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PEDAGOGY

Improving Teacher Effectiveness in Physical Education Teacher Education Through Field-Based Supervision

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Abstract

A large amount of research on teacher effectiveness in physical education teacher education has identified clear benchmarks that contribute to effective teaching. The benchmarks most often identified in the literature are (a) establishing an appropriate learning environment through classroom management, (b) providing several opportunities for students to practice skills, and (c) ensuring student practice leads to success. Thus, the groundwork for educating preservice physical educators on these benchmarks must be established early in a teacher education program. This manuscript explores the implementation of a systematic framework for developing preservice physical educators, with the support of cooperating teachers and university supervisors, in field-based practica that emphasizes clear components of teacher effectiveness.

Teachers who continue to improve their pedagogical skills over time are true teaching professionals and can be identified as having achieved expertise (Graber & Templin, 2009). Initially, the reflective and evaluative practices that can advance a teacher's teaching skills are learned in professional licensure programs, though these practices cannot be enhanced or refined without quality field

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experiences. Field experiences not only are a critical part of teacher education training, but also provide an invaluable opportunity for preservice teachers (PSTs) to pair content and pedagogical knowledge in authentic environments (Spooner, Flowers, Lambert, & Algozzine, 2008; Zahorik, 1998). Thus, groundwork must be laid in the early training years and a framework must be applied, both of which help ensure the direct pairing of pedagogical development of PSTs with quality field-based supervision. The framework for the ongoing improvement of PSTs' pedagogical skills depends upon (a) a clear articulation and understanding of the components that contribute to the teacher effectiveness of PSTs, (b) an understanding of and buy-in to those same components by cooperating teachers (CTs) in PK–12 school settings, (c) a systematic data collection strategy linked to these teacher effectiveness components, (d) continuous feedback from university supervisors (US) and CTs on PSTs' progress, and (e) supervision relationship and guidelines of USs (Graber & Templin, 2009; Rink, 1996; Spooner et al., 2008). This manuscript uses this framework for improving PST teacher effectiveness to show the impact that systematic observation of field experiences can have on physical education teacher education (PETE) programming and student development.

Defining the Components of Teacher Effectiveness for Preservice Teachers

Teacher educators must succinctly define effective teaching and identify the pedagogical components that support this definition. Graber and Templin (2009) stated that effective teachers construct environments in which all students learn. The long-standing research on teacher effectiveness has identified a series of components that contribute to effective teaching (Berliner, 1984; Gage, 1984; Graber & Templin, 2009; Medley, 1977; Rink, 1996; Rosenshine, 1983; Siedentop & Tannehill, 2000). Three primary components addressed in this article are (a) establishing an appropriate learning environment through class management, (b) providing many opportunities for student practice of skills and participation in fitness activities, and (c) ensuring successful practice for all learners (Boyce, 2003; Graber & Templin, 2009; Rink, 1996).

First, the consensus is that teaching cannot proceed until an appropriate learning environment has been established (Doyle, 1979; Rink, 1993; Siedentop & Tannehill, 2000; Soar & Soar, 1979). In essence, this environment consists of the establishment of rules and procedures for appropriate student behavior (aka classroom management), and it is a key initial ingredient for the development of effective teaching skills.

Second, the practice of motor skills, sport skills, and lifetime physical activities is essential for student learning to occur. The practice of skills is the most important variable controlling the learning of motor skills (Schmidt & Wrisberg, 2000). In addition, students cannot become physically fit unless they participate in fitness activities at proper levels of intensity, frequency, and duration (U.S. Department of Health and Human Services, 1996).

The third pedagogical component addresses student learning in terms of successful practice or successful participation in fitness activities. Siedentop (1991) noted that tasks that are set at the appropriate level of difficulty should produce about an 80% level of success. The primary way that student success can be achieved is through differentiation of learning tasks (e.g., through the use of task extensions, refinements, and applications) based on students' varying skill and fitness levels (Graham, Holt/Hale, & Parker, 2010; Rink, 2002). Student success is the hallmark of an effective teacher and the standard for judging a teacher's true effectiveness.

