Chapter 11 Creating Communities of Professionalism: Addressing Cultural and Structural Barriers

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Over the last quarter century a good deal of attention has been given to the topic of professional learning communities. During that time, some parts of the community storyline have been fleshed out quite thoroughly while others remain thinly developed. For example, we have learned a good deal about the pillars that support professional communities. Specifically, we see that scholars have drawn on four interrelated bodies of research. One is the emergence of the importance of "social capital," an idea generally attributed to James Coleman. A second is the theory of "learning organizations" initially developed by Senge. A third is the growing scholarship on "teams" in productive organizations. The last is the development of the concept of "communities of practice," a framework forged by Lave and Wenger in the 1990s.

Over this time, scholars have also forged logic models that explain how professional communities function. The collective logic model features six norms: shared vision, collaboration, trust, shared leadership, ownership, and shared responsibility. It is these elements that define professional learning culture and foster teacher learning and teacher professional capital (see especially Kruse et al. 1995; Louis and Marks 1998; Printy 2008; Stoll et al. 2006; Vescio et al. 2008; Visscher and Witziers 2004). Thus professional community promotes both learning, i.e. intellectual capital (e.g. deeper content knowledge, enriched pedagogical skills) (Borko 2004; Levine and Marcus 2010; Printy 2008) and professional cultural capital (e.g. commitment) (Darling-Hammond et al. 2002; McLaughlin and Talbert 2001; Saunders et al. 2009). The capital accumulating in both of these areas is of two types, that accruing to individuals (i.e. human capital) and that accruing to the group (i.e. social capital). Both are important. However, it is the focus on social capital development that distinguishes teacher communities from many other reforms. Increased capital, in turn, leads to changes in the ways teachers undertake work with students (Curry

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2008; Horn 2010; Vescio et al. 2008). Improved instruction and classroom climate, in turn, lead to better learning outcomes for students (Bryk et al. 2010; Hattie 2009; Mitchell and Sackney 2006; Vescio et al. 2008).

At the same time, gaps in the research on communities of professional practice remain. A critical need is to carefully examine cultural and structural barriers that make the infusion of professional culture so difficult. A second need is to document how schools, especially school leaders, can surmount cultural and structural problems. It is these issues on which we focus in this integrative review.

11.1 Methodology

In this section, we outline the architecture and design for this review on making professional communities a possibility using scaffolding provided by Hallinger (2012a, b, 2014). The goal of the review was twofold. We sought to understand challenges that inhibit the growth of professional community. We also wanted to form an empirical understanding of the ways in which educators could meet these challenges. In both cases, we wished to grow this knowledge in the complexity of schooling and the rapids of continuous school improvement. Around these two goals, the focus is on substantive and conceptual strands of implementation. We do not address methodological issues. Research questions mirror the two goals of the review. The framework for the review is a mixture of research on change and implementation, school improvement, and community.

The goals and conceptual scaffolding required examination of theoretical analyses and research across broad swaths of the literature. On a targeted front, we pulled and examined all abstracts from 1990 to 2013 under the headings of professional learning communities, teacher learning communities, communities of instructional practice, communities of inquiry, professional learning communities, and communities of commitment. We included legacy reviews and current scholarly reviews, all empirical studies, and strong interpretative and theoretical analyses that were derivative of empirical research work.

At the same time, it was clear to us based on previous work that the answers sought would not be uncovered solely through targeted procedures (Murphy and Torre 2014). We, therefore, read extensively across the broad area of school improvement. Here we searched for evidence, both confirming and disconfirming, that was ribboned through empirically anchored work. For example, findings were reinforced or found anew in studies of school change, school improvement, program implementation, school culture, and so forth. In this part of the work, we lacked the structure employed with the targeted approach discussed above. We simply read everything we could until we began to reach saturation, when fresh insights on constraints and supports became less and less discernible (see Glaser and Strauss 1967). Consistent with guidance from foundational texts in qualitative methods (Miles and Huberman 1994), we were especially on the lookout for non-confirming evidence.

In summary, we followed a broad approach to sourcing the review, what Hallinger (2012a) refers to as "an exhaustive review" in his categorization scheme. We did not include dissertations, non-refereed articles, conference presentations (with a few exceptions for foundational work), or textbooks. On the other hand, we sorted in all refereed journal articles. Because we employed a pattern of cascading references from originally consumed articles, we extended the hourglass beyond our original 1990–2013 guideline.

We employed the following procedure to extract data, one that mirrors the creation of grounded theory (Glaser and Strauss 1967; Strauss and Corbin 1998). The work is best described as "inductive thematic analysis" (Hayes 2000, p. 178). After six months of new reading, and based on our earlier research in this area, we created a conceptual map scaffolded on the goals of the review. Our framework became refined at the detail level as we continued reading. Using coded segments of the map, we coded each piece of work read, usually at the paragraph or sentence level. Everything that had been read was then recopied. Each code was then cut and placed on a separate data sheet, with the name and date of the article, page number, and code. These were then sorted by code. This then, along with our binder of conceptual and theoretical memos, was our "data." Consistent with inductive synthetic work, "making sense" of the data were completed by reading and rereading codes until we formed categories within codes, what grounded theorists refer to as open coding. This process both exposed what the research had to tell us and allowed us to continually test the vitality of our emerging research narrative. The synthesis from this work follows.

