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METHODOLOGY

Pre-Service Teachers' Observations of Experienced Teachers

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Abstract

Assigning pre-service teachers to observe experienced teachers is a common practice in teacher preparation programs. The purpose of this study was to identify what physical education pre-service teachers observe when watching an experienced teacher. While enrolled in a methods of teaching physical education course and engaged in their second practicum experience, pre-service teachers (n = 17) observed multiple lessons taught by experienced physical education teachers and took observation notes. Based on Cochran, DeRuiter, and King's (1993) model of teacher knowledge, three themes emerged from the observations: (a) pedagogy, (b) pedagogy and students, and (c) pedagogy, students, and subject matter. Physical education teacher education programs may help pre-service teachers establish pedagogies early so they can focus on students learning content as soon as possible in the early field experience. Additionally, enhancing pre-service teachers' content knowledge prior to scheduled observations of experienced teachers could help these novices move quickly from focusing on pedagogies to focusing on students learning subject matter content.

Physical education teacher education (PETE) programs commonly include observation as a means to enhance novice teachers' knowledge. Often an early field experience involves a pre-service teacher observing an experienced, or master, teacher. That experienced teacher may become the pre-service teacher's

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cooperating teacher later in the early field experience or during the student teaching internship (Anderson, Barksdale, & Hite, 2005). In addition to observing an experienced teacher, pre-service teachers also have peer coaching opportunities, wherein they observe each other deliver lessons in an authentic setting and provide feedback; these opportunities are increasingly becoming part of pre-service teachers' observational experiences (see Anderson et al., 2005; Jenkins, Garn, & Jenkins, 2005; Jenkins & Veal, 2002; McAllister & Neubert, 1995).

Observation in teacher education has been studied across the decades, albeit in a limited sense. Early research identified that during pre-service teachers' initial years in a PETE program, when they were assigned to observe experienced teachers, they focused on the children rather than the teacher (Bell, Barrett, & Allison, 1985; Kleine & Pereira, 1970). These unguided observations resulted in the pre-service teachers empathizing with the children rather than seeing themselves as teachers. Consequently, researchers suggested that observations be guided. Later studies identified that when observations were guided, the pre-service teachers saw the classroom through the eyes of the teacher (Waxman, Rodriguez, Padron, & Knight, 1988) and were able to focus on the pedagogical concepts being taught in their PETE program (Anderson & Radencich, 2001; Barrett, Allison, & Bell, 1987; Behets, 1993; Jenkins et al., 2005). Researchers were concerned, however, that guided experiences would limit the possibilities of pre-service teachers' observations (Barrett et al., 1987; Bell et al., 1985).

Observation experiences are incorporated into PETE programs in multiple ways. Although pre-service teachers observing experienced teachers delivering specific content may be more prevalent, pre-service teachers also observe each other during teaching practicums (Jenkins et al., 2005; Jenkins & Veal, 2002). Specifically in physical education, researchers found that when observing peers teach, pre-service teachers were influenced by the systematic observation instruments completed during observation, and the observations aided them in moving from theory to practice. Finally, observing a peer teach content with which the pre-service teacher was familiar to children with whom the pre-service teacher was familiar allowed the observer to see the children as individuals in regard to behavior and motor skill (Jenkins et al., 2005; Jenkins & Veal, 2002). Observing peers teach appears to allow pre-service teachers to develop teacher knowledge, particularly in the areas of pedagogy and students.

A teacher's knowledge base, according to Shulman (1986), comprises seven categories including knowledge of content; general pedagogy; curriculum; learners and their characteristics; educational contexts; educational ends, purposes, and values; and pedagogical content knowledge. Shulman emphasized pedagogical content knowledge because it separates the subject area expert from expert teachers in a subject area. Subsequent researchers focused on the interaction of knowledge components of pedagogy, subject matter, students, and context to develop pedagogical content knowledge (Grossman, 1990; Marks, 1990). The apprenticeship of observation, subject matter knowledge, PETE programs, classroom experience, and prior knowledge are the sources of this teacher knowledge (Grossman, 1990; Rovegno, 2003).

