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Chapter 2: Navigating the Mentoring Process in a Research-Based Teacher Development Project: A Situated Learning Perspective

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Introduction

Physical education is faced with major challenges in today's K–12 schools. Physical education professionals must consider their role in K–12 school curricula despite the lack of support from federal (No Child Left Behind Act of 2001: United States Department of Education, 2002) and state (e.g., Massachusetts Educational Reform Act, 1993) education reform efforts (Cone, 2004). At the same time, physical educators must decide the role to be played by physical education in the public health agenda's focus on the "obesity epidemic" that stems from the 1996 Surgeon

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General's Report, *Physical Activity and Health* (United States Department of Health and Human Services, 1996). These two challenges provide a forum for professional discourse around the goals of physical education: whether they should be focused on education or focused more toward public health (O'Sullivan, 2004).

The current standard assessment, and accountability movement is an example of a response to the call for reform. In physical education, this movement began with national efforts to describe what every student should know and be able to do. *Moving into the Future: National Standards for Physical Education* (National Association of Sport and Physical Education, 1995; 2004) was developed by the National Association of Sport and Physical Education (NASPE) and was intended to be used to guide rather than dictate the establishment of state and local standards. Many states such as South Carolina, North Carolina, Wyoming, and New York used these national standards as a beginning point for the establishment of state standards and as an impetus for change (Senne & Housner, 2002). To have any real impact, physical education professionals need to reconsider the purpose and focus of physical education within the social context of schools. This requires major changes in many teachers' professional knowledge and beliefs, as well as their pedagogical practices (e.g., Blankenship & Solmon, 2004; Lawson, 1998; Martinek, 1997; Martinek & Hellison, 1997; Siedentop, 1993).

Role of Mentoring in Educational Reform

Driven by the development of standards, reform initiatives and educational discourse have centered on creating equal opportunities for students to learn and providing the best education possible to all children. This outlines the process schools and teachers should carry out to meet the elevated needs and requirements for student achievement (Dodds, in press). Spurred by these visions of change, mentoring became a reform tool for improving schools by enhancing the quality of the teacher workforce (Feiman-Nemser, 1996). Mentoring as a reform tool is a means of gratifying and sustaining skillful teachers while building a renewed, re-energized professional culture with a concentration on improving teaching and learning through assessment (Feiman-Nemser, 2001; Huling & Resta, 2001; Little, 1990). Despite the extensive literature on teacher education and learning to teach, much disagreement about the impact that mentoring has on teacher learning persists (e.g., Ingersoll & Smith, 2004).

In this chapter we investigate key aspects of a 2-year study of mentoring within a reform-based teacher development project, explore the various mentor relationships, and theorize about key events, tensions, and dynamics that resulted in an unexpected sense of community among project stakeholders as a direct result of mentoring. Data for this paper describe the impact of teacher mentoring within the Assessment Initiative for Middle School Physical Education (AIMS-PE) project. AIMS-PE was a multi-year Center for Disease Control (CDC) grant funded project with goals including assisting in-service teachers to examine and reframe their assessment practices and to increase their students' knowledge and behaviors of physical activity. Initiation and development of positive mentoring relationships among participating teachers and their mentors (K–12 physical education teachers and college/university faculty) was a major component of this effort, providing necessary support and encouragement to meet project objectives.

We begin by defining mentoring and by identifying its various benefits. We then outline the situated perspective on cognition that frames our research and provides an authentic framework in which to position teacher learning in physical education. Next, we explore participants' experiences in the project to better understand the influences of teacher mentoring that contributed to the development of a sense of community. We conclude by discussing an empowering relationship model of mentoring.

Defining Mentoring and Identifying Benefits and Barriers

Literature on mentoring is wide-ranging because of the reference terms used to define it, the styles and types of relationships involved in mentoring, and variations of perceived benefits from mentoring and mentorship. Theoretical work on mentoring most often describes the character of the mentoring relationship itself, that is, a relationship characterized by "technical coaching" (Joyce & Showers, 1981), "reflective coaching" (Schön, 1987), or "personal" or "formal" coaching (Feiman-Nemser, 1996; Little, 1990).

Typically, mentorship is viewed as a hierarchal relationship between mentor and protégé in which the protégé is seen as subordinate, whereas the mentor is viewed as all-knowing (Danielson, 2002). Knowledge and experience gained by the mentor are passed along to the inexperienced, novice protégé. In education, mentor teachers are usually credited with facilitating the professional growth of new teachers by providing them opportunities to observe, engage in practice teaching, and receive feedback and new ideas about curriculum and instruction. Ramsey (2000) adds:

Mentors can provide teaching materials and strategies, lend an ear or a shoulder in times of stress, engage in serious dialogue over content, canon, and pedagogy, and introduce young teachers to participate in national teacher organizations through local and state affiliates. (p. 124)

Issues concerning formal mentoring of novice teachers within schools are inter-related and include (a) selection criteria of mentors, (b) status and relationship issues between mentors and teachers, (c) mentor time constraints, (d) removal of capable teachers selected as mentors from their own classrooms, (e) quality of instruction by substitute teachers who fill in for mentors, (f) teachers' perceived visibility of the mentor in "action" and its connection to the teacher's level of perceived competency and ultimate trust of the mentor, and (g) inappropriate meshing and adverse sophistication between the mentor and the teacher that lead to perceived irrelevance in assistance and poor use of time (Little, 1990). Together, these factors result in effective or ineffective reciprocity of a mentoring relationship.

Although the majority of mentoring literature targets the socialization process of beginning teachers, some studies have shown that mentors themselves also derive substantial benefits from the mentoring experience (David, 2000; Holloway, 2001; Resta, Huling, White & Matschek, 1997). For example, in a 1986 study of 178 mentor teachers, more than two-thirds responded "definitely" to the statement that participation in the mentoring programs "provided positive professional growth

“for them (Hawk, 1986–87, p. 62). When mentors were asked to elaborate on the ways they grew professionally, more than half did so with responses identified in three categories: (a) forced me to focus on and improve my own classroom teaching skills, (b) made me aware of the need for educators to communicate with each other, and (c) helped me better understand the principal and central office supervisors’ roles. These findings led Hawk to conclude that “educators should look not only at the direct effects that teacher induction programs have on beginning teachers, but also at residual effects that such programs have on all involved professionals” (Hawk, p. 62).