11.2 Barriers

11.2.1 Structural Challenges

Over the last 50 years, scholars have documented how "the structure of the organization directs and defines the flow and pattern of human interactions in the organization" (Johnson 1998, p. 13), how the beliefs and values of educators are shaped by the structures in which they work (Smylie and Brownlee-Conyers 1992; Useem et al. 1997). Structures reflect values and principles that thus exercise considerable pull on the possibility of communities of practice developing in schools (McLaughlin and Talbert 2001; Stoll et al. 2006).

Unfortunately, the prevailing structure of schooling hinders the formation of teacher professional community (Bidwell and Yasumoto 1999; Donaldson 2001; Jackson 2000). Researchers conclude that the institutional nature of schooling creates a framework that encourages isolation, autonomy, and privatization while damping down cooperation and undercutting professional community norms (Harris 2004; Murphy 2006; Scribner et al. 1999).

Five aspects of structure merit analysis. First, existing organizational arrangements benefit some members of the school, actors who often challenge or fail to support the creation of alternative structures that threaten their advantaged positions (Chrispeels and Martin 2002; Crowther et al. 2002). For example, McLaughlin and Talbert (2001, p. 127) do an excellent job of exploring this reality in the context of high school departments, exposing how "informal career systems and seniority structures leave communities of practice on the margins of secondary education."

In addition, the current organizational system is the only one that most educators have known. It is difficult to move to the unknown even when one can glimpse its contours. In addition, even if the change process is set in motion, there are strong inclinations to regress to the familiar. As Lieberman and Miller (1999, p. 126) remind us, "new behaviors are difficult to acquire, and in the end it is easier to return to old habits than to embrace new ones"; needed changes are often "abandoned in favor of more familiar and more satisfying routines" (Little 1987, p. 493).

Third, existing structures are not especially malleable (Donaldson 2001; Murphy 1991). The "forces of organizational persistence" (Smylie and Hart 1999, p. 421) and "institutional precedent" (Smylie 1992, p. 55) are quite robust (McLaughlin and Talbert 2001). Hierarchy has a well-developed root structure and enjoys a good deal of legitimacy (Murphy 1991, 2015). Schools also have mastered the ritual of change (Meyer and Rowan 1975) and the ability to absorb new ideas and initiatives in ways that leave existing organizational structures largely unchanged (Cohen 1988; Elmore 1987; Weick 1976). The reality in many schools of limited financial resources exacerbates structural obstacles standing in the way of the formation of professional communities (Drago-Severson 2004).

Fourth, structures influence the use of time in schools and generally in ways that make shared work a mere footnote in the teacher workday (Cosner 2011; Desimone 2002; Scribner et al. 1999). The traditional school "offers few opportunities to interact with colleagues outside of abbreviated interchanges. Extended periods of adult-to-adult interaction in the workplace are irregular, episodic, and rare" (Grossman et al. 2001, p. 987). Shortage of time, in turn, acts to calcify the already inflexible institutional backbone of schooling (Firestone and Martinez 2007; Foster and St. Hilaire 2003). Indeed, there is a general sense in research that time is the "biggest obstacle" (Doyle 2000, p. 38), the most significant "barrier" (Blegen and Kennedy 2000, p. 5; LeBlanc and Shelton 1997, p. 44), and "the most pervasive problem" (Wasley 1991, p. 137) in forging professional community.

Fifth, while some currents buoy the idea of professional culture, stronger currents support the movement to centralization and to the hardening of the hierarchical forms of schooling (Murphy 2013b). Especially problematic for the development of community are the following ideas embedded in hierarchical structures introduced above: the idea of a single leader (Moller and Katzenmeyer 1996); traditional relational dynamics featuring a boss and subordinates (Conley 1989); the idea that the leader is "synonymous with boss" (Moller and Katzenmeyer 1996, p. 4); and the metaphor of leader as supervisor (Murphy 2005; Myers 1970). Also problematic here are two elements featured in these structures: time schedules (Conley 1991; Coyle 1997) and systems for dividing up work responsibilities (Harris 2003; Pellicer and Anderson 1995; Printy 2004; York-Barr and Duke 2004). Both of these strands promote segmentation and separation (Katzenmeyer and Moller 2001).