Based on these primary components of teacher effectiveness, a PETE program axiom of "practice, practice with success in a structured learning environment" directly aligns with the fundamental building blocks of teacher education. From a hierarchical order perspective, the first component focuses on the structured learning environment, the second focuses on practice, and with all of these, teachers can ensure the learning of all students. Howey and Zimpher (1989) emphasized the importance of a clearly articulated program goal (axiom) with the components of the axiom running throughout the curriculum in pedagogy courses and field practica.

Collaboration With Cooperating Teachers

The importance of getting the CT on board as an integral part of the supervision triad (CT, US, and PST) is paramount to the success of any field-based supervision model (Veal & Rikard, 1998). In fact, research has supported the notion that the CT plays a critical role in the mentoring of the PST (Tsui, Lopez-Real, Law, Tang, & Shum, 2001). Additionally, the role of the US as one who eases the transition between university pedagogy classes and teaching in the PK–12 arena is important (Fernandez & Erbilgin, 2009). The ability of the US to elicit the experience and help of the CT in preparing the PST will either make or break the PST's teaching experience in the field.

For many PETE programs, CTs provide input on a variety of teaching topics regarding PSTs' teaching performances (e.g., lesson skill progression, use of different teaching styles and the efficacy of those styles, individualizing instruction). In addition to the other pedagogical topics, CTs collect information using observational tools to assess the three pedagogical components previously identified (Zahorik, 1998). This information on these components can form the basis for substantive and reflective discussions.

Systematic Data Collection on the Components of Teacher Effectiveness

Linking specific observational tasks (e.g., lag time, management time, PLACHECK, student success) to the three components (establishing structure, practicing, and practicing with success) of teacher effectiveness through the use of systematic data collection is one way of improving teacher effectiveness (Boyce, 2003; see Table 1).

PSTs experience a wide array of feedback opportunities throughout their field practicum experiences. Quantitative feedback and additional qualitative notes should be recorded and communicated to PSTs using the hierarchical framework of (a) establishing structure, (b) practicing, and (c) practicing with success. As Table 2 shows, the systematic data collected were based on the three components of teacher effectiveness; these are further subdivided into 14 observational tools or instruments (Boyce, 2003). Table 2 supports this, showing that the CT and US collect information using the specific observational tasks on the PST's behaviors. These observational

Table 1
Pedagogical Components Aligned With Observational Tools and Instruments

Pedagogical component	Observational Tasks
Establishing Appropriate Student Behavior	• Attending to inappropriate student behavior • Lag time • PLACHECK (on-task behavior) • Keeping back to the wall • Teacher interactions with students • Time spent on class management
Student Practice	• Feedback to students (types and RPM) • Teacher talk time • Time spent on student waiting • Time spent on student practice/ participating in fitness activities

Practice With Success	• Evidence of differentiation (skill, fitness, and individual with disability)
	  • In lesson plan
	  • In actual lesson taught
	• Number of practice trials with success
	• Student impact data – evaluation of skills through critical elements

Note. Adapted from *Improving Your Teaching Skills: A Guide for Student Teachers and Practitioners*, by B. A. Boyce, 2003, St. Louis, MO: McGraw-Hill.

instruments collect data that encompass three types of systematic observation (frequency, duration, and group time sampling).

The first field practicum that specifically addresses teaching physical education should be at the elementary field-practicum level. The feedback and observational instruments used by the US and CT are specifically targeted to look at designated "teacher" behaviors (e.g., keeping back to the wall, percentage of time spent in class management, teacher talk and opportunity for student practice, type and rate of feedback; see Table 2). In addition to the focus on teacher

behaviors, initial information should be collected on the efficacy of the PSTs' classroom management (established structure) via specific observational tasks (e.g., lag time, PLACHECK, percentage of time spent in class management, amount of corrective behavioral feedback given). While the CT and US collect information on the two foci (i.e., specific teacher behaviors and classroom management), the CT tends to collect this information in more of a descriptive and qualitative in nature. Information collected on the PST's ability to control his or her own teacher behaviors, as well as his or her ability to manage a classroom successfully, prepares the PST for the next steps of (1) maximizing student practice time and (2) ensuring student success in future practicum experiences (Boyce, 2003).

