Physical Education Teachers' Theories of Action and Theories-in-Use

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This research was conducted to describe the relationship between physical education teachers' educational theories of action and theories-in-use. The question addressed was, What are the educational theories and practices of physical education teachers, and to what degree do their educational theories guide their professional practices? Data were collected through class observations, formal and informal interviews, vignette interviews, and journals. Data were analyzed inductively. Results suggested that the four teachers in this study held strong and well articulated views about student learning and what constitutes a physically educated student. They agreed that the primary goal of a physical education program was the development of skills. They believed that guided student practice was important for student learning. The selection and implementation of teaching practices demonstrated the teachers' commitment to gender equity and the needs and abilities of their students. There were only three discrepancies between the participants' theories of action and their theories-in-use. These related to student independence, student choice of content, and the process of cooperation and negotiation. Otherwise the teachers' theories-in-use were consistent with their theories of action. The results from this study do not substantiate the notion of a level of discrepancy between teachers' espoused theories and professional practices as presented in the literature (Argyris & Schon, 1974; Knight & Smith, 1989).

Key Words: experienced teachers, teacher reflection, action research

All teachers hold beliefs about their work, their students, and their subject matter which are part of their broader general belief system. Pajares (1992) pointed out that educational beliefs are beliefs about one's confidence to affect student performance, about the origin of knowledge, about causes of teachers' or students' performance, about perceptions and personal feelings, about confidence to perform specific tasks, and about specific subject matters or disciplines. Fang (1996) defined teachers' beliefs as the rich store of general knowledge of objects, people, events and their relationships that teachers have which influence their planning decisions as well as their classroom actions.

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The beliefs that teachers hold about their teaching are often referred to as teachers’ theories, personal theories, practical theories, or theories of professional practice (Argyris & Schon, 1974; Clark & Peterson, 1986; Sanders & McCutcheon, 1986; Siedentop, 1991a). Teachers’ theories are a collection of beliefs related to teaching and schooling. Argyris and Schon (1974) explained “theories of professional practice” as a set of interconnected propositions about the purpose of teaching, the roles of the teacher and students, and the set of teaching practices enacted in their classrooms. Argyris and Schon distinguished between two types of professional theories: theories of action and theories-in-use. They may not be consistent with each other and the teacher may not even be aware of such incompatibilities:

When someone is asked how he would behave under certain circumstances, the answer he usually gives is his espoused theory of action for that situation. This is the theory of action to which he gives allegiance, and which, upon request, he communicates to others. However, the theory that actually governs his action is his theory-in-use, which may or may not be compatible with his espoused theory; furthermore, the individual may or may not be aware of the incompatibility of the two theories. (pp. 6-7)

Tinning (1988) emphasized that theories of action “may be at variance with theories-in-use, which are actually the assumptions embedded within the practice itself” (p. 87). In such cases, the only way to determine the teacher’s theories-in-use may be through observations of these professional practices (Sanders & McCutcheon, 1986).

Teachers’ theories may have been acquired and formed during their experiences as young pupils themselves, from life experiences, or through their teacher education professional preparation program (Fang, 1996; McNamara, 1990; Pajares, 1992; Zeichner, 1987). Therefore the assumption of uniformity in teachers’ theories is untenable (Feiman-Nemser & Floden, 1986; McCutcheon, 1992). There is very limited empirical work on the alignment of teachers’ theories and actions (Fang, 1996). Studies in general education have shown inconsistent results, with a few researchers reporting that teachers’ theories are related to their practices (Richardson, Anders, Tidwell, & Lloyd, 1991) while others have supported Argyris and Schon’s theory of the misalignment of theories and practices (Wilson, Konopak, & Readance, 1991). In physical education, some evidence suggests consistent alignment between teachers’ theories and their practices (Chen & Ennis, 1996; Rauschenbach, 1992) whereas other evidence suggests inconsistent results between teachers’ theories and actions (Kulinna, Silverman, & Keating, 2000; Romar, 1995; Siedentop, Doutis, Tsangaridou, Ward, & Rauschenbach, 1994).

Teachers’ theories are considered to play an important part in the judgments, understanding, and interpretations they make every day. Clark (1988) pointed out that teachers’ theories influence perception, interpretation, and judgment, and therefore have important consequences for what teachers do and say. Nespor (1987) noted that teachers’ theories play a critical role in defining teaching tasks and organizing the knowledge and information relevant to those tasks.

Researchers of teaching have often overlooked or failed to assess the degree to which educational theories may influence the nature of teachers’ actions (Carter, 1990; Clark & Peterson, 1986; Doyle, 1992; Ennis, 1996; Fang, 1996; Gudmundsdottir, 1990; Pajares, 1992; Siedentop, 1991a). This study, which was part of a larger research project, was undertaken to deepen our knowledge base on teachers’
theories of teaching. A previously published study (1997 in JTPE) presented the findings related to the teachers’ reflection. This study presents the findings related to teachers’ theories of teaching using a different data set. The purpose of the study was to describe the relationship between physical education teachers’ educational theories and their practices. The major question addressed was, What are the educational theories and practices of physical education teachers, and to what degree do their educational theories (theories of action) guide their professional practices (theories-in-use)? In this study, theories of action were defined as the teachers’ espoused theories, and theories-in-use as those behaviors manifested in their teaching.

Method

Participants

Four experienced elementary and secondary physical education teachers volunteered to participate in the study. They were informed that confidentiality and anonymity procedures would be established in the study and that all data and reports would be given to them for member checks. Informed-written-consent forms were obtained from all participants, and appropriate human subjects procedures were followed. The physical education teachers taught in a large midwestern city in the U.S. All were white (1 M, 3 F). Each had been teaching for at least 10 years. The participants were selected based on school level (elementary and secondary) and school setting (urban and suburban). Aris worked at a suburban elementary school and had 10 years of teaching experience; Liza worked at an urban elementary school with 23 years of teaching experience; Stella worked at an urban secondary school with 19 years of teaching experience; and Lara worked at a suburban high school with 10 years of teaching experience.