11.2.2 Cultural Challenges

We also learn that the cultural seedbed of schooling is often toxic to the growth of learning communities (Grossman et al. 2001; Saunders et al. 2009; Smylie 1996). More specifically, there are powerful professional norms and values that push and pull teachers in directions at odds with the concept of collaborative professional work (Lortie 1975; Rosenholtz 1989; Young 2006). While scholars use different terms to describe these values and norms (e.g. autonomy, civility, conflict avoidance, privacy, non-interference, and so forth), there is consensus that they exert negative influence over the growth of teacher professional communities (Levine and Marcus 2010; McLaughlin and Talbert 2001; Pounder 1999). The result of these cultural norms is that teachers spend very little time attending to the work of their colleagues (Curry 2008) nor do they express any great desire to do so (Griffin 1995; Visscher and Witziers 2004). We explore these unproductive cultural norms below.

A core perspective that is deeply entwined in the cultural tapestry of schools is what can best be labeled the norm of legitimacy. Research confirms that what "counts" as authentic activity is what happens inside in classrooms (Goldstein 2004; Little 1982). For both the public and teachers themselves, teaching is defined almost exclusively by time spent inside classrooms working with students (Little 1988; Saunders et al. 2009). Time spent away from the classroom is viewed as lacking legitimacy (Smylie and Brownlee-Conyers 1992).

A second cultural norm is the divide between teaching and administration (Murphy et al. 1987; Rallis 1990). A key aspect of this deeply embedded norm is the belief that the job of teachers is to teach and the task of administrators is to lead (Goldstein 2004; MacBeath 2009). A second aspect is that teachers are expected to implement designs developed by higher ups in the bureaucracy (Boles and Troen 1996; Teitel 1996; Wasley 1991). Teachers are to follow (Moller and Katzenmeyer 1996; Murphy 2005). This role separation is heavily reinforced by the common structures of schooling we explained above.

Related to the above principle is the norm of the managerial imperative, what Keedy (1999, p. 787) refers to as the "norm of the authority and power of administrators." This viewpoint has a deep root structure, one that consistently chokes out perspectives on professional communities (Bryk et al. 2010). At the heart of this standard is the belief that schooling outside of classrooms is the rightful domain of formal school leaders. Given this culture, teachers are "reluctant to challenge traditional patterns of principals' authority" (Smylie 1992, p. 55). Understandings have been forged over time between administrators and teachers (Murphy et al. 1987; Murphy 2013b; Sizer 1984). Both groups often show reluctance to overturn such negotiated arrangements, especially when doing so would damage established patterns of power and autonomy (Harris 2003; Smylie 1992). Cast in starker terms, the argument holds that teachers are powerless to influence activities beyond the classroom (Troen and Boles 1994), that principals are resistant to actions that would change this dynamic (Bishop et al. Bishop et al. 1997; Brown and Sheppard 1999; Goldstein 2004), and that efforts on the part of teachers to challenge the norm would

produce unpleasant repercussions (Clift et al. 1992), including micropolitical dynamics that threaten patterns of power and status (Chrispeels and Martin 2002; Cochran-Smith and Lytle 1999; Visscher and Witziers 2004).

Scholars have also provided considerable information on the norm of autonomy at the heart of the teaching profession (Grossman et al. 2001; Levine and Marcus 2007; Smylie and Hart 1999). As noted above, most teachers work alone, disconnected from their peers (Ancess 2003; Stigler and Hiebert 1999). They "value autonomy more than the chance to influence others' work" (Levine and Marcus 2007, p. 128). They see this freedom from external review as a right of the job (Murphy 2013b; Uline and Berkowitz 2000). They equate professionalism with autonomy (Murphy 2013a). And they practice the art of non-interference in the instructional affairs of their colleagues in the school (Teitel 1996; Wilson 1993). This powerful norm undermines the development of productive relationships that form the center of gravity of communities of practice.

Tightly linked to cultural values about autonomy is the norm of privacy (Feiman-Nemser and Floden 1986; Grossman et al. 2001; Levine and Marcus 2007) – what Griffin (1995) calls "the privacy of practice" (p. 40). As Uline and Berkowitz (2000) document, the interaction rules in a culture of privacy mirror those found in highly autonomous climates and "include never interfering in another teacher's classroom affairs, and always being self-reliant with one's own" (p. 418). The standard of professional privacy is construed "as freedom from scrutiny and the right of each teacher to make independent judgments about classroom practice" (Little 1988, p. 94). While Little (1990) acknowledges that providing help to colleagues is acceptable within tight parameters, in a culture of non-interference and non-judgmentalness teachers are primarily expected to address problems alone (Feiman-Nemser and Floden 1986; Moller and Eggen 2005; Useem et al. 1997). As was the case with the previous norms, the norm of privacy undercuts collaboration, sharing, and responsibility for colleagues which help define communities of professionalism (Siu 2008).

Researchers have also documented that the teacher culture in general and the culture of schools in particular are characterized by egalitarian norms (York-Barr and Duke 2004). The egalitarian ethic of teaching –"the fact that all teachers hold equal position and rank separated by number of years of experience and college credit earned" (Wasley 1991, p. 166) "rather than function, skill, advanced knowledge, role, or responsibility" (Lieberman et al. 1988, p. 151) – holds that all teachers are equal (Katzenmeyer and Moller 2001). Professional communities on the other hand clash with this norm (Friedkin and Slater 1994; McLaughlin and Talbert 2001; Pounder 1999). Without some renorming of the profession, practice communities will be hard pressed to grow.

