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Developing Communities of Practice in Schools

Given evidence that teacher collaboration on instruction improves the quality and equity of student learning, why have education policy systems invested so little attention and resources in developing school-based teacher learning communities? Although some popular policies are consistent with this goal, they fail to engage the problem of changing school culture. For example, many districts have decentralized professional development resources in response to calls for “job-embedded” teacher learning opportunities; yet most provide little direction or support to school leaders for developing a culture of learning and improvement. Likewise, districts that have restructured their high schools into Small Learning Communities (SLCs) rarely provide guidance or resources to support teacher collaboration on instruction within the new units. Such district policy trends respond to evidence that teacher collaboration promotes student achievement, but they ignore the challenges entailed in developing professional learning communities.

The literature on teacher learning community also is mostly silent on the matter of how schools develop these productive professional norms and practices. Despite rich descriptions of the ways in which a school learning community works to improve instruction and student achievement, evidence is scant concerning the conditions and processes of its development. What strategies and resources are effective for building and sustaining collaborative professional communities in schools?

Research on the contexts of professional learning communities identifies a range of conditions that support and sustain them, such as state and district standards for teaching and learning in subject areas, on-site professional development time, and external professional networks. Yet these conditions are insufficient for the *development* of learning communities because they do not bring about change in the culture of teaching.

In schools that have all of the desirable context conditions, most teachers still practice in isolation from one another. Similarly, changing the structure of schools to promote teacher collaboration does not create learning communities. In a national study of restructured schools, Fred Newmann and associates (1996) concluded that a school's culture determined the effects of structural change on instructional practices, rather than the reverse. In other words, while existing teacher learning communities made good use of structural changes that supported their collaborative work, the restructuring of schools did not change professional cultures.

How do teacher learning communities develop in schools, then? Our research on reform initiatives with a mission to create school learning communities and on literature on community-building in business organizations suggest three broad conclusions about the processes of changing school culture:

- A teacher community of practice develops through *joint work on instruction*, usually starting with a focus on one facet of instruction—subject content, students, or assessment of student learning
- Teacher learning in a community depends upon *how well the joint work is designed and guided*, or the extent to which an effective learning environment is created for the teachers
- Teacher learning community development, spread, and sustenance depends upon proactive administrator support and broad teacher leadership.

This chapter elaborates and offers evidence in support of these broad conclusions. First we describe principles for practice to develop teacher learning communities, and to support learning in communities, that derive from research within and beyond education. Then we describe three cases of teacher learning community development in typical schools that illustrate the principles in action. Finally, we examine the roles that administrators play in supporting and sustaining the growth of teacher learning communities and the challenges entailed in changing school culture.

GETTING STARTED: PRINCIPLES FOR DEVELOPING COMMUNITIES OF PRACTICE

Developing teacher learning communities entails, first, the creation of joint work, or a project that engenders collaboration among a group of

teachers who share a mission to improve instruction for their students (see Wenger, 1998, for analysis of communities of practice in various occupations and kinds of organizations). Such work could be, for example, designing an instructional unit on fractions, or developing a rubric for assessing student compositions, or developing an intervention for students with weak reading comprehension skills. Further, developing teacher learning communities entails the growth of learning practices, or the capacity of the group to create and use knowledge and tools for improving instruction with its students.

In all instances of significant school culture change that we found, leadership from within or outside the school was involved in getting the community development process started. This observation dovetails with the finding from research on community-building in business that a skilled “community coordinator” is key to developing an effective community of practice (Wenger, McDermott, & Snyder, 2003, p. 80). The coordinator convenes a group of individuals around a mission to improve organizational productivity and then focuses the group’s collaborative efforts. A coordinator works to

- Identify important issues to focus the community’s work
- Plan and facilitate community events
- Informally link community members with one another, promoting communication across organizational units and brokering knowledge exchanges
- Manage the boundary between the community and the formal organization, ensuring their authority and access to needed resources
- Foster the development of community members as individual learners
- Help build the practice of group learning—including the knowledge base, lessons learned, best practices, tools and methods, and learning events
- Assess the health of the community and evaluate its contribution to members and the organization.

The first four roles involve *organizing the community’s work* (that is, determining the focus and boundaries for joint work), while the last three pertain to *establishing an effective learning environment* for the community. These general coordinating roles and functions also are entailed in developing teacher learning communities in schools.

Organizing Teachers' Collaborative Work

Getting teachers started on a course of collaborating to improve student learning takes a committed and skilled leader or facilitator. It often involves a precipitating event or evidence that existing instructional routines are not working for students in the school. Because traditions and conditions of teaching push toward autonomy, teachers need a compelling reason to begin collaborating to improve instruction. In the San Lucio math department featured in chapter 2, for example, teachers taught in isolation until they were presented with evidence that their students were dissatisfied and struggling in their math classes. Student complaints about math that surfaced in a school accreditation review in the early 1990s prompted teachers to reconsider their instruction and define a collective agenda to improve instruction.

The math department chair led the change process, facilitating the math faculty's development of goals and collaborative projects to address student needs and improve math instruction in the school. During the beginning phase of their collaborative work, the teachers agreed upon new norms and practices for the department. The chair reserved faculty meeting times for instructional rather than administrative work. As the community leader, she focused the group's discussion on problems for instructional improvement. When teachers disagreed, she facilitated their dialogue and defined dissension and occasional conflicts as normal and healthy aspects of invention and change. In her position of authority, she enforced group decisions about improvement efforts and garnered resources, such as release time and stipends, to enable teachers to observe each other's classes and to participate in off-site professional development in support of the department's learning. After such community practice had become routine, and when the chair retired several years later, the math faculty reflected on the kinds of leadership roles they would need to replicate in order to sustain their learning community and then decided how to distribute the roles among themselves. For example, they decided that a department leader would need to keep them on task in assessing student learning outcomes and designing and evaluating interventions. Teachers felt confident that their shared norms would sustain their work to improve instruction without the strong facilitation that their department chair had provided in the past.

