Evaluating and Improving the Quality of Teacher Collaboration

A Field-Tested Framework for Secondary School Leaders

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Teacher collaboration is an essential element of substantive school change for which principals have responsibility for cultivating. As such, it is becoming increasingly important for school leaders to employ models of supervision that focus on the performance and improvement of collective teacher behavior. In this article, the authors present a field-tested, action-research leadership framework for evaluating the quality and improving the performance of teacher collaboration at the secondary school level.

Keywords: *teacher collaboration; supervision of instruction; professional learning communities; professional development; instructional leadership*

From all sectors of the educational landscape, school principals are being called on to forgo the traditional view of schools as hierarchically ordered organizations and to enact contemporary school restructuring efforts predicated on the power of widespread, high-quality teacher collaboration. According to the National Board for Professional Teaching Standards (NBPTS, 2004) and the National Commission on Teaching and America's Future (NCTAF, 2003), instructional quality and school effectiveness depend on the degree to which teachers work in a professional partnership with their colleagues. Furthermore, the American Federation of Teachers (AFT, 2004) considers the process of collective teacher inqpuiry focused on the improvement of practice as the means for attaining essential school outcomes. Professional leadership associations such as the National Association of Secondary School Principals (NASSP, 2004) urge their constituents to embrace collaborative teacher

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leadership and professional learning communities as the means for bringing about core school- and student-level outcomes; the National Middle School Association (2008) maintains that teacher collaboration and collaborative leadership is critical to developing a professional learning community. The National Staff Development Council (NSDC, 2005) considers teacher collaboration the foundational element of any successful professional development effort and asserts that staff development that improves learning for all students organizes adults into learning communities. Consensus exists among school restructuring advocates that teacher collaboration is one of the most essential, if not the most important, requisite for achieving substantive school improvement and critical student learning outcomes. As DuFour, DuFour, and Eaker (2005) attest,

> The use of PLCs is the best, least expensive, most professionally rewarding way to improve schools. In both education and industry, there has been a prolonged, collective cry for such collaborative communities for more than a generation now. Such communities hold out immense, unprecedented hope for schools and the improvement of teaching. (p. 128)

However, an effective system of teacher collaboration within a professional learning community does not emerge spontaneously or by invitation (DuFour & Eaker, 1998). For secondary schools to produce high levels of student learning, principals need to employ models of supervision, evaluation, and professional development that will purposefully cultivate high-quality collaboration (Pappano, 2007). Traditional means for evaluating and improving middle and high school instructional practices tend to focus on the behavior of individuals; teachers set goals for instruction, building principals visit their classrooms to observe that instruction, and individual feedback on performance is provided. However, this principal-to-teacher, individual classroom approach to instructional improvement will not suffice in a professional learning community that rests squarely on the quality and achievements of collective teacher behavior.

Teacher Collaboration Improvement Framework

In this article, we present the Teacher Collaboration Improvement Framework (TCIF) as a blueprint for supervising, assessing, and improving the quality of teacher collaboration within a professional learning community. This framework, grounded in the principles of action research (Schon, 1983), has developed out of our work with secondary school principals, district superintendents, and state Department of Education personnel during the past 5 years in our shared efforts to design, deliver, and evaluate school improvement initiatives founded on the establishment of high-quality teacher teams (Gajda & Koliba, 2007; Vermont Higher Education Collaborative [HEC], 2006; Vermont State Board of Education [VTSBE], 2007). We will provide

the relevant theory that supports each element of the framework and describe how leaders in two secondary-school improvement initiatives have used the data generated through the TCIF action-research process to systematically evaluate and improve teacher collaboration at the secondary level.
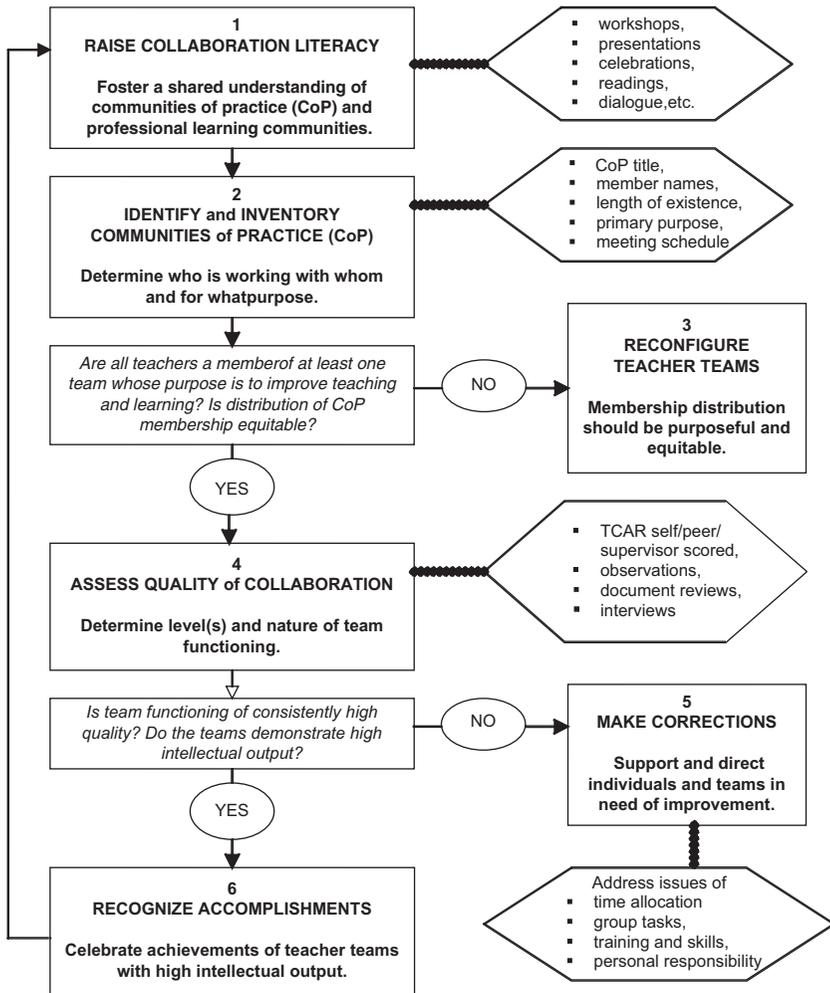
The first secondary-school improvement initiative, High Schools on the Move (HSOM), is sponsored by the Vermont State Department of Education (DOE), a regional Educational Service Authority, and a private foundation grant. HSOM is a school improvement intervention that involves on-site visits by DOE personnel (including the commissioner) to each of the state's public and technical secondary schools and an in-depth study group process for central office administrators, school principals, and teacher leaders (VTSBE, 2007). HSOM participants examine the relationship between school improvement, student achievement, and professional learning communities. As of June 2007, 11 school leadership teams from across the state had completed the study group process, representing more than 500 teachers and 3,700 students.