The norm of civility also often hinders the development of a culture of professional collaboration. As Griffin (1995) reminds us, "schools are nonconfrontative social organizations, at least in terms of how teachers interact with one another" (p. 44). There is strong pressure for cordiality and getting along with others (Conley 1991; Hart 1990; Levine and Marcus 2007; Lortie 1975). The avoidance of conflict and hurt feelings trumps productive exchanges (Chrispeels and Martin 2002; Grossman et al. 2001). Peer critique is considered to be unprofessional and requests for assistance are seen as signs of incompetence (Dannetta 2002). Linked to this are well-ingrained modes of interaction among teachers, such as contrived collegiality and "induced collaboration" (Little 1990, p. 509), actions that promote the appearance of cooperation while maintaining deeply ingrained norms of autonomy, privacy, and egalitarianism. Threaded through all these norms are the values of conservatism and aversion to risk taking (Lortie 1975; Rosenholtz 1989), values that privilege the status quo in the face of learning and change that anchor professional communities.

11.3 Support For Creating Professional Learning Communities

To date, we have examined how the concept of communities of professional practice can founder. Practitioners, developers, researchers, and policy makers require a firm understanding of these dynamics. Equally important, however, they require an operational manual and a well stocked toolbox to create conditions that nurture the formation and growth of teacher communities (Clift et al. 1992; Darling-Hammond et al. 1995). Leithwood et al. (1999, p. 215) capture this as follows: "The principal challenge facing those designing schools as learning organizations is to determine the organizational conditions that foster individual and collective learning and to build these conditions into the school." Fullan and Ballew (2002, p. 14) outlines the assignment thus: "the obligation is to remove barriers to sharing, create mechanisms for sharing, and reward those who do share." Research that deals with the values of communities of practice is readily available. Knowledge directly addressing the creation of professional communities (as opposed to understanding its qualities) is less well-developed, however (Blanc et al. 2010).

Scholars have forged a variety of overlapping frameworks to array the factors and conditions that support the formation of professional communities of practice. Stoll et al. (2006, p. 23) employ four categories: focussing on learning processes; making the best of human and social resources; managing structural resources; and interacting with and drawing on external agents. Mullen and Hutinger (2008, p. 280) also describe four sets of actions: manage resources, provide support and direction, exert appropriate pressure to achieve goals, and mediate group dynamics. Printy (2008, p. 211) discusses three functions: communicate vision, support teachers, and buffer teachers from outside influences. Saunders et al. (2009, p. 1028) highlight the centrality of time, administrative support, and structures. This is consistent with our suggestion that the traditional "functions" of principals (e.g. coordinating, monitoring) can be employed to foster collaborative work (Murphy et al. 1987). More parsimonious frames have been provided by Kruse et al. (1995, p. 34): structural conditions and characteristics of human resources; by Hurd (cited in Morrissey 2000, p. 6): structural conditions and collegial relationships; and by McDougall, Saunders and Goldenberg (2007, p. 54): settings and processes. Taking a slightly different approach, Scribner et al. (1999) describe administrative, moral, and political support directed in the service of forming professional culture. Below we build on this scholarship to examine supports for communities of professional practice. In the process, we add new sub-elements to the overall architecture and contextualize and add nuance to the collective body of evidence.

11.3.1 Creating Structures and Time

As discussed above, structures shape what unfolds in schools, heavily determining what can and what cannot be accomplished. Structures or "conditions" (Stein and Coburn 2008, p. 585) allow values and norms to flourish, or cause them to wither (Brooks et al. 2004; Cochran-Smith and Lytle 1999; Kruse et al. 1995). Our focus at this point in the analysis is on the positive side of the chronicle, that is, how practices and forums in schools can help collaborative communities grow. We begin by reviewing what is known about creating supportive collaborative structures.

A recurring theme across our research over time is that structural change does not predict organizational performance, student learning in the case of schools (Murphy 1991, 2013a). Research also helps us see that simply giving teachers a platform to converse will not ensure the growth of valued professional norms and human and social capital (Levine and Marcus 2007; Newmann et al. 2001). At the core then, structure is about "interactive settings" (Cosner 2009, p. 255) and "interaction patterns" (p. 273). It is about opportunities for forging relationships, for establishing patterns of networks, and for nurturing professional exchange through new avenues of communication (Cochran-Smith and Lytle 1999; May and Supovitz 2011; Spillane et al. 2001; Stoll et al. 2006). In short, it is about promoting professional collaboration (Ancess 2003; Cosner 2009; Morrissey 2000; Newmann et al. 1989; Stein and Coburn 2008).

