A TEACHER’S INTERPRETATION AND APPLICATION OF TWO CONTEMPORARY MODELS OF SPORT AND GAMES EDUCATION: AN ECOLOGICAL PERSPECTIVE

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The purpose of this study was to describe and analyze task systems existing in a middle school physical education class in which the teacher utilized the Tactical Games (TGM) and Sport Education Models (SEM). One physical education teacher and a class of twenty-one eighth grade students were observed during twenty-two lessons. Systematic observation strategies were used to describe and analyze classroom tasks. Data collected through interviews supplemented data recorded through systematic observation and was used to triangulate the data. Data revealed high levels of success across skill levels and equitable opportunities for all students. Students were mostly compliant to the tasks presented by the teacher and enjoyed participating in them. The game centered approach of the TGM along with the team affiliation aspect of the SEM appeared to contribute most to the fun and enjoyment evident in the classroom. The teacher’s application of the TGM closely resembled the intent of the model as presented in the text (Mitchell, Oslin & Griffin, 2006) and was brought together with the SEM to facilitate an effective learning environment.
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CHAPTER I

REVIEW OF LITERATURE

TGFU/ Tactical Games: Development of Model

Sport related games have been the primary content taught in physical education for many years, particularly at the secondary level. The development of competence and proficiency in a game or sport as well as the understanding of the strategies and tactics needed to play the game are recognized as primary objectives of physical education programs (National Association of Sport and Physical Education [NASPE], 2004). It is assumed that individuals who are more competent and proficient at games or sports are more likely to be active participants in that activity and lead a more active lifestyle. Therefore, the ultimate goal of sport instruction is for students to be able to play the game with enough competence to experience the many and varied benefits of continued participation (Rink & Tjeerdsma, 1996). Physical education lessons have traditionally been structured around learning sport specific skills, with a major emphasis on the development of technique. This technical/skill based approach remains the most commonly used approach to teaching games in physical education.

Maulden and Redfern (1969) suggested games should be included in physical education curriculum only if they provide educational opportunities for all children. Consequently, they believed that physical educators not only teach the physical aspects of games, but the social, moral, and intellectual components as well. Also of note, Maulden and Redfern proposed: (a) developmental stages in games, leading to the development of skillfulness; (b) use of a problem-solving approach through game-like situations to
highlight tactical situations; (c) grouping skills according to generalized constructs (e.g., sending away, gaining possession, and traveling with an object); (5) games categories (net, batting, and running) as a way of addressing similarities and analyzing game play; and (6) games invention, as a means of giving children choice and an appreciation for the value of rules (Maulden & Redfern, 1969). The influence of Maulden and Redfern is evident in the development of tactical approaches to teaching games.

Teaching Games for Understanding

Dissatisfied with the de-contextualization by which games were being taught in physical education, Bunker and Thorpe (1982) proposed an alternative approach for teaching games in physical education known as Teaching Games for Understanding (TGFU). Based on the belief that knowing “what to do” and “when to do it” are as valuable as knowing how to do it, TGFU was designed to focus on the development of tactical awareness and decision making within the framework of an appropriate game or game form. Bunker and Thorpe believed games were motivational to students, could be modified to be developmentally appropriate, and could be conditioned to focus on the specific tactics that may arise within that game. The contextual reference a game provides allows students to connect the necessity of specific technical skills and the knowledge of how to apply them in the game. Bunker and Thorpe (1982) explained their reasoning for a new approach to teaching games:

It is our belief that if the emphasis is shifted to tactical considerations in a game, children will recognise that games can be interesting and enjoyable as they are helped and encouraged to make correct decisions based upon tactical awareness.
At this point children should begin to see the need for, and the relevance of, particular techniques as they are required in a game situation. (p. 5)

The TGfU model shifts games learning from an approach based on the development of techniques to a more student-based approach that links tactics and skills in game contexts. The technical approach assumes that a certain level of skill is necessary before game play can occur. In contrast to this belief, TGfU is characterized by a focus on the development of tactical awareness and decision making within the framework of an appropriate game, the use of modified games, and the teaching of skills when appropriate and always at the individual’s level. Bunker and Thorpe (1982) suggested each lesson start with a simplified game that could easily be understood, but still retain the essential elements of the real game. This approach focuses student attention on the problems posed by game situations and the solution to those problems.

The TGfU model is made of six phases, with the learner at the center: (a) game forms – developmentally and age appropriate games, not necessarily the full adult version of the game; (b) game appreciation – an understanding of the rules of the game; (c) tactical awareness – an understanding of how tactics are used in game play; (d) decision making – helping children understand “what to do” and “how to do it,” (e) skill execution – production of the required movement in the context of the game; and (f) performance – the observable outcome of appropriate responses as well as technical efficiency. As shown in Figure 1, this model of games teaching puts the learner at the center in problem-solving situations presented by the game being taught (Thorpe, et. Al 1986) (Lund & Tannehill, 2005).
Griffin, Mitchell and Oslin (1997) suggested that TGfU required considerable knowledge and tactical understanding of games, which prohibited many teachers from using the model, particularly given the extent of games content and constraints of public school physical education. Consequently, they simplified the original TGfU model to a three-stage Tactical Games Approach (TGA) that focused on the three essential components within a physical education lesson. The TGA focuses on the components of modified and small sided game play, development of tactical awareness and decision making through questioning, and the development of skill (Griffin & Butler, 2005) as well as on the ball and off the ball movements at the level of each individual (Allison & Thorpe, 1997). Modified games are designed or conditioned to highlight particular tactics that are found in a variety of games, such as defending a goal or space or advancing the
ball toward the goal or target. Game “conditions” relate to the rules, methods of scoring, and goal of the game, and serve to give the game structure and purpose. The TGA varied from TGfU in that it proposed a progression of games along with tactical- and skill-based practices in a game-practice-game format to accommodate and assist teachers with lesson planning and instruction.

Griffin, Mitchell and Oslin (1997), in their first text, suggested a tactical approach promotes greater interest to learn games, more understanding of game play, and improved ability to play games. Games were classified for instruction according to the similar tactics. Specifically, Almond’s (1986) classification system for games was adapted to the following four categories: invasion, net/wall, fielding/run-scoring, and target. The second edition of the text (Mitchell, Oslin & Griffin, 2006) expanded on games classifications and addressed the concept of games transfer. Games transfer is the idea that the understanding of tactics transfers positively among tactically similar games (Mitchell et al., 2006). The TGA also includes game frameworks, which identify the tactical problems and solutions common to the game. Furthermore, the games are broken down into levels of tactical complexity. These levels allow teachers to match the tactical complexity of a game with student development, which relates to developmental appropriateness (Mitchell, Oslin & Griffin, 2003).

Mitchell et al., (2003) published a second book for teaching games tactically at the elementary level. The book simplifies the teaching of tactical concepts and associated decision making processes, movements, and skills of sport for students beginning at approximately the second grade. In a thematic approach, teachers overlap the content
across the curriculum over a set period, while focusing on one theme (Graham, Holt/Hale, & Parker, 2004). This approach shifts from the teaching of individual games (e.g. soccer, badminton) to teaching units of games within the same games classification (e.g. net/wall, target & invasion). Students learn tactics across a game category rather than focusing on the skills of a specific game in isolation (Mitchell et al., 2003).

Those who have used the tactical approach have found it to be fun, exciting and motivational; an approach teachers have come to prefer (Mitchell et al., 2006). For many students, the inability to apply learned skills into game situations can lead to frustration and aimless participation. Other students perceive isolated drills as tedious and irrelevant to their performance during game play (Mitchell, Griffin, & Oslin, 1994). This may be the reason many students do not enjoy physical education (Carlson, 1995), and why others become disengaged (Cothran & Ennis, 1999). The tactical approach provides an exciting alternative through which students can learn to play games (Mitchell et al., 2006).

Metzler (2000) presented the TGA as a mainstream instructional model for physical education and termed it the Tactical Games Model (TGM). Metzler describes an instructional model:

An instructional model refers to a comprehensive and coherent plan for teaching that includes: a theoretical foundation, statements of intended learning outcomes, teacher’s content knowledge expertise, developmentally appropriate and sequenced learning activities, expectations for teacher and student behaviors, unique task structures, assessment of learning outcomes, and ways to verify the
faithful implementation of the model itself. The best instructional models link theories of teaching and learning to specific processes that a teacher should promote in the gymnasium (pg. 14).

With its emphasis on the values of learner-centered teaching and outcome-based planning, the tactical approach is an instructional model that enables teachers, students, parents, and administrators to promote the holistic and transformational education of children through the physical (Griffin & Butler, 2005). The TGM uses student interest in the game structure to promote skill development and tactical knowledge needed for competent game performance (Metzler, 2000). Game performance includes decision making, support play, marking/guarding, covering teammates, adjusting positions as the game unfolds, and ensuring adequate court of field coverage from a base position (Griffin, Mitchell & Oslin, 1997).

**Sport Education and Tactical Games**

In the book, *Teaching Games for Understanding: Theory, Research, and Practice* (Griffin & Butler, 2005), Collier (2005) suggests that the integration of the TGM with the Sport Education Model (SEM; Siedentop, 1994) affords teachers an opportunity to enhance the learning outcomes for their students. The SEM, developed by Daryl Siedentop (1994), is designed to educate students to be players in the fullest sense and to help them develop as competent, literate, and enthusiastic sportspersons.

A competent sportsperson has sufficient skills to participate in games and activities satisfactorily, understands and can execute strategies appropriate to the complexity of the activity, and is a knowledgeable games player…. A literate
sportsperson understands and values and rules, rituals, and traditions of sports and activities and can distinguish between good and bad practices in those activities…. An enthusiastic sports person participates and behaves in ways that preserve, protect, and enhance sport culture (p. 4).

The purpose of the SEM is to create a developmentally appropriate, authentic sport experience for girls and boys in physical education, in which all participate equally (Siedentop, Hastie, & van der Mars, 2004). Key features of the model include: seasons, affiliation, formal competition, record keeping, festivity, and culminating events. The less-is-more philosophy is foundational to the application of the model. Specifically, fewer activities should be taught in greater depth, and content goals should be expanded. Instructional units (seasons in the SEM) should last long enough for students to grow in the various outcomes and roles expected of them. At least twenty sessions is recommended (Siedentop, Hastie & van der Mars, 2004).

The thoughtful and purposeful integration of the SEM with the TGM may double the success of physical education students. Accordingly, combining several components of the two models results in sporting experiences that are richer than what the individual models could provide in isolation (Collier, 2005). Collier (2005) suggested the two models are compatible for a number of reasons: (a) the intent of both models is to better serve all children by providing developmentally appropriate sport and game experiences; (b) play theory is foundational to both models; (c) playing the game is a central organizing feature for both models, in which healthy competition is emphasized. Specifically, the final game in the TGM model can serve as the competitive schedule in
the SEM; and (d) both models use learning experiences that represent authentic sport and game experiences. Designing developmentally appropriate games and sport experiences is critical to the success of both the TGM and SEM (Collier, 2005).

**Prior Research in Tactical Games**

As tactical models of games teaching began to receive more attention, researchers sought to determine whether a technical or tactical approach was best for teaching games in physical education. A number of studies compared the two approaches (Allison & Thorpe, 1997; Turner & Martinek, 1992; 1999; French, Werner et al, 1995; French, Werner, Rink et al, 1995; Griffin et al., 1995, 1997; Mitchell et al., 95; Mitchell, Oslin, et al, 1995). All of the studies occurred in naturalistic settings and were taught by physical education specialists trained in either TGfU (Allison & Thorpe 1997; Turner & Martinek 1992, 1999), TGM (Griffin et al. 1995; Mitchell et al., 95; Mitchell, Oslin et al., 1995) or a modified TGfU, which did not include any technical instruction (French, Werner et al, 1995; French, Rink et al, 1995).

Turner and Martinek (1992) compared skill and tactical approaches in a ten lesson field hockey unit with sixth and seventh grade students. Tests of skill, knowledge and game play were the means of data collection. No differences between the treatment groups on measures of declarative and procedural knowledge were reported, although both treatment groups demonstrated significant improvement in tactical understanding and scored significantly higher than the control groups.

Turner and Martinek repeated their study in 1999. The study was of a 15 lesson field hockey unit with sixth and seventh grade students. A control group was taught
softball during the study. Unlike the first study, the TGfU group scored significantly higher than the technical or control groups as well as better dribbling and shooting execution during game play. Skill test performance measures for skill accuracy showed no significant difference between skill and tactical groups, but the technique group scored significantly higher than the control group on speed. They suggest the technique groups success was likely the result of the similarities between the skill test and the content of the technique group’s lessons. Although the technique group demonstrated significantly better speed during the skill tests, they were unable to control the hockey ball during small-sided game conditions. However, the TGfU group was able to control and pass the hockey ball more effectively during posttest game play than the technique and control groups.

Griffin, Oslin and Mitchell (1995) examined tactical and skill based approaches to teaching net games with two classes of sixth grade students during a nine week volleyball unit. One class was taught using a tactical approach, and the other was taught using a skill based approach. Pretest and posttest scores of students’ knowledge, skill, and game performance were collected. The study revealed both groups improved significantly in tactical knowledge, but posttest scores for the tactical group were significantly higher than the skill based group when adjusted for the pretest scores. According to their analysis, the tactical approach was also effective in improving game performance (Griffin, Oslin & Mitchell, 1995).

There were no significant differences between the groups in terms of motivation, skill, or skill related knowledge, but tactical knowledge improved significantly in the class taught by the tactical approach. Game performance also improved.

Allison and Thorpe (1997) compared the TGfU approach to the skill-based approach in a class of ninth grade boys, and a class of 8th grade girls. Data were collected throughout a twelve week basketball unit with the boys and hockey unit with the girls. Results of pretests and posttests of the students’ skills, knowledge, and enjoyment suggest that students taught using the TGfU approach improve more in skill execution, and game knowledge. Low skilled students also reported higher levels of enjoyment in the TGfU classes.

