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MIDDLE SCHOOL BASKETBALL: A MULTIPLE METHODS CASE STUDY

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Introduction

The purpose of this study was to analyze the relationships among espoused teacher beliefs, student and teacher actions, and student perceptions over the duration of a basketball unit in a middle school. Recently, Locke (1992) has suggested that physical education is failing to achieve its goals in the secondary schools. He concluded that "many students in the gym are neither doing the tasks we assign nor learning the things we intend" (Locke, 1987, p. 89). But, what do we intend? And, what tasks are students doing? And, what do students perceive to be our intentions? Answers to such complex questions can be achieved only through a holistic study of the teaching-learning environment, including the perceptions of teachers and their students. A holistic approach will broaden our understanding of teaching and learning in physical education, including the craft knowledge (Siedentop, 1991) that teachers acquire and use to guide their day to day practice.

Research on teachers, students, and the learning environment suggests an integrate, multidimensional research perspective. Therefore, this study was based on several theoretical perspectives and research methodologies appropriate to those questions. The ecological model (Doyle, 1986) provided the interpretive framework for analyzing classroom events. Teacher thinking and beliefs perspectives, particularly the notion of an espoused theory of action, provided the interpretive framework for examining and analyzing teacher theory about physical education and teaching. Finally, in response to many expressed concerns about the

neglect of student voices in teaching research, data on student behavior in class and student perception of their classes were used with the assumption that students and teachers jointly construct the learning environment and jointly determine its evolution, an assumption that is fully compatible with the ecological model.

The ecological paradigm emerged in 1980 and assumed that classrooms are complex environments where teachers influence students and students influence teachers (Doyle, 1992). Furthermore, student work were seen as the central element to an increased understanding of the complexity of teaching and learning (Doyle, 1983). Thus, in looking for a model for inquiry on teaching Doyle (1982) stressed "an emphasis on work as an important element which affect thought and achievement in classroom environments" (p. 531). Work can be portrayed as an academic task system which includes goals, materials, procedures, cognitive operations, and accountability. These academic task systems, rather than teachers behaviors or cues, organize and guide students' work in classrooms (Doyle, 1982). The task system view proposes that teachers state the tasks for students, students decode the tasks and perform the work, and teachers judge the satisfaction of the product (Carter & Doyle, 1987) which means that the learning environment is jointly constituted by teachers and students. Describing classroom tasks teachers encounter and interpreting the knowledge structure that facilitates the design and pursuit of these tasks will broaden the understanding of teachers teaching and thinking (Carter & Doyle, 1987).

Teachers have a body of knowledge which helps them to analyze their instruction and the learning environment and to reflect on possible actions. Different concepts, such as practical principles, personal theories, images, have been employed to describe how teachers' knowledge, value, and beliefs are structured (Calderhead, 1991). There is no agreement about the terminology. Different researchers have endeavored to define how teachers' knowledge could be articulated, accepting the complexity, the influence of value judgments, beliefs, and

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attitudes, the relation with instructional experience and the contextual nature of teaching. However, Calderhead (1991) concluded "the relationship between teachers' thought and knowledge and their practice is neither straightforward nor well understood" (p. 532).

Research on students' understanding and interpretations of teaching has not usually been related to instruction. Surveys of students' attitudes to and beliefs about physical education and physical activity can be found, but they do not portray the essence in teaching and learning (Figley, 1985; Sinclair & Luke, 1991). Wittrock's (1986) review of student thought processes focused mainly on student attitudes, attribution, and perceptions about instruction. Nevertheless, he concluded that students thought process mediated their learning and this should be included in future research design. Additionally, Eisenhart and Borko (1991) suggested that students existing knowledge and beliefs, their cognitions during practice, and their behaviors in the classroom must be studied.

The purpose of the study was to provide a description of a physical education teacher, her practical knowledge, values, and beliefs, and how these are represented in the teaching situation. In addition, student voices were examined to provide an expanded view to the instructional process in physical education. This paper is part of a larger study which had three major research questions. The first question examined teacher's espoused theories of action. The second question was to describe the ecology of the learning environment jointly constructed by the teacher and the students. The third question examined how teacher espoused theories of action are manifested in the learning environment.