The second initiative, Teaching All Secondary Students (TASS), is a professional development program sponsored by the Vermont HEC. The Vermont HEC is a partnership of the state DOE, the University of Vermont and the Vermont State College system. A fundamental component of TASS is the systemic reordering of a school's organizational structure in order to establish and support high-quality teacher teaming at the high school level (Vermont HEC, 2006). TASS, now in its third year, involves eight school districts, 350 teachers, and 22 school- and district-level administrators.

Although HSOM and TASS vary in scale and setting, their primary objective remains the same—to realize significant and equitable gains in student achievement at the secondary level through the development of teacher collaboration in professional learning communities. We have worked extensively with the leaders of HSOM and TASS as university-based research and evaluation consultants and critical friends in their efforts to improve teacher collaboration. Each component of the TCIF has emerged from our work in these settings. School principals and secondary school teacher leaders have used the TCIF (shown in Figure 1) as a blueprint for examining, evaluating, and improving teacher collaboration in communities of practice within their educational contexts.

There are six stages with key action points outlined in the TCIF: (a) raise collaboration literacy, (b) identify and inventory communities of practice (CoP), (c) reconfigure teacher teams, (d) assess quality of collaboration, (e) make corrections, and (f) recognize accomplishments. These action steps are not meant to be lockstep or linear. Depending on the environmental variables, cultural attributes, and technological capacity of the school setting, secondary school leaders may decide to engage in multiple steps simultaneously or revert back and forth between them. Each element of the framework, such as the Teacher Collaboration Assessment Rubric (TCAR, Action Step 4) and high intellectual output (Action Step 6) are explained in subsequent sections of the article.

Figure 1
Teacher Collaboration Improvement Framework

1 **RAISE COLLABORATION LITERACY** Foster a shared understanding of communities of practice (CoP) and professional learning communities.	• workshops, • presentations • celebrations, • readings, • dialogue, etc.
2 **IDENTIFY and INVENTORY COMMUNITIES of PRACTICE (CoP)** Determine who is working with whom and for what purpose.	• CoP title, • member names, • length of existence, • primary purpose, • meeting schedule

Are all teachers a member of at least one team whose purpose is to improve teaching and learning? Is distribution of CoP membership equitable? → **NO** → **3** **RECONFIGURE TEACHER TEAMS** Membership distribution should be purposeful and equitable.

YES

4 **ASSESS QUALITY of COLLABORATION** Determine level(s) and nature of team functioning.	• TCAR self/peer/ supervisor scored, • observations, • document reviews, • interviews

Is team functioning of consistently high quality? Do the teams demonstrate high intellectual output? → **NO** → **5** **MAKE CORRECTIONS** Support and direct individuals and teams in need of improvement.

YES

6 **RECOGNIZE ACCOMPLISHMENTS** Celebrate achievements of teacher teams with high intellectual output.	Address issues of • time allocation • group tasks, • training and skills, • personal responsibility

Step 1: Raise Collaboration Literacy

Practitioners in pre-K–12 settings have historically understood schools as rational institutions featuring linear lines of communication, top-down decision making, differentiation of tasks, hierarchical supervision, and formal rules and regulation (Sergiovanni, 1994). As such, it is not uncommon for teachers and administrators to

be predisposed to a "chains of command," rather than a "communities of practice," way of thinking and doing. Furthermore, the multitude of nomenclatures used to describe teacher collaboration has made it virtually impossible to distinguish between effective and ineffective teams—and overuse of the term *professional learning community* jeopardizes its value to educators (DuFour, 2005).

School leaders looking to examine and improve teacher collaboration in professional learning communities will need to render some meaning to the concept of teacher collaboration. Simply stated, principals who want to improve the performance of teacher teams and the process of teacher collaboration need to facilitate conditions in which educators can acquire the shared understanding that teacher teams are *communities of practice* that form the basic building blocks of their school's larger *professional learning community* and whose members will engage in a *cycle of inquiry* around a *shared purpose* (Schmoker, 2004).