Students in Aris’ and Lara’s schools (suburban schools) were primarily middle to upper middle class white (90%). Half of the students in Liza’s and Stella’s schools (urban schools) were white and half were African American and Hispanic. The majority were from middle and lower socioeconomic families.

Data Collection

Observational data were collected by a nonparticipant observer (Patton, 1990) who observed 68 regular physical education sessions: 18 lessons from Aris’ kicking, catching, and dribbling units; 16 lessons from Liza’s fitness, basic movements, and soccer units; 16 lessons from Stella’s tennis and volleyball units; and 18 lessons from Lara’s fencing and exercise physiology units. Fieldnotes were kept on classroom activities and events relevant to the purpose of the study. All lessons were videotaped and reviewed after the lesson, and supplementary fieldnotes were recorded when necessary.

The participants were asked to keep a written or oral journal for the class periods being observed so they could use it to discuss their teaching of these lessons, reflect on what they did in the lesson, what changes they planned to make or maintain, and so forth. The purpose was to explore the meanings these teachers gave to their experiences, and to describe the aspects of teaching they reflect upon and consider important. Two of the teachers kept audiotaped journals which were later transcribed. The other teachers wrote entries in a notebook after each lesson.
Informal interviews between participants and one investigator occurred before and after these observation sessions and were recorded as fieldnotes. Three formal interviews were conducted with each participant and were audiotaped and later transcribed. The first interview was held before observational data were collected; it posed questions regarding the participants’ educational theories and practices. Open-ended questions, developed and field-tested twice with teachers, provided a frame of reference for this first interview.

The second interview occurred after all observational data were gathered. This interview allowed the participants to attribute meaning to actions and decisions they made during the observed lessons. We developed our questions both from the content of the first interview and our observations of the participants’ lessons.

The third “vignette” interview was conducted after all the observations and the second interview were completed. To facilitate the discussion, we developed open-ended questions asking participants to respond to four hypothetical vignettes that described different educational issues. During the interview, participants discussed their views about the content of the vignettes. The purpose for asking participants to respond to the vignettes was to identify their views on different aspects of teaching. The foci of the vignettes were on (a) pedagogical issues, (b) pedagogical content knowledge issues, (c) social issues (gender and ability level), and (d) moral and political issues (see Appendix). The vignette approach was used as a specific data collection strategy in describing the teachers’ views (not the teachers’ actual theories in action) on pedagogical and moral issues as well as issues of equity in physical education.

Data Analysis and Trustworthiness

Data were analyzed inductively via individual-case and cross-case analysis (Patton, 1990; Yin, 1989). Through multiple and careful examination of the data, we identified the key linkages, properties, themes, and patterns in the data in order to locate common categories (Glesne & Peshkin, 1992; Patton, 1990; Yin, 1989). From this process, data were organized and sorted into three major thematic clusters: curricular, pedagogical, and social theories. Within the thematic clusters were several categories. Curricular theories included program priorities and content focus. Pedagogical theories included instructional format and climate, instructional tasks, and cooperation and negotiation. Social theories included gender equity and moral and political issues. These categories became the basis for the descriptions of the four participants’ theories of action and theories-in-use as observed in their daily teaching.

Four strategies for establishing trustworthiness were used in this study (Lincoln & Guba, 1985). First, triangulation was employed to ensure that the findings were accurate. During the triangulation process, themes drawn from the data were cross-checked and compared against all data sources to confirm or disconfirm evidence and interpretations. Second, all participants were asked to read the interview transcripts and interpretations of the data and were invited to correct inaccurate information or interpretations. The participants did not suggest any major changes during the member check. Third, peer debriefing, the process whereby the researchers invite people to comment on their interpretations (Lincoln & Guba, 1985, Patton, 1990), was conducted periodically with two individuals who were familiar with
the teachers and with naturalistic inquiry. Finally, negative case analysis, the process of scrutinizing disconfirming instances in the data, was used to refine or revise tentative themes and hypothesized relationships (Patton, 1990). The search for discrepant cases serves as a cross-check on data analysis and prevents the matching of emerging themes and evidence that support only favorite interpretations. To minimize these effects, a careful search was made for discrepant cases.

Results and Discussion

The findings are presented as a set of themes, and the contrasts and similarities between the teachers' theories of action and theories-in-use are discussed.

Curricular Theories

Their theories about curriculum included two subthemes: (a) program priorities, and (b) content focus.

Program Priorities. All four teachers held similar views of a physically educated student: that he/she should have the knowledge and abilities to perform a variety of motor skills and activities, maintain an appropriate level of fitness, and enjoy regular involvement in physical activities throughout life. These values reflect some of the national content standards (National Association for Sport and Physical Education, 1992). Moreover, the key goal for all four teachers was motor skill development. The following excerpt from an interview illustrates their views: "You're learning new skills, and the ones you have you are refining and perfecting. ...That child is more likely to become a lover of physical education" (Aris, Interview 1). The assumption for these teachers was that competence would lead to confidence and a desire to participate.

