

# **Innovating Professional Development Standards: A Shift to Utilize Communities of Practice**

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## **Abstract**

This paper is a report on the findings of an action research study that explored a non-traditional professional development process involving five elementary teachers and a professional developer working as a collaborative community. The interactions within the group focused on the creation and teaching of a three week thematic unit across grade levels and classrooms. Although technology integration was the proposed new learning, instructional strategies and innovative ways to collaborate were also explored. Qualitative data analysis indicated that when professional developers pay close attention to the social nuances and emotional needs of participants, communities of teachers coming together for a common purpose will create a supportive learning environment that propagates change in their practice, even beyond the professional development experience. Evidence suggests that the identity of these teachers shifted: their ability and desire to take on leadership roles within the organization was enhanced. Evidence suggests that leadership qualities in these teachers were enhanced and that long-term positive benefits beyond this community will influence the system.

## **Professional Development and Communities of Practice**

Within learning organizations, the individual and the organization live interactively with change, which is a continuous component for learning and growth (Fullan, 1994). Yet, not all contexts support these types of learning endeavors. Politics, personal situations and agendas, and differences in values can create a culture where change is “not orderly, unidirectional, or, perhaps, ever final” (Sandholtz, Ringstaff, & Dwyer, 1997, p. 32).

“We cannot reform teaching without reforming schools” (Lieberman & Miller, 1999, p. 1), and reforming teaching requires more than sporadic efforts. It requires steady work of teachers and professional developers who are focused on visions and issues, not the mandates of policymakers. This new way of thinking about professional development requires that teachers “have opportunities to discuss, think about, try out, and hone new practices” (Lieberman, 1995, p. 593) by taking new roles, creating new structures, working on new tasks, and creating a culture of inquiry.

## Understanding Knowledge

Experts have a more complex and organized knowledge structure than novices. As a result, they perceive, organize, and remember more details about a situation than a novice does. This baseline knowledge contributes to the ability to understand, frame, and solve problems and to ultimately adapt knowledge in novel ways to specific situations (Winitzky & Kauchak, 1997).

Knowledge-centered learning stems from studies of cognitive development. Constructivism learning theories recognize that understanding the needs of the learner would be useless without also assuring that knowledge and skills are obtained. Knowledge-centered environments take into account the fact that all learners engage in the learning process with a variety of pre-existing knowledge and experiences that may influence their learning. It is in this environment that learners make their own meaning related to new content. This type of framework implies that the learning that occurs is not “the sole invention of a single practitioner, but the products of a professional community” (Feiman-Nemser & Beasley, 1997, p. 109).

Imparting knowledge makes sense in an unchanging environment, which is why the act of imparting knowledge has been an unquestioned function for centuries. But if there is one truth about modern man, it is that he lives in an environment that is continually changing (C. R. Rogers, 1969). The interaction of learner, context, and process in learning is incomplete without an understanding of the kind of knowing to be achieved during the learning process. “One is never just learning; one is always learning something” (A. Rogers, 2002, p. 105).

## Constructing Knowledge

Teaching is an art that requires specific skills and knowledge. For decades professional developers have been attempting to isolate and define the knowledge and skills that will perfect this craft. It is widely recognized that knowing and doing require very different types of knowledge. More complex knowledge is a product of an activity and the particular situation in which it was produced. Concepts continually evolve with new occasions because each time they are re-visited, they take on a more “densely textured form” (Brown, Collins, & Duguid, 1989). Therefore, complex knowledge is continually reconstructed and becomes more sophisticated with each engagement.

Some knowledge is universal, but the type of knowledge required to be a good teacher is knowledge embedded within particular situations and contexts. Those situations require an increase in perception so that the relevant details can be discriminated. This type of knowledge cannot be shared without a cultural setting where social exchanges can take place. Even then, the somewhat unpredictable nature of social and group settings could potentially create roadblocks to successfully defining and sharing the craft of a successful teacher. One tactic has been to nurture mentoring relationships between veteran and novice teachers.