During the second field practicum (secondary field experience), the observational focus shifts to information on student behavior (e.g., percentage of time spent in student practice, percentage of time spent in student waiting, number of skill or fitness-related attempts, number of successful student skill or fitness-related attempts). Some information on selected teacher behaviors (e.g., talk time, feedback rate, and type) is still recorded. The data collected by the US on student behavior (e.g., percentage of time spent in student practice, percentage of time spent managing student behavior) indicate the PST's ability to manage classroom behavior effectively (see Table 2). While the CT and US collect information on PSTs' student behaviors, the CT tends to collect information that is more descriptive and qualitative in nature. However, during this field practicum, CTs collect data more systematically, which is a quantitative method (Boyce, 2003).

When the PSTs engage in the two-part student teaching experience (elementary and secondary levels), USs and CTs should emphasize student outcome behaviors, as well as continue monitoring PSTs' developing classroom management skills. Student outcome (practice trials and success, impact of the PSTs on student learning) should be evaluated as a part of this emphasis (Boyce, 2003).

The observations instruments used to provide feedback to the PST can measure the PST's classroom management skills based on (1) stated criteria specified by the US or (2) goals generated by the PST and CT (see Table 2). Table 3 lists the stated criterion for selected observational tasks based on what is appropriate for beginning PSTs. These stated criteria have been drawn from the work of Medley (1977) and Siedentop (1991; see Table 3).

Table 2
Continuous Feedback Opportunities With Descriptions

		Type of behavior				When does this take place?				How is achievement measured?	
Pedagogical component	**Observational tool or instrument**	**Teacher**	**Student**	**Who collects the data?**	**Type of systematic observation system used**	**Elementary practicum**	**Secondary practicum**	**Student teaching: Elementary**	**Student teaching: Secondary**	**Stated criteria**	**Stated goal by preservice teacher**
Establishing Appropriate Student Behavior/ Classroom Management	Attending to Inappropriate Student Behavior (Choice Item)		✓	CT on PST	FREQ			✓	✓		✓
	Lag Time		✓	US/CT on PST	DUR	✓		✓			✓
	PLACHECK (on- or off-task behavior)		✓	US/CT on PST	GTS	✓		✓			✓
	Keeping Back to the Wall	✓		US on PST	FREQ	✓	✓	✓	✓		✓
	Teacher Interactions With Students (Choice Item)	✓	✓	CT on PST	FREQ			✓	✓		✓
	Time Spent on Class Management	✓	✓	US/CT on PST	DUR	✓		✓		✓	
Student Practice	Feedback to Students: Rate and Type	✓		US/CT on PST	FREQ	✓	✓	✓	✓	✓	
	Teacher Talk Time	✓		US/CT on PST	DUR	✓	✓	✓	✓	✓	
	Time Spent on Student Waiting		✓	US/CT on PST	DUR		✓	✓	✓	✓	
	Time Spent on Student Practice		✓	US/CT on PST	DUR	✓	✓	✓	✓	✓	

Table 2 (cont.)

Pedagogical component	Observational tool or instrument	Type of behavior: Teacher	Type of behavior: Student	Who collects the data?	Type of systematic observation system used	When does this take place?: Elementary practicum	When does this take place?: Secondary practicum	When does this take place?: Student teaching: Elementary	When does this take place?: Student teaching: Secondary	How is achievement measured?: Stated criteria	How is achievement measured?: Stated goal by preservice teacher
Practice With Success	Evidence of Differentiation (Skill, Fitness, and Individual With Disabilities) in Lesson Plan Through Extensions, Challenges, and Refinements	✓		US/CT/PST	FREQ	✓	✓	✓	✓		✓
	Evidence of Differentiation (Skill, Fitness, and Individual With Disabilities) in Actual Taught Lesson Through Extensions, Challenges, and Refinements	✓	✓	US/CT on PST	FREQ			✓	✓		✓
	Number of Practice Trials With Success		✓	US on PST	FREQ		✓		✓	✓	
	PST's Impact on S Achievement (Data)		✓	PST on S	FREQ			✓	✓		✓

Note. CT = cooperating teacher; PST = preservice teacher; US = university supervisor; S = students; FREQ = frequency; DUR = duration; GTS = group time sampling.