Cochran, DeRuiter, and King (1993) developed a constructivist theory of knowledge development that focused on PETE programs. They determined that pedagogical content knowledge was too static. They viewed knowing and understanding as active processes. *Pedagogical content knowing*, a new term emerging from their work, was defined as "a teacher's integrated understanding of four components of pedagogy, subject matter content, student characteristics, and the environmental context of learning" (p. 266). Pedagogical content knowing evolves from the continuous integration of the four knowledge components and results from opportunity to teach, observe, and reflect (Cochran et al., 1993). Integration occurs simultaneously; however, the components develop unevenly based on the specific structure of a PETE program. They suggested that classroom observations occurring early in the preparation program may result in development of knowledge of pedagogy and environmental context. Additionally, they proposed that when first teaching difficult subject matter, pre-service teachers may find that pedagogical content knowing emerges from understanding teaching that specific content to those specific students.

Cochran et al.'s (1993) model of pedagogical content knowing, emerging from the interaction of the four knowledge components of pedagogy, students, subject matter content, and environmental context, provided the framework for this study. If classroom observations are included in PETE programs to enhance teacher knowledge, understanding what teacher knowledge components are important to the pre-service teachers during observations is essential. Therefore, the purpose of this study was to identify what

physical education pre-service teachers observe when watching an experienced teacher.

Method

Setting and Participants

This study occurred within one PETE program at a mid-sized university located in the Rocky Mountain West area of the United States. Data were collected from one pre-service teacher cohort during a single semester.

Pre-service teachers. A cohort of second semester junior-level pre-service teachers who had been accepted into the professional physical education teaching program and were currently enrolled in their second practicum teaching experience (i.e., Teaching Laboratory II) were invited to participate in the study. Of the 18 pre-service teachers enrolled, 17 agreed to participate in the study and signed the Institutional Review Board Consent to Act as Human Subjects form. All 17 were Caucasian including six females and 11 males. Most were traditional-aged university undergraduates between ages 20 and 24, with one female being nontraditional at age 38.

The participants were concomitantly enrolled in both Methods of Teaching Physical Education K–12 and Assessment of Teaching Physical Education (i.e., classroom theory courses) and Teaching Laboratory II (i.e., early field teaching experience). For a more detailed description of this PETE program see Jenkins et al. (2005). The pre-service teachers were assured that their participation or nonparticipation or level of participation in the study would not affect their grade for any class. All pre-service teachers, participants and nonparticipant, were required to engage in observations and data collection activities as part of course requirements. The primary researcher taught both classes, methods and early field teaching experience.

Experienced teachers. Two local female elementary (i.e., kindergarten through sixth grade with children's approximate age 5–12) public school physical education teachers agreed to allow the pre-service teachers to observe their classes across the entire semester. They had worked with this specific PETE program for more than 15 years in the capacity of mentor to pre-service teachers engaged in a later early field experience (i.e., Teaching Laboratory III occurred the following semester). They had acted as cooperating

teacher to multiple student teachers. Through extensive practice acting as mentor teachers, these physical educators were intimately aware of the goals of the PETE program. The experienced teachers and their students were comfortable being observed as it was common practice in this university community.

Procedure

The pre-service teacher participants conducted the observations as a requirement of enrollment in Teaching Laboratory II, the early field experience. Across the semester of early field experience, each pre-service teacher taught three units of instruction at three elementary schools (i.e., schools not used for observation purposes). Overall during the semester in the early field experience, the pre-service teachers delivered four units of instruction. The first unit comprised three lessons, and the other units comprised 10 lessons each. During the unit of instruction the pre-service teacher had "off" of teaching, that pre-service teacher acted as peer coach to a colleague. During this "time off" of teaching, each pre-service teacher was required to observe multiple lessons taught by one of the two experienced teachers. The pre-service teachers acting as peer coach during the first unit of instruction therefore observed an experienced teacher for three lessons and all subsequent pre-service teachers observed an experienced teacher for 10 lessons. Pre-service teachers observed during a day and time that fit with their own academic class and practicum teaching schedule; therefore, the novice teacher may not have observed the same class of students from one visit to the next.