Communities of practice. The term *community of practice* was first used to describe the ways in which occupational groups generate shared knowledge and reflect on their shared practices (Buyesse, Sparkman, & Wesley, 2003; Lave & Wenger, 1991; Wenger, 1998; Wesley & Buyesse, 2001) and might be best defined as follows:

> "Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. They operate as 'social learning systems' where practitioners connect to solve problems, share ideas, set standards, build tools, and develop relationships with peers and stakeholders". (Snyder, Wenger, & de Sousa Briggs, 2003, p. 17)

Communities of practice are regarded as "the basic building blocks of the intelligent organization" (Pinchot & Pinchot, 1993, p. 66), and the "essence of a learning organization" (Dilworth, 1995, p. 252). And it is teacher teams—those communities of practice made up of individuals who are collectively responsible for instruction—that are considered to be the structural foundation of professional learning communities (Darling-Hammond, 1996; Newmann, 1996). Communities of practice form the basic building blocks of a school's larger professional learning community. Figure 2 graphically represents a simple, two-dimensional rendering of how teacher teams might interact to form the dynamic, nonhierarchical, and interconnected building blocks of a school.

The groups of teachers encircled with dotted lines represent six individual communities of practice, or teacher teams, and the figures overlapping two circles represent boundary spanners or "hubs" (Reeves, 2006) who connect teams within the school community. In this diagram, two teacher teams that exist independently without linkages to others are depicted in circles with solid lines, and three individuals who are not part of any community of practice are represented as people icons standing on the periphery of the professional learning community. Communities of practice form the basic building blocks of a school's larger professional learning community.

Figure 2
Schools as Communities of Practice
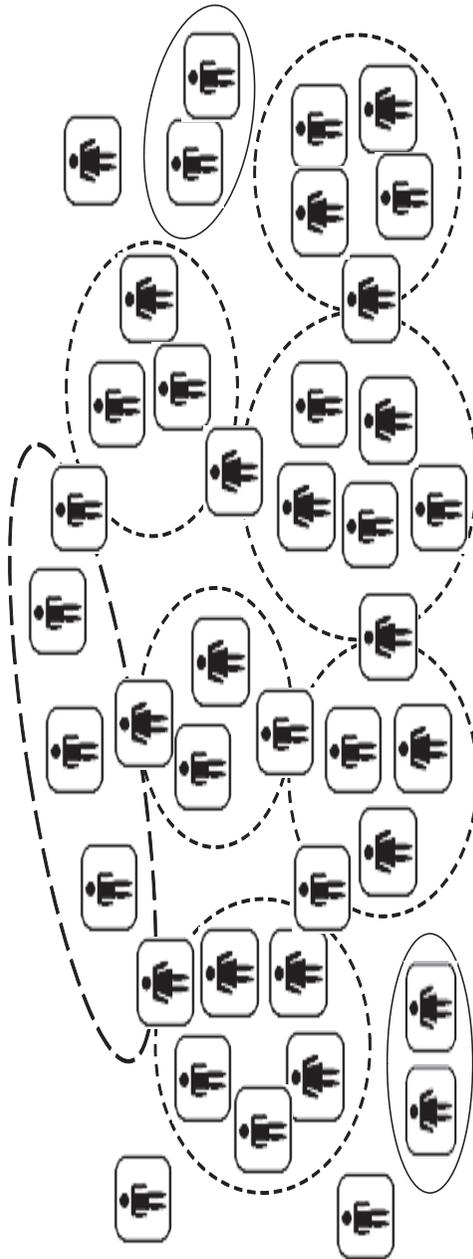
In an ideal secondary school setting, all teachers hold membership in at least one teacher team focused on student achievement, and all communities of practices have strong linkages to the others (DuFour et al., 2005; Reeves, 2006).

Cycle of inquiry. High-quality teacher teaming involves having person-to-person communication and decision making, taking interdependent actions, and reflecting on the efficacy of those actions in order to change practice and improve performance (Nevis, DiBella, & Gould, 1995; Schein, 1996). It is through communities of continuous inquiry in which teachers store, retrieve, examine, transform, apply, and share knowledge and experiences about practice for a shared purpose that a school becomes a professional learning community (Argyris & Schon, 1978; Fauske & Raybould, 2005; Hord, 2004; Kim, 1993).

Goodlad, Mantle-Bromley, and Goodlad (2004) asserted that the cycle of inquiry, which entails the ongoing process of dialogue, decision making, action, and evaluation around a shared purpose, is "the single-most important vehicle for school renewal" (p. 110). Teacher collaboration as a purposeful cycle of continuous inquiry is depicted in Figure 3.

Minimal- or poor-quality cycles of team inquiry reduce a school's capacity to positively affect student achievement, engagement, and performance. However, when educators engage in high-quality inquiry focused explicitly on student learning goals, "it pays off in high-quality solutions to problems, increased teacher confidence, and remarkable gains in achievement" (Schmoker, 2005, xiii).

Shared purpose. The glue that holds dialogue, decision making, action, and evaluation together within a teacher team's cycle of inquiry is shared purpose. The most important organizational purpose around which school-based communities of practice should form is the systematic examination and improvement of instruction so as to achieve universal and equitable increases in student achievement, engagement, and performance (DuFour, DuFour, & Eaker, 2005; Hord, 2004; Louis & Kruse, 1995; Sparks, 2005). According to Elmore (2007), high-performing educator groups will "engage in the common enterprise of developing their knowledge and practice through systematic, sustained work with each other around specific problems of instructional quality and student performance" (p. 3).