Aris indicated that ideally he would "like the kids to have more physical education. It doesn't have to be with me I guess. I just want them to be more active throughout the day" (Interview 1). He used his intramural program and early morning gymnastics program to teach the students more motor skills and strategies and refereeing skills. The content of the intramural programs related directly to the sport/activity he was teaching in his instructional program. Liza believed in more time for physical education but did not arrange for noninstructional time. However, she was responsible for physical education programs in two schools, which made for a more complicated set of conditions. While all participants expected students to demonstrate proficiency in a variety of sports and maintain an acceptable level of fitness, they had different secondary goals. The secondary goal in Liza's elementary program was the development of students' cooperative behaviors. This goal was consistently practiced in the types of tasks she assigned the students. The following fieldnote from her second-grade class is an example of how Liza typically promoted students' cooperative behaviors:

Then, they reviewed and practiced the correct performance of throwing without a ball and what kind of cooperating strategies they would use during the game. ...Liza divided the students into two teams and the game started. ... During the game, students used several cooperating strategies. (Fieldnotes, Oct. 21)
Liza's journal entry following this lesson aligned very well with her values of skill development and cooperation:

The objective was for students to be able to dodge a moving object. And I felt the lesson went pretty well. Some of the students weren't using opposition. I tried to give feedback on that to improve their skill. They seemed to understand the dodging concept. As far as cooperation, I felt they understood the strategy involved. (Journal, Oct. 21)

Aris believed in developing independent learners. For him this meant the students could manage the routines of the class: begin the warm-up under the direction of a student, take out equipment safely, and get ready for teacher instruction. These routines were teacher-designed, and students complied in a very positive manner. There was less evidence of student choice of content for class. Students' roles and responsibilities were alternated every week. While Aris incorporated some strategies (differentiation of tasks, warm-up routines, etc.), his style of teaching was quite teacher-centered and the students' independence was limited. Students in his classes were more responsive rather than responsible and independent learners. This was the first discrepancy between the participants' theories of action and theories-in-use. The following segment of a lesson illustrates a warm-up routine set up by Aris:

12:40. The second-grade students came in the gym and sat down in their "homes." The "warm-up leader" of the day reminded students of the tasks. The leader performed the tasks. After a few seconds the leader asked students to go and do their pull-ups. ...Some students helped each other to reach the bar when necessary. When they finished with the pull-ups, the leader asked his classmates to go and do their sit-ups. Students prepared the mats and did the sit-ups task with partners. (Fieldnotes, Oct. 13)

Stella's secondary focus was the development of students' self responsibility:

I think in high school they need to assume responsibility for their actions. I just think that we need to make students more responsible for their behaviors and what they do in class. I hope, through my teaching and the method by which I teach, that I give them opportunities to develop that sense of responsibility. (Interview 1)

Her classroom practice reflected her beliefs, as she used several strategies to help students develop self-responsibility. One such strategy was homework. Stella's students had to get involved in physical activities outside of the school and keep a log of their performance. (Fieldnotes, Nov. 10)

Lara's secondary goal for her high school students was the development of positive attitudes and enjoyment of physical activities. She stated, "I want the kids to enjoy being in my class so I try to make my classes very enjoyable. ... This is their time to enjoy and to experience, and not feel pressure and not feel a need to conform (Interview 1). The following observational data from a fencing lesson illustrate the positive atmosphere in Lara's classes:

10:15. Lara was in front of the tournament poster chart when the students entered the gym. A girl approached Lara and told her that she wanted to
share something personal with her. Both of them talked for a while. …

Students went to their teams and got ready for the matches. Lara set up the clock. "Let's start with Round 1." Then she went close to J__ (a student with developmental delays) and helped him to put on his helmet. J__ was the first person in his group to fence. He fenced with a girl. Another girl from the group was giving feedback and positive reinforcement to J__. For example, "J__, turn your body to the side." "keep going J__." "good job." "come on J__, attack". … After the match, both students shook their hands. During the lesson Lara was moving around the room and she was giving reinforcement and feedback to the students. Students seemed to enjoy the lesson. (Fieldnotes, Oct. 14)

Content Focus. While the teachers had a mandated curriculum, the degree to which this influenced their selection of program content was quite different. There were similarities as well as differences between the two urban and the two suburban teachers. Liza and Stella, the urban teachers, taught activities that were mandated in their district's course of study. Liza indicated, "We have to teach them [activities] every year. … For first grade was kicking a ball to a goal without the goalie. The main difference in the fourth and fifth grade is being able to dribble with control. Put it into a modified game. And passing to a partner while running parallel. We have certain soccer objectives that we teach." (Interview 2)

The following fieldnote segment from a fourth-grade soccer lesson illustrates how the curriculum objectives were incorporated in the lessons.

10:15. Students practice the new task with their partner. After a while they changed roles, the offender became the defender and the opposite. In the next task the students were asked to apply the skill in a 3 vs 3 modified game. Students were working nicely and were using the skill correctly. (Fieldnotes, Oct. 20)

Stella taught tennis and volleyball because she considered them lifetime activities and they were included in the district's course of study:

The actual reason I chose tennis was because it's an individual sport or what I consider a lifetime activity and it's also required in the curriculum. … Volleyball again is a requirement in the curriculum and I also think it's a pretty high lifetime sport. (Interview 2)

Aris and Lara, the suburban teachers, chose activities to reflect trends in their local community. According to Lara, "In order for it [program] to be enjoyable, you have to also keep up with the trends of the society" (Interview 1). Similarly, Aris said,

Like for instance why do I do so much with gymnastics? It's not my favorite sport. Why do I do it then? I do it because there's such a strong interest in this community. There's a high degree of perceived success if kids can do that sport. … So I look at what the community expectations are and what the parent expectations are long before I look at mine and the administration's. (Interview 2)
The two high school teachers, Lara and Stella, believed in student choice for content selection. However, only Lara gave students any curricula choices. Students in her program could choose from several types of physical activities. Stella’s students had no choices. Her belief in student choice of content did not match her actions. This was the second case of misalignment we found between the four teachers’ theories of action and theories-in-use.