METHODOLOGY

A multiple methodology case study design was identified as the most appropriate way to answer the research questions.

Research Setting and Participant

The study was conducted in central Ohio in the USA. Purposeful sampling was employed to identify a middle school physical education teacher willing to participate in the study. Julie was recognized through supervision and practicum experience as an experienced and effective teacher. She is a female physical education teacher in her late thirties. When she graduated from college she substituted for four years and then stayed home to raise three children. Julie went back to substitute teaching and now has taught eight years at her present school.

Julie is head coach of the girl's varsity track and field team and had previously coached volleyball. Altogether, Julie ranked basketball as an average activity in term of her comfort level and preference in teaching sports.

Julie teaches in a suburban middle school with 1200 seventh and eight graders. Based on the researchers' and the teacher's schedule, one class was selected to be observed for the whole unit. Julie described the students in the class, as a "diverse group", both in athletic and academic ability. The seventh grade class had 30 students, 13 girls and 17 boys. An entire basketball unit of five weeks and 13 lessons provided a distinct unit of instruction for the study.

Data Collection Process

Data were collected through formal and informal interviews, observations and short surveys.

Teacher interviews

Three formal interviews were conducted with the teacher. The initial interview was designed to elicit statements about the teacher's theories of action, current practice, and demographic information. This interview was held before the teacher began the unit. The second interview was

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carried out in the third week. Its purpose was to clarify questions from an ongoing analysis of observational data and to provide the additional background information about the teacher. The final interview, after the unit, allowed the teacher to elaborate on informal statements made during the unit and to clarify or explain instructional practices from an ongoing analysis of nonparticipant observation. At the conclusion the teacher was also asked to reflect on how the units went. All interviews were semi structured in nature.

Before each lesson the teacher was interviewed informally to solicit content and goals for this lesson. After each lesson, a short informal interview was conducted to get teacher's reaction to the lesson and to clarify questions that arose during observation of the class.

Julie's perceptions of her instructional actions were accessed by having her to comment and react to two video tapes of classes during the unit. In the first video stimulated interview Julie talked about what she attend to when she was watching a video tape of her lessons. In the second stimulated recall interview, short segments from several lessons were used as probes for discussion about teaching strategies.

Nonparticipant observation

Field notes were taken on essential elements of the learning environment. Field notes were reviewed after each lesson and analyzed to determine observational goals for the next lesson. Furthermore, each lesson was videotaped with the teacher wearing a cordless microphone. A modification of Task-Structure Observation System (TSOS) (Siedentop, 1992) was used to collect both qualitative and quantitative data on specific classroom tasks and events. The observer randomly selected one student at the beginning of each task and coded student responses.

Student data

Group interviews is one way to allow individuals to respond in their own words. The teacher was asked to select both low and high skilled students, a total of four or five, for each interview. These students were interviewed about their perceptions of physical education, goals and methods, the learning situation, and their perspective of their teacher's intentions.

Every student in a class responded to a short survey at the end of each week's lessons. The instrument required students to respond to incomplete sentences in their own words. In addition, students were asked to describe the goal for the actual lesson.

Data Analysis

All interviews were audiotaped and transcribed for later analysis. Through out the analysis, constant comparison was used as a guide to analyze field notes, interviews, and survey data (Glaser & Strauss, 1967). Trustworthiness was established through data and method triangulation, member check, and peer debriefing.

FINDINGS

Julie's espoused theories of action have been identified from both formal and informal interviews. Three major categories were used to analyze the data. These were her educational beliefs and values, goals in physical education, and teaching strategies and principles. Julie described the two most important goals for her physical education program as student cooperation and body control. In addition, her focus was on developing student's positive attitudes towards and appreciation of different sports. This paper will focus on answering the research questions for cooperation and body control.