## Social Influences

“For teachers to learn new ways of teaching, we must construct settings that assist teachers to perform the new skills before they are fully competent. . . . Teachers, like their students, have zones of proximal development; they too require assisted performance” (Tharp, 1988, p. 190). These mentoring relationships can be defined as face-to-face, close-to-the-

classroom work on teaching undertaken by a more experienced and a less experienced teacher working together in order to help the latter develop his or her practice. Sociocultural theories address the social and situated nature of learning through joint activity. Shared participation in authentic activities creates shared understandings about the meaning and purposes of these activities. In this environment, novices as well as mentors are able to perform at a more complex level than could be expected on their own (Brown & Duguid, 2000; Feiman-Nemser & Beasley, 1997; Lave & Wenger, 1991).

The concept of mentoring has taken many forms. In some models, mentors do not intervene unless necessary and are advised to not get directly involved. This model focuses on obtaining independent performance and is grounded in the belief that all teachers must develop their own style. In other models, mentors are encouraged to be available for observations, questioning, and emotional support. This model focuses on the reflective thinking of the novice and is geared toward obtaining skills of reflection that promote independence.

Researchers now recognize that joint participation in mentoring relationships provides learning opportunities for both the mentor and the novice participant. Because learning is situated within the context of everyday activities, the role of novice and mentor can be fluid, based on the expertise participants bring to the particular situation (Lieberman & Miller, 1999).

### The Existence and Purpose of Communities of Practice (CoPs)

In-depth observations of established mentoring systems as they naturally occur in working environments have been the focus of current constructive theorists (Brown & Duguid, 2000; Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002). The term “community of practice” has been coined to include the social nature of learning as it is situated within collaborative working environments. These social systems arise naturally and are informally bound by the work that people engage in together; they are self-organized, and membership is based on participation rather than on official status (Wenger, 2001).

Communities of practice are found within any organization and are important to its functioning. They “embed learning in activity and make deliberate use of social and physical context” (Brown et al., 1989). These social systems become crucial to those organizations that recognize knowledge as a key asset because they assist an organization to:

exchange and interpret information, even across organizational boundaries;  
retain knowledge in ways that formal systems cannot offer; nurture competencies to keep the organization at the cutting edge by valuing collaborative inquiry and thinking to the future; provide an identity for its members based on what matters to them. (Wenger, 2001, Importance of Communities to Organizations section)

### Participation

The CoP view of learning claims that learning, thinking, and knowing arise from the socially and culturally structured world. Knowledge is socially mediated and socially constructed. Authentic, ordinary practices of a community require a great deal of interdependence. This implies that “learning cannot be fully internalized as knowledge structures nor fully externalized as instrumental artifacts or overarching activity structures. Understanding

and experience are highly connected. Participation is always based on situated negotiation and renegotiation of meaning in the world” (Lave & Wenger, 1991, p. 51).

### Reification

As defined by Merriam-Webster’s online dictionary (2004), to reify is “to regard (something abstract) as a material or concrete thing.”

Wenger (1998) noted that a process or product becomes reified when participants give it form and use it in thinking. Products that can be reified include abstractions, tools, symbols, stories, and/or terms that are central to the practice. Processes that can be reified include making, designing, representing, naming, encoding, describing, perceiving, interpreting, using, reusing, decoding, and recasting.

Since reification can only occur at a time of engagement, it is not possible without some level of participation. Reification provides succinctness, portability, and presence for the practice. However, because reification has the tendency to be inert and sometimes simple or shallow, it can hide broader meanings and create an illusion of full understanding for participants. At times, reification could be incomplete or even misleading within a CoP.