**Pedagogical Theories**

The teachers’ pedagogical theories and practices are presented as three subthemes: (a) instructional format and climate, (b) instructional tasks, and (c) cooperation and negotiation.

**Instructional Format and Climate.** Rink (1993) emphasized that “teaching functions are usually performed within an instructional framework—a delivery system for getting the content to the learner. ... Teachers select an instructional strategy based on the nature of the content, the objectives of the teacher, and the characteristics of the learner” (p. 163). The teachers’ theories relating to the instructional format and climate are presented.

Liza and Lara used an “active teaching” strategy: instructional tasks were provided to the class, followed by guided and independent practice. During instructional time they actively supervised the students. When instructional tasks were modified by students, the teachers stopped practice and provided corrections or re-explained the task. They interacted frequently with the students in a positive and supportive manner. The following fieldnote, taken from a basic movement lesson, shows how Liza typically delivered content to her students:

1:40. The music stopped again. Everybody stopped. Liza asked students to find a self-space. “Please raise your hand if you know what galloping is.” Some students raised their hands. Liza asked a student to demonstrate the galloping skill. After the demonstration Liza said, “Let’s analyze what your classmate did.” They discussed the demonstration. Liza pointed out how the skill should be executed. She also demonstrated the skill a few times. Students were asked to practice the skill in a guided practice format. They tried hard to execute the skill correctly. Liza gave skill feedback to the group. Then she took the drum. She told students to practice galloping around the gym and, when they would hear the drum, to change feet. “Everybody start, go.” Students practice the new task for a while. (Fieldnotes, Oct. 5)

Part of a high school fencing lesson portrays Lara’s instructional style:

10:20. Lara asked two students to start fencing. Another student was the judge. During the demonstration, Lara highlighted the points each fencer gained. She explained why players do or do not get points. Also she pointed out legal and illegal touching. After the group demonstration, the class went to practice. ... Students were involved in their tasks while Lara actively supervised the students. (Fieldnotes, Oct. 12)

As noted earlier, one of Aris’ goals was to help students be independent learners. He used an instructional approach which he defined as “individualized.” Aris provided several tasks to the class and asked students to choose the tasks
according to their skill level. Following is an example of how the tasks were presented to students:

1:03. Aris stopped the activity and introduced another task. ... After they accomplished the task they were working on, they could use a playground ball or basketball and dribble around the boundaries, first with the right hand and then with left hand. They could speed up or slow down when dribbling. Students continue practicing. In the middle of the gym some were working on different tasks while others outside of the boundaries dribbled playground or basketball balls. Some were dribbling fast and others slow. Everybody concentrated on their tasks. (Fieldnotes, Nov. 16)

Aris' instructional environment was organized and structured. Managerial and transitional tasks were formal in nature and the atmosphere was task- and skill-development oriented. Students were engaged according to their skill levels and stayed within the boundaries of the stated tasks. While the task provided some choices to students, the teacher was center stage and students' independence was limited.

Stella used a personalized system of instruction (PSI) approach during the tennis unit (Siedentop, 1991b). The self-instructional handouts were given to students the first day of the unit. During the unit, students were expected to practice their activities until they mastered them. Students were held accountable through a formal accountability system (e.g., written and skill tests). While teaching volleyball, Stella used some concepts from Sport Education for the first time. She divided her students into teams from the beginning of the unit, and members of each team worked together during practice and games. Each team had its own captain for the unit. The following fieldnotes were recorded the first day of the volleyball unit and reflected the Sport Education component of the lesson:

2:05. Stella informed students that they were assigned to specific teams and that they would practice with their teams during the whole unit. Stella emphasized that volleyball is a team sport and therefore they need to learn how to work as a team. She pointed out that each team would have a captain. She asked students to check the poster chart that she prepared to see which team they have been assigned to and who were to be the captains. Then she asked them to go and start practicing the set and forearm pass in their teams. Students started practicing in their teams. (Fieldnotes, Nov. 2)

**Instructional Tasks.** Siedentop (1991b) wrote that “skillful teaching is always in response to the demands of the teaching/learning environment and the needs, interests, and capabilities of the students; that is, it is sensitive to its context” (p. 66). The teachers held similar views on designing and implementing instructional tasks. They believed students' interests, needs, and abilities should be considered when selecting, presenting, and structuring instructional tasks if the students are to succeed. They saw a relationship between the appropriateness of instructional tasks and students' learning, and considered the selection, presentation, and structure of tasks to be a key element in facilitating students' successful learning experiences. The teachers pointed out that when inappropriate tasks are assigned, students will change them to make them more playful and suitable to their needs. The following fieldnote illustrates how Lara presented instructional tasks in her sixth period exercise physiology class:
1:40. Students were asked to pay attention to correct execution of the exercises. Lara demonstrated the task, specified the critical elements of the activity exercise, talked about safety issues, and identified the muscles that worked for each exercise. Lara pointed out the correct performance of the exercises. She identified the potential mistakes and provided cues to students for correct execution of the exercises. Students concentrated on performing the tasks. (Fieldnotes, Nov. 11)

The typical pattern for these teachers was to demonstrate and emphasize the critical elements of a task, have students practice, give feedback, and have students practice again:

9:30. Liza informed students that she wanted to review some things they learned in the last lesson. She asked them if anybody remembered what they did. A student said galloping. He was asked to demonstrate the skill. Liza pointed out the correct and incorrect performance of the skill. Then, all students practiced galloping (guided practice). After a while Liza stopped the class and gave some group feedback to students. (Fieldnotes, Oct. 7)

These teachers believed that to facilitate learning and student success, instructional tasks needed to be clear and complex tasks needed to be broken down. Stella, discussing the pedagogical vignette, said, “There were 75% of the students that couldn’t do the spike. I would either reevaluate teaching the spike at all or really breaking it down, trying to simplify it to get the kids to be more successful” (Vignette Interview). The following fieldnotes illustrate how these teachers broke down instructional tasks to facilitate students’ learning and success:

12:50. Aris told students that they will work on kicking. They will place the ball on the black line and they are allowed to take a big step today. “Take a step and kick.” He asked some questions of students such as how to kick the ball, which part of the foot should kick the ball, etc. Then he demonstrated the skill several times.