In Step 1 of the TCIF, a degree of appreciation and shared conceptual clarity around the concepts of communities of practice, professional learning communities, and teacher teaming needs to be established. Secondary school principals and teacher leaders can use any number of methods and tools to raise collaboration literacy in their school settings, including pictorial representations (such as Figure 2), graphic organizers (such as Figure 3), textual materials (e.g., articles, DVD presentations, and books), and experts (e.g., outside consultants, lecturers). To establish a shared understanding of collaboration in the TASS initiative, teachers were asked by their administrators to read and collectively discuss key articles related to teaming

Figure 3
Teacher Collaboration Cycle of Inquiry
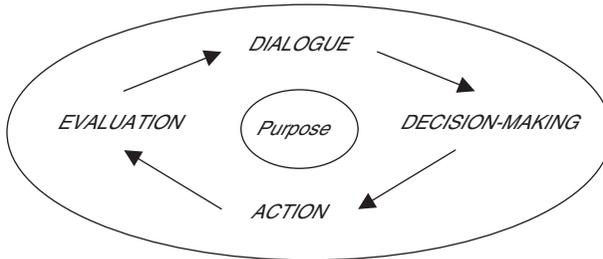
from their professional journals, such as "Of Hubs, Bridges, and Networks" by Douglas Reeves (2006), "Tipping Point" by Mike Schmoker (2004), and " Building Professional Community in Schools" by Kruse, Seashore–Lewis, and Bryk (1999). High school teachers who participated in TASS read the book *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement* (DuFour & Eaker, 1998) and compared the ideas articulated in the text to their own school- and district-level documents (e.g., theory of action, vision/mission, and belief statements) in order to establish a common language and understanding of teacher teaming in a professional learning community at the launch of the 2006–2007 school year.

By raising collaboration literacy, secondary school leaders can cultivate the widespread recognition that significant organizational improvement cannot be accomplished by even the most knowledgeable individuals working alone (Peters, 1987; Peters & Waterman, 1982); it is through a school's constellation of communities of practice (teacher teams), which are engaged in a cycle of inquiry around a shared purpose that allows the organization to successfully adapt, grow, and achieve.

Step 2: Identify and Inventory Communities of Practice

Because teams are the predominant unit for decision making and getting things done in any organization (Barnard, 1950; DuFour & Eaker, 1998; Senge et al., 2000), it is important for school principals to ascertain a clear and accurate picture of teacher teams that are in existence in their school settings. In Step 2 of the Teacher Collaboration Improvement Framework, school administrators should systematically establish who is working with whom and for what purpose in order to determine how, or whether, teams need to be reconfigured so as to optimize conditions for teacher learning. Depending on the size of the school, the current degree of collaboration

literacy that exists, and preexisting methods of communication, the inventory and identification process can be conducted in any number of ways.

In the TASS initiative, principals asked their teachers to complete an online inventory though a Web-based survey that asked them to identify names of all the communities of practice of which they are a member; the purpose and primary task of the team; the other members of the group; how often, where and when the team meets; the most recent accomplishments of the group; and how long the group has been in existence. Results were compiled and summarized by an assistant superintendent for curriculum and instruction through the district's Internet browser.

As part of the HSOM study group process, teachers at Sterling High School (all school names are pseudonyms) were asked at a full faculty meeting to provide a list of all the specific groups, teams, and/or committees to which they belong on a simple matrix, along with a brief description of each group's purpose. The building principal collected the individual responses and compiled the results, which are shown in Figure 4.

Pseudonyms of the individual teachers are listed in the first column. From the inventory process, it was revealed that the 23 members of the Sterling High School teaching staff belong to a total of 13 distinct communities of practice. The largest group of teachers ($n = 10$) were in two communities of practice, which ranged in size from 1 to 9. Four teachers were in one community of practice, and 9 were in a total of 3 or 4. The high school leadership team used this data, along with the descriptions provided by the teachers about the purpose of the groups, to deduce that there is an uneven workload among faculty members. At least one teacher team was nonfunctional given that it had only one member (academic integrity) and that only 1 of the 13 communities of practice (math assessment) was identified as being intentionally designed to provide a venue for teachers to examine the merit and worth of their instructional practices.

Regardless of what methods (in person, online, hard copy) are used to identify teacher teams, the community of practice inventory process—if systematic, accurate, and taken seriously—will reveal findings that school leaders can use to determine which teachers might be over- and/or underextended, which teams might be too big or too small, and which teams focus on substantive issues related to teaching and learning. Secondary school principals can use data garnered through the inventory process to inform their decisions about how best to reconfigure their teacher teams so that membership distribution is purposeful and equitable and so that all teachers are a member of at least one community of practice whose sole function is to improve teaching and learning.