### Complementarity of Participation and Reification

Within a CoP, meaning is experienced through various combinations of participation and reification. They require and enable each other. The relationship between the two is a duality (not opposites) as described below:

- When participation is low, reification can compensate; when reification is low, participation can compensate.
- Increasing one tends to increase the other.
- Reliance on one can be at the expense of the other. (Wenger, 1998)

The negotiation of participation and reification within education is a balancing act. “The primary focus must be on the negotiation of meaning rather than on the mechanics of information transmission and acquisition. . . . While the mechanics of learning do need to be in place, they need not take center stage or become the primary focus of educational design” (Wenger, 1998, p. 265). Meaning can only be negotiated through the use of imagination. Educational CoPs should incorporate three primary aspects of imagination:

- Orientation: Getting a panoramic view of the landscape and of our place in it. It is about identity formation as *an expanding image of the world*.
- Reflection: Looking at ourselves and our situations with new eyes by taking a distance and seeing the obvious anew. It is about identity formation as *self-consciousness*.
- Exploration: Experimenting and exploring possibilities, reinventing the self, and in the process reinventing the world. It is about identity formation as *creation*. (Wenger, 1998, p. 272)

A well-functioning CoP is therefore “a privileged locus for the acquisition of knowledge” for newcomers, and is also an “enabling context for knowledge creation” (Wenger, 1998, p. 214). Mutual engagement is not merely based on membership or personal networks, and it is not based on geographical proximity. Mutual engagement only occurs when people are engaged in a practice with one another (Wenger).

### Professional Development in a CoP

According to Wenger (1998), organizations can nurture the development of communities, which tend to nurture transformation. In fact, it has been observed that even though some are best left alone, many will die without nurturing, as long as the support provided does not smother their self-organizing drive. One factor, internal leadership, appears to be dependent upon their success. This type of leadership is more diverse than traditional concepts, and can take on many forms, including:

- The *inspirational* leadership provided by thoughtful leaders and recognized experts
- The *day-to-day* leadership provided by those who organize activities
- The *classificatory* leadership provided by those who collect and organize information in order to document practices
- The *interpersonal* leadership provided by those who weave the community’s social fabric
- The *boundary* leadership provided by those who connect the community to other communities
- The *institutional* leadership provided by those who maintain links with other organizational constituencies, in particular the official hierarchy
- The *cutting-edge* leadership provided by those who shepherd “out-of-the-box” activities. (Wenger, 2001, Developing and Nurturing Communities of Practice section)

According to Wenger et al.’s (2002) model, leadership roles can be formal or informal, but must be considered important to the community. To be effective, therefore, professional developers must work with communities of practice from the *inside* rather than merely attempt to design them or manipulate them from the *outside*.

### **The Study**

Within a practice, differences in philosophical structures and practical applications cause tension. Action research allows CoPs to determine where those differences in values lie, to investigate those differences, and to plan alternative practices (Kemmis & Wilkinson, 1998). Action research could assist a CoP to investigate:

- what they do,
- how they interact with the world and with others,
- what they mean and what they value,
- or the discourses in which they understand and interpret their world. (Kemmis & Wilkinson, p. 25)

The purpose of this study was to gain a stronger understanding related to how the leadership of a CoP might be better leveraged by a professional developer to influence organizational change. Through action research methodology, factors related to the professional developer, the sociocultural environment within the CoP, and the site's infrastructure were explored to determine whether current professional development standards and related literature adequately address issues associated with organizational development and leadership.

The study was guided by the following questions:

- How did the skills and behaviors of a professional developer influence members of a small community of leaders within the organization?
- How did the sociocultural environment influence the ability of the members of a small community to become leaders of the organization?
- How did various elements of the infrastructure (e.g., common vision, time, technology availability, or support staff) support the small community in becoming leaders of the organization?

The practical aspect of action research allowed the professional developer in this study to creatively approach problem posing and problem solving through self-reflective cycles consisting of planning, acting, observing, and reflecting.

### **Professional Development Interactions**

This study took place at a K–8 school site in an urban setting. The researcher had little knowledge of the particular school site. Five teachers were selected by the principal to participate in a CoP for the purposes of learning more about technology integration. This group consisted of one Kindergarten teacher (veteran), two third grade teachers (both novice), the English Language Learners resource teacher (veteran), and the school's librarian (novice). A wide range of technology expertise existed among the group. The principal provided support during the process of planning and teaching in terms of release time for team planning, priority for technology equipment, and financial support for supplies. The role of the professional developer was to facilitate the CoP as they learned new technology skills, developed curriculum with some common components (across two grade levels), supported each other through the teaching and learning process, and created a Knowledge Fair to showcase teacher and student work. In the eyes of the CoP members the primary interactions dealt with learning new ways to work together and integrate technology; however, shifts in leadership directed towards organizational change were the primary focus of data collection.