In addition to mentor benefits, there are accounts of experienced teachers making positive changes to their materials, teaching behaviors, and beliefs as a result of long term collaborative relationships with researchers (e.g., Borko, Davinroy, Bliem, & Cumbo, 2000; Borko, Mayfield, Marion, Flexer, & Hiebert, 1997; Cohen, McLaughlin, & Talbert, 1993). This type of mentoring represents relationships that are synergistic, in which co-mentors, in a relationship that is “reciprocal and mutual” (Bona, Rinehart, & Volbrecht, 1995; p. 119), engage as co-learners in a process of discovery. This process requires that teachers engage in learning through building a sense of community (Sergiovanni, 1994; Sumsion & Patterson, 2004). Successful community building in this respect provides teachers and researchers opportunities to develop dispositions and abilities, strengthening their capacities to grow personally and professionally (Kochan & Trimble, 2000). Collectively, these changing views of mentoring and teacher learning require corresponding changes in the way individuals think about themselves, their relationships, and their place in the work environment.

Situated Learning Perspective

Teacher learning occurs in many practice situations. Taking into consideration both teacher education and the induction years of teaching, these contexts include, but are not limited to, university teacher-preparation courses, preservice field experiences, schools of employment, and teacher development opportunities (Borko, Peressini, et al., 2000). With its emphasis on the relation between knowledge and the situations in which it is acquired and used, a situative perspective offers a compelling framework for the study of teacher learning through mentoring. This perspective draws from sociocultural theories to emphasize the social and situated nature of learning (Lave & Wenger, 1991). Social theories of learning depart from traditional views that are largely based on the assumption that learning is an individual process. In contrast, situated perspectives assume that knowledge is inseparable from the contexts and activities in which it develops. To this end situated perspectives posit that the physical and social context in which an activity takes place is an integral part of the activity, and that the activity is an integral part of the learning that takes place within it (Borko, Peressini, et. al., 2000).

One tenet of situated perspectives is that the individual, the activity in which the individual is taking part, and the environment are one inseparable unit of analysis (Rovegno, 2003). In the case of mentoring, the teacher (individual), the mentoring process (activity), and the school context (environment) are critical and cannot be ignored. When conducting a study, therefore, researchers must consider, at a minimum, “the individual teacher (including the teacher’s biography, values,

goals, and capabilities); the act of teaching; and the physical, social, and cultural school environment” (Rovegno, p. 296).

In order to examine the nature of learning, researchers have used situated perspectives to study the role of mentoring through apprenticeship. Lave and Wenger’s (1991) conception of situated learning is based on anthropological studies of apprenticeship in a range of societies and occupational contexts. Descriptions of apprenticeships among midwives, tailors, butchers, and other similar occupations provide examples of how learning in practice takes place and what it means to move toward full participation in a community of practice. In these instances engaging in various apprenticeship roles facilitates learning through legitimate peripheral participation in a community of practice (Lave & Wenger). Legitimate peripheral participation occurs within sets of relationships in which newcomers can move toward full participation by being involved in particular experiences or practices, thus developing new sets of relationships. Learning in this respect is legitimate because apprentices’ participation matters to the community’s successful performance of its work. At the same time, learning is also peripheral in the sense that apprentices are novices whose learning trajectory is expected to result in eventual full participation as members of a professional community of practice.

Communities of practice present a conceptual framework for thinking about learning as a process of social participation. Kirk and Macdonald (1998) provide a helpful definition when they suggest that a community of practice refers to “any collectivity or group who together contribute to shared or public practices in a particular sphere of life” (p. 380). Members of a school physical education staff represent one such community of practice. These teachers are inevitably part of a larger community of practice (such as the school) that includes teachers of other subjects, the principal, staff, and students. Further, schools are connected to outside groups including professional organizations, state departments of education, and federal agencies, placing them in the context of the broader society. An advantage of using the concept of communities of practice is that it allows for the identification of various modes of belonging other than engagement (i.e., active involvement in mutual processes of negotiation of meaning) that shape the learning trajectories of individuals within each community (Kirk & Macdonald; Wenger, 1998).

In physical education, situated learning has been suggested as an authentic framework in which to position teaching and learning. For example, Dyson, Griffin, and Hastie (2004) discuss the usefulness of situated learning as a theoretical framework and connection among the instructional models of Sport Education, Tactical Games, and Cooperative Learning. Further, they suggest that each instructional model can provide structures for situated learning to occur within a community of practice based on their potential to provide students with authentic and meaningful learning activities. Kirk and Kinchin (2003) used situated learning theory as they explored the potential of the Sport Education model as a means of providing young people, as legitimate peripheral participants, with educative and authentic experiences of sport. In both instances, the authors present conceptualizations of learning in a physical education context, noting that mastering knowledge and skills requires that novices move toward fuller participation in the sociocultural practices of the broad physical activity community.

In this chapter, we argue that collaborative mentoring relationships within a physical education teacher development project (AIMS-PE) provided teachers with specific social contexts and events that facilitated their construction of physical education knowledge through social interaction with others. Thus, project stakeholders (teachers, mentors, researchers) were members of different kinds of communities, rather than acting or participating in isolation. In the following section we describe the four phases of the project.

The Assessment Initiative for Middle School Physical Education (AIMS-PE)

This study is part of a larger examination of 12 teachers (2 men and 10 women) from six schools (one urban and five suburban) that investigated the overall effectiveness of the AIMS-PE Project. Briefly, the AIMS-PE structure and activities can be described in four phases: recruitment, baseline, intervention, and implementation.

Timeline for this study:

Spring 2001—Middle school assessment team (MSAT) committee formed.

Fall 2001—CDC funding, state physical education university faculty and teacher support.

Spring 2002—School application and selection process; baseline data collected.