French, Werner, Rink, Taylor and Hussey (1996) compared technical and tactical approaches in a thirteen lesson badminton unit. TGfU was the tactical approach used in this study, but was modified so that no explicit skill instruction was introduced. Students were assigned to three treatment groups and a control group. The treatment groups were a skill group, tactical group, and combination of both skill and tactical group. Skill tests, game play, point interviews, and a knowledge test were used for data collection. The skill, tactical and combination groups exhibited better performance than the control group on decision-making components of performance and some measures of skill execution during game play, but other differences were not statistically significant.

French, Werner, Taylor, Hussey, and Jones (1996) replicated the previous study with ninth grade students in a 30 lesson badminton unit. They suggested treatment differences in student performance may only emerge when instruction is conducted over
a longer unit. Like the first study, all treatment groups achieved higher levels of cognitive and skill performance than the control group. The skill and tactical groups also performed better in aspects of game play. It was suggested that the skill group scored better than the tactical group, but the results were not statistically significant.

This series of comparative studies looked at the effects of the two instructional approaches on cognitive and skill components of game performance, but the findings between the two approaches were not significant. The degree of variability between content, instructional tasks, instructional methods, instructors and contexts makes it difficult to determine the superiority of the technical over the tactical methods of teaching games (Oslin & Mitchell, 2006). The research does suggest that tactical approaches do improve: skill execution in game play (Turner & Martinek, 1999); decision making (Allison & Thorpe, 1997; Griffin, Oslin et al., 1995; Mitchell, Griffin et al., 1997; response selection and response execution (Turner & Martinek, 1999); and improved game involvement (Mitchell, Oslin et al., 1995). Rink (1996) states, “it is unlikely that we scholars will be able to generate a definitive answer to the question, ‘Which is the best way to teach?’ when this research runs its course (p. 417).” Therefore, as opposed to research focused on determining which approach is “better,” it has been suggested that greater benefits would result from studies focused on the teaching/learning process (Rink 2001).

Researchers have begun to look at the processes involved in teaching and learning of tactics in naturalistic settings (Rovegno, Nevett, & Babiarz, 2001). Rovegno et al. (2001) found that children’s tactical abilities differ with experience. Success for
beginners is more likely based on skill execution, whereas successful performance for others maybe more affected by children’s knowledge of tactics. This study suggests examining knowledge, skill and tactical performance, and the teaching of tactics is valuable.

A few studies (Light 2003, Howarth & Walkuski 2003, Sweeney, Everitt & Carifio 2003, Butler 1993) have considered teacher and preservice teacher response to tactical approaches. Teachers in these studies reported that students were more engaged and less teacher dependent. The teachers tended to ask fewer managerial questions and more cognitive questions, particularly higher order questions, when teaching via TGfU.

Ecological Analysis

Research in the field of physical education has made significant gains over the last 25 years. New methods of conducting research on teaching and learning have been developed and applied. Of particular interest to this study was the ecological model for analyzing classrooms developed and described by Walter Doyle (Doyle 1977; 1979) through a series of studies and publications in the late 1970’s. Doyle believed a better understanding of classroom environments could produce useful results on how learning occurs, where prior research in the field of education had failed. He suggested an ecological model be used to define and interpret how classroom tasks are structured and described it as an analytical framework for understanding how classrooms work. Doyle was concerned with the traditional process-product research in the field of education. He argued that too much attention was focused on teachers as the cause of learning in the classroom, and that there are more variables in a classroom that influence learning than
simply the teacher. Doyle (1979) suggested the activities that occupy students’ time
during instruction are an important factor to consider when studying learning, “Although
it seems self-evident that the amount of practice is related to mastery, it is important to
understand how this relationship operates in the classroom (p. 185).” Having stated his
discontentment with previous product-process models for doing research, Doyle
developed a framework for understanding what occurs in a classroom.

The framework Doyle suggested included four major features. The first feature is
the concept of reciprocal causality. This concept is based on the idea that students have a
significant impact on what occurs in a classroom. Not only should research look at how
teachers influence students, but also how students influence teachers. The second feature
is an information-processing view of the mediational strategies students use to navigate
classroom environments. Specifically, what are the cognitive operations that influence
achievement? The third feature is a differential perspective for the analysis of effects in
classrooms. Studies should focus more on teaching processes instead of strictly looking at
mean scores. The fourth and final feature of the framework is the systemic view of the
natural classroom environment. This is the foundational principle of Doyle’s ecological
model. Classroom environments are complex; the systems that occur in a classroom are
interrelated. The changes that occur in one system are likely to influence what occurs in
another system (Doyle, 1979). From this framework he developed an ecological approach
to research on teaching.

The ecological approach to research on teaching has three basic dimensions. First,
the analysis should take place within its natural environment. Specifically, research on
teachers and students should take place within the classroom setting with real teachers and real students. Secondly, the analysis should account for the actions of teachers and students in relation to their environment. This occurs by defining the dimensions of the classroom environment and by identifying the strategies teachers and students use to achieve success. To elaborate, an analysis of the tasks teachers present does not explain thoroughly what students learn; the student response to the task provides a better understanding of how students learn (Tousignant, 1982). Finally, the analysis should focus on “why” teachers and students do the things they do in the classroom. From an ecological perspective, what students learn is a function of what tasks are selected and what operations are performed in accomplishing those tasks. The analysis is directed at the ways in which the structure of academic tasks interacts with the strategies of students to influence achievement.

Marielle Tousignant (1982) was the first to apply Doyle’s model in field of physical education. Tousignant designed the study to provide information about how teaching and learning occurs in physical education. Tousignant analyzed the classroom functions of teachers and the engagement patterns of students in secondary physical education classes. The methods used in this study were mostly qualitative. For this study, field notes, time logs, and group time samplings were used to produce narrative accounts of the events observed in each class. She focused on: (a) the tasks asked of students and the environmental factors surrounding accomplishment of those tasks, (b) how the tasks were presented by the teacher and the reaction of students to the task demands, (c)
accountability and responsibility related to tasks, and (d) a description of the task systems operating in the physical education classroom.

Tousignant (1982) along with many subsequent studies (Alexander, 1982; Tinning & Siedentop, 1985) confirmed Doyle’s findings of instructional and managerial task systems. Time analysis of the two systems revealed that students spent about 50% of the allocated time for each lesson in management type tasks; likewise, less than 20% of the students were engaged in the instructional task. Transitional tasks were also revealed. Tousignant described a transitional task as the operations that a student has to accomplish so an instructional task can take place. She identified what she termed “task structures” and defined them as patterns for organizing and implementing subject matter and non subject matter activities.

With regard to task characteristics, Tousignant categorized the tasks presented as implicit, generally explicit, or specifically explicit. She found tasks were often presented with little or no information. Teachers assumed that students had prior knowledge that would enable them to perform and execute tasks. Many tasks were presented multiple times. Managerial tasks were focused on attendance, clothing, and behavior. Instructional tasks were focused on skill acquisition and cognitive tasks were rarely addressed. Even when a cognitive task was presented to the students, students did not have to show that they had acquired any knowledge. The tasks that were explicitly presented were contingency developed, meaning that students were able to change the requirements of a task from what the teacher intended to that which they could accomplish. Tousignant termed this observation “actual task” and defined it as the responses students must emit to
cope successfully with a situation; the actual task is developed by the responses that the
teacher actually accepts. She attributed this finding to a process of negotiation
contributing to the level of cooperation between teachers and students. Moreover, it was
concluded that this negotiation was unique to physical education and did not occur in the
classroom setting.

Tousignant’s study also began a line of research focused on the interaction
between the tasks teachers present and the student behaviors that result. She categorized
the student behavior observed as on task, engaged in modified task, off-task, and
competent bystander. She found that the nature of the tasks was affected by the
accountability systems that were in place. She identified both formal and informal
accountability systems. Teachers put more emphasis on accountability in managerial
tasks than instructional tasks. Accountability on performance was minimal. A
“competent bystander” understood the accountability systems in place and had the ability
to hide low levels of participation within the task structures. This coincides with the busy,
happy, good philosophy that Placek (1983) observed in her research. Tousignant
concluded that students learn better when they are held responsible for learning and
evaluation is an important and essential part of learning. Students behave differently
under different accountability systems; students meet the task requirements for which
they are held accountable.

Ken Alexander (1982) conducted the second the study on task systems in physical
education. He believed that applied behavioral analysis (APA) methodology could be
used to describe tasks and accountability in physical education. He used this method to
measure student responses according to movement pattern, time, and distance. Descriptive data were also collected on task statements, student performance, teacher monitoring, and accountability. These two methods combined produced both qualitative and quantitative data for analysis. One target student was observed over a period of 26 physical education lessons. Each lesson was both audio and video recorded.

Alexander built on the work of Tousignant (1982) and proposed to discover the relationships between students’ behavior and their educational environment. The contingency of reinforcement model developed by Alexander was built on Tousignant’s (1982) work and divided into three phases. The research questions were designed to address each phase. Alexander asked the following three questions: (1) What were the stated tasks and their specifications, (2) How were tasks performed by as selected student, and (3) What events followed task performance? Ultimately, Alexander wanted to know the type of tasks for which students were actually held responsible.

Alexander supported Tousignant’s (1982) findings of managerial and instructional task systems. Tasks within the managerial system included tasks which were stated, executed, and dealing with non-subject matter content. Alexander found that tasks within the managerial system were fully described and highly routinized. The managerial tasks were specified in greater detail than instructional tasks. The instructional tasks were rarely explicit and usually lacked performance criteria. However, the students were usually engaged in the stated task and little modification was evident. Students were rarely held accountable for the criterion that was stated. This is in accordance with Tousignant’s (1982) findings. Alexander added that to fully account for all task
statements, data collection should occur both while a class or group is undergoing instruction as well as the when individual students are being supervised. Like Tousignant, Alexander also found that students did what they had to pass physical education. Requirements for passing physical education included attending and participating in scheduled activities.

Richard Tinning (1983) was the third to study task systems in physical education. He adapted task systems theory and applied it the student teaching experience. His research focused primarily on: (a) tasks in student teaching; (b) accountability in student teaching; and (c) the function of supervisor monitoring in student teaching. Tinning utilized a case study design that included a student teacher, two cooperative teachers, and a university supervisor. He used descriptive qualitative procedures to describe the characteristics of tasks within student teaching. Unlike Tousignant (1982) and Alexander (1982), Tinning developed three different categories to examine task systems in physical education that were more appropriate for analyzing student teaching. The task systems were teaching tasks, organizational tasks, and social tasks.

The tasks observed were found to be either implicit, partially explicit, or fully explicit (Tousignant, 1982, & Alexander, 1982). Teaching tasks were direct instructional episodes between the teacher and the student. Organizational tasks were related to instructional preparation, and social tasks served to maintain quality interpersonal relationships, with those having a direct relation to the experience including, supervisor, cooperating teacher, and students. Teaching tasks were designed to reduce the complexity of the gymnasium and modeled after the cooperating teacher. Social tasks were seen as a
hindrance to creativity, because of the student teacher’s desire to please those around them. Tinning described two types of accountability, formal and informal. Like Tousignant (1982), Tinning explained formal accountability as tasks that affect grades and informal as tasks not affecting grades. Tinning and Siedentop (1985) found that the application of Doyle’s concepts of task and the notion of accountability to the student teaching process proved to be a valuable framework for understanding the nature of the teaching-learning process within student teaching.

Mary Marks (1988) conducted a study on task structure in physical education with the purpose of developing a systematic observation system that would analyze tasks and examine the nature of academic tasks and how they are applied in the physical education classroom. A second purpose was to assess the number of task statements teachers use and determine their relationship to student accountability. The final purpose was to measure tasks in a variety of physical education settings. Marks observed eight physical education teachers at elementary, middle and high school. At each school, one student was chosen as the target pupil for observation.

Marks designed the Task Structure Observation Instrument (TSOI), which incorporated both descriptive and categorical forms of data collection. It was designed to be used for various activities and grade levels. She divided her study into three stages. First, she did an extensive literature review which revealed the need for an observation instrument on task structures, and the variables to be analyzed. Secondly, the observational instrument was developed and refined. This phase included field testing for
validity and reliability. Thirdly, the instrument was used for data collection in a variety of contexts.

Marks determined the TSOI to be a reliable source for collecting data in the classroom. The instrument was shown to be reliable and valid in a variety of contexts. Her investigation showed that tasks were communicated implicitly and partially explicitly, but very rarely explicitly, supporting the findings of the previous studies on tasks (Tousignant, 1982; Alexander, 1982; Tinning, 1982). Marks found that some teachers tried to cover too much content in a lesson, while others applied the “cover-but-not-learn” method of teaching. Teachers in this category desired to gain student cooperation and control by maintaining a fun environment. Students were not held accountable for learning. Thus, advanced skills were not developed.

Like Tousignant (1982), Marks found that students negotiated tasks in a non-verbal manner. Students were able to modify tasks as a result of incomplete task specification. Furthermore, the teacher accepted a wide range of student responses. Students were held accountable for attendance and dressing, but there was very little accountability within the actual activities.

Although Marks described the instrument as reliable and valid, she suggested the Student Engagement Rating (SER) did not provide useful data. She suggested that observers spend a “considerable” amount of time in classrooms to get an accurate measure of task development. She recommended following an activity unit from beginning to end.
Diana Jones (1989) examined task systems existing in two elementary school physical education classes. Data were collected through the use of two observation systems. The Rules, Routines, and Expectation System (Siedentop & Fink, 1988) was used to observe and describe how the teacher established classroom rules, procedures, and routines. Jones designed the Task Structure Observation System (TSOS) by combining the work of Doyle (1979), Rink (1979), and Marks (1988). The TSOS is an observation system which would record qualitative as well as quantitative data. Time measurements and field notes were also used for data collection.

