



Evaluation of the California Subject Matter Project

California Physical Education-Health
Project Case Study

Kristin R. Bosetti, Deepa Patel, and Teresa McCaffrey
SRI International
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Introduction

Imagine a physical education classroom in which students who are learning to catch a ball receive instruction on the mechanics of how to stand and hold their hands in order to catch it and the knowledge of why they should do so. The teacher differentiates between the demonstrated skill (catching) and the biomechanics of why the technique works and what is likely to happen when it is not applied. Students are taught to observe and give their peers feedback on the technique. In this classroom, students learn the skills and knowledge to be physically active for a lifetime.

This case study of the California Physical Education-Health Project (CPE-HP) provides a portrait of what physical education can and should be and describes CPE-HP's role in achieving the vision. Physical education is more than physical activity; it is about students learning how to move. It supports all students in being active and healthy, which contributes to their achievement in school. The case study showcases how CPE-HP is building capacity for standards-based physical education across the state through developing teacher leaders who lead professional development for other teachers. In addition to leading CPE-HP professional development, these teacher leaders act as ambassadors and advocates for standards-based physical education programs in their schools and districts. Whereas CPE-HP supports the development of both health education and physical education, this case study is exclusively on physical education.

The Need for Physical Education

Education, public health, and medical experts agree that physical education is recommended for all ages because of the documented academic and health benefits of physical activity.^{1,2} A recent review of the literature found that “Physical education appears to be effective at increasing children’s physical activity, improving their fitness, and reducing the risk for obesity.”³ The researchers found that physically active children are better able to learn and perform academically, have better behavior in the classroom and improved attendance, and make fewer risky choices. Furthermore, they found that physical education and other forms of structured physical activity, such as sports, can help children learn important 21st century work skills such as teamwork, goal setting, conflict resolution, planning, and perseverance. Habits formed in childhood and adolescence that support a physically active lifestyle are likely to be maintained over a person’s life, providing long-term health benefits.⁴

Yet physical education in California schools is marginalized. California policy-makers send a mixed signal to schools about its relative importance. On one hand, they have established a compelling vision for physical education and protected instructional minutes in the school day

¹ California Department of Education. (2009). *Physical education framework for California public schools: Prekindergarten through grade twelve*. Sacramento, CA: Author. Retrieved from <http://www.cde.ca.gov/ci/cr/cf/documents/peframework2009.pdf>

² Sallis, J. F., McKenzie, T. L., Kolody, B., Lewis, M., Marshall, S., & Rosengard, P. (1999). Effects of health-related physical education on academic achievement: Project SPARK. *Research Quarterly for Exercise and Sport*, 70 (2), 127-134.

³ The California Task Force on Youth and Workplace Wellness. (2010). *Physical Education Research for Kids*. (p. 16) Orangevale, CA: Author. Retrieved http://www.childrennow.org/uploads/documents/bwlw2011_resource1.pdf

⁴ California Department of Education. (2009). *Physical education framework*.

for it.^{5,6} On the other hand, physical education is not included in school accountability systems, there is little monitoring of the physical education programs, and the University of California system does not evaluate grades in physical education when considering eligibility for admittance.⁷ Given this lack of accountability for physical education and intense pressure to increase student achievement in other subjects it is little wonder why some school system administrators sacrifice physical education for tested subjects. Almost half of California's elementary schools and almost a quarter of the secondary schools failed to meet the state mandated minute requirements.⁸ The required minutes are lower than those recommended by national guidelines and lower than the number mandated by a majority of states—approximately 33% lower in elementary and 12.5% lower in secondary school.⁹ California requires that physical education at the secondary level be taught by a credentialed physical education specialist but does not have this same expectation for elementary schools even though there is some research to suggest that credentialed physical education specialists provide more physical education and higher quality physical education than classroom teachers.^{10,11} Because many elementary schools lack the resources to hire a physical education specialist, classroom teachers, who may or may not have professional preparation in physical education, are assigned to teach the subject.

The Vision of What Physical Education Could Be

Despite mixed signals, the California Department of Education (CDE) and CPE-HP have a clear and shared vision of physical education. Their goal is that through a comprehensive, inclusive, and sequenced physical education program, students will develop the skills, knowledge, and confidence necessary for a physically active lifestyle. In the ideal physical education program, students are building their motor skills while developing an understanding of the concepts behind the movement. They are also establishing a positive attitude and the confidence needed to engage in physical activity. Students are learning to lead active, healthy lives that will contribute to their achievement in school and to their overall health and well-being for a lifetime.

According to this vision, the focus of teacher practice is on students learning the content standards (the motor skills and the underlying concepts, principles, and strategies that support movement and physical fitness), not activities or sports. Physical education instruction follows a standards-based model with teachers providing sequenced instruction based on what the learner

⁵ California Department of Education. (2009). *Physical education framework*.