12:55. Students took the balls and started practicing. Every student was on task and practicing intensively.

1:00. Aris asked students to go and sit in front of the wall where he was demonstrating the skills. Through a problem-solving technique he refined the skill. ... He emphasized how students could be successful and pointed out while demonstrating the critical elements of the skill.... Students were asked to work on the things that he addressed. Students started practicing again. Aris actively supervised students. All students were practicing really hard and it seemed that a high level of learning was taking place. (Fieldnotes, Nov. 17)

Since Placek’s (1983) study about the “busy, happy, and good” student, physical education teachers have been labeled as insensitive to student learning. However, student learning was a priority for these four teachers. They employed different instructional strategies to reach their goals, and the instructional climate was a positive one with students engaged in meaningful learning experiences.

Cooperation and Negotiation. Classrooms operate as social systems in which teachers and students jointly negotiate content and meanings (Doyle, 1992;
Evidence in the literature suggests that one of the most important goals of teachers is to gain and maintain students' cooperation (Doyle, 1986, 1992; Siedentop, 1991b). The four teachers in this study believed that student cooperation was a necessary condition for instruction and a form of mutual respect. Liza noted, "I think you have to earn respect. I never go in and insinuate that because I'm a teacher I have your respect. That is no longer present in our society and I feel you have to have the cooperation in order for instruction to take place" (Interview 1). Aris believed teachers must be sensitive to the diversity of student backgrounds and gain and maintain their cooperation if they are to provide successful learning experiences. Stella indicated that students' cooperation is important and teachers need to be sensitive to students' needs. Lara was prepared to negotiate tasks to gain cooperation because she "wouldn't have been successful without cooperation. Just like anything else, but it's also about trust. It's trust and the enthusiasm and interest that you show in your students. It's mutual. It's not just their cooperation with you. It's your cooperation with them" (Interview 1).

The teachers discussed how much they were willing to negotiate: "As long as we are still covering the subject objectives, yes. Just because students would want to play basketball all the time for example, no" (Liza, Interview 1). Liza explained how she negotiated with students:

Sometimes I give them a way out of a situation. I don't always have to win. ... Sometimes I put it in contingencies. If you do this then we can do this. (Interview 2)

Evidence in the literature suggests that teachers demand less of their students in order to gain and maintain their cooperation (Doyle, 1986; Siedentop, 1991b). Liza stated that sometimes the nature of the content and the context defined the instructional expectations for her students.

Like in volleyball I expect everybody to be able to hit the ball over the net three out of five times. But I just don't feel with four lessons in volleyball I can expect them to serve perfectly. To me it takes longer than that to develop the skill, and volleyball is a sport that is not played too many other times with children except in classes. So I would be more lenient with volleyball than maybe basketball or something they've had the opportunity to play at parks. (Interview 2)

According to Aris, when students negotiate the demands of the instructional tasks, it is an indication that the tasks are inappropriate. He noted, "there is a wide variety of reasons why kids don't want to do things, but the number one reason they don't do something is because the last experience they had was a failure (Interview 1). Stella commented that the process of negotiation indirectly shows students that a teacher cares about them. According to Lara, social factors come into play which do not allow teachers to always have ideal expectations and demands from students. In her own words,

My expectation of students is to try to achieve and to try their best. ... But the people, I think, who are doing those studies [reporting that teachers demand less of students] haven't been in classrooms either for a while or haven't been around kids and haven't seen the way kids are growing and what they're growing up in today either. You can compare society versus society but until
you are actually part of that society, you really need to be sensitive to the environment that you are in. (Interview 2)

Although these teachers indicated that they negotiate elements of their teaching with students in order to gain and maintain their cooperation, evidence from class observations suggested otherwise. There was little evidence of teacher negotiation and cooperation. The teachers had expectations that they communicated to the students and there was no evidence that they were willing to back away from these expectations. There were no examples of students attempting to negotiate these tasks either downward or upward. This was the third case of misalignment we found between the four teachers’ theories of action and theories-in-use.

Social Theories

The teachers’ social theories include two subthemes: (a) gender equity, and (b) moral and political issues.

Gender Equity. According to Vertinsky (1992), many physical education teachers do not treat both sexes equitably in class, nor do they have a pedagogical knowledge base for teaching coeducational classes. Recent discussions in the literature consider single-sex classes as useful strategies for developing gender equity (Vertinsky, 1992), yet these four teachers saw little positive effects from single-sex classes. As one participant suggested,

I think by splitting them [students] you are perpetuating more separations in the future. ... In teaching the skill, it’s great to have them apart because they’re not dealing with all those other things; but in reality if you’ve got them together, you’re teaching them to respect each other’s differences and to work with each other’s differences and increase and enhance each other’s differences, which I think is great. I think it is the ultimate goal. If all I was doing here was teaching skill, I’d say let’s go back to the good old days and just have all the girls in one class and all the guys in another class. (Lara, Vignette Interview)

Lara said that grouping students based on sex would not ensure fair play.