Step 3: Reconfigure Teacher Teams

Findings generated through the inventory process form the basis of the third action step of the TCIF: to reconfigure teacher teams so that membership is equitable and purposeful. For example, at Thompson Academy, a public secondary school

Figure 4
Results of CoP Identification and Inventory Process at Sterling High School

	Academic Integrity	Math Assessment	Parent, Student, Teacher	Attendance	Community Service	NHS Faculty Council	Teacher Leadership	Writing Assessment	Curriculum and Instruction	NEASC Follow-up Committee	School Climate	School Improvement	EST	Number of Communities of Practice to Which Each Teacher Belongs
Bill				X		X		X		X				4
Jean					X					X		X	X	4
Cal			X			X				X		X		4
Karen					X				X				X	3
Kylie				X	X		X							3
Deb	X								X				X	3
Tyrese							X	X				X		3
Matt		X							X	X				3
Joseph		X	X									X		3
Jay									X				X	2
Gretchen											X	X		2
Sharon												X	X	2
Maggie											X		X	2
Becky					X							X		2
Chris											X		X	2
Linda G						X				X				2
Linda K									X				X	2
Cindy				X			X							2
Chantel											X		X	2
Saul											X			1
Allan												X		1
Otho											X			1
Diane									X					1
	1	2	2	3	3	3	3	3	5	5	6	8	9	

Number of Teachers in Each Community of Practice

sponsored through HSOM, the identification and inventory process brought to light the fact that teachers were participating in an average of six separate communities of practice. Central administration required membership in three: the full faculty meeting, one "specials" team, and one departmental team, whereas the remaining groups were created by choice. Most faculty members reported the "need to know what was going on" and "to share information about schedules and materials" as their CoP's primary purpose; fewer than 25% of the teacher teams were found to be focused on the improvement of student learning. The school leadership team determined that there were too many teams (more than 160 were said to be in existence at the school) and that six per faculty member was too many for collaboration to be of consistently high quality. Ultimately, the principal decided to restructure the groups so that each teacher was a member of no more than three communities of practice—one horizontal grade-level team focused on the analysis of student work, one vertical subject-area team focused on teaching and learning, and one team of choice (M. Rich, personal communication, May 11, 2005).

Findings generated through the inventory and identification process at Wilson High School (part of HSOM) were used to reconfigure teacher teams in a very

different way. School administrators learned that a small number of faculty (8 out of 52) were engaged in an average of three CoPs, while the remaining faculty members (*n* = 44) reported that they *never* met face-to-face with any colleagues (other than those they see at the once-monthly 45-minute full school faculty meetings). The administrative team did not require membership in any formal teams, nor was attendance at faculty meetings mandatory. The results of the inventory process surprised the school's leadership group; they assumed that teacher team membership would be high and universal because team formation would result "organically and voluntarily" (S. Perkins, personal communication, May, 2005). With their inventory data in hand, the administration engaged their school faculty in discussion about whether and how to restructure the purpose and process of the whole-school faculty meetings. Consensus was reached that staff attendance would be expected at whole-school faculty meetings. In addition, membership in one additional community of practice (a grade-level team) became required, and release time was negotiated to make time during the workday for this to happen.

In a professional learning community, it essential that all teachers are a member of at least one team that is focused on the improvement of teaching and learning (DuFour et. al., 2005). In this step of the TCIF, secondary school principals can use data generated through the community of practice identification and inventory process to make evidenced-based decisions about how to reconfigure the structure of their teacher teams so that membership is equitable and purposeful.

Step 4: Assess Quality of Collaboration

Having the right configuration of teacher teams is important—in an ideal situation, all teachers are a member of at least one community of practice that deals with pedagogically important issues directly related to the core technology of schooling: teaching and learning (DuFour & Eaker, 1998; DuFour et al., 2005; Pounder, 1998; Stevens & Kahne, 2006). However, assembling teams and creating the time and space for teachers to meet isn't nearly enough. Principals need to help their teachers learn how to spend their time together wisely. But what is teacher collaboration supposed to look and feel like exactly? What specific dispositions and skills will teachers demonstrate in a high functioning community of practice? What criteria should school principals use to judge the quality and improve the functioning of teacher collaboration? Teacher teams engage in a cycle of inquiry that should exhibit characteristics of high-quality dialogue, decision making, action, and evaluation (Goodlad et. al., 2004; Little, 1987, 1990). These attributes have been operationalized in the TCAR shown in Figure 5, which presents criteria for determining the relative quality of teacher collaboration on a scale of 1 (*low functioning*) to 6 (*high functioning*). Teachers and administrators from the HSOM and TASS secondary-school improvement initiatives contributed directly the development, refinement, and piloting of this rubric.