⁶ California Department of Education. (2005). *Physical education model content standards for California public schools: Prekindergarten through grade twelve*. Sacramento, CA: Author. Retrieved from <http://www.cde.ca.gov/be/st/ss/documents/pestandards.pdf>.

⁷ The California Task Force on Youth and Workplace Wellness. (2010). *Physical Education Research for Kids*.

⁸ Coordinated Compliance Review conducted by the CDE in 2004–05 and 2005–06, as reported in *Physical Education Research for Kids*, p. 25.

⁹ The California Task Force on Youth and Workplace Wellness. (2010). *Physical Education Research for Kids*.

¹⁰ McKenzie, T. L., Stone, E. J., Feldman, H. A., Epping, J. N., Yang, M., Strikmiller, P., K., et al. (2001). Effects of the CATCH physical education intervention: teacher type and lesson location. *American Journal of Preventive Medicine*. 21:101-109. As reported in San Diego State University. (2007) *Physical Education Matters. A policy brief from The California Endowment*. Los Angeles, CA. p. 4.

¹¹ McKenzie, T. L., Sallis, J. K., Kolody, B., Faucette, F. N. (1997). Long-term effects of physical education curriculum and staff development program: SPARK. *Research Quarterly for Exercise and Sport*, 68, 280-291. As reported in San Diego State University. (2007) *Physical Education Matters. A policy brief from The California Endowment*. Los Angeles, CA. p. 4

needs. This includes deliberate practice with scaffolding and applications that approximate the goal until the goal is met. Teachers have a vast repertoire of instructional strategies grounded in the academic discipline of kinesiology to provide a variety of age-appropriate instructional experiences. Deliberately designed formative assessments are tied to criteria for success that students as well as the teacher know. The physical educator can use the formative assessment data to differentiate instruction for students who need additional practice or changes in the instructional setting. The success criteria are tied to the content standards and stem from the educator's knowledge of kinesiology, on which the standards are based. By incorporating both the content of physical education and participation in educative physical activities, the CDE acknowledges that physical education is an academic content area that should be on equal footing with other subjects.

Physical education teachers need professional development and support to adopt the instructional strategies and approach envisioned by the CDE. CPE-HP is poised to provide that support.

CPE-HP's Role is Fulfilling the Vision

Formed in 1994, CPE-HP is the newest member of the CSMP community. Since 1999, the first year for which enrollment data are readily available, CPE-HP has served over 900 teachers and is currently reaching about 100 each year in its Institutes. It offers its programs through two regional operating sites and is bringing a third online. Our data collection efforts focused on the work of the Bay Area Physical Education-Health Project (Bay PE-HP). Based at San Jose State University, Bay PE-HP serves 11 counties in Northern California.

CPE-HP is bringing the vision of physical education to life through its professional development programs for teacher leaders and teachers. Teacher leaders are a key part of CPE-HP's capacity building strategy. These specially trained teachers co-design and co-deliver the professional development for other teachers. The professional development is aligned with the Physical Education Model Content Standards for California Public Schools and presents a standards-based approach to instructional design. CPE-HP's objective is to increase teachers' knowledge of kinesiology¹²; deepen their knowledge of the California physical education content standards so they address the essential learning at each grade level; and demonstrate how to apply a standards-based instructional design.

Through its professional development and ongoing networking opportunities, CPE-HP is working at multiple levels of the school system to develop a shared understanding of what standards-based instruction in physical education could be like and what it can accomplish with students. CPE-HP does this work by:

1. Presenting a clear model of teacher practice—standards-based instructional design,
2. Identifying and preparing teacher leaders,
3. Engaging teacher leaders in facilitating professional development for other teachers,

¹² Defined as the art and science of human movement, kinesiology is the academic discipline based on the study of physical activity and human movement. It incorporates the arts and sciences of biomechanics, anatomy, physiology, psychology, motor control, motor development, motor learning, and sociology. In recent years, CPE-HP professional development has focused on various elements of kinesiology such as biomechanics, motor learning, physical fitness concepts, nutrition, and the psychology and sociology of physical activity.

4. Supporting teacher leaders in advocating for physical education in their schools and beyond.

We begin by describing standards-based instructional design, the model of instructional practice promoted by CPE-HP. Next we describe CPE-HP's strategies for identifying and preparing teacher leaders to develop the instructional practices of other teachers. Then we describe the professional development programs facilitated by these teacher leaders and the networks of support CPE-HP provides to physical education teachers seeking to improve their instructional practice. CPE-HP teacher leaders play an active leadership role outside CPE-HP as advocates for standards-based physical education, thereby increasing the professional standing of physical educators. Because this is integral to the mission of CPE-HP, we provide a depiction of their leadership practice in their schools and districts.

Standards-Based Instructional Practice

CPE-HP's goal is to help physical educators develop their instructional practice and deepen their content knowledge. A standards-based physical education lesson has clear goals tied to the content standards for student achievement that are shared with the students in advance, has assessments related to those goals, includes multiple formative assessments, focuses on the learner and his or her learning objectives (not the teacher or the activity), and incorporates strategies to differentiate the lesson.