Leaders of teacher community development in schools we studied held a wide range of positions within and outside the school system. They included high school department chairs, teacher leaders released

half-time and full-time, district coordinators and content coaches assigned full-time or part-time to a school, teacher educators from a professional development organization or university, and support providers from an intermediary reform organization. Job titles attached to the role varied as well. Across the initiatives we studied, “professional developer,” “consultant,” and “partner” were titles used by the professional development organizations involved in Students at the Center (SATC), such as the Philadelphia Writing Project and the New York City Math Project; BASRC used the term “reform coordinator” and later “coach” to refer the individuals funded to facilitate inquiry-based school reform. In describing cases from these initiatives, we use their own terms. Otherwise we use the term “community facilitator” to refer to an individual who coordinates teachers’ joint work and guides their learning.

Community-building is not just about creating or defining new work for teachers to do collaboratively. It is also about changing a school’s professional culture. The effectiveness of a community facilitator depends upon the individual’s skills in this role and upon the authority they have or are granted to lead school change. Once legitimized as a leader of change in the school, skilled facilitators can establish new norms of teaching—reflection on teaching with colleagues and co-designing interventions to better meet student needs. Community facilitators create a focus, rationale, and vehicle for teachers to depart from private classroom practice.

Promoting Learning in the Community

Skilled teacher community facilitators guide the group’s learning and improvement practices. They establish conditions of effective learning environments for teachers (Bransford, Brown, & Cocking, 1999), ensuring that they are

- *Knowledge-centered*, focusing learners on problems and practices designed to deepen their conceptual knowledge and skills in a content domain
- *Learner-centered*, attending to individual learners’ interests, cultural backgrounds, prior knowledge, and skills in order to create effective bridges for learning new content
- *Assessment-centered*, creating opportunities for learners to get ongoing feedback on their performance to guide their learning
- *Community-centered*, involving peers in joint work that draws

upon each person's knowledge and skills to build new understandings and practices.

For teachers as learners, the focus and content for learning center on how to create effective learning environments for students—classroom instruction that is centered on discipline knowledge and skills, on individual learners, on assessment, and on peer learning community. Community facilitators thus face the dual challenges of focusing and supporting teacher learning toward these goals for classroom instruction and also of creating these conditions for teacher learning.

As the cases in this chapter illustrate, skilled facilitators create occasions for teachers to work together on one or another facet of classroom instruction—subject discipline, students, or assessments. Any one of these starting places can focus the initial development and learning of teacher communities. A facilitator using subject content as the entry point might work with a group of teachers on teaching and learning fractions or, more broadly, on constructing bridges between the district's elementary and middle-grade mathematics programs. A facilitator using student work as a starting place might work with teachers to analyze a particular student's writing over time or focus on a student who is struggling in a math class. A facilitator using assessment data as the entry point for community-building might work with teachers to analyze the content dimensions underlying a literacy achievement gap between race and language groups. These foci for teacher community work represent potential multiple entry points for changing a school community.

Community facilitators bring particular knowledge, skills, and tools for engendering and supporting teachers' joint work. BASRC reform coordinators, for example, used the initiative's cycle of inquiry tool to help teachers focus on student assessment data (for details see Center for Research on the Context of Teaching, 2002; McLaughlin & Mitra, 2003). Consultants in SATC used particular designs for looking at student work, such as the descriptive review of a child (for information about a range of protocols, see McDonald, Mohr, Dichter, & McDonald, 2003). Facilitators who led with subject disciplines brought particular designs and tools for their work with teachers that were developed in organizations such as national and local writing projects and math projects.

Well-designed group activities and protocols are insufficient, however, to spur change in teaching cultures toward community practice. For example, many BASRC schools used the initiative's protocol for data-based inquiry in superficial ways that preserved teachers' private practice.

Similarly, in a district initiative that required grade-level teacher teams to use a particular lesson study protocol, most teams made only ritual use of the protocol, and few developed as learning communities through the lesson study process. Absent skilled guidance in using a particular protocol, a group's learning is likely to be procedural and shallow—what Chris Argyris (1982) termed “single loop learning”—and cannot move teachers toward collaborative efforts to improve instruction.

Three cases of skilled facilitation of teacher learning in schools describe guiding principles and practices for developing professional learning communities. The cases point to alternative “curricula” as entry points for teacher community-building—assessment data, individual students, and subject discipline. Further, they raise questions about strategies of beginning with a small voluntary group of teachers versus beginning with a whole school faculty.

DEVELOPING COMMUNITIES OF TEACHING PRACTICE: CASE ILLUSTRATIONS

A Bay Area middle school involved in BASRC and a New York City middle school involved in SATC show how school teaching cultures can change. The community facilitators who worked to build teacher learning communities in these schools include: (a) a Bay Area district teacher leader who worked as reform coordinator with a whole middle school faculty on evidence-based practice, (b) a co-director of the Elementary Teachers' Network (ETN), who worked with an interdisciplinary teacher study group as a consultant to the New York City middle school, and (c) a consultant from the New York City Math Project (NYCMP) who worked with this school's math teachers. In each case, the facilitator aimed both to deepen teachers' knowledge and skills in a particular domain of instruction—assessment, students, and subject discipline, respectively—and to develop norms and practices of teacher collaboration to improve teaching and learning.