Research exposes ways to work "structurally" to establish and grow professional community. On the issue of forums, there is near unanimous agreement that schools must re-purpose existing space and current time configurations (Cosner 2009; Rossmiller 1992; Stein and Coburn 2008). For example, community-building work is conspicuous by its absence from many faculty meetings. These settings, and many others, can be re-shaped to deepen collaboration. Concomitantly, as we explore below, there is general agreement that new forums will need to be created. A variety of community-building structures are needed, not simply reliance on meetings (Leithwood et al. 2006b; McLaughlin and Talbert 2001).

Investigators also advance the idea that both formal and informal opportunities for crafting community need to be captured, with an eye open especially for the informal opportunities that often lay fallow (Cosner 2009; McLaughlin and Talbert 2001). Joining together teachers who in informal ways already demonstrate working connections, beliefs, and relationships can be an important aspect of the community-building plan (Penuel et al. 2009; Useem et al. 1997).

Creating structures that promote both horizontal and vertical networks and exchanges is a wise strategy position (Johnson and Asera 1999). Here scholars point

to collaborative structures that stimulate cross-grade and cross-departmental linkages, what Cosner (2009, pp. 268–269) calls "new interaction patterns." Also underscored here are forums that allow teachers from various teams to collaborate (Kruse et al. 1995; Stein and Coburn 2008), by "structuring communities with overlapping boundaries and multimembership" (Printy 2008, p. 217).

As we described above, the handmaiden to structure is time. Without time, the establishment of collaborative forums becomes nearly impossible (Cochran-Smith and Lytle 1999; Darling-Hammond and McLaughlin 1995; Eilers and Camacho 2007; Morrissey 2000; Wenger and Snyder 2000). Alternatively, research on professional teacher community reveals that in schools where community flourishes time is made available for shared work and collaborative learning (Huberman et al. 2011; Youngs 2007). A similar conclusion is evident in studies of effective schools and productive leadership (Blase and Blase 2004; Drago-Severson 2004).

Studies have also uncovered clues about how space and time can be employed in the service of community development. One strategy to enhance exchange is to bring members of current or proposed collaboratives into close physical proximity (Bulkley and Hicks 2005; Leithwood et al. 1997; Supovitz 2008). Research informs us that proximity can aid in overcoming the dysfunctional norms such as privatization that we explored above (Ancess 2003; Gray et al. 1999; Kruse et al. 1995). Another approach is to take maximum advantage of formal teacher leadership positions in school (e.g. data coach), to have them structure and lead forums in which small groups of teachers can interact (Cosner 2009; Murphy 2005). Relatedly, collaboration can be fostered by threading shared leadership throughout the school (Leithwood et al. 2006a; Silins and Mulford 2004; Smylie 1996). Lastly, schools moving to foster communities of professional practice can establish what Saunders et al. (2009, p. 1011) call "predictable, consistent settings"; what Blase and Blase (2004, p. 68) refer to as "teacher collaborative structures"; and what Ermeling (2010, p. 387) describes as "dedicated and protected times where teachers meet on a regular basis to get important work done." As suggested above, these can be new arrangements or re-purposed existing settings. Whatever the designs, these predictable, patterned forums are the most efficacious method of enhancing community development among teachers (Pounder 1999).

Investigators also provide information on specific forums in play in schools working toward the goal of creating more robust collaboration (Penuel et al. 2009, 2010). Re-purposed staff and departmental meetings find a home here (Cosner 2009; Mitchell and Castle 2005; Spillane et al. 2001). So too do re-packaged schedules that allow for late start or early dismissal on selected days (Cosner 2009; King 2001). Creating blocks of time for teachers to observe in the classrooms of colleagues is a special category of collaboration (Blase and Blase 2004; Harris 2003). Ad hoc groups such as book study teams, inquiry groups, and action research teams are found in some community-anchored schools (Cosner 2009; King 2001; Newmann et al. 2001). So too are structures and time for teachers to collaborate around school governance and planning (Leithwood et al. 2006b; McLaughlin and Talbert 2001). Induction and mentoring programs can provide forums to stimulate collaboration and learning (Cosner 2009; Kruse et al. 1995; Youngs 2007). So also can the use of cooperative teaching arrangements (Johnson and Asera 1999). The most widely used strategy is the creation of a master schedule that creates common planning time for groups of teachers, usually by grade level, subject area, or teaching team (Cosner 2009).

In addition, a crosscutting analysis of the research on teacher communities uncovers some of the essential ingredients of these collaborative forums. We discover that these gatherings for work and learning should: occur frequently, for a reasonable block of time, and across the full year (Felner et al. 2007; Raywid 1995); be intensive (Murphy 2005); focus on student learning and instructional matters (Johnson and Asera 1999); maximize interdependency (Cosner 2009; Kruse et al. 1995); privilege evidence; and feature specific tasks that structure time usage (Center for Teaching Quality 2007; Penuel et al. 2009).