Planning a standards-based instructional design (SBID) lesson has five steps: identifying the content in the standards, determining the nature of evidence of student learning, designing and selecting assessment tools, designing content-based instruction, and analyzing data and building systems to support student learning. The structure of a lesson plan following this five-step sequence keeps teachers focused on the students and their learning. When following the process, instructors first determine what needs to be learned in the content standard, how they will recognize student learning of the standard, and then how they will assess student learning. Then they develop the instructional strategies needed to elicit the student work to be used to inform instructional decisions. CPE-HP leaders have found that when teachers do not apply a rigorous SBID model, they often jump straight to instructional strategies and activities that may or may not elicit the student work that would provide solid evidence of learning of the standard. Standards-based instruction turns that process on its head by focusing on learning and how the teacher will know whether the students learn.

Deliberate and embedded formative assessments are a hallmark of a well-designed standards-based physical education lesson. In fact, the project's executive director considers formative assessment the discriminating feature of a high-quality teacher using SBID. She explained that, in the classroom of a physical educator using the SBID model, "You will see students engaged in formative assessments multiple times throughout the lesson and the formative assessments are used for students and teachers to judge and gauge whether students are learning or not." Embedded in the lesson, these formative assessments may look like instruction or students practicing a skill. What makes the assessment powerful is that it is designed to elicit evidence of student's learning of the content standard and that the teacher uses the assessment data to revise instruction on the spot.

CPE-HP trained teachers are implementing standards-based physical education in both elementary and secondary schools. Below we present two illustrations of instructional practice that reflect the vision of physical education described by CPE-HP leaders. Both illustrations are from the classrooms of CPE-HP teacher leaders. These teacher leaders are able to model the instructional design and pedagogical practices in their own classrooms that they teach to other teachers in CPE-HP professional development. Exhibit 1 describes a second grade lesson from spring 2012 that demonstrates how content is incorporated in a physical education course. The teacher not only introduces new knowledge (what we can learn from taking our pulse, a resting versus moving pulse), but he draws on students' existing knowledge by pulling in information from a second grade anatomy lesson and a physical education lesson he did with the same students when they were in first grade.

Exhibit 1

Compare and Contrast Changes in Heart Rate Before, During, and After Physical Activity

The 45-minute lesson addressed California State Standards for Grade Two. 4.8: Compare and contrast changes in heart rate before, during, and after physical activity.

Second grade students poured into the classroom on a rainy day. They settled in, storing shoes and jackets in cubbies. The teacher got them warmed up by moving in a line dance, which they were clearly familiar with and enjoyed. The teacher then introduced the lesson by identifying and demonstrating the six exercises they would do that day to help them increase their heart rate. The teacher had the students put their hands on their heart while he passed out a document describing in age-appropriate words and pictures the three steps for calculating heart rate. On the board, he noted the normal range for both resting and moving heart rates.

The teacher emphasized the importance of the day's lesson, saying that one of the most important parts of our bodies is the heart and that we take care of it by using it—exercising it to keep the muscle strong and distribute oxygen to the muscles throughout our bodies. He explained that our pulse tells us how hard our heart is working. When we exercise a muscle, he continued, it gets stronger. The teacher engaged students in a discussion about what the heart does and intentionally tapped into a second grade anatomy unit and information from the students' prior-year physical education course.

In a whole group setting, the teacher guided the students through the three-step process of finding and measuring their heart rate on a 6-second count. Knowing that the students had not yet learned to multiply, he had them count the number of times they felt the blood pulsing under their fingers and then add a zero. He called on students to share their heart rates. Next, the teacher set up the group activity. Working in groups of three, the students did the exercises to raise their heart rates. The teacher walked around the room to check in with each group. He stopped the groups to take their heart rates and called on students to share their counts. Throughout the lesson, the teacher was looking for evidence that the students were able to accurately measure their heart rate, explain the difference between resting and moving heart rates, and explain how measuring their heart rate contributes to their health.

The teacher brought the students together for a whole group debriefing. He reminded the students that getting an accurate measure of their heart rate takes practice. To wrap up the lesson, he asked the students a series of questions to assess their understanding of the process of taking their pulse.

The above exhibit illustrated how content can be incorporated with skill building in an elementary school classroom. Exhibit 2 below describes a ninth grade aquatics lesson from spring 2012. The lesson included each of the hallmarks of a standards-based lesson. There were clear goals for student achievement broken down into knowledge and skills. The success criteria were shared with students before the lesson and tied directly to the goals. Engaging students in a discussion of the success criteria in the classroom got them thinking about the content piece (i.e., how to do the skill well) before practicing the skill in the pool. There were multiple formative assessments of both content and skill; assessments included teacher observation, peer observation, and a self-assessment. The teacher reflected on the session with the whole class and the student leaders to identify changes she would consider making before teaching the lesson again. The lesson was student centered. Students drove their own understanding of the different components of freestyle swimming, making connections between the success criteria and its effect on the swim stroke. Students led discussions while developing their posters and they led the practice drills in the pool. To differentiate the lesson and accommodate English language learners, the teacher used multiple visual representations of the skill, including using white boards during the practice session, and provided multiple opportunities for students to discuss each drill. She also grouped students intentionally based on their skill level.