While observing the experienced teacher, the novice teacher wrote observation notes. The pre-service teachers were instructed to garner the teacher's signature on their observation notes before leaving the gymnasium to verify that they had observed the entire lesson.

Data Collection

During each lesson observation, the pre-service teacher wrote observation notes. Novice teachers were instructed to write background information on the top of the paper including the experienced teacher's name, the observer's name, date of observation, lesson content, and grade level of students being observed. They were directed to make observation notes on components of the lesson they deemed important.

Data Analysis

Observation notes were transcribed verbatim. The primary investigator coded (Patton, 2002) each comment in relationship to the components of teacher knowledge base of pedagogy, student, subject matter content, and environmental context (Cochran et al., 1993). Data were then placed into matrices (Miles & Huberman, 1994) to provide a visual representation of the categories. Raw data, transcriptions, and matrices were tabbed and filed. This organized paper trail contributed to confirmability of the study (Yin, 1994). A second researcher reviewed the matrices to identify agreement or disagreement of each comment. The two researchers, one experienced in qualitative method, met to identify disagreements of individual comments and discussed each until they reached 100% agreement. Triangulation using multiple analysts contributed to trustworthiness of the study (Patton, 2002).

Results and Discussion

The purpose of this study was to identify what physical education pre-service teachers observe when watching an experienced teacher. Across the semester, data were collected and analyzed from 119 observation forms containing 946 statements. The number of statements reported on each observation ranged from three to 12 and averaged 8.68 comments per observation. The average number of comments for observations during units across the semester follows: (a) unit one, 11.75; (b) unit two, 9.7; (c) unit three, 7.65; and (d) unit four, 8.08. The average number of comments written per observation decreased across the semester. Comments were placed into categories based on the knowledge components of pedagogy, students, subject matter content, and environmental context. Pedagogical knowledge was important during initial observations and throughout the semester. Although limited, later in the semester the pre-service teachers revealed observation of students learning specific subject matter. Attention to environmental context was almost completely absent during observations. Results will be presented by the knowledge categories and integration of categories that emerged: (a) pedagogy, (b) pedagogy and students, and (c) pedagogy, students, and subject matter. Quotes from observation notes will be included to support the findings.

Pedagogy

During observations across the semester, the pre-service teachers primarily focused on pedagogical constructs they were learning in their theoretical coursework. This included components of effective teaching behaviors that would specifically lead to increased student activity time and decreased class time spent in instruction and management. The program focus for this specific early field teaching experience and in the concomitant methods of teaching course was on demonstration of effective teaching behaviors (e.g., feedback, position, demonstration, activity time, qualitative lesson components) that ultimately led to student learning. During lesson delivery in the early field experience, university supervisors and peers collected data to drive postlesson conferences (e.g., Feedback and Names, Hamrick Demonstration, and Teacher Position and Function). Following lesson delivery, each pre-service teacher assessed his or her videotaped lesson using Qualitative Dimensions of Lesson Introduction, Task Presentation, and Lesson Closure and an adapted version of Academic Learning Time – Physical Education coding forms (see Byra, 1992; Parker, 1989). Throughout the semester that the pre-service teachers observed experienced teachers, they focused on these theoretical concepts and pedagogies stressed in the PETE program. The following are examples of observation notes that discussed pedagogies such as incorporating feedback and demonstrations, teacher position, and including qualitative components of lesson delivery reflecting the theoretical constructs emphasized in the PETE program:

> [The teacher] always was watching all students giving feedback while assessing. [The teacher] does a great job of using names. (Unit 1)

> She did a good job demonstrating the stilt and the bent arm hang stations. (Unit 2)

> Good job at keeping good teacher position throughout the game/period. (Unit 3)

> [The teacher] uses roughly [the] same format as we do (IA [instant activity], set induction, body of lesson, closure.) (Unit 4)