#### Understanding the Site

During an initial planning meeting with the CoP teachers, a technology inhibitors survey was administered by the professional developer. The intent of the survey was to pinpoint some of the inhibitors to technology integration at the local level. Additional information related to the current status with regard to the level of technology use and integration was determined through conversations with the principal and site staff responsible for technology, a site tour to take note

of technology availability and location, direct interactions with the technology support staff, and reflections written by the CoP teachers, the professional developer, and the principal.

### Facilitating the CoP During Planning

Interactions with the CoP were planned and carried out with the intention of developing curriculum that integrates technology and would lead to an exhibition in the form of a Knowledge Fair. During 2 separate planning days, which were held 2 weeks apart, substitutes were called in to relieve teachers of their responsibilities. Wireless laptop computers were brought into the school's conference room to provide access to e-mail, internet, and productivity tools for each participant, including the professional developer.

The professional developer's role was to facilitate the process, but a democratic process involving active participation of all CoP members and agreement on the final decision was expected. Creativity was of great importance to the outcome.

A great deal of attention was paid to ensuring that each class's curriculum was developmentally appropriate, met the needs of all ranges of learners in the classroom, and was unique in a way that would contribute to the variety of content and technology that would be showcased during the Knowledge Fair. Technology skills required for the teachers and students were determined for each individual class, and methods for learning new skills were brainstormed. Student technology objectives were recorded in a master document to demonstrate the vast coverage of state standards by students. Intentionally, new technology learning was unique for each teacher so that the acquisition of a large range of skills would be the responsibility of the team instead of each individual, and thus a great deal of team knowledge was increased over a short period of time

### Teaching the Curriculum

The curriculum was taught over a 3-week period. Where new skills were not fluent, the teacher and the professional developer determined the best way to learn the new skill. Some skills were self-taught as the teacher explored software on her own; other skills were learned as they were needed when the teacher worked with either the professional developer or another expert on campus. Only a few skills were directly taught, and when this was the case, it involved a one-on-one situation between the teacher and the professional developer or a technology expert from the campus. In most cases the expert personnel consisted of the technology teacher or the certified teacher support person from the campus. During one occasion the assistant principal served as a resource for video editing. District level personnel were not sought out to provide resources or training. As the curriculum was taught, the professional developer was available and on call for extra support. Although independent teaching was encouraged, co-teaching took place with one teacher as the professional developer demonstrated new software skills to students while the classroom teacher learned with her students.

During the teaching of the units the professional developer was not on campus unless requested. When there was a need, she was readily available to help out in any way so as to relieve tensions associated with time constraints, to assist in teaching new curriculum, and to help out if a teacher's lack of technology skills required additional assistance in the classroom. When roadblocks were perceived by teachers, she frequently took on the role of boundary broker

by communicating issues and potential solutions to those beyond the CoP who might potentially provide support, including the principal, teacher support staff, and technology classroom teacher.

When invited to a classroom for assistance, the professional developer dropped in on the other CoP teachers to check on their emotional well-being and to continue to show availability or offer on-the-spot assistance. On average, the professional developer was on campus three times per week for approximately 2 to 3 hours each time.

Once the teaching process was complete, a Knowledge Fair was held in the library for students of all three classrooms to demonstrate their new learning to visiting classrooms. This forum also created an opportunity for CoP teachers to showcase student work to their peers related to technology integration. During the Knowledge Fair, the professional developer created a poster to document teacher-to-teacher experiences. As visiting teachers were leaving they could write down comments related to their perception of the event on this poster. Also in attendance were site administrators, the district superintendent, and the district technology director.