Exhibit 2

Lesson Plan and Instruction: Exploring the Impact of a Variety of Swim Drills on Skill Acquisition and Refinement of Free Style Swimming Performance

The 90-minute lesson was part of a broader unit that focused on the theme, “coastal citizens move with efficiency in aquatic environments”. The lesson addressed California State Standards for Course 1. Content standard 1.8: Analyze and explain which training and conditioning practices have the greatest impact on skill acquisition (specifically of the free style stroke) in aquatics. At the end of the lesson the teacher said she would be looking for evidence that students were able to explain how a specific drill or conditioning practice would improve their performance.

This lesson began in the classroom before moving to the swimming pool. Students worked in groups to develop poster presentations of one of the critical elements of each motor skill necessary for efficient free style swimming. The posters were to depict a free style swimmer in demonstrating basic, proficient, and advanced performance of the component skill. In presenting their posters, students were prompted to articulate the difference between the performance levels and explain the benefits of the advanced level by linking it to drag and efficiency in the water. For example, one group described three levels of eye posture and explained that in the advanced level the swimmer was looking at the bottom of the pool for a long neck line which created less drag and used less energy.

At the pool, student leaders led students in a short discussion about a teacher-provided question designed to elicit a connection between the practice drill and the skill the students would be building. For example, students were asked to consider “How does holding the board over my head while flutter kicking, help me develop better form?” Next, students did the drill. The student leader gave them feedback on their technique based on the success criteria. Students debriefed after the drill with the student leader based on teacher-provided questions. During this component of the lesson, the teacher circulated to each of the eight stations to give the students and student leaders feedback. The practice drill stations are one of the assessment tools embedded in this lesson.

To wrap up the lesson, the teacher brought all the students together and used a white board to summarize. When the swimmers returned to the locker room to change, she debriefed the lesson with the student leaders who had not entered the pool.

As the above exhibits illustrate, these CPE-HP trained teachers are successfully integrating academic content tied to state standards into their lessons, linking the academic content with motor skill development, making connections between physical activity and long-term health, and using a standards-based instructional design.

Developing CPE-HP Teacher Leaders

Teacher leaders play an important role in the CPE-HP model. Building the leadership capacity of physical education teachers in California is key to CPE-HP's mission because it is through teacher leaders that much of its work is enacted. Thus, the strategic focus of the CPE-HP is developing a cadre of teacher leaders.

Teacher leaders in CPE-HP are responsible for facilitating the adult learning of the content at the Institute. This involves planning all phases of the professional development, including identifying learning goals for participants, developing assessments, and planning instruction. At the Institute they model lessons, facilitate feedback within groups, and lead grade-alike groups. Teacher leaders are expected to contribute their expertise throughout the planning and delivery of the professional development.

Teacher leaders' contributions are valued in all aspects of CPE-HP's work. A site co-director explained that she works to leverage the strengths of all the teacher leaders beyond their work in the Institute; she said she incorporates the teacher leaders in all aspects of the site's work including setting strategic direction for the site, documenting their work, and writing grants. The site co-director summed up the teacher leader role as "pretty integral in how we make our decisions."

Teacher Leader Identification and Support

CPE-HP and site leaders pay close attention to the selection and support of the teacher leaders. The CPE-HP executive director explained that each of the three sites recruits slightly differently. Bay PE-HP teacher leaders actively recruit others to participate in the professional development programs, primarily in the Institute, a core professional development program for physical educators (described below). Teacher leaders observe the participants to identify those who are good instructors and appear to be good candidates for leadership roles. According to the CPE-HP executive director, they are looking for teachers who "care about learning and are serious about their own improvement. They are able to lead conversations with others teachers. ... They get excited and want to be a part of the work and want to grow as professionals." Potential teacher leaders are asked to participate in a trial run, such as joining a planning or debriefing meeting or collaborating with a teacher leader on the development and presentation of a topic at the Institute. Teachers typically participate in Bay PE-HP professional development programs for 2 to 3 years before they are asked to join the invitation-only leadership team.

Training for leadership roles occurs as teachers participate in CPE-HP professional development programs for teachers such as the Institute and the California Physical Education Professional Development Series (described in the section below). Additionally, CPE-HP provides more specialized training to develop teacher leaders described here:

The California Physical Education Professional Development Series (PEPDS) Facilitator Preparation. CPE-HP offers 2.5-day facilitator training sessions on each of the five levels of the PEPDS program as well as a Facilitators Academy. PEPDS is a professional development

program designed to prepare teachers to implement standards-based physical education instruction. Thus, to prepare to facilitate any one level of training requires 2.5 days or 12.5 days to be prepared to facilitate all five levels. Through PEPDS Facilitator Preparation, teachers deepen their own knowledge and skills in implementing standards-based instruction and develop the leadership skills to support other teachers in revising their instructional practice. PEPDS was jointly developed and is jointly offered by CPE-HP and the California Center for Excellence in Physical Education. Although CPE-HP would like to offer the Facilitator Preparation and Facilitators Academy each year, recent budget cuts have curtailed these activities.