I see a stereotyping going on. He [the teacher in the vignette] is assuming that the girls are less skilled than the boys. ... By splitting them it makes it worse. Because it’s still going to leave the unskilled players out in the game, in boys’ game. I could see that happening with their unskilled boys [as] the skilled boys are still going to dominate the game. (Vignette Interview)

All four teachers were critical of strategies that modify the rules of the games to “allow” girls to experience success. Stella, for instance, pointed out that she considers the statement “a girl has to touch the ball” as problematic “because when starting to say a girl has to touch it, now a boy has to touch it, and we’re making, I think, more of a gender issue than there is. There are a lot of males that never touch the ball also. So I will take the aggressive players, whether they’re girls or boys, and tell them you can’t score any more or you have to pass” (Vignette Interview).

Some physical education classes are structured in ways that do not allow students to benefit equally; their teachers ignore equity issues (Griffin, 1985; Vertinsky, 1992; Williamson, 1996). Yet the teachers in this study were sensitive to
gender equity. Pedagogical strategies included discussing gender issues with students, reinforcing students to work with a partner, concentrating on skill development instead of being concerned about the sex of the partner, and bringing role models to class—female graduates of the school who later became successful high school athletes. The following observations indicate how Liza reacted to an equity issue that happened during a fitness lesson:

9:40. Liza told students that they would do push-ups. ... After a while a boy said that the girls should do the "girls' type of push-ups." Liza asked students to "freeze" immediately. Liza emphasized that there is no such a thing as girls' push-ups or boys' push-ups. She explained to them that this was said a long time ago. Now there is a modified way to do push-ups for both sexes. Modified push-ups means that if you have difficulty in doing the regular push-up, you can do the modified push-ups. She explained how to do the correct performance of the modified push-ups and pointed out that if they need to do this type of push-up, they can do it. (Fieldnotes, Oct. 22)

Following is an example of a pedagogical strategy in which students concentrated on skill development with a partner instead of being concerned about the sex of the partner:

Students were throwing colorful balls of different sizes "up to the sky" and catching them. "Freeze." Aris informed students that Steve told him that he was ready to work with a partner. ... Aris reminded them that the person who was ready to work with a partner should go in the circle in the middle of the gym. Whoever finishes next should go to the circle and start working together. After few minutes a girl went to the circle. She and Steve found a working place and started practicing the task. (Fieldnotes, Oct. 8)

Elaborating on the above equity strategy, Aris emphasized, "the students are learning to choose people because it is skill appropriate, not because they're a boy or girl or because they have dark hair or blue eyes or anything like that" (Interview 2).

The teachers' programs were designed to give all students equal opportunities during instruction. The participants demonstrated practices that enhanced, maintained, and promoted equity. They practiced their theories about equity during the teaching and learning process.

**Moral and Political Issues.** Some scholars in physical education have argued that a radical pedagogy may be more appropriate in today's schools (McKay, Gore, & Kirk, 1990; Timming, 1991). The literature itself contains no descriptions of teachers' own views about the value of such pedagogy (O'Sullivan, Siedentop, & Locke, 1992). In this study, radical pedagogy was defined as pedagogy guided by social, political, and/or ethical/moral reasoning derived from the critical theory tradition.

Teachers responded to a hypothetical vignette that addressed moral and political aspects of teaching. The vignette describes a teacher who believes it is immoral for youth in the inner city to be denied access to lifelong sports, so he designs and implements a tennis unit that teaches not only the skills of the sport but also helps the students develop an action plan to generate funding for tennis facilities and equipment for their school and community (see Appendix).

There were similarities and differences in the participants' views of this vignette. All the teachers suggested that an instructional unit that introduces meth-
The strategies for achieving social change can be valuable in a physical education program. Lara, for example, commented,

I thought this was an excellent idea of the teacher because you're teaching children about culture and social issues as well as physical education. And he's taking a unit [tennis] that is very socially biased towards the wealthy and he is making it not only possible for these kids to play and learn the game, but in a sense he's making them aware that, in order for them to get better at something, they need to have the facility. They need to have the opportunity. (Vignette Interview)

Aris and Lara, the two suburban teachers, indicated that such an approach to physical education might not be appropriate in their suburban contexts. Aris pointed out, “If I was in an inner city school, I might have done the same thing.” He went on to emphasize,

I do not have any problems at all with this whole thing. Provided that is what those particular students need. If the teacher here has decided this is of top priority because of what he is seeing in this community... and where he sees this community’s leaders as one direction for these children to go. (Vignette Interview)

However, Aris saw no value in addressing issues of social change with his students. He believed that during physical education students should learn and practice fundamentals skills and activities which are appropriate to their needs and development stages. Aris noted,

I wouldn't cover this because there's too many other more crucial issues that I have to address... [such as] the fundamentals skill basically of knowing what to do, when to do it, and how to do it in a variety of activities. (Vignette Interview)

Lara, the other suburban teacher, held similar views:

If I had the same situation as he [the teacher] did with the same group of students... I'd do something like this. ... Tennis and golf have some of the biggest inequalities, since the invention of the game was only for the wealthy. ... I know I can sit here and say that because I'm in a very nice community that supports its schools for the most part and we have nice facilities and things like that, but I believe that if I were in a facility that was not like the one I'm in, I would definitely be wanting to teach these things. (Vignette Interview)

Although the two suburban teachers were supportive of teachers addressing social change in inner city schools, they saw no need to teach such issues to their own students. Neither considered having their students think about social inequalities and social or cultural changes. They believed that people who have the problems are the ones who should strive to make the changes.