Summer 2002—Summer Teacher Development Institute conducted; participating teachers and mentors paired.

Fall 2002 through Spring 2003—Implementation of plans developed by teachers; follow-up training sessions.

Phase I: Recruitment. Project planning and development began with the project director networking and building relationships across the state department of education and state association for health, physical education, recreation, and dance. Next, the middle school assessment team (consisting of experienced physical education teachers and teacher educators) formulated the AIMS-PE project's goals. Potential AIMS-PE schools were interviewed and selected from the applicant pool based on project commitment and desire to improve physical education at the class and program level.

Phase II: Baseline. Site visits at each school were conducted and data collected to capture characteristics of the physical education programs before participation in the project. Data collected during visits provided the initial interaction between teachers and the project team and served to inform planning of the project's instructional components (e.g., pace, sequence, and content).

Phase III: Intervention. The instructional component of the project was an intensive week-long summer institute and two follow-up sessions during the first year of implementation. The Summer Teacher Development Institute (June 2002) consisted of a 5-day practical in-service delivered by college/university faculty and experienced K–12 physical educators, many of whom later assumed mentor and

researcher roles. Institute activities included hands-on training and practice in the organization of assessment, assessment tools (e.g., rubrics, checklists), physical activity measures, the tactical games model (Griffin, Mitchell, & Oslin, 1997), and developmentally appropriate pedagogical practices. Teachers received an “AIMS-PE Assessment Kit” that included (a) 40–45 pedometers, (b) three exemplar physical education units (i.e., physical activity measures, building dance and rhythms, and Ultimate Frisbee), (c) *FITNESSGRAM*, and (d) assessment materials. Finally, teachers were paired with a mentor to facilitate the implementation of program goals.

Phase IV: Implementation. Teachers implemented their evolving action plans (i.e., three exemplar units) and outlined ways they would use physical activity measures in classes and how they would assess student learning. Two follow-up teacher development sessions provided support for the teachers and served as a forum to share implementation successes and stumbling blocks. Physical education teachers from participating middle schools and their mentors collaborated to design, implement, and assess developmentally appropriate physical education.

In this study we focused on the navigation of mentoring relationships within the AIMS-PE project. The initiation and development of mentoring relationships among participants was a major component of the effort to meet project objectives. The specific research questions that guided this study were: (a) What factors contributed to effective mentoring and professional growth on behalf of the teachers involved? and (b) What contexts, activities, and interactions among participants influenced mentoring relationships and facilitated the development of communities of practice (CoPs)?

Methods

The present investigation explored the contexts, activities, and interactions among participants that influenced mentoring relationships and facilitated the development of communities of practice. The term CoP will refer to the deliberate collaboration of participants who shared common practices, interests, or aims (Wenger, 1998). The social and situated nature of mentoring and teacher learning lends itself to a qualitative research design.

Participants

The project included middle school physical education teachers from six Massachusetts schools, volunteer mentors for each school, and a research team who agreed to participate in the AIMS-PE Project (see Table 1). Pseudonyms have been used for all participants and schools.

Teachers. The AIMS-PE teachers (two men and two women) were employed as full-time physical educators in one urban and five suburban middle schools. Most (10 teachers from four schools) joined the project with their immediate colleague(s), others as the sole representative of their physical education programs (two teachers from two different schools). Teacher responsibilities included: (a) complete project application; (b) assist with entry and consent to collect baseline data; (c) attend the Summer Teacher Development Institute and two follow-up in-services; (d) develop

Table 1 Demographics, Teachers, Mentors, and Primary Researchers by School

	Ashton	Drayton	Garfield	Hawthorne	Brighton	Winters
Enrollment	583	866	591	791	642	688
Grades	6-8	6-8	6-8	6-8	6-8	5-8
Location	Suburban	Urban	Suburban	Suburban	Suburban	Suburban
Low income (%)	12.3	82.4	10.3	1.9	7.3	14.5
Teachers	Kate; Donna	Kim; Sam; Lana	Dianne	Dina	Connie; Jackie; Page	Dennis; Johanna
Mentor	Danielle; Liz ¹	Darla (replaced by Marge)	Danielle	Bonnie	Tonya; Ann ²	Khrist ³
Primary researcher	Liz ¹	Rhonda	Pam	Khrist ³	Ann ²	Ken

Note. Low Income: the proportion of students that meet any one of the following definitions of low income: (a) student is eligible for free or reduced price lunch; or (b) student receives Transitional Aid to Families benefits; or (c) student is eligible for food stamps.

¹Dual role (mentor/researcher); Liz; ²dual role: Ann; ³dual role: Khrist.

and implement the action plan; (e) use the support materials in implementation; (f) collaborate with a mentor; and (g) complete interviews about implementation of target units.

Researchers. The research team included: (a) the AIMS-PE project director, (b) one research assistant, and (c) nine researchers (five college/university teacher educators and four doctoral students). Research team responsibilities were to (a) solicit teacher/school applicants, (b) interview potential teachers, (c) serve as a conduit between the teacher(s) and mentor (i.e., type of informal mentoring), and (d) collect and analyze data. During the implementation phase, each researcher collected data on a weekly basis at one school.

Mentors. A single mentor (one of six university faculty and three experienced physical education practitioners) was assigned to each school. All mentors had expertise in assessment and curricular implementation. Duties of the mentor were dictated by individual teacher–mentor relationships but included weekly phone and/or email contact and on-site consultations. The mentor and teacher pairs were selected based on teachers’ and mentors’ needs and abilities. In some instances, based on mentor expertise and teachers’ needs, researchers also served as mentors.