11.3.2 Supporting Learning

Time and working structures are important and necessary. But they provide insufficient fuel to communities of practice (Ancess 2003; Ermeling 2010; Wenger 2000; Wenger and Snyder 2000). Professional communities achieve valued outcomes by nurturing the development of professional capital and by promoting teacher learning. Research across school improvement studies confirms that leaving this to unfold by chance is ill advised. What is required is "learning to learn," the development of the knowledge and the mastery of skills that make teacher growth possible. Supovitz (2002, p. 1618) refers to this as "continuous capacity building" and Cochran-Smith and Lytle (1999, p. 294) describe it as "inquiry as stance." We examine the "learning" in the "learning to learn" paradigm for professional communities below.

For most teachers, working with students is a nearly all-consuming activity. Consequently, they generally spend very little time working with other adults. Not surprisingly, therefore, developing "managerial skills in dealing with people" (Ainscow and Southworth 1996, p. 234) appears to be a critical ingredient in helping teachers work productively in learning communities (Adams 2010; Borko 2004). Or, as Little (1987) reports, "the specific skills and perspectives of working with a colleague are critical" (p. 512) for teacher communities to develop. The centrality of forging relationships is essential to the work of practice communities (Ancess 2003; Cochran-Smith and Lytle 1999; Cosner 2009); so too is the formation of relationship-building capabilities (Bryk et al. 2010; Lynch and Strodl 1991).

Researchers have uncovered a variety of interpersonal capacities that promote productive working relationships with peers (Brooks et al. 2004). They find that professional development should assist teachers in developing proficiencies around a number of interpersonal skills (Crow and Pounder 2000). For example, Katzenmeyer and Moller (2001) conclude that growth should begin with personal knowledge. Professional development in this area builds from the assumption that focussing "on increasing their own self awareness, identity formation, and interpretive capacity" (Zimpher 1988, p. 57) is critical. It is this wisdom that allows teachers to discover the values, behaviors, dispositions, and professional concerns that underlie personal performance and to understand their colleagues, especially those

whose experiences and viewpoints do not mirror their own (Katzenmeyer and Moller 2001).

A bundle of competencies that promote productive working relations surface in the research as candidates for inclusion in the advancement of professional learning communities. For example, researchers conclude that "skills that will make teachers sensitive to seeing others' points of view" (Katzenmeyer and Moller 2001, p. 67) and "sensitive to others' needs" (LeBlanc and Shelton 1997, p. 38) are important. Also, because educators often "report that they became more influential through using good listening techniques with peers" (Katzenmeyer and Moller 2001, p. 93), gaining proficiency in the area of listening skills is important. In a similar view, because friction sometimes surfaces in professional interactions teachers in communities are advantaged when they possess well-developed facilitation skills (Cochran-Smith and Lytle 1999; Murphy 2005; Zimpher 1988). In its broadest form, facilitation means "knowing how to help a group take primary responsibility for solving its problems and mitigat[ing] factors that hinder the group's ability to be effective" (Killion 1996, p. 72). More specifically, it includes the cardinal ability to establish trust and to navigate through problems (Kilcher 1992). There is also agreement that community is strengthened when teachers develop consulting skills (Manthei 1992) and proficiency in conferencing with colleagues (Murphy 2005; Zimpher 1988). The "principles and skills of advising" (Little 1985, p. 34) are also key ingredients helping establish a productive climate for collaborative work. So too are influencing skills (Hart 1995; Katzenmeyer and Moller 2001).

In addition, the development of community is enriched when a variety of skills for attacking joint work endeavors and a set of group process skills for understanding and managing the "group dynamics" that accompany collaborative work are provided (Ancess 2000; Kilcher 1992). Most essential here is the broad array of communication skills needed to interact with colleagues (Ancess 2003; LeBlanc and Shelton 1997). Indeed, the conclusion that inquiry communities "benefit from ongoing learning and practice in effective communication" (Killion 1996, p. 72) is clearly illuminated in the research. Problem-solving and decision-making skills are also found to be quite important. As Killion (1996) reports, "knowing various decision-making methods, selecting the most appropriate method for a particular situation, and having a repertoire of strategies for helping others reach a decision with the chosen methods are [also] critical skills" (p. 74). Communities are also advantaged when teachers have well-developed skills in conflict management (Hart 1995; Murphy 2005) and conflict resolution (Fay 1992). Although it is underemphasized in the process-focussed teacher community research, promoting learning also necessitates deep knowledge in content or discipline areas (Cochran-Smith and Lytle 1999; Eilers and Camacho 2007; Leithwood et al. 2004; McLaughlin and Talbert 2001). Part of the content knowledge includes critical skills such as evidencebased teaching and establishing markers of success (Cosner 2011; Levine and Marcus 2007). That is, as Kruse et al. (1995, p. 38) nicely put it, "Professional community is based on an intellectual and practical grasp of the knowledge base and skills underlying the field." In addition, in order "to help teachers engage thorny issues of teaching and learning [...] and critique each other's practice" (Levine and

Marcus 2007, p. 135) deep grounding in one's subject discipline is necessary (Timperley 2005; York-Barr and Duke 2004). Indeed, this may be the most essential learning required for teacher communities to reach their potential (McLaughlin and Talbert 2001).