Managerial and instructional task system had been revealed in previous studies (Tousignant, 1982; Alexander, 1982; Tinning, 1983; & Marks, 1988). Jones turned her focus to the unique aspects of each task system. Within the managerial system, she focused on how quickly students complied with the task demands, how compliant students were to the task, and the type of subsequent events following compliance. Within the instructional system, she focused on explicitness and length of task description, student response to the task, which involved opportunities to respond and/of activity time, the success rate of students, and task modifications. Teacher responses to students and consequences for student performance were also considered. Jones also looked at the accountability systems operating in the elementary school physical education classes.

Jones found tasks in the managerial system were explicit. These tasks were taught at the beginning of the year and became highly routinized, although new routines were often established at the beginning of a new unit. These tasks included routines for entry,
warm-up, transitions, and exit behavior. Instructional tasks were focused on the presentation and practice of activities. The instructional task statements were fully explicit, partially explicit, or implicit. If not explicit, criteria defining task accomplishment was usually left out. Jones classified the instructional tasks as informing, extending, refining, reviewing, applying, or routines. Generally, the teachers would present the information, add extensions, and apply the skill in a game form. Review from lesson to lesson did occur, and some instructional tasks did become routinized. Jones observed a new task system, which she called the students social system. The student social system focused on the interactions between students during a class.

Jones (1989) detailed student responses to task demands, and the teachers’ response to the student responses. The students in this study negotiated task demands both physically and verbally. The students understood what their teacher considered acceptable, and responded within parameters of their teacher. Physical modifications often went unnoticed. Teacher responses were categorized according to the task system to which they aligned. Management responses focused on dealing with inappropriate behavior, orchestrating transitions and equipment set up and take down, and treating injuries. Instructional responses involved various forms of monitoring such as providing skill feedback, prompting, one-on-one work, spotting, and refereeing, silent observation, answering questions, and modifying tasks. Responses included in the social task system were identified as informal social interactions, teasing students, learning students’ names, and cheering students on. Overall, students exchanged performance for such things as teacher approval, peer acceptance, special awards, and social reinforcers.
Jones (1992) described an overlap that occurs between task systems, “managerial, instructional, and social task systems did not operate exclusively, but interacted with one another (p. 420).” She found student cooperation could be achieved in the managerial system by eliminating or reducing instructional demands.

Carlson and Hastie (1997) used Doyle’s ecological model in a study of the student social system existing in a SEM season. Data were collected from field notes, videotape recordings, and interviews with the students and teachers. They found that in SEM much of the instruction and management is done by the students fulfilling their team roles. As a result, the instructional and managerial systems become part of the student social system. Carlson and Hastie (1997) suggest fulfillment of the roles enhances a sense of accomplishment and the students preferred peer coaches to the teacher. They concluded that SEM is a model in which student can socialize while still engaged in an instructional task, thus the student social system actually supports the instructional task system.

Hastie (2000) then did an ecological analysis of an entire SEM season. He used similar methods to the Carlson and Hastie (1997) study, but the lessons were also videotaped and everything the teacher and target student said was also recorded. Hastie (2000) wanted to identify how work was accomplished throughout the SEM season. He found student compliance and engagement levels to be high and very little negotiation between the students and teacher. He suggested these outcomes are the result of three concurrent and interdependent vectors: (a) the teacher’s managerial system and accountability; (b) the student social system; and (c) the content-embedded accountability. When the three vectors work together, the teacher is enabled to empower
students by giving them responsibility, which allows the teachers to spend more time helping students and assessing progress. Hastie (2000) also suggested that student leadership can be problematic because of their limited expertise, and that lower skilled students do not receive the quality practice they need.

Recent applications of Doyle’s ecological model in the field of physical education have focused on the dual relationship of teacher/coach (Pagnano, 2004) and students’ and teachers’ perceptions of instructional alignment (James, 2003). Furthermore, the teacher/coach’s ability to develop rapport and build relationships with students and contributed to a positive learning environment. In a similar study, James (2003) found the teachers goals did not align with what the students perceived they were to learn. Pagnano (2004) revealed a similarity and compatibility between teaching physical education and coaching a sport.

Didactics

Didactics is a form of research methodology, which has theoretical connections with the concepts of task modification and accountability addressed in the ecological perspective (Amade-Escot, 2000b). Researchers form both perspectives focus on implementation of academic goals and content in the physical education classroom, as well as the study of the continual, inevitable changes observed during the teaching learning process. The difference is that the ecological perspective focuses on cooperation and didactics focuses on academic work (Amade-Escot, 2000a).

Didactics research emerged from a search for a more precise way of analyzing the situation-specific nature of knowledge formation during the interaction of teacher,
student, and the knowledge taught during the teaching-learning process (Wallhead, 2004). This research perspective stresses that the students and the teacher have a specific relation to the content taught which determines the evolution of the academic work during classroom interactions (Amade-Escot, 2000a). Researchers in didactics consider that the didactic contract (the set of negotiations, usually implicit, between teacher and students about the knowledge taught in a given situation) is the continuation in action of the didactic transposition (Amade-Escot, 2000b). This complex process is subject to the constraints of classroom interactions and negotiations, which continuously modify the content to be taught and learned through tacit and implicit interplay among students and teachers, and an instructional environment in which the knowledge or know-how is embedded (Amade-Escot, 2005). Didactic research makes a distinction between content and objective. The term objective describes the outcomes of the learning expected by the teacher. The term content refers to the motor cognitive, social, and affective transformations underlying the achievement expected. The purpose of didactic interactions is to provide descriptive awareness of real practice, but Amade-Escot (2005) points out that some critical incidents are at the heart of content development in the classroom. These incidents occur when the students and teacher struggle to construe a common meaning and achieve their own but interrelated goals (Amade-Escot, 2005).

Didactic studies confirm that the knowledge to be taught and the knowledge actually taught undergo complex transformation processes at various stages of selection and teaching, which fundamentally distinguishes this knowledge from its origins in academic knowledge (Amade-Escot, 2000b). Researchers in didactics approach their
research on three scales: a macro, a meso, and a micro level. At the macro level, researchers examine curricula and pay attention to the transformations that knowledge and social practices undergo when the institution designates them as subject matter to be taught. Meso level studies focus on the way knowledge in a discipline is reshaped into knowledge accessible to the students. The micro level studies in didactics are concerned with implementation in the classroom (Amade-Escot, 2000b).

Didactics research is organized around two main orientations: the design of new content in physical education and a better understanding of how the “didactic system” of physical education works (Amade-Escot, 2000). The first orientation is to develop new approaches and design content in physical education. The second is to study the didactic system of physical education thoroughly with the aim of better understanding how it works. Research questions seek to grasp the modes of selection, elaboration, and treatment of content, the difficulties of transmission, the conditions in which the students appropriate content, and the constraints operating on this double process. From the didactics research conducted at the classroom level, Amade-Escot (2000) develop three models of didactic transposition. The first model is centered on decontextualized gestural forms to be reproduced, similar to Rink’s (1993) skill based teaching approach. The second model presents a set of principles of action and action rules drawn from high level activity. Wallhead (2004) suggests this model has similarities with the TGM (Mitchell, Oslin, & Griffin, 2006). The third model is for discovering operative action rules according to the context, the problem set up, and the students’ level, and is similar to Mosston’s and Ashworth’s (1990) guided discovery model of teaching (Wallhead, 2004).
Amade-Escot (2000) has suggested that during these models of transposition negotiation occurs between students and the teacher and there are changes in the observed teaching content and knowledge as they (content and knowledge) manifest themselves within situations and activities. Within didactic research, this process of negotiation is defined as “stretching the didactic contract” and the observed changes from “intended teaching content” to the “content really taught” is described as didactic transformation of content.

Critical Didactic Incidents (CDIs) are critical situations in which, despite teacher efforts to help students grasp the content to be learned, most of the students encountered difficulties in achieving the desired learning outcomes. A CDI concerns an event, which is defined as a set of activities linked with the content intended to be taught and learned in a task, in which students and teacher struggle to construe a common meaning and achieve their own but interrelated goals. Methodologically, CDIs are collected through direct observation in the classroom. Amade-Escot (2005) presents rules of didactic observation:

“(1) Didactic observation focuses on the content knowledge really taught, and perhaps learned, and its ongoing evolution during everyday classroom interactions and implicit negotiations; (2) The particular phenomenon that is investigated is the functioning of the didactic system; therefore, the data collected must include teacher activity, students’ activities, and content knowledge embedded in the process; (3) The didactic observation combines interviews of the different participants and observation of their activities in context; and (4) Interpretation of
the data is conducted by confronting the priori (analysis of the design of the task and the assignments given by the teacher to the students) analysis and the a posteriori (analysis of the interpretation of the events that occur during the observed situation) of what is at stake in the process (p. 135-136).”

Wallhead (2004) applied didactic research methodology to examine the evolution of content knowledge in Tag Rugby Sport Education season. The didactic protocol included collecting data regarding student intentions, actions and interpretations of content through the use of lesson observation and pre- and post-lesson participant interviews. Data analysis consisted of the identification of problematic episodes in the teaching-learning process or Critical Didactic Incidents (CDIs) during the peer assisted learning tasks and a search for configurations in the data across episodes. Participants demonstrated a high level of engagement and compliance with the intended content of the peer assisted learning tasks. Results revealed the instructional approach of peer teaching to be effective in developing participants’ knowledge of many of the lower complexity tag rugby content learning goals of the unit. Content learned seemed dependent on the quality of ‘coach’ preparation provided by the teachers. In his study, Wallhead (2004) found teachers who used the SEM must adequately prepare the student coaches for the tasks by teaching them, not only relevant content but also pedagogical principles required to effectively elaborate the intended content.

Case Study Methodology

Case study is a kind of qualitative analysis involving in-depth analysis of a specific case. A case can be a person, program, institution of group (Patton, 1990).
Patton (1990) describes case study as, “a specific way of collecting data, organizing data, and analyzing data. The purpose is to gather comprehensive, systematic, and in-depth information about each case of interest (p. 384 ).” Similarly, Yin (1994) defines case study as, “An empirical inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used (p. 23 ).” The goal is to collect as much information about the case as possible. This information may include interview data, observation data, documentary data, and impressions and statements expressed about a case over time (Patton, 1990). Soy (1996) outlined a six step process for conducting a case study: (a) determine and define the research questions; (b) select the cases and determine data gathering and analysis techniques; (c) prepare to collect the data; (d) collect data in the field; (e) evaluate and analyze the data; and (f) prepare the report.

The case study has been used in dealing with critical problems of practice and extending the knowledge base of various aspects of education, physical education, exercise science, and sport science (Thomas & Nelson, 2001). Case study methodology excels at bringing us to an understanding of a complex issue and can extend knowledge or add strength to what is already known through previous research. The case study focuses on the events, conditions, and relationships that occur within a specific context (Soy, 1996). Case studies can be either descriptive, interpretive or evaluative (Merriam, 1998). A descriptive case study presents a detailed account of the phenomenon and often is used in comparative studies and theory building (Merriam, 1998). “Innovative
programs and practices are often the focus of descriptive case studies in education” (Merriam, 1998, p. 38). Interpretive case studies also provide a rich description of the case, but are used to illustrate, support, or challenge a theory. “Evaluative case studies involve description, explanation, and judgment” and are a valuable tool for evaluators when they are attempting to better understand program dynamics (Merriam, 1998, p. 39).

Case studies have been used for instructional use in the field of education (Tellis, 1997). By conducting studies within the context of the classroom, researchers in the field of education have generated at least some of the answers regarding good teaching, and have helped to improve teaching methodologies (Darst, Zakrajsek & Mancini, 1989). The results of a single case study should not be generalized or applied to populations; rather, the results of a single case can be used to develop theory (Yin, 1994).
CHAPTER II
JOURNAL ARTICLE

Introduction

Problem

Teaching Games for Understanding (TGFU) (Bunker & Thorpe, 1982) and Tactical Games (Griffin, Mitchell & Oslin, 1997) approaches of teaching physical education have become viable and widely used alternatives to the traditional technical approaches. Advocates of tactical approaches suggest traditional games teaching has done little to educate students about games playing. Physical education lessons have traditionally been structured around learning sport specific skills with a major emphasis on the development of technique. An underlying assumption of the technical approach is that a certain level of skill is necessary before game play can occur, which often leads to isolation of skill practice apart from the game context. For many students, the inability to apply learned skills into game situations can lead to frustration and aimless participation (Mitchell, Griffin & Oslin, 1994). This is especially true for lower ability students, creating an elitist environment (Griffin, Mitchell & Oslin, 1997). The stronger students dominate game play while lower ability students have little opportunity to improve. This may be the reason many students do not enjoy physical education (Carlson, 1995), and why others become disengaged (Cothran & Ennis, 1999). In an effort to develop life long games participants, it is important not only to provide students with the knowledge and skills necessary for participation, but to create an environment and present the content in
a manner that fosters excitement and interest in games by which participation will continue.

Tactical models were designed as student and game centered alternatives to the technical approach. In contrast to the technical approach, tactical approaches do not align with the notion that a certain level of skill is necessary to play a game. Maulden and Redfern (1969) suggested games should be included as the basis of a conceptual approach to physical education. Bunker and Thorpe (1982) similarly proposed that knowing “what to do” and “when to do it” are as valuable as knowing how to do it. Adhering to that belief, they designed the Teaching Games for Understanding (TGfU) approach. Griffin, Mitchell & Oslin (1997) simplified TGfU into a three-stage Tactical Games Approach that could be more easily administered in schools. Metzler (2000) suggested the Tactical Games Approach be used as a mainstream curriculum model and termed it the Tactical Games Model (TGM). Both TGfU and TGM are focused on the development of tactical awareness and decision making within modified and small sided games, and the teaching of skills at the level of each individual (Allison & Thorpe, 1997). Those who have used the tactical approach have found it to be fun, exciting and motivational; an approach teachers have come to prefer (Mitchell, Oslin & Griffin 2006). As tactical approaches of games teaching began to receive more attention, researchers sought to determine whether a technical or tactical approach was best for teaching games in physical education, but the results of these studies have been varied and conflicting (Allison & Thorpe, 1997, French, Werner, et al 1996, Rink , French, et al 1996, Turner & Martinek, 1992,1999, Mitchell, Oslin & Griffin, 1995, Mitchell, Griffin
& Oslin, 1995). As opposed to research focused on determining which approach is “better,” it has been suggested that greater benefits would result from studies focused on the teaching/learning process (Rink, 2001. Most of the research examining the teaching and learning of tactics has occurred in naturalistic settings (Rovegno, Nevett, & Babiarz, 2001), but research on how teachers interpret and apply tactical approaches is limited. A few studies (Light, 2003, Howarth & Walkuski, 2003, Sweeney, Everitt & Carifio, 2003, Butler, 1993) have considered teacher and preservice teacher response to tactical approaches. Teachers in these studies reported that students were more engaged and less teacher dependent. The teachers tended to ask fewer managerial questions and more cognitive questions, particularly higher order questions, when teaching via TGFU. This study expands research on tactical approaches by investigating how TGM is interpreted and applied in physical education and the degree to which it promotes student interest and engagement in games curriculum.