Figure 5
Teacher Collaboration Assessment Rubric

	Dialogue		Decision-Making		Action		Evaluation
6	Agenda for team dialogue is pre-planned, prioritized, and documented. All team members regularly meet face-to-face. Team dialogue is focused on the structured examination and analysis of instructional practice and student performance. Professional tension exists, and disagreements are resolved "now" or as close to now as possible. Team members value and reaffirm their shared purpose - to improve instructional practice and cultivate student learning. Members participate equally in group dialogue, there are no "hibernators" or "dominators".	6	Team regularly makes decisions about what individual and collective pedagogical practices they will initiate, maintain, develop, and/or discontinue. All decisions are informed by team dialogue. The process for making any decision is transparent and adhered to. Team leadership/facilitators are purposefully selected and visible. Decisions are directly related to the improvement of instructional practice and the cultivation of student learning.	6	Each team member regularly initiates, maintains, develops, and/or discontinues an instructional practice as a result of team decision-making. Team member actions are coordinated and interdependent, pedagogically complex/challenging, and directly related to the improvement of instructional practice and the cultivation of student learning. Equitable distribution of workload among team members.	6	The team regularly collects and analyzes qualitative and quantitative information about member teaching practices and student learning, including data collected through peer observation of classroom instruction. The team uses student performance data to evaluate the merit of individual and collective pedagogical practices. Evaluation data and findings are shared publicly and form the basis for team dialogue and decision-making.
5		5		5		5	
4	Agenda for team dialogue exists. Most group members regularly meet face-to-face. The process for team dialogue tends to be somewhat informal or unstructured. Discussion is usually related to instructional practice and student performance. Professional tension exists, but disagreements are rare and/or conflict may go unresolved. Most team members share a common purpose - to improve instructional practice and cultivate student learning. For the most part members participate equally in the dialogue. Some members occasionally "hibernate" or "dominate".	4	The team makes decisions about what pedagogical practices they will initiate, maintain, develop, and/or discontinue. Most decisions are informed by group dialogue and the process for making decisions is usually transparent and adhered to. Team leadership/facilitators exist, but may not be purposefully selected or visible. Decisions are generally related to instructional practice and student learning.	4	Some team members will initiate, maintain, develop, and/or discontinue instructional practices as a result of team decision-making. Team member actions are somewhat coordinated, interdependent, and complex. Team actions are generally related to to the improvement of instructional practice and the cultivation of student learning. Fairly equitable distribution of workload among team members.	4	The team does not regularly collect and/or analyze qualitative and quantitative information about member teaching practices and student learning. The team may rely more on "hearsay," "anecdotes," or "recollections" to evaluate the merit of their practices. Evaluative information is usually shared publicly and forms the basis for dialogue and decision-making.
3		3		3		3	
2	Full attendance at team meetings is rare or the group meets face-to-face sporadically. Agenda for group dialogue is minimally, if ever, planned. The process for dialogue is typically improvisational. Tension is said not to exist, disagreements go unresolved, and/or team members may air disagreements about others after the meetings. Some or most team members do not value and/or hold disparate conceptions as to the purpose of the team. Unequal participation in dialogue. Members tend to "hibernate" or "dominate".	2	The team does not typically make decisions about pedagogical practices. Processes for making decisions are not purposeful, transparent, or do not exist. Decisions are minimally informed by group dialogue. Group leaders/facilitators are not purposefully chosen or are not visible. Most decisions are unrelated to the improvement of instructional practice and the cultivation of student learning.	2	Team members take minimal action as a result of group decision making. Member actions tend to be individualistic in nature, or involve very little challenge and/or complexity. Team actions are minimally related to the improvement of instruction practice and the cultivation of student learning. Inequitable distribution of workload between team members.	2	Team members do not share evaluative data about the merits of their instructional practices with one another. The team does not systematically collect or analyze information about instructional practices and student learning. The team relies exclusively on "hearsay," "anecdotes," or "recollections" to form the basis of their dialogue and decision-making.
1		1		1		1	

Note: For original version and earlier iteration, see Gajda and Koliba (2007).

Dialogue. While low-functioning and nonrigorous forms of interpersonal dialogue tend to confirm present teaching practices without determining its worth (Little, 1990), high-functioning communities of practice will surface disagreements and recognize, address, and resolve their differences (Hord, 2004). Highly developed teacher teams will engage in collective dialogue about student engagement and achievement, the effects of practice on student performance, and how to provide an appropriate level of challenge and support to every student. Lower functioning teacher teams may find themselves consistently talking about such topics as grouping, curriculum pacing and alignment, test-taking strategies, scheduling and dividing tasks, allocation of materials, discipline, and coordinating learning activities (Pappano, 2007). By understanding the nature of high-quality team dialogue, school-principals leaders can help secondary school teachers to avoid "collaboration lite" and "making nice," whereby practitioners confuse mere congeniality and imprecise conversation with the serious professional dialogue vital to school improvement (Barth, 1990; Pappano, 2007).

Decision making. Bacharach (1981) identified five areas of decision-making authority for teachers: (a) allocation decisions (budget, scheduling, personnel), (b) security decisions (including class safety, attendance and discipline procedures), (c) boundary decisions (such as union activities), (d) evaluation decisions (determining the merit worth of student and/or teacher performance, and (e) instructional decisions (including what to teach and how to teach it). Of the five, the most important decisions that teachers should make if they are to increase student learning are those that deal with the quality and merit of their individual and collective pedagogical practices (Little, 1990; Valli & Buese, 2007). As Schmoker (2005) asserted, "[School] improvement demands an overt acknowledgement that some teaching had a greater impact on learning" (p. 142). Sharing curriculum ideas, swapping strategies, choosing textbooks, or crafting discipline procedures are not enough to improve practice and increase student learning. Middle and high school teachers must determine relative differences in instructional quality and make evaluative decisions about what and how to do better.

Action. By itself, a decision—or plan to act—leads to very little. If teacher teams and their members do not take action as a result of their decisions, the cycle of inquiry ceases to move forward and school improvement falters. If left unchecked, secondary-school teacher action taking may have a tendency to be somewhat "shallow" or "superficial" and less than adequate to the complexities of teaching (Little, 1987; Maeroff, 1993, Zahorik, 1987). Teachers, in order to prevent conflict, may avoid issues of pedagogical and philosophical importance—resulting in the entrenchment of instructional practices (Pounder, 1998). In high-performing teams, collaboration will result in changes in pedagogical practice that entail a level of intellectual sophistication.

Evaluation. Evaluation of practice is a crucial component of a fully developed cycle of inquiry (Goodlad et. al., 2004). The extent to which the actions of a teacher team and changes made to practice have merit or worth is determined through evaluation and action research: the systematic collection, analysis, and use of data (Gay, Mills, & Airasian, 2005; Patton, 1997). School improvement experts urge educators to continually assess their effectiveness on the basis of tangible evidence that students are acquiring essential knowledge, skills, and dispositions (DuFour et al., 2005; Stiggins, 2005). Members of high-functioning teacher teams will engage in dialogue about student achievement and performance and use data to shape decisions on classroom, departmental, school, and district levels (Eason-Watkins, 2005). Teachers in high-functioning teams will systematically collect and analyze both quantitative information (such as summative test scores or tallies from observational checklists) and qualitative information (such as notes taken during a classroom observation of a colleague and student written work), whereas low-functioning teacher teams tend to rely on anecdotes, hearsay, and general recollections to inform their dialogue and decision making.