11.4 The Critical Role of the Principal

Although we possess less knowledge than we might desire, we have accumulated some understandings about principals and communities of professional practice over the last 20 years. Investigators inform us, for example, that community-building work unfolds within three domains: preemptive prevention, removal of existing barriers, and/or the construction of an infrastructure to support the development of professional communities. We also understand that the principal has a cardinal position in this work, a conclusion uncovered in nearly every study of teacher communities of professional practice (Cosner 2011; Louis et al. 2010; Stoll et al. 2006). Research also reveals that there are significant differences in the nature of leadership in schools with robust communities and those with weak communities (Mangin 2007; Youngs and King 2002). That is, "principals can construct their role to either support or inhibit the strength and quality of teacher community" (McLaughlin and Talbert 2001, p. 101). With increasing frequency, research confirms that it is the principal who acts as the catalyst to bring important supports to life (Bryk et al. 2010; Mitchell and Sackney 2006). Without effective leadership, resources, time, and structures have almost no hope of emerging to support collaborative work (Cosner 2009; Hayes et al. 2004). We also know that leadership and professional community are interdependent, having an iterative relationship (McLaughlin and Talbert 2001; Murphy 2005). Perhaps most importantly, there is a growing knowledge base which suggests that of all the ways that principals have at their disposal to influence student learning, developing, and supporting collaborative communities of professional practice is one of the most powerful (Murphy and Torre 2014; Supovitz et al. 2010).

For many leaders supporting communities of practice requires a difficult transformation of their own understanding of leadership and their own leadership practice (Goldstein 2004). "The implications for school principals are considerable" (Crowther et al. 2002, p. 64), and this repositioning presents a real challenge for principals (Brown and Sheppard 1999; Murphy 2005). As we explained in detail above, communities of practice are in some essential ways "at odds with the dominant conceptions of the principalship that have been in place in most educational systems for decades" (Crowther et al. 2002, p. 6). New metaphors for leaders emerge as well (Beck and Murphy 1993; Sergiovanni 1991a, b) – metaphors that reflect the role of the principal not in terms of one's fit in the organizational structure but in terms of membership in a community of leaders (Beck and Murphy 1993; Scribner et al. 1999). More specifically, our review concludes that school leaders have core responsibilities here. They need to build the infrastructure to make professional communities operate. They also need to hold at bay the natural entropy associated with reform. They must help keep communities viable and vibrant. They need to layer in multiple, integrated supports.

One of the main conclusions that has emerged from the research in this area over the last two decades is that it is nearly impossible, to create learning communities from which formal leaders are absent (Louis et al. 2010; Printy 2008). As we discussed above, the principals must be part of communities, not simply distant overseers (Barnett and McCormick 2004; Halverson et al. 2007; Scribner et al. 1999). Principals should model values and principles of community (Gurr et al. 2006; Young 2006). Deep engagement permits school leaders to undertake an assortment of supportive tasks, both symbolic and substantive, such as modeling appropriate behavior, being highly visible, monitoring progress, demonstrating consideration, and so forth (Drago-Severson 2004; Louis 2007; Mitchell and Sackney 2006). Being part of the community tapestry enhances legitimacy of the principal and permits more effective use of the person-centered leadership practices that are much needed in collaborative work (Adams 2010; Leithwood et al. 2006a; Printy 2008).

Scholars confirm that a keystone role for leaders is to ensure that communities of practice are clear, understood, and actionable. Also, values, principles, and expectations need to be bolstered by "enabling policies" (Lieberman and Miller 1999, p. 28). Little (1987) concurs, arguing that "at its strongest – most durable, most rigorously connected to problems of student learning, most commanding of teachers' energies, talents, and loyalties – cooperative work is a matter of school policy" (p. 512) and that "high levels of joint action are more likely to persist" (p. 508) when a supportive policy structure is in place (Bishop et al. 1997).

Research on reform, implementation, change, and school improvement, document the need for sufficient resources. Nowhere is this conclusion more compelling than in the area communities of learning (Grossman et al. 2001; Mitchell and Sackney 2006; Mullen and Hutinger 2008; Wenger 2000). Resources, in addition to time, that surface in the scholarship on professional community include materials, such as "teachers' guides, activity sheets, and commercially prepared videos" (Burch and Spillane 2003, p. 530). Protocols that direct collaborative work into productive channels is a type of material often highlighted in the research on productive communities of practice (Cosner 2011; Saunders et al. 2009). These activities help generate shared language, maintain focus, teach group process skills, and reinforce professional values, while damping down dysfunctional behavior and entropy often observed in work teams (Cosner 2011; Ermeling 2010; Young 2006).