The two urban teachers, Stella and Liza, indicated that a more radical instructional unit could have been appropriate in their contexts. Stella pointed out, “I think it's definitely appropriate. ... I'm of the opinion that if we as educators do not make these sports available to them [students], no one else will, and I think that it
doesn’t matter whether it’s elite sports or not. I think that to deny them access is wrong” (Vignette Interview). Stella elaborated:

I think it’s our responsibility as public educators to encourage and show them that, if they want to do it, the vehicle is there. That they can do it. They can break out of that ghetto or inner city mold and be what they want to be. And I think that’s one way we can do it. (Vignette Interview)

Stella’s enthusiasm for a more radical instructional unit related to contextual factors (e.g., poor facilities) rather than to concerns about broader social and educational issues. This may have happened because part of the vignette described how the teacher helped his students develop an action plan to gain access to better facilities for their schools. Since one of the major constraints for Stella was inadequate facilities, she may have associated the vignette only with the poor facilities at her school:

This could be specific to my school. I’m denied a lot of facilities because I do not have an athletic program. I’ve been real upset about it for a long time, but maybe if I involved the students and their parents, maybe I could get something. When I read this I thought, hmm... that might work. (Vignette Interview)

Liza on the other hand, who had also poor facilities at her school, identified with the deeper educational and social issues that she and her students encounter daily in and out of school. She thought a physical education unit, which introduces ways for achieving social change, would have been excellent because things are not equitable in society or in the educational system, and people need to fight for social change. Liza indicated she would like to teach such a unit but believed it would be considered unacceptable by many people. She pointed out,

I think the theoretical part should have been taught. Also on fighting for social change: I totally agree with that... To show that you’re aware if nothing else that you don’t think everything is okay... It’s a stereotype that minorities don’t play golf and tennis. It’s like in books. If you would pick up a book on gymnastics or golf or tennis, its generally a Caucasian showing. Just like a gender problem. Showing basketball males, gymnastics girls, and there’s generally a white girl gymnast and a black male basketball and then a white male tennis player. ... In a sense that’s social change that we’re doing. Done in a nonviolent way and not always accepting things the way they are but teaching kids how to go about it in a good way. I think it’s great. (Vignette Interview)

Conclusions

Teachers’ work is based on and guided by what is commonly referred to as theories of professional practice. Teachers’ theories consist of beliefs and constructs about what constitutes an educated person, the psychology of student learning, motivation, and discipline, and the nature of the curriculum and teaching (McCutcheon, 1992). Siedentop (1991a) pointed out that “teachers do have personal theories which guide their work—some good, some fragmented, some no doubt contradictory, and some no doubt sophisticated and elegant” (p. 7). Ennis (1996) suggested that teacher practices and actions often reflect specific educa-
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tional ideas they believe will work in a classroom. They may use several strategies before finding one that is consistent with their beliefs about teaching and which proves effective in their context.

All four teachers in this study held firm and clearly articulated views about student learning and what constitutes a physically educated student. Although their personal biographies were different, and although they worked in different settings and had different experiences, these teachers expressed similar and in some cases almost identical views. They agreed that the primary goal of a physical education program was skill development. They believed that guided student practice was important for student learning. The selection and implementation of teaching practices demonstrated their commitments to gender equity and to the needs and abilities of their students.

The degree of homogeneity found in the views of these four participants seems to contradict the assertion that differences in teachers’ personal characteristics, background, and teaching context make uniformity in teachers’ theories untenable (Feiman-Nemser & Floden, 1986; McCutcheon, 1992). Not only do these teachers hold strong views about teaching and physical education but they also hold many similar views about education and how they should treat children (McNamara, 1990). The degree of homogeneity found in their educational theories and practices supports Sparkes’ (1989) suggestion that “it is wrong to over-heterogenize, since despite all these differences most teachers do engage in activities that are recognizable as ‘teaching’ across situations, and they often do share similar concerns and face similar dilemmas” (p. 318).

Evidence in the literature suggests that teachers’ espoused theories may or may not be compatible with theories that govern their actions (Argyris & Schon, 1974; Sanders & McCutcheon, 1986; Tinning, 1988). These four teachers articulated and practiced their theories of teaching. The pedagogical practices or theories-in-use (Argyris & Schon, 1974; Tinning, 1988) were consistent with their explicitly stated theories. Results showed that there were only three discrepancies between the participants’ theories of action and theories-in-use. One related to student independence, a second to student choice of content, and a third to the process of cooperation and negotiation. Argyris and Schon (1974) noted that very often there is a mismatch between the teachers’ espoused theories and their theories-in-action. Knight and Smith (1989) indicated that there is a gap between what teachers say and what they do.

The results from the four participants reported here suggest substantively fewer discrepancies for these teachers than for those in other studies. It might be that after years of experience in the same setting, the contextual factors for these teachers may have been incorporated into their general reasoning and espoused theories. As Ross, Cornett, and McCutcheon (1992) emphasized, teaching and curriculum decision-making are complex tasks and teachers “must select and organize multiple factors in ways that provide educative experiences for particular groups of students in particular settings” (p. 14). These four teachers’ theories informed their decision-making process and influenced the learning experiences they presented to students. In addition, their theories were consistent with effective teaching practices identified in the literature.

At present, educational programs have focused on the development and refinement of teachers’ procedural and declarative knowledge but neglected teachers’ conditional knowledge or theories (Ennis, 1994; Fang, 1996; Knight & Smith,
1989). Solas (1992) suggested that teachers have particular educational theories which inform their practices but these are often implicit theories. Teacher educators, to a great extent, have neglected the nature, role, and impact of teachers’ theories in operational settings. If teachers’ theories can serve as a promising variable in promoting effective teaching and student learning (Pajares, 1992; Wood & Bennett, 2000), then teacher education and staff development programs need to create opportunities for teachers not only to learn new knowledge but also to clarify their own professional theories and learn from them. During preservice and inservice programs, teachers should be expected to build and refine their professional theories. Through a reflective and empowering process, professional theories that are educationally sound should be reinforced while others that are inappropriate should be challenged and reconstructed. It is important, therefore, for preservice and inservice programs not only to expect teachers to articulate their theories of teaching but also to provide opportunities for them to develop, refine, and reflect on their theories.