Table 3.1 summarizes designs for community-building represented by these cases. The boundaries for teacher community and the nature of the facilitator experience and skills differed across the cases, as did the curriculum and materials that focused the teachers' work. The schools' different entry strategies for building teacher learning communities—particularly whether teacher participation was voluntary or involved the whole faculty—posed different challenges for change and presented dif-

Table 3.1. Designs for Developing Teacher Learning Community in Schools: Case Illustrations

Focus of Teacher Community Work	Assessment (Data-based inquiry)	Students (Learner-focused inquiry)	Subject Content (Math teaching and learning)
<i>Community Boundary</i>	Whole school	Interdisciplinary study group	Math teachers
<i>Agent(s) for Community Development</i>	School reform coordinator Literacy professional developer	Professional developer as consultant	Math educator as consultant
<i>Tools and Knowledge Resources</i>	Cycle of inquiry tool State/district/school assessment data Literacy professional development, off-site Literacy support provider BASRC coach network	Process for looking at student work Shared readings Classroom artifacts, observations, narratives about practice Elementary Teacher Network; SATC partners	CMP curriculum Math education class (taught by consultant) New York City Math Project; SATC partners Math professional networks and standards

ferent demands for school leadership

The cases reveal each entry strategy’s particular benefits and challenges for changing a school’s professional culture. They especially show how facilitators nurture the development of teacher learning communities and support their learning and instructional improvement.

Assessment Data as Entry

As schools are increasingly held accountable for improving student achievement and closing achievement gaps, teachers are pressed to use data on student learning to evaluate and improve their instruction. Yet teachers generally have little preparation or experience in analyzing student assessment data for the purposes of making instructional deci-

sions. Many districts have responded by developing data systems that enable teachers to analyze trends in their students' performances on a range of assessments, and some provide technical training on data use for coaches, teacher leaders, or administrators. Professional norms that oppose accountability linked to standardized test data, however, can thwart teachers' use of data (for example, see Ingram, Louis, & Schroeder, 2004). Even under the ideal conditions where teachers have good access to student assessment data and are committed to using them, they still must develop skills in analyzing and interpreting the data in order to design programmatic and instructional responses. Teachers rarely have access to professional development adequate for developing these technical, interpretive, and design skills.

Since 1996, BASRC has tried to foster schoolwide learning communities and improve teaching and learning through teachers' use of student assessment data and systematic inquiry into sources of achievement gaps. The initiative's theory of action assumes that faculty discussion of disaggregated student achievement data will foster collective responsibility for closing gaps between student groups and will be a vehicle for evaluating and improving instruction and school policies. BASRC schools' varied success in implementing this reform strategy reveals what it takes to build school learning communities through evidence-based practices. Schools that made significant progress did so with expert guidance from one or more reform coordinators. In turn, as noted earlier, they achieved significantly greater student learning gains than schools where this strategy was not well implemented (Center for Research on the Context of Teaching, 2002).

The BASRC reform coordinator works with teachers to develop a culture and practice of using evidence to make decisions about instruction and school policy. The person in this role guides the faculty in using data on student outcomes to assess gaps in performance between student groups that differ in race, national origin, and English language status and to link those gaps to instructional practices. BASRC assumes that the school inquiry model will develop teacher learning communities that continually improve their instruction and student success. Although BASRC's model takes the school as the unit of change, its design calls for teachers to use inquiry practices in grade-level groups or subject departments and in the classroom to evaluate their instructional practice. Ideally, reform coordination occurs at multiple levels of the school, building communities of practice around key locations for teaching and learning.

BASRC's tools include a cycle of inquiry (COI) and an accountability system with rubrics to assess school progress on culture change. The COI evolved into a six-step process for school-based inquiry: 1) use student assessment data to identify problems and provide an academic focus; 2) collect and analyze more data to refine the focus; 3) define measurable goals for teacher practice and student achievement; 4) build a work plan to implement changes at the school and at the grade or department level; 5) manage communication, shared leadership, assessment, and governance systems to support action; and 6) reflect on results and analyze them to determine what worked and to formulate next steps. The cycle continues as results define new problems for inquiry and change. The reform coordinator guides the faculty through this inquiry process and also brings knowledge and expertise into the school to support instructional changes to meet identified student needs.

One reform coordinator's work in a middle school new to BASRC illustrates how this role supports a school's use of inquiry to improve teaching and learning. By 2001, when this case study began, the coordinator had had 5 years of experience supporting the development of inquiry-based reform in a district elementary school that joined BASRC in 1996 (Paulsen Elementary, featured in chapter 2). She had considerable knowledge of the reform process, expertise in data analysis, and ideas about how to improve her facilitating role in schools new to BASRC.

The coordinator used a multistage strategy to engage the faculty in collaborative work and to support teachers' learning (see Coggins, 2005, for further detail). During the first stage, she worked with the principal to present data showing achievement gaps in literacy. She lobbied to get a majority vote to try out a literacy block (devoting extended instructional time to reading and writing) for low-performing students the following year. According to her plan, the teachers would use student performance data to assess the effectiveness of the intervention and refine it, thus establishing the school's first cycle of inquiry. Although a group of teachers actively opposed the intervention and others were skeptical, they were concerned about the achievement gaps revealed by the school data and agreed to give it a try.