Data Collection

Data for this paper were collected from multiple sources and included: (a) mentor records, (b) field notes from in-service training and mentor brainstorming sessions, (c) four teacher interviews, (d) one mentor interview, and (e) one researcher focus-group interview. First, mentor record forms documented phone and email correspondence between mentor and teacher including progress, teacher accomplishments and problems encountered in implementing project components, teacher goals, and the date and time of the next scheduled mentor contact. Second, field notes were taken from videotapes of the summer institute training and mentor brainstorming sessions. Third, four semistructured interviews were conducted with teachers during the project. Questions focused on how the mentoring system enabled teachers to examine their assessment practices and increase their students’ knowledge and behaviors of physical activity. Fourth, semistructured interviews were conducted with mentors about their mentoring relationships. Interview questions focused on the development of mentoring relationships and the project’s impact on teacher knowledge, beliefs, and reported practices related to physical education instruction and assessment. Finally, a focus group interview was conducted by a researcher unfamiliar with the project to examine researchers’ perspectives of the AIMS-PE Project and of the mentoring process.

Data Analysis

Interviews were audiotaped and transcribed verbatim. Project researchers initially analyzed interview transcripts using open, axial, and selective coding (Strauss & Corbin, 1998). First, interview transcripts and mentor records were open coded to conceptualize, develop, and define categories and their properties and dimensions. Next, data were axial coded to identify subcategories and to investigate possible interaction and relationships among these subcategories. Finally, axial coding across

interview transcripts from teachers, mentors, and researchers was conducted to identify connections among data sources to determine the degree to which the mentoring process influenced the creation of several CoPs.

Trustworthiness

Trustworthiness of the data was established and maintained through the use of prolonged engagement and triangulation of data sources. First, prolonged engagement was established as a result of the mentoring relationships, and concurrent data collection occurred regularly over two academic years. As a result, researchers were privy to a realistic understanding of teachers' contexts. Second, triangulation was achieved through the collection of data from multiple sources that represented multiple perspectives on mentoring. When necessary, follow-up questions were posed to clarify information and to accurately represent participants' perceptions.

Results

Results address how and why this community of teachers, mentors, and researchers emerged and describe the dynamics of its evolution. Results are presented in three broad themes. First, teacher, and mentor/researcher micro-communities of practice (CoP) are described. Next, the intersection of these CoPs is examined, including successes and difficulties that arose. Finally a new conceptualization of mentoring through an empowering relationship model is proposed and discussed in relation to physical education teacher development.

Teacher and Mentor/Researcher Micro-Communities of Practice

Two micro-CoPs existed: the middle school teachers and mentors/researchers. The following sections describe CoPs and selected interactions within the micro communities as they relate to the mentoring process. First, two themes—"like-minded people" and reflection and improvement are discussed in relation to effective mentoring and professional growth in the teacher CoP. Second, with regard to the mentor/researcher CoP, the value of reflection and improvement evident within the teacher CoP is echoed, and a new element, the critical nature of the uniqueness of the relationship among teachers and mentors participating in the project, is explored. Finally, individuals within the project taking on dual roles as mentors and researchers are discussed.

"Like-minded people." The middle-school teachers ($N = 12$) were one micro-community of practice. The initial interaction among teachers occurred at the AIMS-PE Summer Institute.

The formulization of goals and creation of an action plan was the culminating experience for teachers at the summer institute. Follow-up workshops gave teachers opportunities to report on their progress, share common challenges related to implementation, and present successful experiences with other teachers in the project. Teachers sharing "lessons learned" during the implementation phases of the project helped create a connection with other teachers in the project and

provided opportunities to network. A need to interact with “like-minded” people was reported and the opportunities to do so were viewed as potential sources of assistance, feedback, support, and motivation. This notion of like minded people was a phrase used by Dina to describe others who shared her vision of what physical education should be:

It was great to be around like-minded people in that if I have questions there are people out there who can answer them for me. . . . I think it [AIMS-PE] has definitely broadened my peer network to be able to go to other people to ask questions and look for ideas and get feedback.

The opportunity to work with like-minded people was an important source of support that teachers experienced during the project that contributed to their professional development.

Reflection and improvement. Teachers, especially those who were the sole participant in the project from their schools, viewed opportunities to extend professional networking to gain additional training and support as opportunities to reflect on their experiences and improve current practices. They reported that without this ongoing support, they could not effectively initiate changes they desired to make in their current programs. Teachers stated that hands-on training and feedback in the construction of assessment tools and assistance in the management of assessment were essential if they were to incorporate them into their classes. Ongoing training, support, and interaction with other teachers in the project were benefits reported by Johanna, who stated:

Practicing it [assessment] and being able to talk to somebody else about it, I find that very helpful. . . . Teachers from a different district, somebody from a different area may have a different way of doing it, a different outlook and I think that’s been beneficial for me.

Teachers’ notions of having students, parents, and the community at large see the “value and purpose of physical education” was also critical because teachers viewed their roles in the project as a means to obtain the knowledge and tools required to promote and advocate for their programs. Kate stated:

I want to have a dynamite program. . . . I want it to have value and purpose and for students and parents and community to understand its value and purpose; and I think this whole process will give me the tools that I need to promote and advocate for my program.

The mentor/researcher CoP was comprised of university faculty and experienced K–12 teachers whose purpose was to offer support throughout the duration of the project and commit to helping teachers improve their instructional and assessment practices. One mentor (Danielle; university faculty) stated:

I became a mentor because I felt that it would be a wonderful opportunity for me to work one on one with a teacher who was in the game of improving their own teaching and adding assessment or refining assessment. . . . I saw that I could make a difference.

Although some of the mentors knew each other, their initial interaction occurred during planning of the AIMS-PE Summer Institute. During the institute, mentors presented sessions on classroom management, instructional models, integrating pedometers as physical activity measures, and assessment strategies. Presenting at the institute provided mentors with opportunities to reflect on their own practices and to benefit from the experience in much the same way as the teachers. For example, one mentor (Darla; K–12 teacher) stated:

I had the opportunity to listen to myself—it doesn't always come off the way you want it to. Presenting [at the Summer Institute] gave me an opportunity to share my experiences and there are pieces that I know I can change.

The researcher group was comprised of university faculty from four university teacher education programs. A few members of the research group had previously worked together, whereas other members were new to the group. Researchers brought different perspectives about teacher development and research experience. Their primary role was to collect project-related data and, when asked, respond to questions regarding what they had observed. These observations worked as a type of informal mentoring and as a method to hold teachers accountable. For example, Dianne (teacher) best captured this type of informal mentoring when she stated, “I knew when Pam [researcher] was coming and I knew those were the days that I needed to really try the project units and assessments, and that provided a certain level of accountability.” In such instances, the mere virtue of researchers' presence played an informal mentoring role and provided an impetus for teachers to work toward their action plan goals, as well as the project goals.