The pre-service teachers observed the experienced teacher demonstrating, or forgetting to demonstrate, effective teaching behaviors and pedagogical strategies that they were learning in theory-based coursework and that they were systematically observing in their own teaching. This reflects previous research identifying that pre-service teachers observations were guided by the assessments (i.e., systematic observation) used in early field experiences and that the systematic observations allowed pre-service teachers to connect theory to practice at this stage of their teacher development (Jenkins et al., 2005). This is also supported by research that found teacher knowledge develops in relationship to the theoretical underpinnings of the PETE program (Allison, 1990; Anderson & Radencich, 2001; Barrett et al., 1987; Behets, 1993; Jenkins et al., 2005; Rink, French, Lee, Solmon, & Lynn, 1994; Shannon, 1994). Some researchers (Jenkins et al., 2005; McCallister & Napper-Owen, 1999) suggested that pre-service teachers engage in guided observation early in their academic careers. Yet, some early researchers (Barrett et al., 1987; Bell et al., 1985) were concerned that guided observations would limit the pre-service teachers' observations. Although pre-service teachers in the current study primarily responded to pedagogies and concepts they were being taught to use in their own early field teaching experience, during later units of instruction, they also began to see the students in relationship to behavior and learning specific content.

Pedagogy and Students

Overwhelmingly, the pre-service teachers observed pedagogies that the teachers demonstrated before they observed either students' behavior or motor/cognitive skill learning. During observations early in the semester, the children seemed to play a minor role in the lesson, if children were noted at all. The pre-service teachers reported the teacher's behaviors, specifically behaviors that led to a well-managed classroom (e.g., gaining student attention for instruction, managing equipment, providing motivational feedback, checking for understanding) throughout the semester. Pre-service teachers in the current study identified with the teacher, not with the children. When the pre-service teachers noticed the children, it was frequently in relationship to how the teacher could, or did, deal with managing the child's behavior. The following are examples of how the pre-service teachers saw the classroom pedagogically through the eyes of the teacher:

> Student was misbehaving during instruction. [The teacher] wait[ed] for him to stop. Then after the class [she] pulled the student aside to talk to him. (Unit 1)

> Good equipment organization [at] the end of class. [The teacher] had students come and hang hoops on her arm. (Unit 2)

> Nice use of praise statements. I noticed that this got students on task. (Unit 3)

> [The teacher] does lots of CFU [check for understanding] on tasks, especially w/issues related to safety. (Unit 4)

Viewing the classroom through the eyes of the teacher runs contrary to a previous study that found that during observations novice teachers viewed the classroom as though they themselves were pupils in the class rather than the teacher of the class (Kleine & Pereira, 1970). A primary difference between that early study and the current study was that pre-service teachers in the current study were more advanced in their PETE program. These novice teachers were observing an experienced teacher while concurrently engaged in their second semester of early field experience. Multiple studies have found that novice teachers are concerned with managing the classroom and adopt pedagogies that contribute to their survival in the classroom (Fuller & Bown, 1975; Jenkins et al., 2005; Jenkins & Veal, 2002; Rovegno, 1992; Sebren, 1995). Perhaps because these novices were in their second semester of early field experience, they had already moved beyond identifying with the children and now saw themselves as teachers who were responsible for conducting a well-managed classroom in which children would consequently learn the subject matter content.

Pedagogy, Student, Subject Matter Content

At the beginning of the semester, the pre-service teachers seldom mentioned the subject matter content of movement. If they attended to subject matter, they simply described what was occurring in the lesson. For example, one pre-service teacher noted, "[The teacher is] assessing game play & strategy-passing & defense, awareness of the game" (Unit 1). Halfway through the semester, however, an

evolution occurred. Although the pre-service teachers did not write quantitatively more observation notes, in actuality they wrote fewer comments, the qualitative content of their notes changed. At that time, the pre-service teachers wrote observational comments that were more in depth, connecting pedagogy with student behavior and the subject matter content (i.e., movement). The novices began to see how specific teaching pedagogies contributed to enhanced student behavior and then moved beyond student behavior to students learning subject matter. They saw pedagogical decisions the teacher made not as isolated entities but rather as teaching behaviors that contributed to student behavior and learning. For example, at the beginning of the semester, a pre-service teacher identified that the teacher used check for understanding by noting, "Check for understanding" (Unit 1). At the end of Unit 3, the teacher's specific check for understanding provided to a student working on a back roll was noted as follows, "Nice job checking for understanding: (ex. Christian, where do you[r] hands go on backwards roll)." In that same observation, the student teacher noted, "I like how you [teacher] helped the students who were having trouble with a task. Giving them step by step instruction to allow them [to] accomplish the task and have success" (Unit 3).