Purpose of the Study

The primary purpose of this study was to describe and analyze task systems existing in a middle school physical education class, specifically, a physical education class in which the teacher utilized the TGM of teaching sport concepts and skills. The research focused on the interpretation and application of the TGM by a teacher, as well as student responses. Prior research (Alexander, 1982; Jones, 1989; Hook, 1995; Marks, 1988; Tinning, 1983; & Tousignant, 1982) established that three major task systems exist in physical education: managerial, instructional, and student social. This study describes
how these three task systems are represented in lessons taught by a teacher using the TGM in a physical education setting.

Within the managerial task system, the study considered tasks devoted to class business that are unrelated to instructional activity (Hastie, 1994), such as student conduct, class organization, or routines. Within the instructional task system, the study considered teacher presentation of the content; specifically, the study determined the degree to which the teacher’s presentation of the content aligns with the student centered approach proposed by the designers of TGM. Other considerations within the instructional system were the nature of the task, opportunities to respond, activity time, student engagement, as well as task extensions and modifications. The study described the impact of the student social system on student compliance and task performance.

Research Questions

The following questions will be used to guide the study:

1. How does the teacher interpret and apply the tactical approach of teaching games?
   a. What are the characteristics of an instructional task in tactical games lesson?
   b. What is the predominant teaching style within a TGM lesson (Mosston & Ashworth, 1990)?

2. How do students respond to tasks presented in tactical games lesson?

3. How does the teacher respond to student compliance and noncompliance to tasks?
**Significance of the Study**

The study of task systems has produced significant understanding of tasks within the context of physical education (Allison & Thorpe, 1997; Turner & Martinek, 1992; 1999; French, Werner et al, 1995; French, Werner, Rink et al, 1995; Griffin et al., 1995, 1997; Mitchell et al., 95; Mitchell, Oslin, et al, 1995). Doyle (1979) first described how tasks occur in the literature on teaching and learning in the classroom, and developed an ecological model to define and interpret how tasks are structured. Doyle believed a better understanding of classroom environments could produce useful results on how learning occurs. He suggested that what occurs in a classroom is not entirely dependent on the teacher; instead, classroom events are the result of a dynamic interplay between two interdependent task systems. Doyle postulated that while teachers certainly do affect student work in classrooms, student behavior also has significant impact on teacher decision making and action even to the extent that student behaviors were often a cause of observed teacher behaviors (Doyle, 1977).

Doyle’s model was first applied to physical education by Tousignant (1982). Subsequently, other studies focused on task systems in physical education (Alexander, 1982; Tinning, 1983; Marks, 1988; Jones, 1989; & Hook, 1995). Marks (1988) and Jones (1989) developed an observation system to analyze task systems in physical education. This line of research resulted in detailed descriptions of how teachers present content in physical education, and the student responses to the tasks they were asked to do.

Physical Education Teacher Education (PETE) programs have used the knowledge gained from these studies to provide future teachers with an understanding of
tasks and how they are developed and presented, the different task systems that make up the ecology of physical education, and the negotiation that occurs between students and teacher in the task systems (Siedentop & Tannehill, 2000). The application of this research methodology to Tactical Games teaching may provide valuable information regarding how teachers interpret and apply TGM.

The TGM was designed to be a student centered game model, taught using both direct and indirect teaching styles, and focused on problem solving (Mitchell, Oslin, & Griffin, 2006). Theoretically, this occurs as teachers condition games focused on tactical problems and ask questions that cause students to think critically and develop tactical awareness. Students practice skills needed to solve tactical problems that arise within a game, and then apply their skills and knowledge in a game. The primary role of the teacher is to facilitate the lesson; conversely, the role of the student is to be active and involved in the learning process. Proponents of this model suggest that increased student enjoyment and perceptions of competence lead to increased participation (Mitchell, Oslin, & Griffin, 2006).

Application of task systems analysis may provide a valuable description of how content is communicated via TGM and the student’s role in learning the content, thereby contrasting assumptions about the TGM with the reality of how it is implemented in a school. This study intends to provide teacher educators with knowledge about how TGM is interpreted by teachers so that they might integrate this knowledge into their PETE programs; consequently, future physical educators will have a better understanding of how tasks can be presented and the responses they might expect from students.
Limitations to the Study

The study will be limited by the following:

1. The collection of data in this study was framed by a single case study design; thereby, limited to one school and one teacher. The results of a single case study should not be generalized or applied to populations; rather, the results of a single case can be used to develop theory (Yin, 1994).

2. The observation and analysis was limited to two units of games instruction taught to one class.

3. The observation and analysis considered games from only two games classifications.

4. The study only considered the tactical approach at the middle school level.

Definition of Terms

Case Study: An empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (Yin, 1994).

Ecological Task Systems: A regularized pattern for accomplishing tasks as they occur in their natural teaching environment (Siedentop & Tannehill, 2000).

Small Sided Game: A game form in which the playing area, number of participants, and equipment are modified to match the tactical understanding and skill of students. For example, volleyball games played in smaller areas with lighter balls and lower nets, but played with the same principles, problems, and skills found in the full game (Mitchell, Oslin & Griffin, 2006).
Game Classification: The categorization of games based on similarities among the primary rules that define the game. The primary rules of a game identify how the tactics and how winning is achieved (Almond, In Bunker and Thorpe, 1986).

Game Conditioning: The modification of the rules, number of players, playing area, equipment, or scoring that emphasizes a particular tactical problem in game play (Bunker & Thorpe, 1982).

Instructional Task: The subject-matter activity of physical education, the intended learning students are to acquire by participating in the instructional activities (Siedentop & Tannehill, 2001).

Managerial Task: The organizational and behavioral aspects of physical education. The non-subject matter functions necessary for students and teachers to exist together over a period of time (Siedentop & Tannehill, 2000).

Student Social System: Task system occurring in physical education relating to the intentions for social interaction that students seek; this system is typically arranged and directed by the students (Siedentop & Tannehill, 2000).


Tactical Games Model (TGM): An approach to teaching physical education that aims to improve students’ game performance by combining tactical awareness and skill execution (Mitchell, Oslin & Griffin, 2006) (Metzler, 2000).

Tactical Awareness: The ability to identify tactical problems that arise during a game and to respond appropriately (Mitchell, Oslin & Griffin, 2006).
Task: A goal and a set of operations to achieve it (Doyle, 1979).

Task System: A regularized pattern for accomplishing tasks (Siedentop & Tannehill, 2001).

Teaching Games for Understanding (TGfU): A six-stage gamed centered approach for teaching games (Bunker & Thorpe, 1982).

Method

The purpose of this study was to describe and analyze task systems existing in a middle school physical education class; specifically, a physical education class in which the teacher utilizes the Tactical Games Model (TGM) of teaching sport concepts and skills. Task systems analysis provided a means of understanding the teaching and learning processes that occurred in a classroom in which the model was used. Data collection through systematic observation, field notes, teacher interviews, student interviews and digital video recordings allowed the researcher to focus on the interpretation and application of the TGM by a teacher, as well as student responses. This chapter outlines the design, setting, participants, and procedures used in the study. The methods of data collection, treatment, and analysis are also provided.

Case Study Design

The case study has been used in dealing with critical problems of practice and extending the knowledge base of various aspects of education, physical education, exercise science, and sport science (Thomas & Nelson, 2001). Case study methodology excels at bringing us to an understanding of a complex issue and can extend knowledge or add strength to what is already known through previous research. The case study
focuses on the events, conditions, and relationships that occur within a specific context (Soy, 1996). Case studies have been designed as exploratory, explanatory, and descriptive and have been used for instructional use in the field of education (Tellis, 1997). By conducting studies within the context of the classroom, researchers in the field of education have generated at least some of the answers regarding good teaching, and have helped to improve teaching methodologies (Darst, Zakrjasek & Mancini, 1989). Yin (1994) defines a case study as, “An empirical inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used (p. 23).” For the current project, data were collected by systematic observation, field notes, digital video records, semi-structured teacher interviews, stimulated recall teacher interviews, and informal interviews with the teacher and students.

A descriptive case study presents a detailed picture of phenomena (Thomas & Nelson, 2001) and frequently serves as a building block for subsequent comparative research (Merriam, 1998). The current study provides a detailed description of how the TGM occurs within an eighth grade physical education class. The results of a single case study should not be generalized or applied to populations; rather, the results of a single case can be used to develop theory (Yin, 1994). Results from the current study may be used to develop better methods of applying TGM. Each lesson was analyzed individually. Data sources were triangulated to ensure accuracy of the explanations of what occurred (Stake, 1995). The current study was limited to one school and one teacher. Only two units of games instruction were observed and only two games
classifications were considered. Although the TGM can be applied at any level, the
current study was limited to the middle school level. The following questions were used
to guide the study:

1. How does the teacher interpret and apply the tactical approach of teaching games?
   a. What are the characteristics of an instructional task in tactical games
      lesson?
   b. What is the predominant teaching style (Mosston & Ashworth, 1990) used
to teach games?
2. How do students respond to tasks presented in tactical games lessons?
3. How does the teacher respond to student compliance and noncompliance to tasks?

Setting

The study took place within a public middle school in Champion School District
(pseudonyms used throughout the study). According to the school report card provided
by the Ohio Department of Education (2006), 639 students are enrolled at the school. The
ethnicity of the school consists of 88% Caucasian, 8% African American, and 3.5%
Asian or Pacifica Islander and is reflective of the community in which it is located. The
majority of students come from middle to upper middle class families. Approximately
8.5% of the students come from economically disadvantaged families.

The physical education class met in a large gymnasium containing six basketball
hoops evenly spread out around the gym. The class was scheduled to meet 40 minutes a
day five days a week. Due to transitions to and from other classes, students spent an
average of 32 minutes in class. Games education was the primary content taught in
physical education. Curricular units were usually 20-25 lessons in duration. Fourteen basketball lessons and six pickle ball lessons were observed. Five lessons during the basketball unit were not recorded as a result of researcher illness, teacher absences and school assemblies. The pickleball unit was cut short by school wide testing and spring break.

Participants

Purposeful sampling is used when one wants to learn something or come to understand something about certain select cases without needing to generalize to all such cases (Patton, 1990). Purposeful sampling is based on the assumption the researcher wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned (Merriam, 1998). The researcher desired a sample that fulfilled specific criteria by which the problem could be addressed, and a setting in which the research could be completed in a timely manner. Therefore, the participant selection for this study was a combination of unique and convenient purposeful samplings (Merriam 1998).

Participants in the study included one female physical education teacher (Ms. Knight, pseudonym) and 21, out of a class of 32, 8th grade students (18 female, 14 male) at the Champion Middle School. Prior research has shown that student engagement begins to suffer in later grades (Cothran & Ennis, 1999; Siedentop, Hastie & van der Mars, 1994) and negative attitudes and perceptions toward physical education develop at the middle school level (Carlson, 1995). However, proponents of tactical approaches claim students are more motivated, and more interested in learning games (Bunker &
Thorpe, 1982; Mitchell, Oslin & Griffin, 2006). The TGM and Sport Education (SEM) are curricular innovations that have shown potential for positive change (Mitchell, Oslin & Griffin, 2006, Siedentop et al., 1994). Ms. Knight, a Caucasian female, had ten years teaching experience. Ms. Knight was recommended by the thesis advisors and was selected because she was known to use the TGM as a method of games education, had curricular autonomy in the classroom (does not share the teaching space), and had a schedule which made it possible for the research to be completed. These criteria were critical to addressing the problem of the study, and provided a setting in which the research could be completed. Ms. Knight was introduced to the TGM and SEM as a graduate student and utilized a combination of these two models to teach her classes for the previous five years.