After the Knowledge Fair, CoP teachers were asked to reflect in an open-ended written response to the professional developer about teaching their unit and the culminating Knowledge Fair experience. Six weeks later, the professional developer conducted one-on-one interviews with each of the five CoP members to gain depth of understanding. The professional developer prompted thoughts by requesting specific information related to their personal perspective on the teaching process and the Knowledge Fair, including any anecdotal instances of student successes, teacher successes, new learning related to teaching strategies, new learning related to technology integration, personal insights related to the collaborative interaction model for professional development, and any instances of teachers who approached them about the Knowledge Fair.

### **Data Analysis**

Data were collected throughout the entire 10-week process, from the first professional development day until 1 month after the Knowledge Fair when CoP members and three of the teachers who visited the event were personally interviewed by the researcher. In a collaborative effort with the study's critical friend, the data were organized into central themes associated with each of the research questions. Each data source was tagged as relating to one or more of the first three research questions. In other words, significant events, thoughts, or perspectives thought to have meaning related to the behaviors of the professional developer, the CoP environment, and/or the various elements of infrastructure were isolated. The many data sources that contributed to more than one of the research questions were duplicated and categorized multiple times. Each data source was then individually discussed to obtain consensus of meaning between the researcher and the critical friend. As the data became clearer, categories and subcategories were derived. This process occurred three times; after the technology inhibitors survey was administered; after the 2 planning days; and after the 1-month post-Knowledge Fair interviews took place. Each time new data were added, and each time modifications were made to categories and subcategories as deeper understandings were created.

## **Promising Practices from this Study**

The data indicated that full engagement in the experiences associated with the development of curriculum, the teaching of that curriculum, and the culminating Knowledge Fair event created meaningful interactions among the CoP. Throughout this extensive professional development experience the knowledge, abilities, and personal identity lead to significant shifts in perceptions and abilities of all participants where teaching and leadership were concerned.

Even though the short-term nature of this study did not allow analysis of long-term effects related to sustained changes in practice, evidence suggests that the identity of the teacher CoP became more focused, and that teachers beyond this group viewed its members as leaders in technology integration who they can turn to for mentoring and advice.

Below are some specific practices that emerged from these professional development interactions. Data indicated that the integration of these practices into the professional development experience contributed to the successful outcome.

### Construct Strong and Trusting Relationships

The professional developer must establish a professional relationship between any participant with whom knowledge will be created or shared. This includes administrators, teachers, and support personnel. Establishing relationships must happen quickly and be maintained throughout the process.

### Broker Boundaries

The professional developer must obtain and represent the perspectives of all stakeholders contributing to the professional development experience. This includes the teachers who are directly involved, those teachers on the periphery, the administration, and any other support personnel.

### Share Knowledge

The professional developer must be perceived as an expert who maintains knowledge, has resources at his or her disposal, or has the capacity to problem-solve with all levels of participants. Administrators, teachers, and support personnel must value this expertise and seek to broaden their perspectives by interacting with the professional developer.

### Strengthen the Professional Development Community

Participants in the professional development experience must come together quickly and commit to a common experience. Communities of practice create an atmosphere for active participation and risk-taking. In this arena, reflective practices among groups create a stronger sense of understanding than would normally happen in isolation.

### Maintain Appropriate Levels of Stress

Strong relationships are the foundation for maintaining stress within groups. Professional developers should seek to create motivation, but at the same time be aware of increased stress levels. Techniques that reduce stress by utilizing resources within an individual's professional development community should be considered, as communities who depend on one another create strong cohesiveness.

### Strive for Interdependence

The interactions of the professional developer must promote independence and increase problem-solving skills of those involved in the professional development experience. Those seeking change must be encouraged to seek resources from within their organization and create interdependent links of support rather than grow to depend upon a professional developer.

### Encourage Leadership Among All Participants

All participants, but especially teachers, must recognize not only that they are learning for their own good, but also that they are vital elements in organizational change efforts. Professional developers should encourage those they work with to use their influence upon individuals, organizational procedures, and teacher practices. Informal interactions directed toward promoting change should be valued.