Uniqueness of relationship. The mentor group met regularly throughout the project to share successful and unsuccessful aspects of their respective mentoring relationships. Within mentor group meetings, project mentors devised solutions to immediate problems shared about current mentoring situations. During one of the meetings, Darla, a mentor, summarized, “There are going to be many different pictures of what mentoring is . . . depending on the mentor and depending on those individuals involved.” Mentors agreed that the role of each mentor should be based on each individual mentor relationship, and that a “one size fits all” mentoring model would ignore individual needs of each participating teacher. Thus, each mentoring relationship within the project was unique and shaped by the individuals involved, their goals, and school context.

Dual role. The primary researchers at two of the schools also served as an informal mentor as the project progressed. This unexpected dual role became necessary because the mentor assigned to each of the schools was often unable to make on-site visits because of their own teaching responsibilities. For example, at Brighton Middle School the assigned mentor, Tonya (K–12 teacher), was unable to provide mentorship and support with the intensity required by the teachers involved (Connie, Jackie, and Page). Thus, the primary researcher, Ann (university faculty), took on the dual role of mentor and researcher. The second instance in which the immediate needs of the teachers (Kate and Donna) necessitated a researcher (Liz; university faculty) to take on a mentor role was at Ashton Middle School. In this case, the researcher's expertise in tactical games teaching and the teachers' desire

to implement this instructional approach created a natural mentoring opportunity. In the final instance of a dual role, Khris served as both mentor and researcher, though not at the same school. She acted as a mentor at Winters and researcher at Hawthorne, splitting her time between schools. In this case, Khris was able to more easily preserve her primary role at each of the two schools.

In the examples provided in which roles were not as easily preserved, individuals who took on more than their assigned role straddled a rather ambiguous line: as researchers they documented the progress of the project, and as mentors they discussed problems, provided advice, and shared their own ideas with the teachers. In this respect, the project team was aware of potential conflicts of interest that might have arisen as a result. Despite this risk, the decision was made that this additional support was one of the primary goals of the project and thus in the best interest of the teachers involved. In doing so, researchers were careful to maintain their primary role, that of a researcher, and took steps to ensure that their mentoring interactions with teachers occurred only after their researcher duties were complete.

Intersecting Communities of Practice

Results indicated that mentors and researchers had to enter the teacher's world and co-construct a new CoP. Though several of the mentors were K–12 teachers themselves, all mentors reported similar challenges as they entered schools to provide support. A challenge that influenced the development of a new CoP was the vulnerability of all participants (mentors, teachers, researchers) based on the knowledge that others have somewhat different beliefs and agendas.

Differences in goals specific to student education among teachers and mentors/researchers can be visualized as two initially separate but then intersecting micro-CoPs, a process that occurred as the project progressed. Mentors and researchers were guests in the teachers' work place and had a primary CoP that valued "best practice" and a focus on assessment of student learning. A typical goal was expressed by Ann (mentor and researcher) in an interview: "I was interested in helping with practical things that happened in the gymnasium regarding teaching and assessment." Teachers' primary CoP was public K–12 education, which valued creating positive learning and work environments for students and teachers. One typical teacher response focused on a goal that included decreasing the marginalization of physical education. Dina stated, "This program [AIMS-PE] is going to give a lot more validity to what we do, it's going to be a good tool to advocate."

Within the two micro-CoPs, teachers and mentor/researchers were the participants whose interactions and shared histories throughout the project created larger CoPs and opportunities for collaboration and learning. As project participants interacted through AIMS-PE in different situations, their respective CoPs intersected; thus mentor/researchers and teachers benefited mutually as they each gained new perspectives about teaching and learning. Ann (mentor and researcher) stated, "My involvement as a mentor let me learn more about the challenges that physical educators are facing at the middle school level with assessment and help coach them and help them with their organization, management and teaching."

One example of the intersection between the teacher and mentor/researcher CoPs was evident when Donna and Kate (teachers) led a presentation about

implementing components from the AIMS-PE project at a state physical education convention. Donna's membership in a larger community of scholars was evident when she shared what she learned from AIMS-PE. She stated, "It energizes me as a teacher to share what I have learned with other teachers."

On the peripheries of the micro-CoPs, participants worked to merge theory (mentor/researcher CoP) with practice (teacher CoP). Liz (mentor and researcher) talked about a salient example of merging theory and practice and the intersection of CoPs that occurred during a tactical games Ultimate Frisbee lesson with Kate (teacher).

She [teacher] ran over to me at the end of the game. See? They're not passing three times. They are handing it off to each other. And at that moment when I said, "Well, ask them what a good pass is," there was that sort of ah-ha for her to ask the students to help them solve the tactical problem of "that's not a pass."

This event represented a shift in how Kate used questions to help students solve tactical problems. For the mentor/researcher, this situation provided a real-life example that built credibility. Thus, the relationship was mutually beneficial for both.

Three themes — support, give and take, and building trust — were essential to the development of mentoring relationships within and among the intersecting CoPs. Next, we will examine how support, give and take, and building trust facilitated the intersection among micro-CoPs and the development of a macro CoP, which included all AIMS-PE participants.

Support. Results indicate that as mentors worked with teachers in schools, they entered their workplace by establishing their dependability (e.g., making appointments). Mentors then demonstrated their skills in identifying and solving problems and worked directly with teachers to demonstrate effective assessment, management, and organization skills. For Ann (mentor and researcher), acceptance by a teacher was evident in her active involvement in planning and implementation of lessons. In this instance, her role shifted from researcher to mentor:

And so it came to a point where one day I had to shut off the camera and just go in there and help them through the lesson and then go back on the next Wednesday and turn it back on. My role sort of changed to sort of "hands on" help.