Table 3
Criterion for Beginning Level PSTs

Behavior	Percent criterion
Teacher talk time	15–20%
Opportunity for student practice	50% or above
Feedback	3–16%
	75% specific skill or fitness-related
Management time	20% or less
Student wait time	20% or less
Student management time	10% or less
Student practice time	50% or above
Students receive instruction	15–20%
Student success	80% or above

Note. These criteria are based on *Teacher Competence and Teacher Effectiveness*, by D. Medley, 1977, Washington, DC: American Association for Colleges of Teacher Education, and *Developing Teaching Skills in Physical Education* (3rd ed.), by D. Siedentop, 1991, Palo Alto, CA: Mayfield.

In addition to the field visits completed by the US, the CT can systematically collect ongoing information on selected teacher pedagogy behaviors, as well as teacher-student interactions. This practice (CT collecting systematic observation information on the PST) is often heavily applied during student teaching experiences. The PSTs and their respective CTs select from a menu of tasks (see Table 1) and complete evaluations. The choice of pedagogical tasks by the PST and CT ensures individualization based on the PST's areas of needed improvement (e.g., attending to inappropriate behavior, interactions with students).

Supervision Relationships and Guidelines for University Supervisors

Many issues contribute to the successful practice of supervision. These factors can be broken down into the relationship among the triad, planning for the field-based visit, and actual visit and follow-up.

A healthy relationship among the triad can best be described as one that is collaborative and where power is shared (Veal & Rikard,

1998). For example, a PST may contribute to the experience of student teaching by providing a novel culminating activity or lead-up game that the CT can add to his or her teaching repertoire. In concert with PSTs' contributions, the CT can contribute to the practicum experience by providing a wealth of information on school context and practical pedagogical knowledge (Veal & Rikard, 1998). The US, as a facilitator, may contribute to the overall discussion of lessons observed and plan for any needed remediation measure and for future visits. While role expectations for these individuals should be clearly delineated, they should remain flexible. Finally, the US's relationship with the CT is long term, and therefore, the US must make every effort to solidify this collegial arrangement, especially when the CT is a great teacher and valued colleague. The US must realize that the teacher education program cannot exist without CTs and the practical experiences that they provide PSTs.

Supervision guidelines for dealing with supervision from a US perspective can be divided into the categories of (a) selection of CTs, (b) training of CTs, (c) general responsibilities of the US, (d) planning the field visit, (e) actual visit, and (f) follow-up practices. Table 4 summarizes the guidelines for supervision from a US perspective.

Impact on the PETE Program

The ongoing feedback embedded within the observational framework can lead to a plethora of positive outcomes within a PETE program (Spooner et al., 2008). Since many of the standards for performance are clearly stated (e.g., teacher talk time under 20%; feedback at least 2/min with 75% of the feedback falling under the category of specific skill-related feedback; Medley, 1977; Siedentop, 1991), PSTs can continually gauge their own progress toward these standards. They can also express feedback of the performance criteria, which provide them with a heightened awareness of their teaching behaviors and clearly state any expectations. Additionally, the tasks for which PSTs set their own standards (goals) are helpful in terms of development of effective pedagogical skills. This goal-setting technique is helpful in terms of development of effective pedagogical skills through a metacognitive approach (Medley, 1977; Siedentop, 1991).