The second stage began at the start of the next year. Assessment data showed significant improvement for the students involved in the intervention, but not enough to bring them up to grade level in another year or two. At this point, the reform coordinator helped define the need to develop the faculty's expertise in literacy. She enrolled a group of teachers in intensive off-site training through a secondary literacy support

network, and these teachers formed a literacy task force that met weekly during the year. They became an effective leadership team, with the coordinator, for the next stage of school community-building. The team conducted a survey to assess teachers' perceptions and concerns about change and also reviewed their school's test data in relation to academic research on literacy. They planned to develop a comprehensive and radical proposal for change.

A third stage of school community-building began in the spring, when the team presented results of their research and analysis to the faculty. Team members walked the staff through the cycle of inquiry that linked patterns in students' performance to research on literacy teaching. They acknowledged and discussed staff concerns about change, and then presented a radical restructuring proposal for the next round of instructional change that addressed problems revealed by the assessment data. Because the coaches and teacher leaders presented a powerful, evidence-based case to their colleagues on the importance of radical change in addressing their students' literacy deficiencies, the faculty responded enthusiastically. Teachers agreed, "We can't stop doing this!" They voted to restructure the school day to support the intensive literacy instruction with underperforming students. Teachers who were previously reluctant to acknowledge that student achievement gaps could be closed were converted by the evidence at hand. They had become convinced of the need for change, and they saw the value of data-based inquiry as the process for school improvement.

The middle-school reform coordinator was a key agent in developing teacher leadership for schoolwide community practice. As a district employee and reputable educator in the region, she had the authority and respect needed to convene teachers who were committed to moving forward on an agenda for inquiry-based reform and to broker their access to professional knowledge and networks outside the school. By distributing leadership for inquiry-based reform throughout the school, she built broader school commitment and involvement. She helped institutionalize the reform practices. Further, she mediated relationships between the school, the district central office, and other schools involved in BASRC, serving as coordinator of the system's reform work.

Particularly when teacher community practice focuses on assessment data, schools depend upon the central office to support them with high-quality data systems and technical assistance in analyzing and interpreting disaggregated student data. This reform coordinator helped to build this district's capacity to provide these supports. She spanned boundar-

ies between the school and the district central office, and between the school and professional networks outside the district, to broker resources for the development and learning of the school community.

Students as Entry

Intensive focus on individual students' work offers another strategy for developing teacher learning communities. By analyzing student work with colleagues, teachers deepen their understanding of individual learners in their classroom and how to better support their growth. They also learn to assess their teaching in terms of students' learning in a discipline and to provide effective feedback to their students.

Looking at an individual student's work in a teacher group can be a particularly powerful vehicle for developing a teacher learning community. Because the focus is on a particular student's learning, rather than directly on teaching, it provides a safe entry to collaborative practice. Also, it builds upon teachers' shared professional commitments to serving their students and connects with their interest in particular students in their classroom. Various protocols to support this process have developed over recent decades (see MacDonald et al., 2003). The protocol focuses teachers' inquiry and discourse on students and thus develops their clinical diagnostic skills, just as physicians' joint consultation around an individual patient case helps them to make professional judgments about care and develop shared standards of practice. As teachers discuss their students' work, they may invent new ways to assess student learning, as well as ways to improve instruction for individual students. Further, examining student work may open the door to new collegial discussions about norms and ethics of teaching. In particular, it brings into focus the whole child and the learning needs of students who struggle most in traditional school settings. This work can develop a stronger service ethic in the school community and strengthen teachers' commitments to serving all students.

One community facilitator working with the New York City school involved in the SATC initiative established a cross-discipline study group to look at student work, aiming to develop teachers' clinical expertise in supporting the whole child and to build a teacher community across the school. The ETN co-director who led this work told us that she "created a space with the help of the teachers where people can talk about their work. And therefore other people can be influenced by their work." Involvement in the group was voluntary, so teachers who opted

in were ready to engage in dialogue with colleagues and a new kind of collaborative practices.

The study group used a number of Pat Carini's descriptive processes to look closely at student work and promote reflection among teachers about processes and supports of individual student learning (see Carini, 1993, for information about these processes). Over 4 years, the study group took on a variety of projects, including analysis of homework assignments and of the ways in which gender shaped students' work and social interactions. One aspect of the group's work involved each teacher bringing one student's work to the group for review. In each session, one student was the focus of review, and teachers typically brought several examples of that student's work. The review process consisted of several rounds of description and questions about the work, with the facilitator guiding the process so that each round built upon knowledge developed in the previous round. These reviews were designed not to be evaluative, but rather to focus on the child through his or her work. The process developed teachers' ability to see and appreciate each of their students and to customize instruction to build on individual knowledge, interests, culture, and personality.

Teachers' work together across disciplines broadened and deepened school norms of reflection. It enhanced the learning of teachers who worked in math teams with the school's NYCMP consultant, helping them to "look at chunks of our teaching, at our practice, to bring in an activity that we will share and talk about," in one teacher's words. Further, the study groups developed teacher leadership and capacity to sustain aspects of the student review process on their own with groups of colleagues.

Subject Discipline as Entry

Beginning the community development process through a subject discipline engages teachers in learning content more deeply, as well as understanding how to better support student learning in the subject. Through participation in a teacher community focused on subject instruction, teachers' professional identities shift toward that of an educator in the subject (see Stein, Silver, & Smith, 1998, for discussion of professional identity changes that evolve through math teachers' work as a community). Over time, teachers come to see themselves as members of subject professional communities within and beyond their schools.