Teacher educators need to acknowledge the value of authentic experiences in learning to teach. Thus, it is necessary that teachers be given opportunities to reflect on actual pedagogical issues and/or problems. In addition, teachers need opportunities to share, analyze, assess, and justify their professional theories and actions. By providing teachers time to observe and discuss teaching experiences that occur naturally within the classroom or school context, teacher educators can help teachers bring to light the theories that guide their actions so that these theories and actions can be refined, adjusted, or restructured as appropriate.

There were two disturbing perspectives in these teachers’ theories of actions. The overriding focus on skill development as the goal of physical education was unquestioned by these teachers. Second, the lack of sensitivity to the inequities between urban and suburban schools and students’ opportunities for equitable participation in physical activity and sport should concern both those of us who prepare teachers and those who teach. The relationship between theories and practice are significant and warrant our attention.

Since the investigation of teachers’ theories “continues to remain lightly traveled” (Pajares, 1992, p. 326), further research should be conducted to provide greater knowledge and insights into the relationship between teachers’ educational theories and practices (Fang, 1996). If we are interested in how classrooms run, we must pay much closer attention to teachers’ theories of action and theories-in-use. Such a perspective would have profound implications for designing professional preparation and development programs. Studies in this area could have considerable potential for setting priorities in methods courses and/or in-service workshops. In addition, accounts of such work can provide valuable information about teaching practices for practitioners, curriculum developers, and those involved in teacher education.

This study provides a rich description of the educational theories and practices of four experienced physical education teachers. More studies are needed with teachers working in different settings and with different levels of experience. The four teachers who participated in this study held similar theories about teaching and schooling; therefore, research with teachers who hold different theories is recommended in order to expand our knowledge of the relationship between teachers’ theories of action and theories-in-use.
References


Appendix — Vignettes

**Vignette #1: Pedagogical Issues**

Patricia Jones has decided to incorporate a teaching unit in her physical education curriculum that teaches students the basic skills of soccer. In the beginning of the unit, Patricia emphasized to her students the importance of passing, receiving, and controlling the ball for successful team play. Then she demonstrated the proper execution of passing, receiving, and controlling ground balls, and instructed the students to...

Divide into groups of three. Line up your group single file facing another single-file group. The first player in one line has a ball and begins the drill by passing to the first person in the opposite line and then sprinting to the end of that line. The player in the opposite line receives, controls, and returns the ball to the first person in the other line, and then sprints to the end of that line. Continue until each player has passed and received 20 balls.

As the students were practicing the drill, Patricia monitored them. Most of the students were involved in activity. For example, some were passing and receiving lofted instead of ground balls while a few others were dribbling to the opposite line rather than just passing the ball. One group started a juggling competition while Patricia was working away from them. There also were two students who did not practice the drill; instead, they moved to the end of the line when it was their turn to receive and pass the ball. At some point, Patricia saw a group of students who started playing a soccer game of three against three. She approached the students and advised them to stop fooling around and to concentrate on practicing passing, receiving, and controlling ground balls.

**Vignette #2: Pedagogical Content Knowledge Issues**

Elizabeth Carroll is a physical education teacher who used to be a varsity volleyball player. During a volleyball lesson she introduces the spike to the students. Elizabeth sets up some learning activities for the spike the same way she would when she was on the team. More specifically, she has two large spiking
lines, two tossers setting the ball, and students spiking the ball and then getting at
the end of the line. After 10 minutes of practice the students show some frustra-
tion. Many of them don’t have the timing, the tossers cannot set the ball consist-
tently, and very few of the students are succeeding in hitting a spike during the
drill. As the drill gets more frustrating for the students, they say, “Come on, we
want to play a game, we want to play a game.” Elizabeth asks the students to pick
up teams and play a volleyball game. During the course of the game most of the
students touch the net, carry the ball, some of them use three hits, they do not set
up, and very seldom does a spike ever occur. A few students are laughing and
liking the game, especially those who are more skillful as they get the chance to
get better and execute their skills in the game. At the end of the class, Elizabeth
summarizes the lesson by asking if there are any questions. None of the students
have any questions, therefore Elizabeth dismisses the class.

**Vignette #3: Social Issues (Gender and Ability Level)**

The class is playing two full games of basketball. The boys and girls are
divided among the teams in such a way that the four teams are of similar ability
level. During the games, the highly skilled players appear to dominate both games.
They pass to each other more often, they tend to hold the ball in their possession
for longer periods of time, and they attempt more individual efforts or shots. Al-
though a few assertive, skilled girls do take their fair part in the games, most of
them defer to the boys, who are not always better than they are.

Michael Nelson, the physical education teacher, observes that the less skilled
players do not have as many opportunities to participate in the games. He stops the
games and reorganizes the teams. Now there are two games going on, one between
boys and one between girls.

**Vignette #4: Moral and Political Issues (Radical Pedagogy)**

George Stephen is the physical education teacher in an inner city school.
Forty percent of the students are minorities and virtually all the students come
from working-class families. George believes it is immoral for youth in the city to
be denied access to lifetime sports such as golf and tennis. Therefore, he builds a
tennis unit that not only teaches the skills but also teaches students ways to fight
for social change. More specifically, the unit includes two components: the practi-
cal and the theoretical. In the practical component, George teaches students the
appropriate technique of the tennis skills and some strategy of the sport. In the
theoretical component, he and his students discuss issues such as physical activity
and lifestyle, lifetime sports, social change and physical activity, stereotypes of
tennis, or social influences of participation in tennis. Last week George and his
students compared the tennis facilities and access for suburban and urban stu-
dents. They talked about political ways to fight for more facilities and access to
them. By the end of the lesson, George’s students developed an action plan on how
to demand more tennis facilities in their school and neighborhood.