Cooperation

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Cooperation had two dimensions for Julie. First, that students cooperate as a group, where they listen, help, and support each other. She talked about students working in diverse groups in terms of skill level, academic ability and gender. The second dimension of cooperation was related to creating a cooperative learning situation, where students and teacher learn from each other as students have input with regard to class activities and generate their own solutions to different tasks. Julie said:

Just get that diverse group together, so that they got that cooperation and learning from each other, that cooperative learning tool there. (In12)

However, Julie stated that cooperation is a concept which is difficult to measure. Cooperation is important, but needs to be seen as a means to achieve more global goals. She felt that student cooperation can affect fair play and allow students more success. In basketball, Julie operationalized cooperation as:

simply getting them to move the ball around, looking for some open spaces not simply one person just shooting the entire time, but looking for those kinds of openings. (In8)

When students were asked to speculate about the goals, they believed that Julie wanted them to learn how to work together. Students perceived that working together in physical education was worthwhile. They liked choosing their partners. It was more fun and they chose somebody because they were friends or they could work together.

One group of four girls felt "working with other people" as the most valuable activity in physical education, because "you have to cooperate with other people and get a long with other people because you need that later on". Cooperation was also reflected in their statements about the purpose of the basketball unit.

Julie's espoused theories about the two dimensions within cooperation as the major goal in physical education were not observed during her instruction. In one task, she stated that students should work as a team and solve problems they have when they were playing. She never made a real attempt to teach cooperation. However, she made an effort to implement her operationalized conception about cooperation in game play. During two days of game play, students had to pass to everybody on the team before shooting. Students made an attempt to pass around during game play, but observations showed that they actually passed to everybody on their team prior to only four of ten attempts to shoot.

Body Control and Skill Development

The other major goal for Julie was body control because students can use these skills in day-to-day activities outside physical education. She described body control as handling and mastering the ball in game situations. However, Julie had different criteria for body control depending on initial level for each individual student.

Julie described body control in terms of basketball skills. Skill was the focus of teaching in all units although she sometimes did not see the expected progress in skill learning. She believed that skill practice can provide a foundation for further involvement in sport.

Although, body control, which included skill development, was an important goal, Julie believed that improvement in student skill performance was not as critical as just starting to learn the skill. Students would not become highly skilled athletes in her physical education classes.

I go in [to] these classes, simply wanting them to begin to learn, because I don't think they can learn one skill in one day. Our business is repetitiveness, and I guess [they can] begin to learn, what ever activity, what ever skill, that I'm teaching that day. (In12)

Julie's goals had two dimensions. The more global and universal dimension related to cooperation, body control and skill development, positive attitudes and appreciation of different activities. On a practical and day to day level, Julie's goal statements for teaching physical education reflected her concern that students need to be on task and practice the actual skill of the lesson at hand.

*I would want a lot of participation time [in a good lesson].
A lot of practice time on the skill itself. Whatever skill or
parts of skills or combinations of things that we were
working on for that day. (Fi2)*

In order to describe the ecology of the learning environment, the following section presents the results related to Julie's goals about body control and skill development from the observational analysis of the basketball unit. Julie allocated in average 15:26 min. (48.8%) of class time to student practice. Student spent in average 2:08 min. (6.8%) in warm up, 8:51 min. (28%) in instruction, and 5:11 min. (16.4%) in transition. The most frequently used task were extending tasks, followed by applying tasks, informing tasks, and refining tasks (Figure 1).

Figure 1 shows that as the unit progressed, Julie had fewer tasks during a lesson. Although there was a difference in numbers of task, she mainly focused on one skill during each lesson and an extending or refining task was only used once during the unit. Julie proceeded in the unit from elementary to advanced skills and in four lessons she combined two different skills into the same task.

All tasks were described verbally. In addition, Julie demonstrated and students demonstrated 17.9% and 9.0% of the tasks respectively. Her focus in task presentation was most frequently on skill features (86.6%) followed by organizational features (49.3%). Outcomes, like "reach the back board" or "how many can you do" were presented in 6.0% of the tasks.