Twenty-two lessons (16 Basketball, 6 Pickleball) throughout two different instructional units were observed and analyzed. The two instructional units represented games from two distinct games classifications (Mitchell, Oslin, & Griffin, 2006), basketball is an invasion game and pickleball is net game. The major purpose of the study was to describe how the TGM is interpreted and applied. Consequently, the observation of two tactically different games provided a more thorough representation of the teacher’s interpretation and application of the model and also provided student responses to different content, as students may be interested in some games more than others. The researcher concluded that by observing students’ responses to two different games, a better understanding of students’ responses to the TGM could be gained.
Of the 21 eighth grade student participants, 14 served as target students. The 14 target students provided a good representation of the overall make-up of the class. Target students were selected according to the team roster sheet provided by Ms. Knight. The researcher began with player one on team one and moved down the roster each subsequent day. Occasionally the researcher had to adjust target student selection due to student absences. On the championship day of each season, the researcher chose to select the captain from the team that had been observed the previous four days as opposed observing a student on a different team. This allowed for a more detailed analysis of the interactions between the students on that team and their responses to both the teacher and teammates in a lesson characterized by competitive game play. The ethnicity, skill level, and selection target student are shown in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Student (Pseudonyms)</th>
<th>Day of Unit</th>
<th>Skill Level</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abby</td>
<td>BB 3</td>
<td>Low</td>
<td>African American</td>
</tr>
<tr>
<td>Becky</td>
<td>BB 2, PB 5</td>
<td>Low</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Cassie</td>
<td>BB 6</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Debbie</td>
<td>BB 4</td>
<td>Low</td>
<td>Indian</td>
</tr>
<tr>
<td>Elaine</td>
<td>BB 5</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Faith</td>
<td>BB 7</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Gail</td>
<td>BB 9, PB 4</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Adam</td>
<td>BB 10, BB 14</td>
<td>High</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Heather</td>
<td>BB 11</td>
<td>Low</td>
<td>Philippine</td>
</tr>
<tr>
<td>Ingrid</td>
<td>BB 12</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Jill</td>
<td>BB 13</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Bill</td>
<td>PB 3</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
<tr>
<td>Chris</td>
<td>PB 2, PB 6</td>
<td>High</td>
<td>Caucasian</td>
</tr>
<tr>
<td>David</td>
<td>BB 8</td>
<td>Average</td>
<td>Caucasian</td>
</tr>
</tbody>
</table>

*Note.* BB=Basketball Unit; PB=Pickleball Unit
Approval

Ms. Knight was contacted by the researcher. After expressing initial interest in the study, a brief description of the study was shared with Ms. Knight and the building principal. The researcher met with both Ms. Knight and the building principal and was given school district approval (Appendix A) to solicit student participants. Permission to complete the study was sought and obtained from the Institutional Review Board at Kent State University. The researcher then met with the class to request student assent (Appendix B). A parental consent form (Appendix B) was sent home with students interested in participating in the study. By signing the form, parents gave their child permission to participate in the study. Throughout the study, students could discontinue participation at anytime. Verbal assent by the students was always sought by the researcher before conducting an interview. Confidentiality was assured for all participants.

Data Collection

A key strength of the case study method involves using multiple sources and techniques in the data gathering process (Soy, 1996). Stake (1995) and Yin (1994) identified six sources of evidence in case studies: documents, archival records, interviews, direct observation, participant-observation and physical artifacts. For this study, data were collected by means of systematic observation, interviews, and field notes. The systematic observation and field notes focused on task duration, event recording, student engagement, and teacher behaviors. Supplemental data were collected
via semi-structured teacher interviews, stimulated recall teacher interviews, informal interviews with the teacher and students, and digital video recordings.

Systematic Observation and Field Notes

The analysis of task systems pioneered by Walter Doyle is foundational to the current project. A means of observing and recording “tasks” as they occur during a lesson was vital to this study. Similar methods to those used in the current study have been used throughout ecological task research in physical education (Hastie, 2000; James, 2003; Pagnano, 2004; Tousignant, 1982). The Task Structure Observation System (TSOS, Jones, 1989) was designed to record both quantitative and qualitative data related to classroom tasks. This instrument was used in two ecological task studies (Hook, 1995; Jones, 1989) and a revised instrument was used by Siedentop et al. (1994) in an ecological study of curriculum and instruction. This version of the TSOS (Jones, 1989) was designed to record both quantitative and qualitative data related to classroom tasks. This instrument was used in two ecological task studies (Hook, 1995; Jones, 1989) and a similar instrument was used by Siedentop et al., (1994) in an ecological study of curriculum and instruction. Furthermore, the Siedentop et al. (1994) study measured student success rates in using an opportunity to respond (OTR) format. The instrument used in the current study was based on the TSOS (Jones, 1989), but includes an OTR format similar to the one used by Siedentop et al. (1994).

The adjusted TSOS (see Appendix B) was field tested by the researcher and two researchers with extensive experience in systematic observation. Field testing occurred in
a college level ‘Game Performance’ class taught using the TGM. Throughout the field tests, the instrument was refined to collect data about teaching using the TGM. Specifically, a category addressing alignment of questions with instruction was added, which directly relates to the application of the TGM. Additional refinements were made to make the instrument more user friendly. Specific refinements included providing a space for transition statements to be recorded and placing those spaces after task descriptions and activities which is where they occur sequentially in a lesson. The structure of the instrument was also refined to facilitate a more seamless recording of the data.

The observer focused on one target student during each lesson. Observer comments were not limited to the target student: information recorded about other students and the class in general provided a richer picture of the context and events of each lesson. A different student was observed on each subsequent lesson, with the goal of balancing student observation across gender and skill levels (high, average, and low). Prior to each unit, Ms. Knight was asked to assign each student a skill level. The target student skill levels are provided in Table 2. The coding sheet was structured for the observer to collect data focused on five categories: (a) task type and description; (b) alignment of questions; (c) student response/compliance; (d) teacher’s response to student behavior; and (e) transitions. Time duration data related to each classroom task were also collected. The observer recorded as much information as possible related to each classroom event on the coding sheet. Digital video recordings were used to supplement the data collected via live coding. Ms. Knight was equipped with a wireless microphone,
which recorded everything she said to the digital videotape. The digital video camera was
focused on the team of the target player. After collecting live data, the researcher viewed
the digital video recording to ensure data reliability and add in any additional data which
may have been overlooked or missed during live observation. This provided a more
thorough description of classroom events. The procedures for data collection pertaining
to each category are described below.

*Category 1: Task type and description.* Category 1 is shown in Figure 2. When a
task was identified, the observer determined whether the task was instructional (I) or
managerial (M). If the task was instructional, the observer determined whether it was
informing (IN), extending (E), refining (RE), reviewing (RV), or applying (A). If a task
was managerial the observer determined whether it was related to conduct (C),
organization (O), or a routine (R). A detailed description of the task was then noted and
any relevant information was included in the space provided. At the conclusion of the
task description, the researcher noted the explicitness of the task: explicit (E), partially
explicit (PE), or implicit (I). The time the task started and the time it ended were also
recorded.

<table>
<thead>
<tr>
<th>Task: _____ Time <em><strong><strong>-</strong></strong></em>_</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td></td>
</tr>
<tr>
<td>I- IN E RE RV A</td>
<td></td>
</tr>
<tr>
<td>M- C O R</td>
<td></td>
</tr>
<tr>
<td>Explicitness: E PE I</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 2. Task Type and Description*
Category 2: Alignment of questions. Category 2 is shown in Figure 3.

This category was only considered when a task was first identified as instructional. This category was unique to this instrument and added because of its direct relevance to tactical games teaching. The TGM uses questions to develop students’ knowledge and understanding of tactics involved in game play. The TGM requires a teacher to align questions with the specific content of a lesson. Data on how well the teacher was able to do this was desired. To determine alignment, the researcher noted the questions the teacher asked and compared them to the focus of the lesson and the activities in which the students were participating. The degree of alignment was noted by the researcher by circling the letter corresponding to the degree of alignment: Aligned (A), Partially Aligned (PA), and Not Aligned (NA).

Questions: A  PA  NA

Figure 3. Alignment of Questions

Category 3: Student response/compliance. Category 3 is shown in Figure 4. Following the task description, the observer focused on student responses to the stated task. Throughout the subsequent event, the observer noted student responses related to the stated task by the teacher. Were they waiting (W), socially interacting (SI), off task (OFT), or engaged in activity (A)? After identifying a subsequent event, the observer noted the details in the space provided. Compliance (CP) and noncompliance (NCP) to the stated task were also identified. For instance, if the task required three passes before a
shot and the students only made two, the response was identified as noncompliance. Details of compliance and noncompliance were also noted in the space provided.

Throughout the subsequent event, the observer recorded the target student’s opportunities to respond (OTRs). The quantity and quality of OTRs for each target student was also noted. Only on the ball OTRs were considered, such as passing and shooting in basketball, and ground strokes in pickleball. The success of each OTR was also noted. For example, if a shot went in it was deemed successful. If a groundstroke landed out of court it was deemed unsuccessful. OTRs were recorded starting with Box 1. When an OTR occurred, the observer noted in the appropriate box whether the OTR was successful (+), or unsuccessful (-). Student modification of the task was noted as either modified up (↑) or modified down (↓), but this was not observed during the study. The time the subsequent event started and ended were also recorded.

<table>
<thead>
<tr>
<th>Time: <strong><strong><strong><strong>-</strong></strong></strong></strong></th>
<th>OTR</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP/ NCP Sub. Event W SI OFT A Notes:</td>
<td></td>
<td></td>
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<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 4. Student Response/ Compliance*

*Category 4: Teacher response to student behavior.* Category 4 is shown in Figure 5. In the space provided, the observer noted the teacher’s response to student behavior and described her actions throughout the class activities. The observer comments were
not limited to teacher responses to the target student, but also included students throughout the class.

Teacher Response:

Figure 5. Teacher Response to Student Behavior

Category 5: Transitions. Transitions were their own category, see Figure 6.

Anytime a transition occurred, the observer noted the transitional statement and recorded the time of transition. When field testing the instrument, the researcher observed a clear pattern of when transitions occurred. Consequently, transitions were added to the instrument at the points in the lesson where they were observed (i.e. after task descriptions and activity). If a transition did not occur, an NA was noted in the space for not applicable.

T- Time ________-________

Figure 6. Transitions

Reliability

Interobserver agreement refers to a situation in which the observation records of one observer are compared to those of a second person. For the current study, interobserver agreement was used to indicate observer reliability (Darst, Zakrajsek & Mancini, 1989). The observers in this study were the researcher and two advisors with extensive experience in pedagogical research. All observers in the study completed four
phases of training on the use of the observation instrument. First, all observers met and oriented themselves to the instrument. Observers discussed the basic purposes of the instrument, including a description of the categories of events to be recorded. Second, each category was thoroughly discussed and clearly defined. Clear understanding of how each classroom event was to be recorded by each observer was established. Third, the observers went through the coding form step by step and practiced recording data via a video taped lesson. Accurate recording of events by each observer was established. Finally, the instrument was field tested by all observers as recommended by Darst, Zakrajsek and Mancini (1989). The field test occurred in a college level game performance class in which the teacher was instructing a volleyball unit using the TGM. Results of the field test were evaluated and analyzed by all observers. Refinements were made to the instrument and it was again field tested. This process occurred three times until all observers were comfortable with the data collection process and the instrument was determined to be reliable.

Interobserver agreement measures were calculated by a frequency count of: (a) number of tasks, (b) type of tasks, (c) explicitness, (d) alignment, (e) number of OTR’s, (f) type of OTR, (g) compliance, and (f) subsequent events. Reliability was calculated as the number of agreements divided by the total number of agreements plus disagreements between the researcher and another trained observer (Darst, Zakrajsek & Mancini, 1989). Interobserver agreement was conducted over 15% of the lessons. Interobserver agreement in all categories was at a level of at least 80% (Appendix D) (Darst, Zakrajsek & Mancini, 1989), which is the threshold considered acceptable. The percentage of
agreement for each category were: (a) number of tasks (100%), (b) type of tasks (89%), (c) explicitness (80%), (d) alignment (90%), (e) number of OTR’s (97%), (f) type of OTR (87%), (g) compliance (89%), and (f) subsequent events (100%).

**Interviews**

Data collected through interviews supplemented data recorded through systematic observation and were used to triangulate. Interviews allow a researcher to find out what is on someone else’s mind and reveal their perspectives (Patton, 1990). Knowledge related to intrinsic factors that cannot be observed may be gained including an individual’s feelings, values, thoughts, and perceptions (Darst et al., 1989). Interviews allow the researcher to capture events and data that would otherwise be lost (Weiss, 1994). A caution when interviewing is not to put things in someone’s head but rather access the perspective of the person being interviewed (Patton, 1990). All interviews were tape recorded and later transcribed verbatim. Ms. Knight conducted a member check by reviewing the transcribed interviews to ensure accuracy.

*Semi-structured teacher interviews.* Semi-structured interviews with the teacher were conducted at the beginning of the study and on the final day of the study. The interviews were approximately 45 minutes in length and were conducted in a quiet room in the school library. Any information the teacher could provide on how she interpreted and applied TGM in her physical education classes was desired. Those who have used the tactical approach have found it to be fun, exciting and motivational; an approach teachers have come to prefer (Mitchell, Oslin, & Griffin, 2006). The researcher desired to know if this was also the perception of Ms. Knight. The semi-structured interviews were designed
around a predetermined set of open-ended questions; however, the interviewer had the freedom to probe beyond the teachers immediate answers (Merriam, 1998) to obtain more information focused on the problem. Both interviews were reviewed by the thesis advisor to ensure proper protocol.

The first interview obtained background information about Ms. Knight. Questions focused on her teaching experience and how she came to use the TGM. The questions were designed to obtain information about her thoughts and feelings related to the TGM, interpretation of TGM, and why she used it. This allowed the researcher to gain understanding of the teacher’s perceptions of TGM in her classroom. Further questions focused on her response to student performance and behaviors in the class.

The post unit interview addressed observations made throughout the study and probed deeper into the teacher’s interpretation of the TGM. Specific questions focused on reasons for using the TGM, teacher content knowledge, and student interactions in the class.

*Stimulated recall teacher interviews.* Three stimulated recall interviews were conducted during the study. The interviews were conducted in the same quiet room in the library as the semi-structured interviews and lasted 30-45 minutes. The interviews began in a semi-structured format as described above. This allowed the researcher to gather additional information related to classroom events and to address observations made during instruction or class activities. A video segment was presented to the teacher, which focused on a critical event that occurred in a class followed by a sequence of questions specific to the recorded event. The first interview focused on questioning, the
second on task modification, and third on pinpoints. Interviews were conducted to give
the teacher an opportunity to see the classroom event, think about it, and then give her
interpretation of what occurred. A sample of an interview was observed by a thesis
advisor to ensure appropriate application of protocol.

Informal interviews. Student responses to tasks and attitudes toward classroom
activities were also a major focus of the study. Questioning of the students through
informal interviews occurred at the conclusion of each lesson, as the students were
transitioning out of the physical education classroom. Before interviewing a student, the
interviewer recorded the date, unit, gender, and skill level of the student to be
interviewed. Following class each day, students were asked if they would answer a few
questions to gain assent. The interviews lasted no longer than five minutes and took place
in the gymnasium at the end of each lesson. The researcher engaged students in
conversation about the class in general and focused questions on specific classroom tasks.
Student answers were recorded via audio tape.