As teachers' trust grew, they accepted mentors as participants in their workplaces and were able to accept their support. In a mentor interview, Liz (mentor and researcher) explained,

For me the interactions hooked in a tactical games model because that's the thing that Kate asked the most questions about. That was also a building block in the volleyball unit because her content knowledge was weak.

Support was fundamental to mentoring relationships within and among the CoP. In addition, the relationships were also forged in a reciprocal give and take context.

Give and take. The teacher–mentor relationship was essential to the development of a macro-CoP which included all AIMS-PE participants. A delicate balance existed between mentors’ willingness to give help (i.e., the mentor’s commitment) and teachers’ willingness to accept help (i.e., receptivity). Although each mentor–teacher relationship unfolded in a unique way, several conditions existed across mentor–teacher pairs that shifted the give and take balance.

First, teachers grew to rely on project support when they perceived that the mentors helped them identify real problems in their teaching context. Dianne, speaking of her mentor (Danielle; university faculty) stated:

She’s been a good middle person; she has a great foundation of knowledge. She has something to offer everybody. . . . I think she’s very positive and she has done her best to keep us on track, you know, give and take. She has good ideas, and it’s always nice to have some outside ideas coming in.

In addition, Ann (mentor and researcher) helped her teachers see problems associated with inefficient management routines for attendance. She stated,

All of a sudden I’m realizing that it’s taking twenty minutes to take attendance. How can we cut twenty minutes down? It was those types of give and take, coaching . . . and back and forth. [Kate] says, “Yes I have a variation of that . . .” So now we’ve got a common talking point about assessment.

The mentor was a resource and helped teachers develop confidence in their teaching practice. A teacher (Connie) explained, “It gives me confidence, hearing somebody say, ‘yes that’s going to work, go for it.’ I like that.” When the mentor focused on issues that were not relevant in the teacher’s mind, this decreased the teachers’ receptivity to the mentors’ suggestions. Kim, a teacher at Drayton, stated in an interview,

Sometimes you just feel like somebody has some questions that they need to ask because it is a project, and even if you don’t have questions or issues about anything, you still have to go through this and that can be frustrating at times.

Second, when mentors helped teachers find practical solutions to problems in their context, mentors’ willingness to give and teachers’ receptivity increased. The problems that the mentors and teachers addressed moved from housekeeping tasks (e.g., providing *FITNESSGRAM* CDs, pedometers), to concerns about completing AIMS-PE tasks (e.g., how to complete the action plan), and finally to improvement of pedagogical behaviors associated with best practice (e.g., assessment, efficient classroom management). Danielle (mentor; university faculty) stated in an interview,

At first I was sort of like the lackey before I started to have the more substantive conversations. . . . Almost like she was looking for things for me to do to feel useful. . . . In the end it was more of a discussion about “I tried this today and your idea really worked.” . . . It worked, and like the earth moved that day.

Breakthrough moments occurred, and the mentor–teacher relationship changed to become more dynamic and reciprocal. Liz (mentor and researcher) stated, “As

time went on it [mentoring] became a dialogue.” The connectedness that the mentor–teacher relationship provided allowed the teachers to have a voice to talk about challenges and share concerns about how to implement the AIMS-PE project and, more generally, about how to develop an effective learning environment in their context. Jackie (teacher) stated in an interview,

It’s been nice to have just another person [mentor], another opinion from outside coming in, and we didn’t feel intimidated by having a person from outside. It was really a good thing because we got some new ideas, we did get to see that we were doing things right.

Similarly, Kate commented on the role of her assigned mentor (Danielle; university faculty):

I definitely see it [mentoring relationship] as beneficial, I think she has a very supportive personality, she’s a good listener, she is more than willing to do anything that she can do and try to make our lives a little bit easier. She has been able to provide advice based on our situation—our school, our kids.

Third, the give and take of the mentoring process was also influenced by the mentor’s willingness to be a participant in the teachers’ real world contexts. Ann stated in an interview, “I think they were comfortable with me there, and after a while you just become part of the whole, part of the community.” Results from mentor records indicated that Danielle (mentor; university faculty) acknowledged the complexity of her teachers’ world. She said,

I admire the fact that Dianna is beginning to try the suggestions regarding implementation of assessment; I think she faces many challenges at her workplace (marginality), yet she continues to find ways of carrying on in the face of it all.

Marge, a mentor at Drayton, stated in an interview that her experience as an urban physical educator gave her the needed status to effectively mentor the teachers at Drayton, who were not successful with their first mentor. She stated,

I think that my role as a secondary urban physical education teacher provided me with the context necessary to help this group of teachers. . . . As a result, I was able to develop a rapport with the teachers that helped facilitate the mentoring process.

Ann experienced the teachers’ world by getting on the gym floor with students. She explained her role as a mentor and researcher in an interview.

I had to become so active. I thought since they were teachers of ten years plus, that I would be giving them tips about assessment or helping them to adjust an instrument. I didn’t realize that I would be helping them plan and organize their classes.

Building trust. When teachers accepted mentors into their world they began to value mentors’ help with identifying and solving problems, thus building greater trust. Trust developed in three ways. First, it was built as teachers perceived that mentors understood their worlds. Understanding the specific context of public school

physical education, including its barriers to teaching, was particularly salient in the urban context at Drayton. Darla, the first mentor assigned to the school, explained her difficulty as a mentor in an interview: “They just kept seeing road blocks . . . which equaled excuses for not doing AIMS-PE. They didn’t think I understood their dilemma; they thought I just saw excuses.” Kim, a teacher at Drayton, explained in an interview her receptivity to her second mentor, Marge, an experienced urban physical educator. “She understands that she’s been in our situation before. She knows what it is like to be in this kind of setting [urban].”

Second, trust also developed as teachers let their guard down and allowed mentors into their teaching worlds. Acceptance of mentors moved along a continuum of not letting mentors in at first to accepting them as they demonstrated their “worthiness” of becoming legitimate participants in the teachers’ worlds. Trust grew when teachers were able to see that mentors had good intentions to help. Mentors brought a certain outsider knowledge or perspective that allowed them to see things teachers see every day not as problems but as potential solutions to problems. For example, Dianne, a teacher at Garfield, stated in an interview that her mentor “helped me see it [teaching] from another perspective.” Mentor records indicate that Dianne’s trust of her mentor increased when the mentor suggested ideas for assessment that Dianne could try with her 7th-Grade students. When the idea worked, Dianne gained the courage to try it with the 6th-Grade students who were the focus of the AIMS-PE project.