The NYCMP consultant worked with math teachers at both grade

levels and across the grades in the New York City middle school. With grade-level teams she worked on particular content and instructional challenges presented by their Connected Math Program (CMP) curriculum; with the school community of math teachers she worked on cross-cutting instructional issues, such as how to use student journals to assess their learning in mathematics. Beyond her work with teacher communities in the school, this consultant provided classroom coaching to teachers at their request and also taught a course at Lehman College that involved some of the teachers.

To begin the development of math teacher communities in the school, the consultant asked teachers to use CMP curriculum units in the same order so that they would share a math curriculum context for their study group discussions. Up until this point, the teachers differed in their ordering and coverage of particular CMP units. With a common focus on particular CMP units, teachers could share information about what instructional practices had gone well and what difficulties they encountered while teaching the lesson. Through dialogue about the lesson, they developed knowledge of how to better support students' learning of key concepts. As one math teacher put it:

[The community] has been a source of support, to know that there are other people doing this. And to know, for example, that [another teacher] is moving into "Accentuate the Negative." So as she goes through this particular unit with her students, I can have conversations with her about what did and did not work with her class, and what I did in my lessons, so that she can give me advice for the future.

The consultant's role in building a math learning community in the school went beyond establishing a structure and curriculum for teachers' collaborative work. She supported their learning by framing questions for discussion among grade-level teams and among the entire math faculty. She accessed individual teachers' knowledge and provided personalized support, giving feedback and modeling reflective professional practice. In these ways, she established a learning environment for the teachers that was centered on mathematics instruction, teacher learners, assessment of teacher learning, and professional community. Math communities of practice developed as teachers discussed and designed lessons, and later assessed how these lessons affected student learning. As one teacher put it: "I would say that [the math teach-

ers] have a reflective practice in that they not only reflect on students' strengths and challenges, but they also reflect on how to capitalize on those students' strengths."

Classroom coaching became an integral part of the NYCMP consultant's work to build a teacher community and to support change in math instruction in this school. By moving her work with teachers into the classroom, the consultant bridged boundaries between individual practice and group learning. She supported teachers in their efforts to translate new ideas and plans for math instruction into practice and helped them to open their classrooms and teaching to observation and critique by a colleague.

This consultant's work with a sixth-grade math teacher revealed the conditions and processes of skilled classroom coaching that support teacher community development and improved instruction. This coaching relationship began when the teacher invited her into her classroom, at a time when trust had developed through their work together in a school math team and the off-site course. As in her work with the teacher community, this consultant established the key principles of an effective learning environment in her classroom coaching relationship with a teacher—one that is a content-centered, learner-centered, assessment-centered, and community-centered environment for teacher learning.

The content of the coaching relationship centered on the dynamics of math teaching and learning with particular students—how did students respond to a lesson designed by the teacher or her math team? One important way in which this consultant worked to advance a teacher's understandings of effective math instruction was to co-teach a lesson. This was powerful because the teacher could see her own students respond to highly skilled math instruction. Further, the consultant modeled how a principle for math instruction that they were discussing in the school math team meetings or off-site class translates into classroom practices. For example, a teacher commented on how watching the consultant teach showed her the power of asking questions to prompt students' mathematical understandings:

I think one main impact of [the consultant's] presence in our math class is her style of questioning. Her questioning motivates the students to think about what they are doing—the process. For example, when [a student] gives an answer, [the consultant] will ask him how . . . he got his answer. The open-ended questions she asked aid

all of my students to become more aware of their thinking in math.

Not only did this teacher develop a concrete vision of what her classroom could look like, her students became accustomed to a different kind of teaching and learning and could support their teacher's change.

The consultant also used intensive focus on one student learner in the class as a springboard to help teachers rethink their instruction. During the 2nd year of her work with the sixth-grade teacher, the consultant spent much of her time following one student, Miguel. He had found some success in the math class, but struggled in other subjects. To figure out why Miguel's experiences varied so greatly across his classes, the consultant observed him throughout the day, talked with each of his teachers, looked at his test scores and samples of his work, and worked with him on math problems. She shared her observation that Miguel became quickly bored with basic, repetitive tasks but thrived when engaged in higher-order problem-solving and discussing strategies in all subjects. When the teacher customized her math instruction for the student accordingly, his achievement soared. This experience enhanced her inclination and ability to work with all students as individual learners. She commented on her shift toward more learner-centered practice:

From [the consultant] I've learned to listen to students' ideas. I've learned to understand that . . . students make connections and construct their learning at different rates. And if today we were talking about algebraic expressions [a student may] come up to me two weeks from now and say, "Ms. Eaton! Now I know what you were doing with algebraic expressions."

This consultant's coaching was learner-centered, in that her knowledge of the teacher as learner guided her decisions about how to facilitate change in her math instruction. For example, seeing this math teacher as having an "inquiry-based classroom," the consultant pushed her to deepen her questioning. (In contrast, her coaching with another teacher in the school focused on establishing classroom norms where students would talk as a whole class). The consultant described her effort to help the teacher learn to make connections between a student's knowledge and skills and questions that would advance his or her learning:

We've looked at the way [one student] works in groups, the way he works alone, and the way he works as part of a whole class setting.

And we've looked at his work in all those areas, and then she and I worked together on her questioning [with this student] and how she follows it through. . . . We've focused a lot on the questioning and the sharing because that's where the learning [for her] really takes place.

In her community facilitation and coaching in the New York City middle school, this consultant established an assessment-centered learning environment for teachers. She provided feedback in the course of her work with the math teams and helped them to develop their capacity for reflection in instruction. She introduced practices and tools to scaffold teachers' learning of skills and habits of reflection and ongoing self-assessment in instruction. The teachers' capacity for reflective math teaching developed through weekly meetings with this consultant and keeping a journal on their math teaching.