Table 4
Guidelines for Successful Supervision From the Perspective of the University Supervisor

Selection of CTs 1. Selection based on the CT's teaching ability 2. Selection based on agreement with the curriculum and instruction offered at the university (there should be a match between what the university pedagogist is teaching and what the CT is doing in the PK–12 classrooms)
Training of CTs 1. If CTs are expected to help collect data on teacher effectiveness instruments and tools, then they must receive training from the US 2. In addition to the initial training, handouts with complete instruction are provided 3. PSTs are also trained to use the instruments so that they can assist the CTs
General Responsibilities of USs 1. US must be accessible and open to CT's questions and concerns 2. US must address questions and concerns (e.g., alter the day and time of the field visit to adjust to the PK–12 school's schedule; make sure PSTs do not burden CTs with requirements that are the PST's responsibility) 3. Adjust university pedagogy coursework where needed to fill in gaps where deficiencies are found during field practica (e.g., more emphasis needed on classroom management strategies) 4. Act as a facilitator between CT and PST
Planning the Field Visit 1. Do your homework: review the PST's past performance 2. Based on this review, implement a supervision plan that focuses on previous "trouble spots" 3. Plan to observe new and emerging teaching skills that may have developed in the interim period between the last and upcoming visits 4. Touching base between visits can help the US to formulate a game plan for the upcoming visit

Table 4 (cont.)

Actual Field Visit

1. Arrive early to school and complete all required check-in procedures
2. Pre-conference with CT and PST should accomplish the following tasks:
   a. Gather information on the context of the class and its students
   b. Communicate the purpose or focus of the observation (e.g., today we will look at student success and see if students of different skill levels receive the same amount of practice)
   c. Previews the lesson plan
   d. Check in with the CT to see if there are any issues of concern
3. Actual observation
   a. Collect information on the topic or focus of the observation
   b. Make field notes as needed
   c. Record any questions needed for post-conference
4. Post-conference interview
   a. Ask questions related to how the PST thought the lesson went
      i. Identify strengths and weaknesses of lesson
   b. Share on the outcome of the data collected on the lesson topic(s) related to components of teacher effectiveness
   c. Ask for PST's input
   d. Ask for CT's input
5. Plan for needed adjustment by the PST, which should include:
   a. Identification of the problem (e.g., not attending quickly enough to inappropriate student behavior)
   b. Strategies on how to solve the problem (e.g., scan the gym constantly to immediately spot students who are acting out)
   c. Strategies on how to solve the problem (e.g., scan the gym constantly to immediately spot students who are acting out)
   d. Data collection on problem to help PST see if he or she is making progress (e.g., CT records names of students who are acting out and records the time that it took the PST to correct the student)
   e. Interpreting data collected to gauge the PST progress

Follow-up practices involve:

1. An e-mail to the PST to check on progress made
2. Phone call to the CT to check on the PST progress
3. Follow-up visit by the US

Note. CT = cooperating teacher; US = university supervisor; PST = pre-service teacher.

Feedback from CTs has also been informative and positive. For example, one of the tasks on which PSTs have consistently fallen short is the delivery of 75% specific skill or fitness-related feedback (Kahan, 2002). USs in the pedagogy classes and field practica provide strategies that help PSTs deliver more of this type of feedback. This dual observational exercise (CT and PST) can lead to greater quality of the feedback on specific teaching tasks (e.g., attending to inappropriate behavior, interactions with students [teacher climate], back to the wall). Throughout the use of the observation framework during student teaching, both CTs and PSTs should select from a menu of tasks tailored to the needs of the PST.

This layered observational framework is also the foundation for establishing a valuable support system for PSTs. Formal and informal discussions linking quantitative and qualitative feedback help establish a rapport that is critical to the development of the PST. The feedback and discussions between the CT and US with the PST should stimulate growth and reflection on the appropriate practices of a developing teacher. The CT and US use the performance criteria, paired with their pedagogical knowledge, to show the PST that maturation as a new teacher is a process that requires ongoing evaluation, patience, practice, and reflection.

Almost all individuals within this observational model can achieve, and in many instances surpass, the stated criteria for beginning teachers. These criteria should be clearly communicated in the elementary and secondary methods classes and then reinforced throughout the field placements by the US and CT (see Table 3). There is a lot to be said for sending a clear and consistent message related to PSTs' performance and then holding them accountable.

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