One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Eleven	Twelve	Thirteen
BH/IN												
BH/IN												
BH/IN						BH= Ballhandl ing			IN= Infromin g			
BH/IN						DR= Dribbling			Ex= Extendin g			
BH/IN						JS= Jump stop, pivot			RE= Refining			
BH/IN						OG= Offense and guarding			AP= Appl ying			
DR/IN		BH/E X				SH= Shooting						
DR/E X		BH/E X				LU= Lay up						
DR/E X		BH/E X				PA= Passing						
DR/E X			BH/E X			GP= Game play						
DR/E X												
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	DR/EX											
	DR/EX											
	DR/EX											
	DR/EX											
	DR/EX											
	JS/IN	DR/E X										
	JS/EX	DR/R F										
	JS/EX	DR/R F										
	DR+JS/E X	DR/A P										

Figure 1A. Task development in Julie's basketball unit.

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Twelve	Thirteen

	DR+JS/EX		DR/AP							
	OG/IN				DR+JS/EX	DR/EX				
			OG/EX		DR+JS/EX	DR/AP				
			OG/R		DR+JS/EX					
			SH/IN		DR+JS/EX					
			SH/EX		OG/EX					
			SH/EX		PA/IN					
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Figure 1B. Task development in Julie's basketball unit.

In addition to telling the students “what to do”, teachers can describe the situation more explicitly by adding with whom, where, and under what conditions to practice. The situation for practice was clearly specified in

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one third of the instructional tasks. In one fourth of the tasks, Julie did not specify the situation, because it was a routine task and the students were familiar with the situation. Julie most frequently used critical elements (41.8%) in describing the the outcome criteria for the task. She specified time or number criteria in 23.9% of the tasks.

Students spent most time in shooting tasks (Table 1). Students practiced shooting during five lessons in 15 different tasks, with an average response rate of 3.6 per minute of practice time. The students played game for 46:06 minutes over four days. The target student had 90 responses doing dribbling, shooting, or passing during the time spent in game play. Student movement was not measured during game play.

Table 1.
Student Activity in Different Skills

Skill	Total time (min:sec)	Activity time (min/sec)	%	Total OTR #	OTRrate #/min
Ball handling	13:55			139	10.0
Dribbling	37:40	24.37	65.4		
Jump stop	6:18			32	4.9
Offence/Defence	13:33			42	3.1
Shooting	53:06			192	3.6
Passing	9:53			120	12.1
Lay up	15:17			32	2.1
Passing /Lay up	7:03			49	7.0
Game play	46:06			90	2.0
Whole unit				696	50

Julie did
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OTRrate
#/min

10.0

4.9

3.1

3.6

12.1

2.1

7.0

2.0

50

Lay up (2.1) and game play (2.0) tasks had the lowest response rates. Julie had only half of the gym and three hoops the day lay ups were practiced. This resulted in long lines, wait time, and student off-task behavior. Julie felt this lesson was terrible, because some students were not on task.

Typically, Julie monitored and interacted with students during instructional tasks. An analysis of the field notes showed that Julie had frequent interactions with individual students. She gave both skill related feedback and positive encouragement for practice effort. In some cases she reacted to students not performing the task. Julie attended to students not listening by prompting and reinforcing students listening. Julie moved around in the middle of the gym trying to reach many students. She mostly focused on problems close to her and did not monitor the whole group. If students close to her were off-task, she typically desisted them privately without interrupting the momentum of the lesson. Thus, the boundaries of task system were quite loose for students who were distanced from the teacher, thus reducing the effectiveness of the instructional system. It was apparent that the lack of this one crucial teaching skill, distance supervision, was a negative influence on the instructional ecology.

In the following, a summary is presented with Julie's comments related to her goals about body control and skill development based on informal interviews Julie's prior and after each lesson. Before the lesson in the early and middle part of the basketball unit, Julie typically described the skill that was the focus for the actual lesson. At the end of the unit, she talked about "playing some games", and what rules to use.

Julie's reactions to the lessons were positive. Her positive comments related to student on task behavior and the practice and improvement of their basketball skills. She stated:

Fine, fine, they are doing pretty well, everybody is on task, they don't hesitate in trying things and they are doing what ever is asked, (7L1)

Other comments were related to improvement in skill performance. Julie talked about these elements less frequently compared to comments about being on task.

Because they don't worry about the skill, they just worry about who comes first, not how it is done. (1L2)

Additionally, students' views of the lessons was gathered through student interviews, with both a mixed group, a girl group, and a boy group. One group, of three boys and two girls, had negative feelings about lesson four. They felt they learned "nothing that we did not know before". One student said: "it is the third week and we have just been dribbling". They felt that everybody could dribble and that they should focus on shooting and game play to avoid getting bored.