Weekly meetings with individual teachers focused on a particular lesson and involved working through math problems the teacher proposed for the coming week, with the consultant raising questions and offering knowledge about how students might respond to the problems. This process scaffolded the teacher's planning and reflection on student learning. The sixth-grade math teacher commented, "I can anticipate questions, I can anticipate areas that might be difficult, I can anticipate extensions . . . how to take those students who grasp it and get done real quickly [and] pose additional problems so they can take it a step further." In keeping a journal, the teacher recorded her thoughts about lessons and her insights about individual students; she looked back on her journal entries to help her think through ways to strengthen her lessons and to better support her students' learning. Eventually these reflective practices became part of this teacher's daily work to support her learning when the consultant was gone.

Finally, the consultant created a community-centered learning environment in her coaching of this teacher and her colleagues. She worked with the teacher to determine the shape and focus of their work together in the classroom. The roles she assumed of observing, modeling, co-planning, and in-depth work with individual students laid the groundwork for the teacher's learning to change her instruction.

The sixth-grade teacher described how she learned to improve her teaching through collaboration with the math education consultant:

She was patient with my skepticism, and through her mentoring she created situations for me to experience trusting my students.

Her careful guidance on setting up my classroom, use of manipulatives, questioning techniques, and the use of journals set the stage for students to begin constructing their own learning.

Benefits for her sixth-grade students are apparent in this boy's response to our question: "What stands out for you about your math class?" He beamed and told us, with wide eyes:

Well, I really like it because we start out with a topic. Then we come up with a whole different math lesson, just like the one little problem that we were doing. It keeps getting bigger and bigger, and the kids they start talking about the different things that they saw, different patterns, different strategies, everything like that. And then you know that everybody's learning. It's not just all boring lesson, just open a textbook and start writing. It's like you work things out and you make grids and graphs and stuff to understand it better. And then you show it. And sometimes we put it on the overhead projector so people could see. You see [that] everybody's learning because kids talk about what they learn.

Through this teacher's efforts to improve her math teaching, and the skilled support the NYCMP consultant provided, a whole new world of mathematics opened up for this student and his classmates.

Facilitators played a key role in starting the development of teacher learning communities in these Bay Area and New York City schools. They brought knowledge and tools to focus teachers' joint work—around assessment data, students, and subject instruction. They established environments for teacher learning communities that were grounded in principles of learning. The professional norms of reflection and collaboration that they fostered over 3 to 4 years represent significant change in the teaching culture and should sustain improvement efforts into the future. The service ethic that developed through intense focus on individual students should sustain teachers' raised expectations for all students' achievement in the schools. Despite such positive outcomes, these cases of teacher community-building also reveal challenges for changing the professional cultures of schools.

Our up-close look at the facilitator's role in developing teacher learning communities has ignored school context conditions that supported or inhibited change, particularly school leadership. School administrators' active support of teacher community development and of

the facilitator's role in the change process was particularly important. Schools where work on community-building did not get off the ground were those with weak or obstructive principals. Schools where tensions developed between teacher learning communities and other teachers in a school were stymied in their reform efforts when school administrators did not act to mediate the conflict. This was the case in the NYC middle school, where teacher involvement in collaborative work had been voluntary. Outsiders can only go so far to bridge competing school cultures and develop an inclusive school learning community.

SCHOOL LEADERSHIP FOR DEVELOPING TEACHER LEARNING COMMUNITIES

Because of their positional authority and control over school resources, principals are in a strategic position to promote or inhibit the development of a teacher learning community in their school. Administrators who use their authority to build a teacher community convey new expectations for teachers' work in the school, and they ensure that teachers have the time, space, and knowledge resources needed for collaborative work. They build trust and open communication among all teachers in the school. Conversely, administrators can limit change by not being proactive in these ways, or even undermine change by enforcing norms and routines of teachers' private practice.

In their effort to build teacher communities of practice across a school, principals and other school leaders face the challenges of

- Leveraging teacher commitment and support for collaboration
- Brokering or developing learning resources for teacher communities
- Supporting transitions between stages of community development.

Community facilitators from inside or outside the school system are key resources for addressing these challenges, but school administrators set the stage and conditions for starting and sustaining the community development process.

Leveraging Teacher Commitment and Support for Collaboration

School leaders play an important role in focusing the school on a pressing educational problem that sets the agenda for teacher collaboration

and shared accountability for improvement. One way in which they can do this is by using student assessment data to highlight gaps in achievement for particular student groups and/or to identify a subject area or grade level in which students are generally performing poorly. For example, San Lucio's math department was propelled into its collaborative improvement effort by school data showing weak student engagement and performance in this subject. In BASRC schools, principals must become involved in the process of identifying foci for school improvement revealed through analysis of student achievement data.

Principals and other school leaders keep an eye out for opportunities to further encourage and support teacher learning to improve instruction. Most important, they locate a facilitator skilled in building communities of practice around an instructional focus that matches the school's identified needs. In the case of some SATC schools, the principals had previously contracted with the professional development organizations to work with teachers in the school, so the benefits of these principals' reform leadership were multiplied through the grant. Similarly, BASRC schools rely upon principals to take a leadership role in identifying gaps and problems for change revealed by student assessment data. The important role of school administrators in launching the school change process can be overlooked when the facilitator is the primary agent working with teacher communities. Both are essential to initiating and sustaining the change process.

