the game they will have opportunities to stop and strategize when they need to. (10min)

Closing questions. Ask the students how this worked for their teams? Was it helpful to have peer teachers? How did the progressively larger teams change the play and the teamwork? Advantages or disadvantages of bigger teams and bigger courts? (5min)

Peer Check Sheet (one-on-one game)

Player 1

please circle

Offense:

Uses fakes well to put opponent off guard	often, sometimes, not much
Understands how to cut away from opponent	often, sometimes, not much
Can drive to the basket and take a shot	often, sometimes, not much

Best skills and strategies are:

Improvement needed on:

Defense:

Takes position between opponent and basket	often, sometimes, not much
Changes the defense with the opponent's moves	often, sometimes, not much
Is able to rebound or steal the ball from opponent	often, sometimes, not much

Best skills and strategies are:

Improvement needed on:

Player 2

please circle

Offense:

Uses fakes well to put opponent off guard	often, sometimes, not much
Understands how to cut away from opponent	often, sometimes, not much
Can drive to the basket and take a shot	often, sometimes, not much

Best skills and strategies are:

Improvement needed on:

Defense:

Takes position between opponent and basket	often, sometimes, not much
Changes the defense with the opponent's moves	often, sometimes, not much
Is able to rebound or steal the ball from opponent	often, sometimes, not much

Best skills and strategies are:

Improvement needed on:

Lesson Eight.Daily objectives.

- 1/2. Demonstrate individual tactics to defend and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 3. Demonstrate being able to move cooperatively as a small group.
- 15. Demonstrate quick changes of direction within boundaries.
- 5. Demonstrate effective basketball passing and dribbling skills.
- 13/14. Demonstrate the ability to communicate strategies with team members prior to game start, and during games and activities.
- 17. Demonstrate ability to alter tactics throughout a game based on ongoing results of the game.

Equipment. 8 basketballs, cones to mark boundaries and scrimmage jerseys.

Procedure.

Opening. Explain to students that during the full court games last week I observed several students had problems keeping up with the offense. Talk to students about why this was happening. (lack of endurance or need of other defense). To give the students a different game where they work on endurance, we will play a tag game of pacman where they will work in teams of four. The tagging team's assignment is to try to catch as many students as they can in 2 minutes. This game is a different way to work on spatial awareness in that the students will be constantly looking for openings and escape routes while the taggers need to strategize and work as a team to catch as many players as possible. (5min)

Organization. Students will start out in teams of four, later they will be able to choose playing levels and may be on larger or smaller teams.

Activity 1. Explain the game of pacman. The students will work in teams of four (ghosts) and the rest of the class will be pacmen/women. As the students can move only on the lines of the courts they have to be on constant lookout for escape routes working on their spatial awareness. As the ghosts catch students, the students sit down and act as roadblocks for the remaining players. The surviving pacmen and pacwomen cannot go through the roadblocks and therefore need a progressively more sophisticated escape plan. Let every student have a chance to be pacmen/women and ghosts. (15min)

Questions. What did you learn from this activity? What did you find worked well for you team? What did not work? (5min)

Activity 2. Explain that during today's games students will be able to choose playing levels. We will continue with basketball and the students will be able to choose between a high school level, college level, and a pro level. It is up to each student to assign him/herself to a court. When all the students have decided which court they want to play on, the next assignment is to choose two teams for each court. As this is accomplished, talk to the students about the concepts we have worked on such as creating space, supporting the ball carrier and covering on defense. These concepts will be used in the basketball game as well as they must pass the ball four times before they can score. The students will play two games where they will take time to discuss strategies. (25min)

Questions. Advantages or disadvantages of being able to choice playing levels? What worked for the teams? What did not work for the teams? (5min)

Lesson Nine.

- 1/2. Demonstrate individual tactics to defend and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 3. Demonstrate being able to move cooperatively as a small group.
- 15. Demonstrate quick changes of direction within boundaries.
- 5. Demonstrate effective basketball passing and dribbling skills.
- 9. Agree on rules in a small group setting.
- 13/14/. Demonstrate the ability to communicate strategies with team members prior to game start and during games and activities.
- 17. Demonstrate ability to alter tactics throughout a game based on ongoing results of the game.

Equipment. 8 basketballs, scrimmage jerseys, and cones to mark boundaries.

Procedure.

Opening. Explain that during last week's activities, I observed students' participation had increased and they seemed to enjoy the activities. However, I also observed that several students still had trouble keeping up on defense, in particular, when playing full court. Therefore, we will work some more on fitness development, spatial awareness, and defensive concepts. (5min)

Organization. Students will start out working in teams of four and later be in teams of four or five plus a coach.