Access to external expertise to help teachers work more effectively together is also underscored in the research (King 2001; McLaughlin and Talbert 2001; Saunders et al. 2009). Such assistance can assume the form of content experts (Murphy 2005), models of best practice (Curry 2008; Levine and Marcus 2007), appropriate research (Vescio et al. 2008), and facilitation (Borko 2004; Saunders et al. 2009). Commitments such as these often require principals to secure new resources or reallocate existing ones to purchase materials, expertise, and time (Ancess 2003; Cosner 2009, 2011). In collaborative communities, all of these resources are employed to deepen professional norms and teacher learning (Silins and Mulford 2004; Wenger and Snyder 2000).

For communities of practice to function effectively, principals need to become central figures in communication systems, employing both formal and informal procedures (Brooks et al. 2004; Cosner 2011; Walker and Slear 2011). When this happens, understanding is deepened, questions can be answered, and misconceptions are addressed before they can become dysfunctional (Cosner 2011; Kochanek 2005; Saunders et al. 2009).

Additional "managing communities" responsibilities for leaders can be culled from the research. Not surprisingly given its importance in the general literature on effective leadership (Murphy 2015), the principal plays an essential role in ensuring that explicit understandings of the rationale for, workings of, and outcomes expected from teacher communities are established (Printy 2008; Quint 2006). Investigators also find that principals with well-functioning professional communities are adept at buffering teachers from external pressures that can cripple progress (King 2001; Rossmiller 1992). They filter demands that are not aligned with community work (Cosner 2011; Robinson 2007) and reshape others so that they fit (Printy 2008).

The necessity for ongoing monitoring of processes and outputs of collaborative work is routinely seen in the research as well (Dinham et al. 1995; Quint 2006; Stoll et al. 2006). Participation in community meetings, review of group documents, and comparative benchmarking are often featured in the monitoring portfolio (Heller and Firestone 1995; MacBeath 2005; Mullen and Hutinger 2008). Monitoring which keeps "leaders in touch with teacher's ongoing thinking and development" (Levine and Marcus 2007, p. 134) leads directly to another responsibility, that of ensuring that collaborative work teams receive useful feedback. A school culture that honors shared engagement (Ancess 2003; Cochran-Smith and Lytle 1999; Harrison and Lembeck 1996) is yet another research-anchored instrument in the managing collaboration toolbox. So, too, is a system of incentives and rewards that motivates teachers to honor mutually of vision, work, and accountability. Currently, the picture that emerges from the research is one in which there are few external incentives for community work (Murphy 2005). In fact, there are numerous disincentives (Little 1988) to change to mutual work at the heart of teacher communities. In many schools, there is limited acknowledgment for the work and few rewards for the additional effort community-based endeavors require (Crowther et al. 2002). While "rewarding teachers who are willing to move beyond their classrooms to lead is a complicated issue" (Moller and Katzenmeyer 1996, p. 13), in the end schools "must provide incentives and rewards for teachers who take the lead in tackling tasks and solving problems" (Boles and Troen 1996, p. 60). Principals, in turn, need to identify and employ strategies to acknowledge teachers in ways teachers value (Harrison and Lembeck 1996; Smylie et al. 2002). Studies consistently find that the responsibility for showcasing and providing recognition for quality work rests squarely with the principal (Drago-Severson 2004; Mulford and Silins 2003).

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11.5 Conclusion

The profession has placed a stake in the ground about the need to build powerful culture in schools. Culture in conjunction with academic process, it is argued, will produce the higher levels of academic and social learning that is so much in demand. Particularly heartening is the accumulation of evidence that a focus on culture has the potential to reach students in peril, creating belonging and engagement where too little exists today.

At the heart of all the new work on culture is the concept of community – community of pastoral care for students, community of engagement for parents, and community of professionalism for teachers (Murphy and Torre 2014). Of the three, the body of scholarly knowledge is deepest in the domain of teacher community. In particular, we saw that considerable information has been layered around professional learning communities. Understanding of the forces fueling teacher professional communities and of the logic model that exposes the DNA of community has grown considerably.

But much work is still needed in linking these powerful norms empirically to mediating factors and organizational outcomes. Equally important, understanding of how to bring teacher community to life is underdeveloped. Actions rest too heavily at times on the platform of structural fallacy. Insufficient study has been undertaken to analyze the growth of the norms that define teacher learning communities. Change is a difficult enough challenge in general. When new ideas run against deepseated ways of doing schooling (i.e. culture) and collide with the sturdy structures of the existing educational system, change is all the more arduous. And no reform is being asked to overhaul the structure and culture of schooling more than communities of professional practice.

In this paper, we reviewed the research about the organizational barriers that get in the way of communities of practice taking root and flourishing in schools. Without a deep understanding of and maps of the schooling landscape, the outcome of community-building work is unlikely to be positive. The possibility of dysfunctional communities was raised. We closed our analysis with research insights about effective strategies to employ in support of community development.

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