Informal interviews with the teacher were also desired, but opportunities were
limited by Ms. Knight’s responsibilities following classes (i.e. teacher meetings, office
responsibilities). An informal interview with Ms. Knight did occur on the seventh day of
the basketball unit. The interview focused on Ms. Knight’s perception of how the class
went and how the events of the lesson would affect what she did the following day.
Information gained from the informal interviews was used to supplement the data
recorded on field notes and also helped to clarify the researcher’s interpretations.
Digital Video Recordings.

Digital video recordings of the target team along with audio recordings of the teacher’s voice were recorded every lesson. Following each lesson, the videotape was reviewed to verify field notes and document any classroom occurrences that may have been overlooked or missed. The audio allowed the researcher to hear everything said by Ms. Knight by which a more detailed description of the teacher’s responses could be noted. By going back through the lesson, the observer was able to get a better and more complete description of the events of the class.

Data Analysis

After data were been collected, the qualitative and quantitative data were processed and/or calculated to gain information about the tasks. Each aspect of the observation system was analyzed through the following process.

Calculation of Reliability Measures

Following each class session, the digital video recording was viewed by the researcher and compared to the field notes from the live observation. Any data that were missing or incorrectly noted were changed or added to ensure accurate recording of what actually occurred. This was used to ensure intra-observer reliability.

Intra-observer reliability was calculated for 15% of the lessons. In those lessons, data were collected by both the observer and another trained observer. Reliability was calculated as the number of agreements divided by the total number of agreements plus disagreements between the researcher the trained observer (Darst, Zakrajsek & Mancini
1989). At the conclusion of the study, the researcher calculated the number of agreements and disagreements for each of the following categories: (a) number of tasks, (b) type of tasks, (c) explicitness, (d) alignment, (e) number of OTR’s, (f) type of OTR, (g) compliance, and (f) subsequent events. Reliability was over 80% in every category.

Classification of Tasks

For each lesson, tasks were classified according to type (i.e. instructional, managerial, and transitional) and recorded in the order in which they occurred. The time spent in each individual task, explicitness, alignment of questions, student compliance, and subsequent events were all recorded to a data sheet.

Instructional tasks. Instructional tasks were coded as informing, refining, reviewing, or extending (Rink, 1998). The pattern by which different instructional tasks occurred was noted (i.e. informing at the beginning, refining in the middle, reviewing at the end). The degree to which task statements were explicit was determined. Explicitness of tasks was expressed by the percentage of total task descriptions that were explicit, partially explicit, or implicit. Alignment of questions was determined according to the degree to which the questions were aligned or not aligned with the instructional focus and activities. This was expressed as a percentage of questioning segments that were aligned, partially aligned, or not aligned.

Managerial tasks. Managerial tasks are defined as those relating to the non-subject matter functions of a class such as tasks related to organization and behavior (Siedentop & Tannehill, 2000). Similar to Hastie (2000), tasks were recorded by incidence (number per lesson) and focus (organization, behavior, routine). Transitions are
considered managerial tasks (Siedentop & Tannehill, 2000) and were included in the managerial task data.

*Calculation of Time Data*

Time duration of each task was recorded throughout the study. For each lesson, the researcher calculated the amount of time spent in each task. The total time and percent of class time spent in the following categories during each lesson was calculated: instruction, transition, management, activity, and off task. The researcher then calculated the average time per lesson spent in each category, throughout each unit, and throughout the study as a whole.

*Calculation of OTR Data*

Data from both classroom and sport pedagogy research indicate that successful responses are the best indicators of achievement (Siedentop et al, 1994). Responses were recorded in an opportunity to respond (OTR) format. Prior to the lesson, the observer noted the skill level and gender of the target student. The OTRs of the target student were recorded each lesson. Only on the ball skills such as shooting and passing in basketball, and ground strokes in pickleball were considered OTRs for the current study. This type of OTR is easily observable and successful or unsuccessful is easily defined. Success was determined as to the result of the OTR. If a student took a shot and made it the OTR was deemed successful. If they missed, it was deemed unsuccessful. Successful, unsuccessful, and total OTRs for each target student were calculated. For each unit, the mean scores according to skill level were calculated for successful, unsuccessful, and total OTRs. Success rates according to skill level were also calculated. Similar methods
of calculating OTRs have been used in previous studies (Alexander, 1982; Lund, 1992; Siedentop et al, 1994;)

*Interview Coding*

Grounded theory methodology through the process of constant comparison was used to analyze the data (Strauss & Glaser, 1967). As the data were analyzed, themes were formed. When a theme was formed, all the related data that appeared to align was compared. Further analysis of themes resulted in new themes being organized. Through this process the data evolved into a core of emerging theory (Merriam, 1998). Several strategies were used to ensure trustworthy interpretation of the data. First, the researcher triangulated the data by comparing data from coding sheets, student interviews and teacher interviews. Second, member checks by the teacher for accuracy and peer debriefs with an advisor were conducted to ensure proper analysis of the data occurred. Finally, any time the researcher had a question pertaining to a specific theme or the data in general, an advisor was consulted. All interviews were transcribed verbatim.

*Student Interviews.* The student interviews were coded first. The researcher read through the interviews and noted key words that were common throughout the student interviews. Themes developed through a process of analyzing the contexts in which the key words appeared. Similar themes were combined to form categories. Through a continuous process of reading and rereading the interviews two main categories were developed

*Teacher Interviews.* The transcripts of the teacher interviews were combined into one document in the order that they occurred. The researcher read through the transcripts
and made notes in the right margin. Themes were developed through the constant comparison process. The researcher analyzed the transcripts and coded the interviews into categories according the task system they aligned (i.e. instructional, managerial, student social). The comparison of different themes resulted in conceptual framework by which common themes were identified and categorized. As themes developed, themes from the teacher interviews were triangulated with sources of other data (observation sheets, field notes, and student interviews) and a framework for presenting the data was developed.

Results

The results of the study are guided by the following research questions. How does the teacher interpret and apply the tactical approach of teaching games? What are the characteristics of an instructional task in a tactical games lesson? What is the predominant teaching style (Mosston & Ashworth, 1990)? How do students respond to tasks presented in tactical games lesson? How does the teacher respond to student compliance and noncompliance to tasks? The results begin by addressing the teacher’s interpretation and application of the model followed by the ecological descriptions of what occurred in the classroom.

Teacher Interpretation and Application of the Tactical Games Model
In the early years of her career Ms. Knight taught using a technical approach, but switched to the TGM while attending graduate school. Ms. Knight’s rationale for using the model all related to the game centered approach: student motivation/enthusiasm, contextual engagement, and knowledge development. She frequently described a dependence on the textbook for her interpretation of TGM and for lesson/unit plan design (Mitchell, Oslin, & Griffin, 2006). Systematic observation of her application of the model on a daily basis allowed for a deeper understanding of her interpretation of the TGM. It is important to articulate that Ms. Knight taught all her lessons using the TGM in combination with the SEM; therefore, results may be ascribed to the combination of both models and not the TGM alone. The SEM (Siedentop, 1994) was used as a framework for classroom management by which Ms. Knight effectively minimized the time spent in management tasks.

Student Motivation/Enthusiasm

Ms. Knight explained how she believes students enjoy the game centered approach more and were more likely to participate in classroom activities. She reflected back to when she first started teaching and explained how students would ask on a daily basis, “When can we play games?” She then compared those sentiments to her perceptions of her current classes in which she rarely hears that question and believes that most students, regardless of skill level, enjoy class.

I think they are more enthused about the class, even maybe the ones who are your lower skilled athletes. I was trying to think back to when I first started teaching, your athletes were motivated and the lower skilled kids didn’t seem to into it and
kind of bored. Really, now I don’t have any kids sitting out, everybody’s in participating, they are all at different skill levels, but I don’t hear the excuse, ‘Can I sit out today?’

*Game Performance and Tactical Awareness*

A primary objective for Ms. Knight was to provide her students with authentic learning experiences resulting in confidence, awareness, and ability needed to play the game, “I want them (students) to have the confidence that they could walk in to a basketball game and be able to play and know where they are suppose to be on the court.” She reflected on her experiences when she taught using a traditional technique approach to sport and games. She believed that her traditional approach resulted in what she termed “garbage ball,” referring to aimless participation in a game because of a lack of understanding of how to play the game and the inability to apply learned skills in game like situations. When asked what the advantages were of using the TGM she commented, “I would say just a better understanding of why I am asking them to do certain things. The skills are not in isolation, everything they learn is in game play and it helps them make a better connection.” She explained that this connection is established through the questions she asks during a lesson, “Through the questioning they are actually using their brains… the questions allows the kids by answering to understand why I am asking them to do something.” Her overall objectives for her students were clear, “I basically want them to have a knowledge of the game”, and “I want their game performance to get better.”

*Dependence on the Text*
When asked how she plans and designs her activities to achieve her objectives, Ms. Knight expressed a reliance on the text, “To be honest with you, I take them right from the book and that’s how I do it. I don’t want to take credit for that, I take it right from the book.” At a later time in the study it was pointed out to Ms. Knight that there was not a pickleball chapter in the text to which she explained the use of the tennis chapter because of the tactical similarities. Dependence on the text was also apparent when Ms. Knight was asked about the questions she uses in class and the answers she expects, “I pretty much pull them right out of the book. I am looking for specific answers. I am not doing it word for word, no, because I am terrible at memorizing things so at times I will be throwing my own questions in there or rephrasing, but I am looking for specific answers.” An understanding of this self perceived interpretation of the model by Ms. Knight was important when observing her application of the model in the classroom.

Table 2.

Summary of Alignment with the Tactical Games Model

<table>
<thead>
<tr>
<th>Element</th>
<th>TGM</th>
<th>Ms. Knight Basketball</th>
<th>Ms. Knight Pickleball</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Format</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Begins with a game</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Questioning</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Practice</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Concluding Game</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Instructional Pinpoint</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Closure</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Practice Day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of modified games</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Focus on tactical problems</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Game conditioning</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Alignment of Questions with Game 1</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

*Sport Education and the Managerial Task System*
The SEM (Siedentop, 1994) was used by Ms. Knight as a framework for classroom management. Time during the first lesson of each unit was used by Ms. Knight to set-up the sport education season. Team assignments (affiliation), home courts, team roles and responsibilities, and the signing of team contracts occurred on this day. Students participated in games each day according to the league schedule (schedule of competition) provided by Ms. Knight on the white board. This schedule included who was playing who and the court assignment. League standings were recorded (records) each day and both the basketball and pickleball units culminated with a tournament (culminating event). Ms Knight effectively utilized these aspects of the model throughout the rest of the unit to minimize time often spent in classroom management.
Management tasks accounted for 12% of total class time in both units. Time spent in managerial tasks apart from transitions were rare (<1% of total class time), while transition time accounted for 11% of total class time. Tasks involving collection and distribution of equipment and the reporting of game scores can take up valuable class time. Ms. Knight avoided this by embedding the management in the transition. She often said, “Equipment managers put the balls in the hoop, and everyone else meet over here,” or “Team captains report the score to me and everyone else meet in the middle for closure.” Another strategy employed by Ms. Knight which decreased management time and also resulted in simple but explicit directions was her use of the white board located
on the wall near the middle of the gym. Instead of giving verbal directions related to
league play and court assignments, she would simply say, “Check the board, go to your
court, and begin your game quickly.” After dismissing students, Ms. Knight focused on
keeping students accountable for quick engagement in the tasks they were instructed to
do. When asked what the first thing she looks for after transitioning students into an
activity Ms. Knight said, “If it is a practice, first of all I make sure that if they had to be
set up in a certain way just to make sure that they got it and that they are running their
practice effectively. If it is a game, my first contact is just to make sure that they got their
game started quickly and to prompt them a little bit.” Ms. Knight also kept students
accountable by rewarding bonus points for teams who began activities quickly.

Noncompliance to managerial tasks was rarely observed. In the basketball unit,
noncompliance only occurred two times; issues of noncompliance involved slow or
delayed engagement in the assigned activity. In the pickleball unit, noncompliance to a
managerial task was recorded on five occasions. This appeared to be attributed to the
contextual limitations of the teaching space. In the basketball unit, all students were
actively engaged as players in all assigned activities; therefore, the students had little
opportunity to be noncompliant. On the other hand, in pickleball the space only allowed
three out of four students on a team to play at one time. The student not playing was
assigned the job of ball retriever, and students were expected to rotate every couple
minutes. Noncompliance to this task involved not retrieving errant balls for teammates
and inconsistent rotations. Accountability was always through verbal reminders; Ms.
Knight could constantly be heard reminding students of retrieval duties and rotations.
Instructional Task System

The instructional task system will be presented in the sequence in which the tasks occurred in a typical day of a unit. A detailed description of how the instructional tasks were applied by Ms. Knight along with the ecological data detailing student responses will provide for a deeper understanding of Ms. Knight's interpretation of the TGM.

Table 4.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Instruction</th>
<th>Management</th>
<th>Activity</th>
<th>Off-Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketball</td>
<td>20%</td>
<td>12%</td>
<td>68%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Pickleball</td>
<td>24%</td>
<td>11%</td>
<td>59%</td>
<td>6%</td>
</tr>
</tbody>
</table>

The analysis of the instructional task system revealed that in a typical day Ms. Knight followed the text closely, but applied instructional tasks unique to her interpretation. She had a clear pattern of presenting instructional tasks that aligned with the Game-Practice-Game format prescribed by the TGM, but she applied it in a manner that optimized activity time (basketball unit-68%, pickleball unit-59%) and cut down on management (basketball-12%, pickleball-11%). She also utilized an additional instructional task following the practice and would use “practice days” depending on student performance. Time spent in organized whole class instructional tasks accounted for 20% of total class time in the basketball unit and 24% in the pickleball unit. Informing tasks occurred at the beginning of the lesson, content was refined and reviewed throughout the middle portion of the lesson, and lesson content was reviewed at the end.
Game 1

Following the student lead warm-up, Ms. Knight would gather the class and informed them of the goal and conditions for the initial game. She directed student attention to the whiteboard on the wall where she had written the goal for the game, cues for the lesson focus and the game conditions. For instance, the focus of the second lesson of the basketball unit was shooting. The goal of the game was to shoot as often as possible, but only when the following game conditions were achieved: no dribbling, and three passes before a shot. In the game, one point was awarded for shot attempt, and two points for a made shot. After identifying and reinforcing the goal and conditions, Ms. Knight instructed students to quickly begin their games. This task became routinized and less formal as the unit progressed. For example, Ms. Knight would state, “Read the board, and get your games started,” as opposed to gathering students and spending instructional time explaining the initial game.