CPE-HP Statewide Leadership Academy. Each year since 2006 CPE-HP has hosted an academy for all CPE-HP leaders. The topics of recent academies include asking powerful questions, instructional strategies for working with English language learners, data-based decision making (using evidence and multiple measures of evidence for program design and evaluation), and leadership.

Administrator’s Support Program and Elementary School Classroom Teachers Program. To offer a comprehensive set of professional development experiences in support of building a district-wide physical education program, CPE-HP developed professional development programs for school system administrators and elementary school classroom teachers. Because of budget constraints, these programs are not currently being offered.

CPE-HP requires teacher leaders to complete the PEPDS training to deepen their understanding of SBID, and almost all have completed the PEPDS Facilitator Preparation. In addition to their formal training, teacher leaders receive informal mentoring from their peers and from the site co-directors and the project executive director. The co-directors and executive director model the type of interaction they wish to see replicated across the network, and they model SBID when co-designing professional development.

Teacher Leaders Teaching Teachers: the CPE-HP Model of Developing Teachers’ Instructional Practice

In CPE-HP’s teachers teaching teachers model, teacher leaders participate in CPE-HP’s professional development to become experts in SBID and learn how to facilitate others’ understanding of it. They deliver training on SBID and co-develop professional development programs alongside the site directors and the subject matter expert.

The following are professional development opportunities that CPE-HP teacher leaders provide to improve teachers’ standards-based physical education instructional practice: the Institute, the California Physical Education Professional Development Series, Networks, and the National Board Initiative.

The Institute. The Institute is a deep dive into the academic content of kinesiology, pedagogical practices, and standards-based instruction for physical educators. The eight-session program begins in spring with an introductory session, continues with a 5-day intensive series in summer, and concludes with two follow-up sessions in fall at which participants get feedback on their work. The Institute is an opportunity for teacher leaders to develop their leadership and facilitation skills while teaching other teachers. At the Institute, content experts, site leaders, and teacher leaders work to bring research and practice together to make the academic content as applicable as possible to teachers while maintaining correct use of concepts and academic language. Each year the Institute has a different content topic, based on the site’s understanding

of teacher needs. Teacher needs are determined by active listening throughout the Institute as well as an evaluation of their understanding of the content and their needs and interests.

The California Physical Education Professional Development Series (PEPDS). The five level PEPDS is a sequenced, research-based professional development program designed to prepare teachers to implement standards-based physical education instruction. Facilitated by teacher leaders, PEPDS is offered in five day-long sessions with five 4-hour support and practice sessions at schools, districts, county offices of education, and conferences throughout California. The series includes instruction, guided practice, and feedback on individual work in each of the five areas of standards-based instructional design. CPE-HP does not use state funds to support this program, instead it creates revenue for CPE-HP.

Networks. Professional learning communities are key for advancing and supporting teacher learning and leadership development. Teachers use the ongoing Internet-based discussion groups to share ideas, trouble shoot problems, and critique their practice.

The National Board Initiative. This initiative was designed to increase the number of National Board Certified Teachers (NBCTs) in health and physical education in CPE-HP and California; develop leaders in CPE-HP; and increase participation in CPE-HP activities. Designed by NBCTs, the program includes work weekends that support the development of entries for the National Board Certification process. As of spring 2012, 34% of all physical education NBCTs in California achieved NBCT status through the CPE-HP program.

CPE-HP professional development provides multiple entry points for teachers. The Institute and the Networks are designed for all teachers who teach physical education (including physical education specialists and those responsible for teaching physical education but don't hold the specialist credential). Both novice and veteran teachers participate in the Institute. Many participate multiple times. Of the approximately 900 teachers who have enrolled in a CPE-HP Institute since 1999, almost 60% attended from two to five times. PEPDS is designed for those teachers at any experience level who desire a more in-depth understanding of SBID. The National Board Initiative caters to the more experienced teacher who wishes to join a collaborative for support during the National Board Certification experience.

CPE-HP professional development is unique for physical educators, according to the participating teachers with whom we spoke. They said the distinguishing features, were the focus on the academics behind the subject and on standards-based instructional design. One teacher characterized the difference between CPE-HP professional development and that of other organizations using the following analogy:

Most places you go you end up with a bunch of recipes and that is the recipe you have. [CPE-HP] gives you the understanding of how the herbs and spices and all the ingredients work and everything and you can make so many dishes out of the knowledge that you gain because it is not just this and do this and here is your lesson. They really get you to think about your teaching, develop your teaching so that the kids get way more out of this. Really a child-centered way of thinking about [teaching].