Using the TCAR. Once equitable and purposeful secondary school teacher teams have been established, it becomes important to gauge the quality of their dialogue, decision making, action, and evaluation in order to help them improve. School principals and district superintendents have found the use of a rubric that operationalizes collaboration to be very useful in their efforts to put theory into practice for their teachers and administrators (Gajda, Marineau, & Patrizio, 2005). Principals should observe teacher teams' meetings and review archival data (i.e., meeting agendas, minutes, and products) to evaluate and score the quality of team functioning using the TCAR. In addition, principals can request that teachers use the TCAR to assess the quality of their own team's functioning, team member ratings can be aggregated, and resulting averages can provide an overall snapshot of quality. Rubric ratings can and should be collected over time and documented in hard copy or electronically. An example of how the results of the TCAR assessment process could look for a community of practice such as an English department made up of seven teachers, is presented in Table 1.

In this example, a total of seven teachers rated the quality of functioning of their community of practice using the TCAR. Dialogue and action have been determined to be the strongest dimensions of collaboration (4.7 and 4.3 out of 6.0, respectively) and evaluation as the weakest (1.6 out of 6.0). Decision making garnered a 3.1, indicating a fairly weak level of functioning. The principal would also rate the quality of collaboration in the English department using the TCAR after making consecutive observations of English department meetings. In this example, the principal's scores are consistent with those of teachers in the department.

School leaders are increasingly employing techniques for tracking and evaluating the quality of teacher collaboration through such means as requiring and reviewing team agendas, collecting minutes, and observing teacher teams in action (Pappano,

Table 1
TCAR Scores: English Department

Rater	Dialogue	Decision Making	Action	Evaluation
Teacher 1	5.0	3.0	5.0	2.0
Teacher 2	5.0	3.0	4.0	2.0
Teacher 3	4.0	3.0	3.0	1.0
Teacher 4	4.0	2.0	3.0	1.0
Teacher 5	5.0	3.0	5.0	2.0
Teacher 6	5.0	4.0	5.0	1.0
Team leader	5.0	4.0	5.0	2.0
Average of teacher ratings	4.7	3.1	4.3	1.6
Principal	5.0	3.0	4.0	2.0

2007). We have found—as have school principals with whom we have worked—that these methods can be greatly enhanced through the use of an assessment rubric such as the TCAR, which articulates essential relational and structural expectations of teacher teams. Administrators can use assessment data generated from the administration of the TCAR or other supervisory methods, such as focus group interviews, observations, and document analysis, to determine where and how teacher collaboration can be corrected and improved.

Step 5: Make Corrections

The assessment of teacher team quality generates findings that school administrators can use to make timely, targeted, and evidence-based decisions about how best to support and direct teams in need of improvement. At John Dewey High School, an HSOM-sponsored school, teachers in five core academic departments (English, math, science, history, and support services) scored the quality of their dialogue, decision making, action, and evaluation using a rubric similar to the TCAR. The school principal observed each community of practice, and each teacher team engaged in a 90-minute focus group interview about the quality of their collaboration (facilitated by an outside consultant). Nonparametric comparisons of rubric ratings revealed that the criterion of "evaluation" consistently and universally garnered the lowest score for all five teacher teams. Interview transcripts provided narrative confirmation of the numerical ratings and showed that John Dewey teachers were relying almost exclusively on hearsay, recollection, or informal anecdotes to inform their pedagogical choices. None of these five teacher teams were using student assessment data to frame their dialogue. As a result of these findings, the high school leadership team began a program of professional development for teachers that focused on how to access and use classroom-level student assessment data and garnered funds to support peer observations of classroom teaching.

In the first year of TASS, dozens of high-school teacher teams from multiple districts rated and described the quality of their collaborative dynamics through a biweekly online survey that asked them about their dialogue, decision making, action, and evaluation. "Dialogue" quickly surfaced as the element of teacher teaming in need of the most improvement. Teachers described their discussions as being most often "conversational and improvisational," somewhat "carefree" in nature, and not particularly focused on student learning (Vermont HEC, 2006). Results of the assessment process prompted school and district administrators to disseminate information and provide direct instruction protocols for dialogue such as the Tuning Protocol, Save the Last Word, and Dilemma Protocol (National School Reform Faculty, 2004). Well-managed dialogue is important, and school leaders can make corrections in teacher collaboration by expecting teachers to use pre-planned and prioritized agendas, structures for group discussion, and meeting minutes; such strategies have been shown to encourage teachers to focus their talk on substantive issues rather than "chit-chat" or "griping" (Dukewits & Gowin, 1996; Pappano, 2007).