Time spent playing the initial game ranged from 3 minutes 15 seconds to 6 minutes 10 seconds in the basketball unit and 1 minute 55 seconds to 4 minutes 35 seconds in the pickleball unit. A high level of compliance (basketball- 92%, pickleball-83%) by the students to the task was observed. Incidents of noncompliance resulted from students not meeting the game conditions, which Ms Knight responded to by reinforcing game conditions. On one occasion, a condition on the game was “no dribbling.” This condition was challenged on a number of occasions by different students to which Ms. Knight consistently responded “no dribbling until there is effective passing.”
Table 5

*Time Analysis of Tasks as They Occurred in a Typical Day*

<table>
<thead>
<tr>
<th>Unit</th>
<th>Total Time</th>
<th>% of Class Time</th>
<th>Teacher Explicitness</th>
<th>Student Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketball</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warm-up</td>
<td>1 min. 9 sec.</td>
<td>4%</td>
<td>96% E, 4 % PE</td>
<td>92%</td>
</tr>
<tr>
<td>Game 1</td>
<td>5 min. 25 sec.</td>
<td>17%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice Instruction</td>
<td>3 min. 37 sec.</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td>6 min 7 sec.</td>
<td>19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinpoint</td>
<td>50 sec.</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Game 2</td>
<td>13 min. 16 sec.</td>
<td>42%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pickleball</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warm-up</td>
<td>2 min.</td>
<td>6%</td>
<td>93 % E, 7% PE</td>
<td>83%</td>
</tr>
<tr>
<td>Game 1</td>
<td>4 min. 20 sec.</td>
<td>14%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice Instruction</td>
<td>2 min. 59 sec.</td>
<td>9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td>7 min 8 sec.</td>
<td>23%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinpoint</td>
<td>36 sec.</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Game 2</td>
<td>9 min. 14 sec.</td>
<td>29%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Time not accounted for was in tasks that would not align with what occurred in typical day.

Accountability most often came through verbal feedback, but one issue of noncompliance resulted in a student being briefly removed from a game, reminded of the game conditions, and the reason for them, followed by reentry into the game. When asked why she puts certain conditions on games, Ms. Knight replied, “I need the conditions so I can ask them the questions.”

The target student on the third day of the pickleball unit (average skilled male) was off-task throughout the initial game and continued to be off task for a majority of the lesson. His behavior was characterized by avoiding participation and little effort when participating. Because of the shortness of the unit, his off-task behavior accounted for 4%
of total class time. Ms. Knight did not become aware of the target students behavior until later in the class at which time she immediately entered him into a game. At the end of class, she also addressed the non-participation. Following class the target student was asked about his behavior to which he replied, “I didn’t really try very hard… cause I really don’t like pickleball.” He expressed the opinion that they should only play games. When asked what he would do differently if he were the teacher he suggested, “Not teach as much!” Field notes described the rest of the students as engaged in classroom activities.

*Practice*

The second instructional task followed the initial game and focused on content development and setting up the practice session. This task always began with a series of questions focused on the content to be learned, followed by a demonstration of the practice.

This instructional task was always taught using the guided discovery style of teaching. Guided discovery is a style of teaching in which students discover a concept by answering a sequence of questions presented by the teacher (Mosston & Ashworth, 1990). Ms. Knight most often began her sequence of questioning by asking the students, “What was the goal of the game?” She used this question because she had conditioned the initial game to focus on a specific concept. Ms. Knight would follow-up the initial question with other questions which more specifically addressed how to effectively perform the concept, and why the applying the concept was important in the game. Ms. Knight explained that the questioning causes the students to actually use their brains,
“Instead of me telling them what they need to do, they are telling me…they are telling me the decisions they made in the game…the questions allows the kids by answering to understand why I am asking them to do something.”

Ms. Knight mentioned that using questions to get specific answers can be a difficult part of applying the model.

“I think it is difficult trying to get the answers you want from the kids… Sometimes you change them (the questions) or add your own but sometimes it is difficult getting the response you need and you just need to keep probing. Usually you get them to answer; it may not be the exact answer, but keep going. I am trying to think if I really ever just told them the answer. I don’t think I have.”

Often the probing questions used by Ms. Knight were not provided in the text. Ms. Knight explained that these questions come from having a solid knowledge of the content. Although very comfortable with basketball, she expressed difficulty using questions in games in which her content knowledge was not as strong. In the basketball unit, Ms. Knight demonstrated the ability to fully align 87% of the questions with the content; the remaining 13% of the questions were partially aligned. In the pickleball unit, 100% of the questions were fully aligned with the content.

Following the questions, Ms. Knight presented a demonstration of the practice task. The demonstration was always set up during the initial game. Ms. Knight explained the reason for the preset-up, “I do it so I can save time during the class, I don’t have to take time out to set it up. I do it while the kids are playing, that way it is ready to go and demonstrate.” Ms. Knight used a different team each day for the demonstration group.
Although the group used for the demonstration was usually randomly selected, she explained that she selects certain students if it is a complex skill that most students would have a difficult time performing. This increased the likelihood of an appropriate demonstration. The purpose of the demonstration was to setup the practice session. In addition she presented tactics, such as moving off-the-ball to get open in basketball and using deep baseline shots to set up the attack in pickleball. Both direct and indirect teaching styles were used when demonstrating the practice tasks. At times Ms. Knight would ask students what and why they needed to do something in a practice, and other times she would provide direct instruction using specific cues, which she often listed on the whiteboard. The time spent in questioning and demonstrations took up 11% of class time in the basketball unit and 9% in the pickleball unit. At the conclusion of the demonstration, Ms. Knight instructed students to head to their home courts and begin their practices.

Students engaged in the practice task immediately following directions. High rates of explicit directions (basketball unit-100%, pickleball unit-94%) resulted in very little confusion about what was expected. Practices were rarely drill oriented. Rather, they were often simulations of game situations. During this time, Ms. Knight would circulate from team to team providing feedback and individual instruction. She explains, “I try to provide feedback…it is hard to get to each individual, but I try to get to each court and make suggestions or comments and provide some feedback.”

Students were held accountable not only for engagement in the practice, but also for effective execution and performance. Ms. Knight rarely overlooked poor
performance, “If I teach them something and I see that they are not doing it. I mean I hope that I catch it, I stop it, and refocus and try to re-explain what I am doing.” At this point in the lesson, the instruction was direct and focused specifically on what Ms. Knight expected the students to accomplish. She commented that without constant reinforcement that students would not apply their knowledge back into the game.

/Game 2

The second game in the lesson followed the practice and was played with the same conditions as the initial game. Games at the end of class were longer (basketball- 13 minutes 26 seconds, pickleball- 9 minutes 16 seconds) than games at the beginning. Before beginning the game, Ms. Knight would often provided feedback or instruction as to what she hoped to observe and then directed students to begin. This game served as a time for assessment and an opportunity for additional instruction. The students’ ability to apply what they had learned and practiced was important to Ms. Knight. When asked to describe her objectives for a lesson she said, “In my opinion, the most important part is understanding the goal or the tactical (problem), and secondly… being able to put it [tactical understanding] into game play (SIC).” Ms. Knight had a clear pattern of briefly stopping the final game (basketball 50 sec., pickleball- 36 sec.) to pinpoint aspects of the game that could be improved. This pinpoint usually included verbal instructions and a short demonstration to illustrate what Ms. Knight had observed in the games. She described this segment as, “a simple piece of instruction… a reminder” and her reasons for doing it, “If I see that it’s [an aspect of game play] a problem, a group problem, I’ll stop the class. I mean if it’s the majority of the group. If it’s in individual I will go up to
them separately. It just depends on what I see.” At the conclusion of the pinpoint, students restarted the activity they were previously engaged in. During the final game, Ms. Knight circulated throughout the classroom providing constant feedback and kept students accountable to engagement in game play. The instruction provided by Ms. Knight throughout this task aligns with the practice style of teaching (Mosston & Ashworth, 1990); the practice style offers students time to work individually on a task set by the teacher, and allows the teacher time to provide individual feedback. High levels of student compliance were observed in both the basketball (83%) and pickleball (92%) units. Similar to the initial game, noncompliance occurred when students modified game conditions.

Class concluded each day with a review of the content covered during the lesson. Ms. Knight often repeated questions she used during her initial instruction, provided specific feedback to what she observed, and reviewed cues from the day’s lesson.

**Practice Days**

On the fifth day of the basketball Ms. Knight deviated from the normal pattern of instruction she had demonstrated in previous days. She began class by informing students that today would be, “a practice day.” According to Ms. Knight, a practice day is a lesson made up of a series of practice games (results did not affect league standings) in which she would circulate from game to game providing instruction and feedback. At the beginning of the lesson Ms. Knight told students, “I want you to take what we have learned so far and apply it in game play.” She explained her rationale in using a practice
day. “(The students need to) demonstrate to me that they understand what they are doing. I think that they were not ready for the next step…I just didn’t want to advance them any further. I didn’t think they were ready for it (SIC).” Practice days provided Ms. Knight with added opportunity to assess students and provide additional instruction in areas students’ demonstrated needed improvement. As opposed to addressing specific content, Ms. Knight would circulate between games and provide feedback relevant to the group she was observing. Practice days were not planned into the unit or recommended as part of either TGM of SEM, but rather were added in by Ms. Knight when she felt they were needed. She explained, “It doesn’t do me any good to keep piling on more information. I give them a little bit and see what they can do with it.

Student OTR data are presented in Table 6. OTR data revealed high levels of success across skill levels and equitable opportunities for all students. Students were mostly compliant to the tasks presented by the teacher and enjoyed participating in them. The game centered approach of the TGM along with the team affiliation aspect of the SEM appeared to contribute most to the fun and enjoyment evident in the classroom.

**Student Enthusiasm & the Student Social System**

Ms. Knight believed that her students enjoyed the game centered approach of the TGM. The analysis of the student social system supported this perception. Observation of student interactions combined with student interview data revealed the student social system was encompassed in one common theme, “fun.” The factors most apparently influencing the “fun” atmosphere were “games” and “team.”
“It was fun” was the most common answer given by students when asked to describe the class. Similar to Hastie’s findings (2000), the opportunity to play the game was the most contributing factor to the “fun” atmosphere. Each class consisted of at least two games and students participated in as many as four games during tournament play. On many occasions, students were observed cheering each other on and giving high fives for good performance while engaged in game play.

The “team” factor contributed to fun in a variety of ways. Playing on a team, playing against other teams, teamwork, and support from teammates were all described as contributing factors to fun during class. One student described how teammates contributed to having fun in class, “They are supportive of you and they don’t criticize you if you lose or if you win.” However on teams of four in the pickleball unit, all the games were played as singles matches. A student commented that the games would be better if they had a teammate to play with, “(In pickleball) you don’t really play with your team, (team games are better) because you don’t feel like you are by yourself, and if you miss the ball you have someone to depend on (SIC).” The concept of teamwork/team play was constantly addressed and reinforced by Ms. Knight throughout the basketball unit.

Student Response Data

Student responses were collected in an Opportunity to Respond (OTR) format, and provided in Table 6. Data from classroom and sport pedagogy research suggest successful responses are the best indicators of achievement (Siedentop et al, 1994). The
researcher desired to know the distribution of OTR’s across skill levels and the success rates by which they were performed. For this study, only on the ball skills such as passing and shooting in basketball, and ground strokes in pickleball were considered.

In the basketball unit, OTR’s were even across skill levels (low=30.25, average=30.7, high=34). Success rates were relatively high across all skill levels and increased as skill level increased (low=58%, average=68%, high=84%). The success rates observed in the current study were equitable to what was observed in the Siedentop et al. (1994) study, furthermore, students in the current study participated in game-like activities where as the students in the Siedentop et al. study (1994) were often participating in independent practice.

In the pickleball unit, both the number of OTR’s (low=46, average=59, high=113) and the success rates (low=50%, average=64%, high=69%) increased according to skill level. It is important to point out that the lower ranked players on the team (players ranked 3 and 4) split time in tournament play while the two higher ranked players (players ranked 1 and 2) on each team did not.

Table 6

<table>
<thead>
<tr>
<th>Student Response Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Basketball</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Pickleball</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>
Discussion

The purpose of this study was to describe and analyze task systems existing in a middle school physical education class and to understand how a teacher utilizes the Tactical Games Model (TGM) of teaching sport concepts and skills. The collection of data within an ecological framework allowed for an understanding of both the teacher’s presentation of tasks and the students’ responses to them. Two curricular models were applied simultaneously in the classroom observed in this study. Ms. Knights application of the Tactical Games and Sport Education models revealed that both models can be brought together to facilitate an effective learning environment.

The classroom ecology observed in this study aligns with a strong program of action (POA) as presented by Hastie (2000). Hastie (2000) describes the POA as, “The agenda the teacher has for class work that encompasses both the managerial and instructional systems…The program of action serves to inform students not only about what is important in classes, but also about what work is acceptable (p. 356).” Ms. Knight was not only explicit in her directions, but was also clear about behavior and performance expectations and kept students accountable to them.

Ms. Knight’s application of the TGM closely resembled the intent of the model as presented in the text (Mitchell, Oslin & Griffin, 2006). Specifically, the instructional system aligned both in game centered focus and in game-practice-game instructional format. The SEM was primarily used for managerial purposes, which Ms. Knight effectively applied to optimize time spent in instruction and activity. Student response data revealed positive results across skill levels; furthermore, students enjoyed the
classroom tasks they participated in and very little negotiation between the students and the teacher were observed.