Brokering Knowledge Resources for Teacher Communities

School administrators ideally work with facilitators and teachers to identify learning resources for teacher community improvement efforts. As teacher communities develop knowledge for improving their practice, they identify new directions for their learning and change. This kind of administrative support is therefore dynamic and evolving. For example, as the Bay Area middle school teachers developed expertise in evaluating their teaching through student assessment data, they focused their learning needs on literacy instruction. They brought literacy experts into the school, with the principal's encouragement and authorization. Principals support the development of teacher learning communities by tuning into and supporting successive learning frontiers of the teacher communities in the school.

Ideally, school administrators are proactive in getting the knowledge resources teacher communities need to improve their practice continually. Principals might broker relationships with local professional develop-

ment organizations, intermediary reform organizations (e.g., BASRC), universities, or teacher networks that have solid reputations for high-quality support for teacher learning. Because they control professional development resources and other discretionary funds and have authority to negotiate the school's relationships with outside agents, principals effectively mediate teachers' access to such learning resources outside the school. In schools where the principal is not attuned to teachers' improvement efforts or is uninformed about local knowledge resources, teacher communities have weak learning opportunities. Conversely, a principal engaged in teacher community work and well connected to district specialists and to organizations with a strong track record in teacher professional development plays a key role in brokering resources that teachers need to sustain instructional improvement in the school.

Supporting Normative Transitions of Teacher Community

In addition to leveraging the start of teacher work to improve instruction and brokering knowledge resources for teacher community learning, school leaders play a central role in establishing school norms for community development. Analysts of school reform routinely observe that principal leadership is essential to serious changes in the culture and structure of schools. One reason is that teachers avoid taking the risks of exposing or changing their practice when they fear negative evaluations. The principal then must shift expectations for professional responsibility and instructional quality from the individual teacher to the school in order to define the teacher group as the accountable unit. The principal's role in supporting normative change for a teacher learning community goes well beyond no-harm assurances, however. Given the developmental nature of building teacher communities, principals have *particular roles to play during the novice, intermediate, and advanced stage of community development*. Although we have focused on the beginning stage of community-building thus far in this chapter, analysis of the principal's role in developing a teacher learning community necessarily considers the problem of transitions between community stages.

Reflecting on their own experiences as principals developing school learning communities, Nancy Mohr and Alan Dichter (2001) offer a useful analysis of the particular roles that a school administrator plays to support the faculty's transition between stages. During what we refer to as the novice stage of community development, change focuses on building social trust and norms for group decision-making. To support

normative change, the administrator takes a strong role in designing community work (or authorizing and supporting a facilitator to do so). Then, as conflicts inevitably arise within the group, the principal surfaces differences in beliefs that underlie conflict and establishes norms for problem-solving around controversies.

Mohr and Dichter argue that teachers' trust of school authority figures is key to moving beyond this initial stage of community-building, since the faculty inevitably confronts the limits of democratic decision-making. The principal must be clear about what decisions remain in the administrative purview, while emphasizing a high priority for teacher learning in communities and collective responsibility among teachers across the school. By modeling and teaching inclusiveness and the role of mutual consultation in community practice, school administrators can avoid the oft-observed development of a schism between innovative and traditional teaching cultures in the school.

At the intermediate stage of learning community development, challenges center on sustaining collaborative work when the payoffs are uncertain and the faculty fears that its work is unproductive. During this stage, a principal moves the community forward by (a) promoting risk-taking by acknowledging that failure is a natural part of change, (b) ensuring that the community has the expertise and support to critically analyze its practice, and (c) supporting its move to public accountability and comfort through reflection on its practices.

Once an advanced or mature school learning community has developed, the principal's role shifts to sustaining the community and its work. While celebrating the habits and norms developed for assessing and improving teaching and learning, the administrator keeps the faculty from becoming complacent over its successes and continues to focus on the shortfall between expectations for students' learning and actual accomplishment as assessed by a variety of measures. Also, the principal and other school leaders work to institutionalize the routines, tools, and resources that support community collaboration and learning.

Significantly, many schools involved in initiatives that aim to develop teacher learning communities do not move from the novice to the intermediate stage, and most do not transition to an advanced stage after several years. They become stuck in a stage of collaborative work that falls short of teacher learning community practice. This reality highlights the need for clearer understanding of the problem of change. The stagnated development of teacher community stems from weak leadership for change among school administrators, reflecting their limited

opportunities to learn how to be effective in these roles. It also testifies to the complex challenges entailed in developing teacher learning communities widely in U.S. schools.

TENSIONS AND CHALLENGES IN CHANGING SCHOOL CULTURE

School leaders confront tensions and trade-offs in designing strategies to develop teacher learning communities. For one, in drawing boundaries for school community development, leaders weigh *competing values of voluntarism and inclusiveness*. The cases in this chapter point to trade-offs between inviting teacher participation in voluntary collaborative work versus requiring teachers to participate in collaborative work at the school or grade/department level.

Voluntarism has clear benefits and risks. On one hand, teachers' collaborative work can deepen more quickly in voluntary groups, and learning can be enhanced through additional voluntary off-site professional development. On the other hand, professional disagreements and gaps in learning opportunities between the voluntary teacher community and the rest of the faculty are likely to grow, as they did in the New York City school discussed earlier in this chapter (see also Gamoran et al., 2003).