The group of four girls described practice in lesson six as "concentrate and you can not panic", and that it "does not matter if you win as long as you have fun". They were satisfied with the lesson and did not like to change anything Julie did.

Body control and/or skill development was an important global goal for Julie. Observations of Julie teaching showed her practice to be congruent with her theories. Her task presentations focused on skill features and how to do the skill correctly. She also had a progression from easy to more difficult tasks. Her skill related feedback focused on helping students improve their skills but poor overall supervision lessened the impact.

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On the other hand, she believed that skill development was not as important as just beginning to learn and participate. Her theories about the practical level goal to keep students busy and on task was partly observed. Students had high activity and OTR rates in some tasks, while they were passive and waiting in other tasks.

CONCLUSION

The purpose of this study was to describe one teacher's theory, actions, and what happens during a basketball unit. Julie's espoused theory of action, as identified from interviews, was detailed and all the categories were inter-related. Julie's espoused theory of action was generally congruent with her what she did in the classroom although her theory about cooperation as a goal for physical education was not observed. Congruence between teachers' theories and actions are reported previously (Marland & Osborne, 1990; Tsangaridou, 1993; Veal, 1992).

The teacher education program had helped Julie in becoming a teacher and she perceived that the subject matter preparation in general during her teacher training was sufficient for her teaching career. Although she had played in high school, her experiences in college basketball courses were mostly negative. The focus was to improve her own basketball skills and Julie felt the instructor neglected aspects of how to teach basketball to children with different skill levels. Because she was not on the basketball team and was less skilled she reported feeling "very inferior" (1vi5) to her classmates. She said "I don't remember any drills she taught us" (1vi5). In addition, Julie believed her teacher preparation did not prepare her well for management and discipline issues. She recognized that these issues are more difficult to teach and need to be integrated into various field experiences during teacher preparation.

Julie often talked about constraints in her teaching and these were related to concrete situations she encountered in her daily teaching routines. Although facilities and equipment were good, she often described that

space and large groups were problems that affected her teaching. Teachers confront mainly practical problems in teaching. These are often "uncertain context specific practical problems", without a solution direct derived from a rule, principle, or theory (Clark & Yinger, 1987). Although she has learned to cope with the situations, the results from the task system analysis showed that limited space and a big group decreased student opportunity to practice.

Teaching physical education is an on-going learning experience for Julie. On one hand, she had made files for each sport which she continues to use as a source in her teaching. On the other, she is always open for new ideas, she learning from her student teachers, from watching other teach and/or coach, and from her own teaching. She described in several instance that "I found", "I have learned", or "I have noticed" which showed that she constantly was reflective about her teaching. Her reflection on teaching had a daily level and long term perspective. In her reflective comments, she described daily teaching experiences related to management, discipline, and skill practice. This supported Tsangaridou's (1993) findings, that teachers reflect on concrete aspects of teaching. These findings emphasize that in teacher education programs, reflection on practice needs to be on a concrete level. As an example to remember good ideas, she used strategies like: "I'll go back and write myself notes in my lesson plan book; Do this again." (Fi11). This reflective practice has helped her in her teaching because Julie felt the first two years of teaching were difficult and nothing was in order. But by her third year she started to feel comfortable and satisfied with what she was doing.

These results could be due to the short observation phase, which was only five weeks with 13 lessons. Researchers suggest that the learning environment is developed over a long period of time (Doyle, 1982). In addition, these findings support a need for a holistic research approach, in studying teachers, students, and the learning environment for an extended time period. If her goal was cooperation, was she prepared to teach these goals in her teacher education? What about teacher education

today? Are preservice teachers ready to teach cooperation and other dimensions not related to skill development? It is not only teachers that have to make decisions and priorities; teacher educators need to decide on content and philosophy in their programs. In this, it is important that teacher educators are sensitive to the demands and needs of practitioners in day to day teaching.

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**BETTER TEACHING
IN PHYSICAL
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THINK ABOUT IT!**

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