Managerial Task System

Noncompliance by students and off-task behavior was nearly nonexistent. A managerial system that supports the instructional task system appears to be critical in controlling misbehavior (Supaporn, 2000; Tousignant, 1982); likewise, explicit directions and effective monitoring are keys to keeping students on task (Supaporn, Dodds, & Griffin, 2003). The managerial task system observed in this study would support these findings; furthermore, giving students responsibility for managerial tasks may also help to reduce off-task behavior. Ms. Knight made students responsible for many of the managerial tasks (entry procedures, equipment, court assignment, etc.) which gave students ownership and allowed them to be more self-directed. This is similar to what Hastie (2000) found in his study of Sport Education. Research has shown that student who do not see the relevance or value in an experience will not engage in physical education activities (Cothran & Ennis, 1999). The engagement and enthusiasm observed in this study may suggest that the students did value their physical education experience.

Instructional Task System

High levels of student compliance and engagement in instructional tasks were observed throughout the study. Ms. Knight demonstrated a number of highly effective teaching behaviors that engaged her students and enabled her to achieve her instructional objectives. The concept of pedagogical content knowledge (PCK) has been presented in
the literature for a number of years. PCK has been described as a the knowledge teachers use to teach including knowledge of subject matter, pedagogical knowledge, knowledge of how students learn subject matter and, curricular knowledge (McCaughty & Rovegno, 2003). Ms. Knight demonstrated PCK as she presented relevant content through explicit directions, motivated students, observed student performance and modified tasks to align with student skill levels.

This was especially apparent in the manner Ms. Knight conditioned games. Ms. Knight presented the whole class with the game conditions to start an activity, but would change them for individual students and teams. The differentiated conditioning of games and activities is similar to the extensions put into lesson plans. As Ms. Knight observed classroom tasks she would adjust game conditions to allow both high and low skilled students to be successful. The importance of matching tasks to student skill levels has been highlighted in PCK literature (Rovegno, 1998).

Ms. Knight also moved around the gym quickly providing relevant feedback and instruction as she traveled. This type of instruction occurred often during the final game of each lesson and on practice days. Teachers who actively move throughout the gym, and are enthusiastic with verbal feedback keep students more engaged and on-task (van der Mars et al. 1994, 1998). As opposed to allowing students to just play the game, Ms. Knight often interjected similar to what a coach would do in a practice when a deficiency or inconsistency is observed. Although she often reinforced the focus of the lesson, she also would address other aspects of the game during this time. For higher skilled students she may have addressed an advanced tactic, or she may have provided some individual
instruction on the fundamentals of a basic skill for a lower skilled student. Ms. Knight was able to adjust to students’ needs, and she often addressed multiple concepts within one lesson. Rovegno (1998) suggests less structured content is more difficult to teach. As opposed to teaching a skill in the structured setting of a drill, Ms. Knight was able to address multiple tactics and skills in a game setting. The differentiated conditioning of games and activities is similar to the extensions put into lesson plans; Ms. Knight would make an activity easier or more difficult to perform by adjusting or changing the game conditions.

PCK may also be important to asking appropriate open-ended questions, an integral part of applying the TGM. Insufficient PCK may cause teachers to spend and inordinate amount of time questioning students, or ask questions that do not align with the content they are addressing. In the past, the researchers have witnessed preservice teachers ask questions having nothing to do with the content being taught, and/or continue to ask the same question repeatedly. This may be evidence of an underdeveloped knowledge of the content and inability to pull in related content not explicitly detailed in the lesson plan. Similar findings were detailed by Rovegno (1998), “Without strong, detailed pedagogical content knowledge of the content within activities, it is difficult to hold children accountable for learning in anything more specific than the lesson activities, to know what questions to ask to deepen the children’s understanding or how to critique children’s performance.” Future research focused on PCK as it relates to teacher questioning may be beneficial.
Student response data revealing equitable OTRs across skill levels and high success rates were encouraging. In the basketball unit, low skilled students received nearly as many OTRs (31.25) as their high skilled counterparts (34), and all students were moderately successful when given the opportunity to make a play (see Table 5). Prior research has revealed that lesser skilled students often have significantly less OTRs (Siedentop et al., 1994). Success rates did increase with skill level which would be expected, but the range between high skilled players and low skilled players was not large. Basketball is a game often dominated by the more skillful players; their ability to handle the ball often allows them to dictate play, but this did not occur in Ms. Knight’s class.

More significance should be given to the success rates when considering that all responses occurred within a game like situation. There is little research on success rates within contextualized and game activities. Special attention should be given to the success rates in the current study as students performed while participating in game like activities. Unlike traditional practice sessions in which partners may stand ten feet away from each other and perform partner passing or four corner drills, students in Ms. Knight’s class practiced their passes within the context of a game with live defenders guarding them. The quantity of OTRs may be lower than what they would have had in a drill based practice, but the quality of OTRs is much better.

Doyle’s (1977) ecological model for analyzing classroom tasks was foundational to this study. The concept “program of action” has been useful in describing the events that occur within the physical education classroom in other ecological research.
Ms. Knight facilitated a program of action within a hybrid sport curriculum model that reflected student compliance and success.

The principle that learning must occur and be demonstrated was the primary vector in the program of action in Ms. Knight’s class. She articulated this philosophy throughout her interviews, stated it to students, and put in place accountability systems to ensure it would occur. At the beginning of class each day, students were made aware of what they were expected to learn and made accountable to do so. Ms. Knight would repeat a lesson or readdress an instructional objective if she was not satisfied with the student performance she observed.

Although the TGM and the SEM claim to be more student centered models, the program of action in this study was teacher directed. Ms. Knight employed instructional styles that are teacher mediated. The way in which she applied them could be described as the student centered in that Ms. Knight did not provide answers to students; rather, she allowed them to develop their own knowledge by answering questions. But the questions were always mediated by the teacher and instruction rarely came directly from a student. This does not align with what is intended for the student-coach role in the SEM, but was representative of Ms. Knight’s philosophy that learning must occur. She believed that learning was more likely to occur when instructional tasks were mediated by her. In the past she had tried using student coaches to provide instruction, but was unsuccessful in doing so. A program of action of learning supported by the instructional, managerial, and student social task systems created an effective learning environment.
The contextualized learning experiences enhanced student performance within the game. Both the TGM and the SEM prescribe small sided and modified games as the main instructional activities used within a lesson. Student motivation to play these games inspire and the learning that the game provides seems to come together to create a classroom ecology in which learning is facilitated. Students were able to grasp skills and tactics taught by the teacher and apply them in the game context. It has been suggested the ultimate goal of sport instruction is for students to be able to play the game with enough competence to experience the many and varied benefits of continued participation (Rink & Tjeerdsma, 1996). The findings in this study suggest this teacher’s interpretation of TGM and the SEM facilitated competence and enjoyment.

**Student Social System**

Student interview data revealed favorable feelings toward the game centered approach of the TGM and the team aspect of Sport Education. The idea that students enjoy participation in contextualized learning relates to the need to further investigations on situated learning perspectives in physical education (Rovegno, 2006). The fact that students enjoyed their time in class contrasts the negative attitudes toward physical education revealed in other research (Carlson, 1994), but reinforces what Carlson and Hastie (1997) found in their ecological study of SEM. Accountability also plays an important role in student engagement. Tousignant (1982) suggests a lack of accountability as it relates to performance results in students who hide low levels of participation within the task structures. She termed these students “competent bystanders.” This coincides with the busy, happy, good philosophy that Placek (1983)
observed in her research. The negotiation that occurs between the students and the teacher continues to be a point of interest in education; more importantly, discovering how this negotiation affects the development of student knowledge could be beneficial. Amade-Escot’s (2005) research of didactics may be a beneficial focus for future research. Didactics research emerged from a search for a more precise way of analyzing the situation-specific nature of knowledge formation during the interaction of teacher, student, and the knowledge taught during the teaching-learning process (Wallhead, 2004).

**Implications**

This study reinforces some of what is already known about teaching and learning in secondary physical education. Explicit task descriptions, quality feedback and strong accountability are all important to being an effective teacher. The ability to provide enthusiastic and relevant feedback is also important. Students in this study enjoyed the contextualized activities, which resulted in all student engagement in considerably higher quality learning outcomes amidst high percentages of activity time across two separate sport season.

One key to facilitating similar sport and games learning for others hinges on assisting pre-service teachers on how to construct and monitor these complex sport and game environments. In a sense teaching teachers to teach within and through the game. One key is to emphasize the importance of developmentally appropriate tasks and differentiated instruction within a games curriculum. It is difficult to teach beginning teachers to respond to what the student presents them. Teaching novice teachers to
respond to unpredictable student responses requires pedagogical expertise, in particular
custom monitoring, effective delivery of feedback, and understanding when to provide a
task or game alternative. All of which are closely linked to student negotiations. Teachers
maybe asked to draw from knowledge they may not have, or knowledge they were not
prepared to use, which reinforces the need for teacher educators in Physical Education to
evaluate the depth of content knowledge of their preservice teachers. In addition, future
research into game centered approaches should consider focusing on the didactic contract
where teacher and student negotiate how content is presented and learned. The study of
the critical incidents in which this negotiation occurs may provide a deeper understanding
of how knowledge and content is developed during a games lesson.
APPENDICES
I would like to do research on the Tactical Games Model for teaching games in physical education. Tactical approaches have become viable and widely used alternatives to the traditional technical approaches; nevertheless, there is uncertainty about how teachers are interpreting the model and applying it in their classes. The research involves the systematic observation, description, and analysis of a teacher’s interpretation and application of TGM, as well student responses to the tasks they are asked to do.

I would like your school to take part in this study. The physical education teachers in your school are known to use TGM, and your school provides an ideal context for our research. The analysis will take place in one class throughout two instructional units. Semi-structured interviews of the teacher and informal interviews of students will be used to supplement the observation recorded during each class. Knowledge gained from this study may be useful to teacher preparation programs; consequently, future physical educators will have a better understanding of how tasks can be presented and the responses they should expect from students. Taking part in this project is entirely up to you, and no one will hold it against you if you decide not to do it. If you decide take part, your teacher and students may stop at any time.

If you want to know more about this research project, please call me 330-414-0185. The project has been approved by Kent State University. If you have questions about Kent State University's rules for research, please call Dr. John L. West, Vice President and Dean, Division of Research and Graduate Studies (Tel. 330.672.2704).

You will get a copy of this consent form.

Sincerely,
Andrew Chouinard
Graduate Student
Exercise, Leisure and Sport
Kent State University

CONSENT STATEMENT: I agree to allow my school district to take part in this project. I know what my teachers and students will have to do and that they can stop at any time.

___________________________________________________________
Signature

___________________________________________________________
School District Date
A Teacher’s Interpretation and Application of the Tactical Games Model in Physical Education: An Ecological Perspective

I would like to do research on the Tactical Games Model (TGM) for teaching games in physical education. TGM has become a viable and widely used alternative to the traditional technical approaches. TGM is a student-centered approach, which focuses on developing knowledge of tactics and strategy through game play. With many of the health and wellness issues our nation is now facing, it has become a major goal within physical education to teach games in a way that students will want to continue to play them outside of the school setting, and participate in them throughout adulthood. Advocates of TGM have found it to be fun, exciting, motivational, and an approach teachers have come to prefer. In an effort to understand this model further, I would like to conduct an observational study of your child’s physical education class. Your child’s physical education teacher utilizes TGM and her classes are ideal for our research. The research includes the taking of field notes by my professors and I, and informal questioning of your students such as: “What did you enjoy about class today?” “What did you learn in class today”? or “Why did you do a specific behavior?” Participation in this study is at will, and your child and/or teacher can stop at any time.

If you want to know more about this research project, please call me 330-414-0185. The project has been approved by Kent State University. If you have questions about Kent State University's rules for research, please call Dr. John L. West, Vice President and Dean, Division of Research and Graduate Studies (Tel. 330.672.2704).

You will get a copy of this consent form.

Sincerely,
Andrew Chouinard
Graduate Student
Exercise, Leisure and Sport; Kent State University

CONSENT STATEMENT: I agree to allow my child to take part in this project. I know what my child will have to do and that they can stop at any time.

___________________________________________________________
Student’s Name
___________________________________________________________
Parent’s Name

___________________________________________________________
Parent’s Signature       Date
Script for Student Assent

A Teacher’s Interpretation and Application of the Tactical Games Model in Physical Education: An Ecological Perspective

Procedure for obtaining assent from children: The following script will be read verbatim to the class.

Hello (teachers name) class,

My name is Mr. Chouinard, and I am trying to learn more about how your teacher teaches physical education. I would like to come to your class each day and observe the things that are happening. I would also like to videotape your class each day. Occasionally, I may ask you a question, which you may choose to answer. Do you want to do this? Do you have any questions before we start? If you want to stop at any time, just tell me.
| Task: _____ Time ______ - ______ | Notes:
|-------------------------------|--------
| Type:                        |
| I- IN E RE RV A              |
| M- C O R                      |
| Explicitness: E PE I          |
| Questions: A PA NA           |

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Teacher Response:

| T- Time ______ - ______ |

I=Instruction- IN= Informing, E= Extending, RE= Refining, RV= Reviewing, A= Applying
Questions: Aligned, Partially Aligned, Not Aligned,
M= Management- Conduct, Organization, Routine
T= Transition,
Explicitness: E= Explicit, PE= Partially Explicit, I= Implicit
A= Activity
OTR- += Successful, − = Not Successful, ↑= Modified Up, ↓= Modified Down
**Interobserver Agreement**

**TOTAL for all Lessons:**

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**BB-Day 2**

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| RE | RV | E | A | CP | A | T | RV | A |
|----|----|---|----|----|---|----|----|
| RE | RV | E | A | CP | A | T | RV | A |

Total Agreements: 25  
Total Disagreements: 1  
Agreement: 96%

OTR DATA

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Total Agreements: 33  
Total Disagreements: 4  
Agreement: 89%

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REFERENCES