Through CPE-HP professional development, teachers are prepared to teach standards-based physical education. CPE-HP continues to advance teachers' learning and expertise as the teachers engage in the challenging work of implementing standards-based physical education in their classroom. CPE-HP provides ongoing support through the follow-up sessions at the

Institute and by connecting teachers to the Network. Below we describe some common challenges teachers face when trying to implement SBID and how CPE-HP supports teachers through their implementation challenges.

Ongoing Support for Teacher Implementation of Standards-Based Physical Education

Based on our interviews of seven teachers, we learned that teachers attempting to implement what they learn in CPE-HP professional development confronted common challenges and tapped similar supports as they built their standards-based physical education program. The teachers identified several common structural factors that presented obstacles to their full implementation of a standards-based physical education program: limited instructional time with students, large class sizes (one elementary school teacher reported a class size of up to 57), lack of administrator support, and limited facilities (e.g., no access to a pool) or equipment. As practicing teachers, teacher leaders draw on their own instructional practices to help teachers identify strategies to overcome each obstacle they encounter. One teacher leader explained his strategy of working with teachers “I try to motivate, I try to share my experience, and I try to problem solve with people.” He went on to identify common problems teachers face and how he taps into his own experiences to encourage and motivate teachers to overcome the problems they face.

... My response, because I'm very confident, is “I've taught 64 kids, I've taught in four schools in one year, I've traveled around. ... I've done it so you can do it. Here is how I did it...” What do you do if you only have this space? Does the space confine what you have to learn? It was raining today [during our observation]. My content didn't change, the way I delivered it changed. I've had all the equipment and no equipment, it didn't matter. What matters is what you think, how you design your lesson, how creative you are, your passion.

Developing standards-based curricula can be stimulating and creative but also challenging and time consuming. In discussing their strategies for successfully revising their instructional practice, teachers frequently credited their teacher leaders for influencing the way they approached instruction. Almost all participants interviewed were inspired by their teacher leaders who facilitated the CPE-HP professional development. In addition to the CPE-HP teacher leaders, participating teachers frequently cited the importance of the CPE-HP network of colleagues they met at the Institute. They tap in to the network to brainstorm instructional strategies, get informal feedback on their work, and commiserate. Teachers use the network as a source of inspiration to keep their teaching at high levels because as one teacher said, “No one is holding me accountable at my site.”

Some of the teachers tried to turn limited administrator and site-based peer support into an opening to create standards-based instruction in their department or school. These teachers attempted to engage others in the work, inviting them to CPE-HP professional development or sharing their instruction. Other teachers preferred to develop the instruction on their own or in collaboration with their CPE-HP colleagues.

Some teachers did report having administrator and community support for their physical education program. One teacher noted that although the district was focused on the “four core” courses and did not provide support for physical education, the building administrator was supportive, in part because the physical education department received accolades for its work and has backing from the community.

Outcomes of CPE-HP professional development

Through interacting with CPE-HP teacher leaders, as well as participating in the Institute and in some of the more advanced CPE-HP professional development (i.e., PEPDS, National Board Initiative), teachers learn what they need to in order to improve their instruction and develop the confidence to do so. Participating teachers interviewed reported that one of the greatest shifts they have made in their teaching was to concentrate on student learning as opposed to what they are teaching. Teachers noted the benefits to students of this shift. For example, one teacher who taught her students to use prescriptive and descriptive feedback with each other noted a difference in how the students communicated with each other about their learning. She also noted a jump in their understanding of the information and that they had retained it when she tested them on the same material 7 months later on the course final.

Other teachers identified simple instructional techniques they acquired during the professional development such as using whiteboards during instruction. Focusing on the content standards helped teachers establish clearer expectations for their program, which guided their decision-making when they had to choose among the standards because of time constraints or limited facilities.

Participating teachers reported that CPE-HP professional development put them on the vanguard of instructional improvement. For example, they learned instructional strategies years ago in CPE-HP, such as formative assessments and SBID, which their schools are just now adopting.

Physical educators value CPE-HP professional development and many who become involved stay involved. At one site, for example, 215 teachers have attended the Institute over the last 12 years. Of them, 76 have attended from two to five times. Teachers continue to participate year after year to stay connected with like-minded colleagues, strengthen their content knowledge, and have a forum to critique their own teaching.

Not only do teachers stay involved in CPE-HP, they become representatives of the work. In addition to the cadre of official teacher leaders who lead professional development with CPE-HP, sites have a larger network of teachers who are leaders in physical education in other spheres. As a site co-director explained, “We don’t want to build leaders just to be our teacher leaders, but we want leaders to make a difference in our profession as a whole.” These teachers write grant proposals, facilitate meetings in their school or district, and promote physical education at school board meetings. In this way, the teachers are advocating for strong physical education programming in general and for CPE-HP in particular.