Entry with the whole school faculty also has benefits and costs. On the plus side, a subculture strongly opposed to change is less likely to grow. Differences in instructional philosophy among teachers can be engaged in ways that deepen discourse and learning in teacher communities (Achinstein, 2002). On the other hand, involving entire school faculties in required collaboration risks the possibility that teachers will enter the work with a project mentality, regarding the work as "contrived collegiality" disconnected from their professional practice (Hargreaves, 1991). This mentality ensures that organizational change will not move beyond rituals of collaborative practice to meaningful joint work to improve teaching and learning, i.e., will not move from single-loop to double-loop learning (Argyris, 1982). This outcome was quite common among BASRC schools as described in chapter 2. If a whole school strategy for building teacher community is to succeed, it requires the kind of shared leadership and expert facilitation that moved the Bay Area middle school toward a community of practice in a relatively short time.

Similarly, school leaders face a *tension between recruiting teachers who place priority on collaboration with colleagues versus bringing veteran teachers into new norms of collaborative practice*. A teacher

selection strategy is clearly desirable from the school administrator and teacher community standpoint. Screening teachers on their interest in collaborative practice brings capacity for change into the school and may create a critical mass of teachers to form a teacher learning community. As noted in chapter 2, the San Lucio math department sustained its collaborative professional practice partly by attracting beginning math teachers who prefer this mode of professional practice. In schools where many teachers oppose collaboration, reform leaders face an uphill struggle to build communities of practice, and administrators who are strong community leaders may seek positions in schools and districts where their mission has more support.

Teachers' *collective bargaining agreements pose different, particular challenges for school community-building*. Local teacher organizations' contracts and leadership more or less constrain the use of teacher selection to develop school learning community and, more generally, the ability of school administrators to establish conditions of teachers' work that support collaborative practice. Collective bargaining agreements generally limit potential for free hiring practices, but they vary widely in the opportunities and constraints they set for teacher learning communities. Some union locals, such as those involved in the Teacher Union Reform Network (TURN), have been proactive in setting policy to support the development of teacher learning communities. In such districts, principals and other system leaders ideally work with union leaders to implement the enabling conditions for school change, but this requires them to break the conventional frame of union–district contention. In districts where union contracts and leaders place strong limits on teacher collaboration beyond classroom contact requirements, school leaders face the challenge of interpreting and acting on the policies in ways that protect teachers but also move the school change agenda forward.

Other challenges and trade-offs in building teacher community arise from *multiple levels of practice in a school*—including grade levels in elementary schools and subject matter departments in secondary schools. Teachers in these units share instructional contexts—student developmental stages and academic content and curriculum. These are natural settings for teacher community work to improve instruction, and assessment data often reveal disparities in student performance between them. Yet investing in community facilitation at all of these levels and across all content areas is impractical, and school leaders face the considerable challenge of synchronizing teacher community development at the school level and in these subcommunities.

Further complicating the picture is evidence that these school units often differ widely in the strength and character of their teacher communities. For example, the math department featured in chapter 2 was an island of collaborative practice in San Lucio High School. The particular problems of change, and the leadership and learning needs of teacher subcommunities, are likely to vary widely within schools. Some teaching units may need help developing trust and addressing conflict constructively, while others need help exploiting networks and knowledge resources to refine their improvement efforts. While high schools pose the greatest challenge because of organizational complexity, no school is monolithic in terms of the strength and character of teacher subcommunities responsible for students at a particular grade level or in a particular subject.

School and district leaders sometimes perceive a *trade-off between pursuing the goal of building a teacher learning community and responding to accountability pressures from external policy systems*. Norms of collective responsibility and collaborative teaching practice develop slowly, yet high-stakes accountability systems demand fast, significant improvement in student achievement. The press for immediate gains in test scores pushes a pace of change that can undermine the development of school learning communities. Many BASRC schools working to move their schools out of “underperforming” status, for example, were distracted from their agenda to develop collective responsibility for improving student achievement. Schools’ efforts to boost scores quickly worked against community development and innovation when they turned the spotlight on individual teachers’ classroom outcomes and emphasized curriculum implementation as the primary reform strategy.

Pressures associated with high-stakes accountability systems generate other trade-offs for school leaders. Exploring new instructional practices leads to powerful forms of learning for teachers as they come to understand connections between particular classroom innovations and students’ learning. Yet this experimental approach may sacrifice a short-term boost in performance. A community of practice preoccupied with test scores may elect to stick with known practices and make the most of them, rather than to experiment with new ones. Leaders are challenged to find a balance that protects the community from the consequences of failure, but also furthers experimentation and the use of data to evaluate change. Organizational theorist James March (1991) terms this tension the “exploration/exploitation trade-off” and sees the proper balance between them as a primary element in system survival and success.

A related issue for school leaders is managing disappointing outcomes. A community learns through examining the mismatch between goals and performance—that is, they confront the “brutal facts” about student learning in their school (Schön, 1983). However, candid description and discussion of shortfalls in student learning can trigger angry responses from parents and community. This anger erodes teachers’ willingness to highlight disappointments as well as celebrate successes. Making failure public presented an ongoing challenge for BASRC schools as they worked through inquiry cycles.

Finally, schools and districts face *trade-offs in allocating the professional development resources they control*. While investing in a community facilitator is essential for developing teacher communities of practice, other kinds of professional development opportunities are also central to teacher learning and instructional improvement. Classroom coaching is an important complement to teacher learning community work on content instruction, yet it is costly in terms of peer coaches’ release time and the intensive professional development needed to ensure high-quality coaching. And as we describe in the next chapter, off-site courses and institutes provide particular kinds of support for the growth of a teacher learning community and knowledge resources for the community’s ongoing learning to improve teaching practice.