During Units 1 and 2, only one novice observed students in relationship to motor skill. Th novice noted this while observing a long jump rope lesson. Long jump rope was one of the first units of instruction the pre-service teachers delivered in their concomitant early field experience. This novice appeared to be able to see students struggling with the skill. This early in the experience, however, the pre-service teacher was unable to identify what could be done to help the students improve motor performance. During a series of jump rope lessons a novice noted, "It's really hard to get 3rd graders to turn the long rope by themselves" (Unit 2). The next lesson observation revealed, "5th graders do a much better job turning rope than 3-4 [graders]" (Unit 3). Finally during the next observation the pre-service teacher noted,

> She [teacher] had to help turn double dutch because it was hard for students. She could not move around and give feedback & monitor others because she had to turn rope…. When teacher was busy turning rope other students[s] were turning the rope the wrong way and they were unsuccessful with jumping. (Unit 2)

This novice, unlike his peers at this stage of the semester, was able to identify what was hard for students. He did not, however, identify solutions to solve the problem. He could identify error, but he did not or could not correct error.

After mid-semester, however, the novices were able to observe pedagogies contributing to classroom management and students learning content. When observing the experienced teachers, pre-service teachers may not have observed the same class from one observation to another. Additionally, they may have been unfamiliar with the specific content being delivered or the way in which the content was delivered. The pre-service teachers appeared to struggle with understanding the specific content delivery of the experienced teacher's lessons. If, however, they observed the experienced teacher delivering subject matter with which they were familiar, they identified similarities or differences in how content was taught. For example, during a gymnastics lesson, one novice questioned why the experienced teacher taught the headstand differently than it was taught in the PETE program by noting, "Why do you teach headstand balance with using elbows?" (Unit 4).

In contrast to previous research findings (Jenkins et al., 2005), these pre-service teachers did not write quantitatively more observational notes as the semester progressed. Their comments were, however, qualitatively different across the semester. Later in the semester, these pre-service teachers began to connect pedagogy with students and subject matter content. Specifically, as novices in previous studies did, they began to connect isolated components of effective teaching behaviors (e.g., check for understanding) to how that behavior connected to improved student behavior and increased student learning (Jenkins et al., 2005; Jenkins & Veal, 2002). Pre-service teachers were unable to observe motor and cognitive skill learning until the last half of the semester—after they had focused primarily on pedagogy. This supports previous research that revealed novices were unable to focus on student motor skill development until they could comfortably move beyond classroom management concerns (Jenkins et al., 2005; Jenkins & Veal, 2002). Additionally, these pre-service teachers were unable to understand the specific content the experienced teacher was delivering. Early observational research found that when pre-service teachers watched a video or observed a class of children being taught by an experienced teacher with whom they were unfamiliar, the pre-service teachers focused on children's behaviors or pedagogies rather than on the content or

student learning (Barrett et al., 1987; Bell et al., 1985; Kleine & Pereira, 1970; Waxman et al., 1988). Just as in those early studies, early in the semester the novices in this study struggled with seeing the experienced teachers deliver specific content to specific children. These pre-service teachers started the semester observing pedagogies and by mid-semester began to shift to observing pedagogies in relationship to students and subject matter content.

Conclusions and Implications

This study focused on pre-service teachers' observations of experienced teachers. The study was limited in that the researcher was the instructor of both early field teaching experience and the methods of teaching course and by a single semester of data collection. In light of those limitations, and based on the findings of this group of pre-service teachers, two conclusions are offered: (a) Knowledge of pedagogy is important initially in early field experience observations, and (b) knowledge of content and knowledge of students evolves concomitantly later in early field experience observations. Suggestions and implications for PETE programs are provided.