We turn now to a description of how the CPE-HP teacher leaders profiled above are adopting leadership roles outside of CPE-HP.

Teacher Leaders as Experts and Advocates for Physical Education

Some teacher leaders become leaders of instructional reform programs within their school and district. Leading by example, these teacher leaders inspire their colleagues to participate in CPE-HP professional development. Thus, they both fulfill CPE-HP’s mission of designing and delivering teacher professional development and engage others in the work.

Both elementary and secondary school teachers are providing leadership for standards-based instruction in their classrooms, departments, schools and districts (Exhibit 3). Here, we describe the leadership stories of two CPE-HP teacher leaders, the teachers whose instructional practice

we described earlier, to illustrate how CPE-HP training prepared them to step into leadership roles. Both teach PEPDS, are NBCTs (having worked with CPE-HP to earn this distinction), and have master's degrees in administration. Through their work planning the Institute with the site leadership team and teaching PEPDS to other teachers, these teachers learned important skills including how to analyze and develop processes, design professional development events, work with different people, work with divergent ideas, facilitate meetings and facilitate adult learning.

CPE-HP teacher leader: A story of school improvement. The sole physical education teacher at his elementary school, this teacher leader develops and delivers the physical education program for all the students. He is out of the classroom 1 day a week for administrative duties, such as supporting meetings with teachers, parents, and students. He also provides teachers with feedback on their behavior management and tutors small groups of students in English language arts and mathematics.

This teacher is applying his facilitation and leadership skills, as well as his knowledge of SBID and how to teach it, to lead a Professional Learning Team at the school. The Professional Learning Team is part of a district-sponsored school improvement initiative to develop curriculum frameworks. As the Professional Learning Team facilitator, he attends meetings led by the New Teacher Center at which he has an opportunity to refine his facilitation skills. He is working with the other teachers at his campus who lack grade-level colleagues (the arts, music, and adaptive physical education teachers) rather than the other physical educators in the district because he thought he could have the greatest influence working with a school-based team. Despite their different content areas, the teachers can work together on curriculum frameworks because, as the teacher leader said, teaching and learning are the same regardless of the content. Also, they teach the same children and are going through the same process of designing the curriculum without an established curriculum for support. This teacher's Professional Learning Team did a curriculum study to articulate the big picture of where they were going with their curriculum and then worked on lessons. The teachers observed each other teaching using an observation tool that the teacher leader designed to keep their attention on instructional alignment and formative assessment. The teacher leader drew on his PEPDS Facilitator Preparation to guide his colleagues through the SBID model.

The principal said the teachers on the PLT, all new to the profession, were growing as a result of his support. The teacher leader was also having a broader effect at the school, according to the principal. Since joining the leadership team, he has a forum to share the value of assessments and strategies for building lessons around them and to describe the shift in focus from teaching to the learner and learning.

This physical educator has earned a strong reputation in his school and has been promoted to academic dean at another school in the district.

CPE-HP teacher leader: A story of district reform. This teacher is applying her leadership skills, her knowledge of SBID (learned through PEPDS and other CPE-HP professional development), together with her knowledge of Understanding by Design (which she learned about through district-sponsored professional development) to further reform initiatives in her district. She has assumed the role of department chair in her physical education department. Her district recently abandoned the traditional department chair role and adopted a leadership model in which the department chair has the traditional administrative components of the department chair with the addition of curriculum instruction work. According to the principal, the

department chair is to lead all the teachers in the department to set goals for all students, identify assessment measures, and provide instructional support but not to get involved in teacher evaluation. As a department chair, she is to work collaboratively with her peers while organizing and directing the instructional program.

As the department chair of the physical education department, she is a participant in the district-wide reform initiative where she has an informal role as a leader of department chairs. The district elected to engage in the reform work, which is similar to SBID, through the network of department chairs representing each school. The department chairs work within their discipline with their peers from other district schools. The CPE-HP teacher leader/department chair attributed her work with CPE-HP to the fact that the physical education team moved quickly through the identification of content and is now poised to pilot the next step of the reform initiative and to share back with the district and the school board. Specifically, she said her framework for understanding the initiative came from her work on PEPDS. This deep understanding of SBID gave her the confidence to ask the assistant superintendent to identify the next steps in the process and then to analyze and make sense of the process he laid out. She applied what she learned in designing the professional development events at the Bay PE-HP Institute when she designed a professional development session about the reform initiative for the physical education teachers in the district. She said she knew how to design the day and that the Bay PE-HP work built her confidence.

This physical educator is receiving accolades in her district from the school board and district administrators for achieving National Board Certification and for her work leading the team of department chairs in physical education from across the district schools. The assistant superintendent leading the district initiative, who attended her professional development for physical education teachers in the district, credited the CPE-HP trained teacher leader for moving the physical education department work forward, ahead of the other departments.

Exhibit 3 below is a snapshot of the teacher leader's work with other leaders in her district.