Third, trust grew as mentors’ dependability became evident. Dianne (teacher) stated in an interview that she “trusted everyone in the project.” This trust was built on the foundation of mentors’ consistent behavior (i.e., calling or visiting when they said they would) and maintaining a nonjudgmental tone. Dianne further explained that she found it helpful to have a mentor and researcher who she knew would be there. She said, “It’s helping me keep going.” Kate (teacher) stated in an interview, “Danielle has been great. I mean she calls me on a regular basis, she continually offers her help.”

When trust developed, the perceived power difference between mentor and teacher shifted and teachers became empowered in their context with students and colleagues. At this point the mentors and teachers could focus on improving teaching practices in physical education to support student learning.

Trust was not inherent in the mentor–teacher pairs because both felt vulnerable at times. Teachers’ vulnerability occurred because most outsiders who entered their space came with evaluation agendas (e.g., principals, parents, other teachers); mentors, however, were not there to judge teachers’ performance. Ann, a mentor and researcher at Brighton, stated in an interview,

They were intimidated by me being there, and we sort of grew together. We picked areas that they wanted to work on, and I helped them. The interesting thing about this site is that there was a student teacher there, so one of my means of getting information across was coaching her when the more experienced practitioners were listening in.

Results from mentor records indicated that Johanna, a second year teacher, also felt vulnerable. Her mentor, Khris (university faculty), found that:

Johanna was really freaked out about having a lot of people there with cameras. And [she was] apologetic. I don’t usually teach like this. Mixed emotions . . .

she was really quite intimidated by it and over the course [of the project] she became more confident in her abilities.

Whereas Johanna's colleague Dennis (teacher), said "Johanna gets more concerned than I do. I think I have just been around the barn a little bit more."

Mentors' vulnerability occurred as they ventured from their more familiar roles as university faculty and K–12 teachers to less familiar roles in which their credibility rested on their effectiveness as a mentor. Darla (K–12 teacher), who mentored in Ashton (after being replaced as Drayton mentor), stated in an interview:

There was a period where I was annoyed with myself; I took Drayton personally as a failure on my part. . . . I kept asking myself, where did I go wrong? . . . When I was finished, I didn't think I was really qualified to be a mentor. Even with Dianne, I didn't regain my confidence totally.

Overall, the micro- and macro-CoPs in this study broke down barriers (e.g., reciprocal vs. hierarchical relationships) and stereotypes (e.g., theory vs. practice). These communities became immersed in the project, growing in strength as the project progressed and as trust developed. What ultimately transpired was a process of empowerment in which control was redistributed and the participating teachers, as well as mentor–researcher groups, were given a voice in the decision-making process.

An Empowerment Model of Mentoring

Taken together, the themes identified as facilitating mentoring relationships inform the conceptualization of an empowerment model of mentoring. Factors such as like-minded people, reflection and improvement, and uniqueness of the mentoring relationship coupled with support, give and take, and trust created a synergy that empowered the individuals and their CoPs described in this study. Participants were actively involved in the process of adapting materials and making changes in their pedagogical practices to address project goals situated within their own schools. Each community member used power within a specific role in the project and developed competence in their role (i.e., mentors working with teachers, researchers collecting data, teachers putting their action plans into practice). Teacher, mentor, and researcher roles were developed within each school context through a process of give and take and trust building within and between the CoPs. The result of this process was a sense of empowerment for participants that enabled them to make changes and work toward project goals. For example, Kate (teacher) described her professional growth at a state physical education convention where she presented curriculum and assessment materials from the project. She explained, "I wasn't sure this [implementation of dance/rhythms unit] was going to work. But I'm here to tell you, it works, and this is how it works." Liz (teacher) shared in an interview that Kate's whole demeanor at the fall convention was, "this is how I made it work for me," which was a change from her initial skepticism in her ability to achieve project goals.

Generally, all community members appreciated the journey toward the collective outcome (AIMS-PE goals). As Kate (teacher) stated, "The AIMS-PE project gave me a positive community to belong to and a different type of support system." Each participant in the project became a student of his/her own experience, learning

about themselves and creating a community culture that promoted professional growth and learning.

Discussion

In this chapter we presented findings that suggest a more sophisticated understanding of mentoring that recognizes the social and situated nature of mentorship and of teacher learning. Our inquiry focused on the unexpected sense of community that developed among the teachers, mentors, and researchers engaged in AIMS-PE. In theorizing about why this community of teachers, mentors, and researchers emerged, we have been conscious that community can be an overused term (Grossman, Wineburg, & Woolworth, 2001; Sumsion & Patterson, 2004). As we reflected on whether a sense of community did indeed emerge, we found it helpful to respond to Grossman et al.'s challenge to identify criteria to distinguish between a *community* and a *group* of individuals involved in a common task. We argue that the teachers, mentors, and researchers involved in AIMS-PE constituted a community of practice rather than a group because of the collective narrative of their participation in AIMS-PE, their social interactions, and participation in a shared endeavor. By sharing their experiences and benefiting from personal support through mentoring and learning from each other, individuals developed new skills and insights that, for many, had a transformative impact on their own learning.

Transformation, however, was influenced by the delicate balance that existed among teachers', mentors', and researchers' willingness to give (commitment) and their willingness to accept (receptivity). Several conditions moved this balance one way or the other. For example, teachers became more receptive to mentors' support when they perceived that mentors had helped them identify and find practical solutions to problems in their teaching context. When teachers' accepted mentors into their world, mentors helped identify and solve problems, building greater trust. Thus, teachers became more receptive and mentors became more committed to sharing their knowledge. Each community in this study benefited from being a part of an external network (Smith & Ingersoll, 2004). The intersection of CoPs resulted in the development of dual role positions that facilitated the transformative process in two cases.