Activity 1. Explain that this first activity is a game we have tried before and it is called the blob. We have changed it a bit in that we have made this a team effort. They are to work in teams of four. Out of the teams of four they will choose two

pairs. The two pairs will get 3 minutes to tag as many students as they can. When the students are tagged they form a chain. As more and more people are tagged and the chains get longer, taggers will be able to separate into groups of three. As students are tagged, more strategies are needed to trap survivors as well as escape. (12min)

Questions. How was this game different from the game we played last week? How did this affect the defensive concepts? the offense? (5min)

Activity 2. Ask the students to explain the difference between a person-to-person defense and zone defense. (guarding one person versus guarding a zone on the floor) Ask the students to explain when they would use a person-to-person defense (shooting from outside and if the opponent is slowing down). Ask when they would use a zone defense (if opponent shoots from inside or close to basket/goal and if opponents are faster than the defense) As the students are talking, write their ideas on the board and have them demonstrate along with suggestions. Explain that we will have opportunities to practice these concepts in full court games of basketball. They are to play four on four or five on five with a coach. Each team will have a work sheet and play three games. One game will be played with person-to-person defense only, one game will be played with zone defense only and a third game will be played using a combination of both defensive strategies. Each game will be six minutes long and each team will have opportunities to strategize before, during and after each game. (30min)

Questions. What defensive strategy worked best for your team? Which one gave you the most difficulties? How are the teams doing on planning together? How can you best support your team members? (5-6min)

Team Score Sheet (Lesson 9)

Game One

Coach: _____

Defensive Procedure: person to person

Game result: Won Tied Lost

Game Two

Coach: _____

Defensive Procedure: zone defense

Game result: Won Tied Lost

Game Three

Coach: _____

Defensive Procedure: person to person, zone, or a mixture of each

Game result: Won Tied Lost

Lesson Ten

Daily objectives.

- 1/2. Demonstrate individual tactics to defend and attack space.
- 10/11. Demonstrate team tactics to defend and attack space.
- 5. Demonstrate effective basketball passing and dribbling skills.
- 6. Demonstrate effective overhand throwing and catching ability.
- 7. Demonstrate effective soccer passing and trapping skills.
- 9. Agree on rules in a small group setting.
- 13/14. Demonstrate the ability to communicate strategies with team members prior to game start and during games and activities.
- 17. Demonstrate ability to alter tactics throughout a game based on ongoing results of the game.
- 18. Demonstrate ability to self-correct mistakes.

Equipment. 2 basketballs, 2 soccer balls, 3 Frisbees, 3 footballs, clip boards, cones to mark boundaries, and scrimmage jerseys.

Procedure.

Organization. Students will participate in soccer, basketball, ultimate Frisbee, and ultimate football. They will play in two sections. The first games will be ultimate games and the second games will be basketball and soccer. Students can choose playing levels during these activities.

Opening. Explain to the students that this is our last lesson from the Games for Understanding unit. We will fill out the third and last questionnaire for the study.

While the students fill out the questionnaire the courts will be made ready for the activities. (15min)

Activity 1. Explain that for this first section the students will be able to choose their own playing levels and teams (high school, college, and pro levels). Each level will play a game of ultimate Frisbee where they use as many of the tactical concepts as possible. The game will last about six minutes. Then they will be able to play a game of ultimate football. They can stay in the same teams or change. Again, try to work in all the concepts we have worked on during these last 10 weeks. (20min)

Questions. Ask the students to give some examples of defensive and offensive concepts which they used and which worked for their team. Ask them how they will be able to use these concepts in the next games. (3min)

Activity 2. Again, students will be able to assign themselves to team and playing levels. They will play basketball first and soccer next. Each game will last about six minutes and as in the ultimate games, students will use as many defensive and offensive concepts as possible while strategizing with their team members. (20 min)

Questions. Gather the students and thank them for their participation in this unit. Ask them to explain some concepts they found helpful today. Did the concepts transfer from one activity to the next? Ask if they were able to involve everyone on the team? Finally, talk about what concepts they learned from the invasion games category that they might not have known before? (5min)

Appendix B

Questionnaire One

1. List the 3 most important things that you have learned while participating in co-ed physical education classes.
2. When do you feel most successful in co-ed physical education classes?
3. Describe a skill or strategy that you have learned during co-ed physical education class that you think is helpful to you.

Questionnaire Two.

1. Based on the recent small team activities what new defensive skills/ strategies have you learned? What new offensive skills/ strategies?

2. Can you use those skills in other sports you participate in?

3. How do you think the small team selection has been working?

4. How can we improve the small team selection?

5. Does the number of boys or girls on a team influence its success?

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