Exhibit 3

Teacher Leadership in Action for District Reform

On a district leadership day in spring, the department chairs from each high school gathered in their department teams to continue the district curriculum reform work. The CPE-HP-trained teacher leader demonstrated clear thinking about the process and good facilitation skills.

The physical education department chairs debated having program goals. Should they take a program goal and fit in what they already do or take a program goal and revise what they do? The assistant superintendent joined the group and confirmed that program goals should drive instruction, meaning that there should be strong agreement on outcomes across all physical education teachers in the district, slightly looser agreement on assessments, and looser agreement on instruction. A teacher with some exposure to CPE-HP professional development noted that when they revise what they do based on program goals, they will be changing the structure of their sports-based physical education to standards- or program-based physical education. The CPE-HP-trained teacher leader noted that the program goals (or content standards) combine knowledge and skills; she proposed breaking down each program goal to make it unidimensional using a checklist she created for refining the program goals. The department chairs agreed and divided up the program goals among themselves, with the expectation that they would engage the other teachers in their department in breaking down the goals their school had been assigned.

Throughout this discussion, one department chair remained focused on activities and facilities scheduling. The CPE-HP teacher leader asked the teacher questions designed to draw out her thinking and honored her approach to instructional design while providing clear explanations of her own instructional design processes. Another department chair who had participated in an Institute contributed to the discussion by giving examples from her instructional practice. She explained that she used to teach sports but now sees sports and activities as vehicles for teaching the standards. Here, the CPE-HP teacher leader was confronting the difficult work of changing a colleague's mind-set. In debriefing after the meeting, the CPE-HP teacher leader explained that her goal was to model being open to new ideas and being respectful of the fact that others had not had an opportunity to engage deeply in CPE-HP professional development and thus did not have a rigorous understanding of SBID that they could bring to the discussion.

In the above Exhibit, the CPE-HP teacher leader drew on the knowledge and skills developed through her work with CPE-HP to facilitate the learning of the other adults in her district. In doing so, she established the physical education teachers as leaders in the district reform work.

Support for Teacher Leaders in their School System

While both teacher leaders credit their involvement with CPE-HP for helping them build the knowledge, skills, and confidence necessary to take on leadership roles, both have supportive school administrators. These principals recognize the quality of the physical education program the teacher leaders are building; they value the teacher leader's knowledge of SBID as well as their experience teaching other teachers. These school and district administrators encourage the teacher leaders to take leadership roles and they both work in districts that were undergoing curriculum reform efforts that gave them a forum to share their SBID expertise with their colleagues.

Outcomes for Teacher Leaders in their School System

Teacher leaders credit their professional development training and leadership experiences with CPE-HP as preparing them to lead instructional improvement efforts in their department, school, and district. Teacher leaders credit PEPDS and the companion PEPDS Facilitator Preparation as helping them build a deep and thorough understanding of the SBID process and the skills need to teach the process to other teachers. They learned how to design professional development events, lead meetings, and facilitate adult learning through their work planning the Institute. The teacher leaders reported learning about leadership by working alongside and observing the site co-directors and the project executive director.

Conclusion and Implications

Developing teacher leaders is an intentional capacity-building strategy. Teacher leaders co-design and co-deliver the professional development on standards-based physical education for teachers. As exemplars of good instructional practice, their physical education programs offer inspiration for others. As experienced leaders, their knowledge of instructional improvement and facilitation skills are tapped to lead reform efforts in their school systems. By strengthening the skills of and supporting teacher leaders, CPE-HP is working to overcome the marginalization of physical education by creating a critical mass of teachers who are actualizing the vision of standards-based physical education.

The content and rigor of the CPE-HP Institute and PEPDS have contributed to its success. As one participant said, “Bay PE-HP has raised the standards within physical education.” Participating teachers shift their focus to student learning of content standards and report improvements in student learning. Teachers who have been through the Institute return year after year to stay connected with like-minded colleagues, strengthen their content knowledge, and critique their own teaching.

As CPE-HP works to expand its reach and confirm physical education as an academic subject, it faces real constraints. The teachers who are poised to carry the message often work in isolation, their immediate colleagues not necessarily interested in adopting new practices, and they may lack administrator support. Some physical education teachers may have entered the profession to lead physical activities and coach sports, and they may be less interested in implementing standards-based physical education instruction. Or they may not have experienced a high-quality physical education program that would entice them to want to change. Given the lack of push from school administrators or parents, teachers who are not intrinsically motivated to change have little incentive to seek out the professional development and do the extensive work required to change their practice. Thus, the CPE-HP-trained teacher’s ability to influence their peers and create a localized critical mass is limited. Furthermore, CPE-HPs size (only two fully operational sites) constrains the number of teachers it can serve. CPE-HP is bringing a third site online this year but finds doing so stretches its capacity. Moving forward, CPE-HP leaders want to grow the project strategically, balancing a desire to grow where there are a large number of teachers to be served with the need to grow organically, based on genuine interest and capacity from local teachers and university-based researchers who could host a site.