Step 6: Recognize Accomplishments

If engaged in high-quality cycles of inquiry, teacher teams will realize important outcomes—school leaders should ensure that the accomplishments and collaborative processes of groups with high intellectual output are recognized (DuFour et al., 2005; Schmoker, 1999). The members of an HSOM-sponsored science department assessed the quality of their cycle of inquiry. Assessment findings were discussed by team members, which led to their collective decision to (a) change their meeting structure (from 90 minutes every 3 weeks to 1 hour every other week), (b) ask a special education teacher to consult with their group (to provide perspective on appropriate accommodations), (c) observe each other's teaching, and (d) publicly share their end of unit student performance data. Between August and December 2005, they piloted a new assessment, analyzed the results using protocols for dialogue, and chose to make significant changes in individual and collective classroom assessment practices. By spring 2006, teachers reported evidence of increased and more equitable levels of academic achievement for all student groups (S. McTighe, personal communication, June 17, 2006). The science team shared their collaborative processes and pedagogical actions with their colleagues at full faculty meetings, the principal recognized the accomplishments of the team through the school newsletter, and the results were communicated at a national conference (Gajda & Sprague, 2006).

At Caldwell Academy, a TASS-affiliated public school, student academic performance scores on the New Standards Reference Exam (NSRE) increased each year in nearly all categories following the restructuring of the school into collaborative teacher teams, and after 4 years, the dropout rate decreased 4 percentage points to

2.1%, the lowest in the state (J. Stone, personal communication, July 28, 2006). The principal recognized the achievements of various Caldwell Academy teacher teams throughout the restructuring process, and the school received public accolades at the 2006 TASS Summer Institute attended by legislators, school administrators, teachers, and teacher preparation program personnel from the states' colleges and university.

Recognizing the intellectual output of high-functioning teacher teams connects the first and last stages of the TCIF—creating a greater sense of appreciation for collaboration across the school community and further cultivating a vision for what secondary school teacher teams can look like, feel like, and achieve in a professional learning community.

Potential Barriers and Possible Solutions

The TCIF's action-research orientation stimulates the ingenuity of educators and cultivates the collective capacity to creatively and effectively address important educational problems and issues (Gajda, 2006; Gay et al., 2005); however, as is the case with all forms of action research, there are barriers to the implementation. The TCIF is predicated on the understanding that teacher teams, as opposed to individual teachers, are the building blocks of the professional learning community. It is when communities of practice collectively engage in high-quality dialogue, decision making, action, and evaluation around a shared purpose, that schools increase their capacity to achieve unprecedented improvements in student learning. This framework necessitates groups of educators setting goals for instruction, the public sharing of practices, the observation and examination of collaborative behavior, feedback on team performance, and accountability and responsibility to others. Because teacher isolationism and the mindset and practices of individualism remain deeply ingrained in the culture of schooling (Pounder, 1998), each of the framework's essential elements can feel uncomfortable and threatening to teachers, particularly high school teachers, who are used to working with almost exclusive autonomy. Throughout our work, we have witnessed the need for school principals to negotiate varying degrees of cultural resistance to collaboration and to skillfully handle individual reluctance to the open examination of teacher teaming.

When it comes to high-quality teacher collaboration at the secondary level, creating space and time for teachers to get together is not nearly enough. Without guidance on how to improve their dialogue, decision making, actions, and evaluation, teachers will continue to engage in "collaboration lite" and the kind of interactions that impede the types of performance gains they seek to achieve. It is futile (and unfair) to expect school principals and the teachers they serve to improve collaboration in the absence of information on how to do so. As Elmore (2005) eloquently asserted, "Authority to command or induce you to do something you are not currently doing depends, in

large, part, on *your* capacity to actually do it" (p. 27). School leaders can increase faculty capacity to "do" collaboration well by (a) increasing collaboration literacy, (b) identifying and inventorying teacher teams, (c) reconfiguring team membership purposefully and equitably, (d) assessing the quality of teacher collaboration using a rubric such as the TCAR, (e) making corrections and providing support, and (f) celebrating the achievements of their collaborative efforts.

Furthermore, it is difficult for principals to improve the quality of teacher collaboration without the support of their superintendents. Just as teachers need the time to collaborate in order to engage in a cycle of inquiry to improve classroom-based instructional practice, so do administrators need the time and support to focus on the schoolwide improvement of teacher teaming practices. In both the HSOM and TASS initiatives, school district superintendents allocated the necessary resources and provided extensive support to their principals in order to engage in each element of the TCIF with efficacy.

Conclusion

School leaders are being called on to improve the structural and relational nature of teacher collaboration by employing new models of supervision, evaluation, and professional development that address issues of collective teacher performance (Barott & Raybould, 1998; Hord, 2004; Little, 1987; Pappano, 2007). To create new paradigms of teacher interaction at the secondary school level, principals need to take a comprehensive approach to the study and improvement of teacher teaming. In this article, we presented the TCIF as a model for the improvement of teacher teaming that has developed out of 5 years of work with two comprehensive secondary-school improvement initiatives.

School leaders go a long way toward improving the caliber of teacher collaboration and reducing resistance by "walking the walk" in their own practice. Teachers are more likely to engage in high-quality cycles of inquiry when their administrators model what is expected of them. Principals, departmental supervisors, superintendents, and others working in a supervisory capacity must do what they can to demonstrate transparency in their decision-making processes, focus committee dialogue on the examination of student learning and other essential outcome data, and use pre-planned and prioritized meeting agendas that communicate a clear purpose for the group that goes well beyond information dissemination. Furthermore, we have learned through experience that school leaders must inspect what they expect. Creating space, time, structure, and training for teacher collaboration is important, but administrators must also be able to make judgments about team quality and performance. We encourage school leaders to use the TCIF as a model for examining, supporting, evaluating, and improving the quality and performance of teacher teaming in their own secondary school settings.

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