### Prioritize Professional Development

Inhibitors beyond teacher control can cause great frustration and create roadblocks. District and site administration and support personnel should be made aware of professional development agendas, and should prioritize these endeavors above all others whenever possible. Support for change could include providing updated equipment, prioritizing allocation of equipment, providing financial resources, maintaining equipment, and freeing personnel support to assist when they are needed.

## **Comparison of Study Findings to National Professional Development Standards**

The findings from these guiding questions were compared to the current professional development recommendations proposed by the National Staff Development Council's *Standards for Staff Development*. Although the unique model in this study utilized some of the same underlying principals proposed by NSDC, data analysis indicated that a model leveraging CoPs may be even more effective and more influential toward organizational change. The following table expands the professional development standards for a model that embeds CoP dynamics.

Table 1. Expansion of NSDC Standards

NSDC Standards	Expansion of NSDC Standards utilizing CoPs as in this study
Context standards	
Organizes adults into learning communities whose goals are aligned with those of the school and district. (Learning Communities)	Organized adults into learning communities who worked reciprocally with administration to continually shape their personal and group goals, and in turn strive to influence the goals of the system.
Requires skillful school and district leaders who guide continuous instructional improvement. (Leadership)	Recognized unique expertise and perspectives of individuals and CoPs; utilized and encouraged open dialogue among all members of the organization to influence change.
Requires resources to support adult learning and collaboration. (Resources)	Administration was willing to reallocate resources or commit financial support to groups whose unique perspective might be helpful in determining and distributing resources in creative ways; administration was willing to give up control of resources and allow CoPs to determine what would best meet their needs.
Process standards	
Uses disaggregated student data to determine adult learning priorities, monitors progress, and helps sustain continuous improvement. (Data-Driven)	Used primarily qualitative data to determine student needs, teacher needs, and system needs; reflection and self-analysis of teacher and student needs (including emotional needs) were critical influences in determining professional development strategies.
Uses multiple sources of information to guide improvement and demonstrate its impact. (Evaluation)	Used ongoing qualitative data to analyze current situations and determine appropriate changes required of teachers, monitor teacher stress level and emotional status, and understand how CoP members could assist one another through the change process.
Prepares educators to apply research to decision making. (Research-Based)	Created situations where teachers felt comfortable sharing ideas and fully involving themselves in the creative process of curriculum development and instruction based on group accumulation of current knowledge, past teaching

experience, and varied expertise of individual group members.

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Uses learning strategies appropriate to the intended goal. (Design)

All participants in the professional development process, including professional developer, principal, and CoP members, equally contributed to continually re-shaping the process so that the intended goal could be met by everyone.

Applies knowledge about human learning and change. (Learning)

Captured knowledge generated from prior teaching experiences, and instigated the creation of new understandings by providing an environment where CoP members could collaborate and work together in depth.

Provides educators with the knowledge and skills to collaborate. (Collaboration)

Established a group environment where members felt free to become fully committed and involved, and where emotional needs were continually monitored and met; professional developer modeled collaborative behavior.

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#### Content Standards

Prepares educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement. (Equity)

Identified specific needs represented within selected CoP members' classrooms, including emotional needs, cognitive needs, and second language learner needs; teacher philosophy and teaching style was also considered.

Deepens educators' content knowledge, provides them with research-based instructional strategies to assist student in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately. (Quality Teaching)

State, district, and local standards and needs were considered when developing curriculum; individual classroom considerations were addressed during instruction, as individuality was encouraged even within the collaborative CoP setting.

Provides educators with knowledge and skill to involve families and other stakeholders appropriately. (Family Involvement)

Stakeholders were intentionally involved in the process: Families were encouraged to be fully involved during the evening Knowledge Fair, site teachers and their students were in attendance, as well as site and district administrators, and site and district technology staff were involved in all aspects of the process.

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Note. NSDC = National Staff Development Council

The findings created from this study offer promising practices for professional developers and researchers of educational change to consider. Professional development is shifting from a traditional approach to a more community-based paradigm. The insights offered from this study cannot be underestimated where delicate human interactions are concerned.

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