The dual role of mentor/researcher might initially raise concerns about the fidelity of our findings; the dual role, however, served an important function in the specific context of the school in which it emerged. These teachers sought ongoing support to implement their action plans that the researchers—experienced teacher educators—could provide because they had strong pedagogical skills and access to provide support. As an experienced researcher, Ann was cognizant of the potential researcher–mentor conflict. In order to function in this dual role, she maintained detailed mentor records, debriefed with AIMS-PE researchers, and set aside specific class periods for observation and data collection. Rather than the dual role being a source of conflict, it served as a vehicle for agency (action) that provided opportunities for growth for both teachers and mentor/researcher (Callero, 1994). According to Sewell (1992), “Occupancy of different social positions (e.g., mentor and researcher) gives people knowledge of different schemas and access to different kinds and amounts of resources and hence different possibilities for

transformative action (p. 21).” Ann’s actions with her teachers were possible in part because she used the schemas and resources associated with both roles in her dual role position, which contributed to her effectiveness as a mentor and researcher.

From a situated perspective, knowledge and skill are acquired when new members “move toward full participation in the sociocultural practices of a community” (Lave & Wenger, 1991, p.29). Therefore, a CoP involves much more than the technical knowledge or skill associated with undertaking some task. Members are involved in a set of relationships over time (Lave & Wenger). The fact that they are organized around some particular area of knowledge and activity gives members a sense of joint enterprise and identity. For a CoP to function, it must experience a shared repertoire of ideas, commitments, and ways of doing and approaching things. Mentorship in this light represents an opportunity for teachers and teacher development personnel to benefit by contributing to shared or public knowledge and to gain from the experience as evidenced during AIMS-PE. A CoP in this project was formed when groups of people together accumulated and shared their collective learning.

A second tenet of Lave and Wenger’s (1991) view of situated learning is “legitimate peripheral participation,” a term intended to convey a sense of authentic or genuine participation. Legitimate peripheral participation provides a framework to explain relationships among community members (new and old) and about activities, identities, artifacts, and communities of knowledge and practice. Participation in this sense is not only meaningful to the individual but also impacts the larger learning community. The teachers, mentors, and researchers who participated in AIMS-PE experienced the development of legitimate peripheral participation. For example, only when the teachers had accepted mentors and researchers into their workplaces were they receptive to making changes to their teaching practices. This shift indicated that mentors and researchers had moved from the periphery or boundary of the teachers’ world to be included and more fully participate in their community of practice.

Conclusions

Accounts of mentoring relationships and of the development of a community described in this study make a useful contribution to the physical education literature in several ways. First, this study examined a unique context in which a research-based teacher development project used mentoring as a support mechanism to facilitate the development of a CoP. There are few accounts of experienced physical education teachers being mentored and even fewer that examine the formation of a CoP among stakeholders in a change project. Grounded in a situated learning perspective, this research addressed new ways of thinking about mentoring teachers and conducting research in a physical education context. As Kirk and Macdonald (1998) suggest, “such theories [situated perspectives] provide the potential for more sophisticated and powerful means of thinking about specific issues now confronting physical educators and other workers in the field of physical activity pedagogy” (p. 385).

Second, this study implicitly raises important issues concerning the emergence and sustainability of positive mentoring relationships that are worthy of future investigation. It might be useful to trace the trajectories of mentoring relationships and of communities that evolved in different contexts and circumstances to identify influences that appear to contribute to or hinder their sustainability. Additionally, future studies could usefully explore how teachers, mentors, and researchers who do not perceive themselves as belonging within a community experience a mentoring relationship; whether there are any patterns of characteristics or circumstances of these individuals or others' responses to them; and whether stakeholders' perceptions of the presence or absence of community in a change project has any bearing on whether they experience a sense of community in other contexts.

Navigating mentoring relationships and the emergence of a sense of a community within this account has reaffirmed the importance of adopting an inquiry stance in our work as teacher educators and researchers. On a practical level, it has enabled us to reflect on the process and to make recommendations for future physical education change projects. By considering issues such as trust, vulnerability, and empowerment, our results suggest a more sophisticated understanding of the many key factors influencing the mentoring process. We contend that successful mentoring relationships occurred in this study that were reciprocal and mutual, and that participants in these relationships supported and learned with and from each other. Participants felt a sense of belonging to the larger group because they were actively involved in mutual processes of negotiating meaning. Among the findings of this study, results indicate the importance of nonjudgmental relationships, the need for flexibility in the formality of the mentoring relationship depending on teachers' needs, and steps that might begin to break down barriers between teachers and mentors.

Such steps include, but are not limited to: (a) taking a nonjudgmental approach to mentoring by acknowledging that mentors are guests in the teachers' workplace; (b) providing frequent opportunities for teachers and mentors to interact in order to begin to facilitate the intersection of their CoPs; and (c) showing a willingness to tackle less substantial issues related to teaching and learning before more significant factors are addressed in order to gain trust and facilitate the mentoring relationship. Results from this study suggest that positive mentoring relationships change and develop over time. Certainly, the modest changes observed in teachers' pedagogical practices and use of assessment in this project could have been enhanced with continued mentor support. Our experience with the AIMS-PE project suggests that mentoring programs be at least 1 year in length (i.e., prolonged engagement) and provide ample opportunities for teachers and mentors to interact and to begin to develop trust. It was not until a supportive and trustful relationship had been built that teachers and mentors could attempt to make changes to address project goals.

On a philosophical level, our experiences with the AIMS-PE Project have highlighted for us the need to be alert to the ways in which we position ourselves among K–12 teachers and to the possibility that our roles and practices as teacher educators and researchers might be interpreted differently than we intend. As Hargreaves and Fullan (2000) point out, "the old model of mentoring, where experts who are certain about their craft can pass on its principles to eager novices, no longer applies" (p. 52). As occurred within the context of this study, issues of power,

trust, and vulnerability first had to be addressed before mentor relationships could be developed and teachers were empowered to make changes to their pedagogical and assessment practices.

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