Knowledge of Pedagogy Is Primary

The current study provides support to Jenkins et al.'s (2005) study concluding that observations be guided so novice teachers see important components emphasized in the PETE program. The focus for the initial part of this early field teaching experience in this specific PETE program was on adopting and developing pedagogies that would result in a well-managed classroom with optimal opportunities for students to engage in the movement activity—the focus of each lesson and unit. Without specific direction to observe the pedagogies the experienced teacher was demonstrating, these pre-service teachers found the specific effective teaching behaviors (e.g., feedback, demonstration) they were learning in their PETE program to be of primary importance. Once the pre-service teachers became comfortable with these basic pedagogies in their own teaching, they then shifted to the initial stages of building knowledge of specific students learning specific content taught in a specific way. Jenkins et al. (2005) suggested, and this study provides additional support, that if PETE programs require novice teachers to engage in observations of either experienced or peer teachers, they should be initially directed to focus on pedagogy so they can move to a focus on

students learning subject matter content as soon as possible. The pre-service teachers continued to observe effective teaching behaviors across the semester; however, after mid-semester, they also began to observe students learning subject matter. Observations of peers and experienced teachers need to be focused or guided so the pre-service teacher is able to identify the most important points of a lesson in relationship to the goals of the PETE program. Additionally, the pre-service teachers in this study revealed that they were ready and able to develop different teacher knowledge components at different times throughout the semester-long early field experience. Their knowledge of pedagogy developed prior to knowledge of students and content. Therefore, I suggest that observations of both peers and experienced teachers need to be spaced across the entire semester(s), or early field teaching experience(s), so pre-service teachers develop the spectrum of the teacher knowledge base from pedagogy, to students and subject matter content—the essence of pedagogical content knowing.

Knowledge of Content and Students Emerges Concomitantly

After the pre-service teachers initially focused on pedagogy and moved past concerns with survival skills (e.g., class management strategies), they began to observe students and subject matter content in relationship to each other. Shulman (1986) identified content knowledge as comprising subject matter knowledge, pedagogical content knowledge, and curricular knowledge. He went on to state that the emphasis in teacher education programs at that time was on pedagogy and that content knowledge was the missing paradigm in the teaching academy. Within one semester of early field experience, once these pre-service teachers moved beyond the pedagogical focus, in this study they seem to have begun to shift their focus to subject matter being learned by specific students. They were not at a mature stage of viewing subject matter content, but they were in the initial stages of making that shift. The pre-service teachers never stopped observing pedagogies throughout the entire practicum semester, but they began to develop pedagogical content knowing by beginning to see specific content to specific students later in the semester. This study supports the suggestion by Cochran et al. (1993) that when pre-service teachers initially teach specific, difficult subject matter, knowledge of content and knowledge of students emerges in tandem. Additionally, McCaughtry and Rovegno (2003) identified a shift toward pedagogical content knowing when

pre-service teachers were able to connect content tasks to specific student ability and become aware of the importance of student emotion on the teaching–learning process. The pre-service teachers in this study were in the initial stages of such a shift.

Pedagogical content knowing is particularly important to expert teaching in that it distinguishes the subject area expert from expert teachers in a subject area (Shulman, 1986, 1987). Physical education content knowledge includes knowledge of the techniques and tactics required to perform an activity and knowledge of performance errors beginners make (Ayvazo, Ward, & Stuhr, 2010). Without this important knowledge of content, pre-service teachers will be limited in ability to identify error and then correct error as they observe the students' movement patterns. For observations to fully benefit pre-service teachers, novice teachers must thoroughly understand the movement content of the lesson. PETE programs need to carefully consider why and what pre-service teachers are to observe when watching experienced teachers. If the purpose of observation is that novices focus on how subject matter content is being taught and learned, then I suggest that the observations be guided for that specific purpose. When the experienced teacher delivers content differently than the PETE program, pre-service teachers need to be informed of this difference. If knowledge of students learning specific content is important, PETE programs need to assure that novices can schedule observations consistently, so they observe the same class of children learning content that is delivered in a way that supports the PETE program's goals. Just as Cochran et al. (1993) hypothesized, the construction of pedagogical content knowing occurs through early field experience in which pre-service teachers teach and observe specific students learning specific content in specific contexts.

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