Factors in Sustaining Professional Learning Community

James F. Kilbane, Jr.[1]

Abstract

School change efforts to develop schools as learning communities result in schools that are constantly learning and thus changing. This collective case study of four schools involved in a 4-year reform effort begins to examine the ongoing sustainability of a learning community. The study draws insights about the sustainability of learning communities in these schools as involving issues of change, loss, and hope. After offering a description for each of these themes, a discussion is offered that draws connections to the environmental factors of administrative support, collaborative structures, relational integrity, enablers, and coherence that operated to perpetuate reform in these schools.

Keywords

school reform, professional learning communities, school change, professional development

In 1998, the Indiana Essential Schools Network (IESN) initiated a comprehensive school reform (CSR) effort involving 10 schools from across the state. Following principles articulated by the Coalition of Essential Schools (CES), the adopted CSR was aligned with similar initiatives around the nation. In particular, the reform undertaken attempted to effect change of the whole organization by developing professional learning communities within each of the schools. Rather than working on individual components of these schools, a systemic and dynamic approach was advanced that expected complexity, fostered continual change, and attended to the relationships of participants. Proponents hoped that learning communities would build the capacity for

[1]Pace University, New York, NY

Corresponding Author:
James F. Kilbane, Jr., Pace University, 163 William St, New York, NY 10038-2602
Email: jfkilbane@mac.com

change, in at least a critical portion of the staff, so that the practices and processes promoted within the initiative would continue once funding ended.

After 4 years, funding for IESN's initiative was discontinued. During this time, the political landscape had changed and with it the educational landscape. At the time, the newly authorized No Child Left Behind Act (NCLB) shifted priorities in education to accountability and scientific measurement of school effectiveness. The questions before the faculty of the 10 schools that had been involved with IESN were whether and how they would continue to engage in collaborative inquiry and organizational learning. Questions raised by Tyack and Cuban (1995) about the sustainability of CSR were also beginning to receive interest in the literature (Feldman, 2000). Research by Taylor (2005) and Goldenburg (2004) investigated and identified various factors that influenced outcomes as well as articulated methods for gathering and analyzing data to address the problem. This article contributes to theory and practice on the sustainability and persistence of professional learning communities in schools. Specifically, it shares findings from a study of 4 of the 10 schools that participated in the IESN project. Using data gathered 4 years after funding ended, the study investigated the long-term impact of the CSR to develop learning communities and support collaborative inquiry for teacher professional growth and organizational change.

The factors that influenced the sustainability of school change in Taylor's (2005) research were all present in this study. Those with the greatest impact in the four IESN initiative schools included leadership, funding, staff capacity and faculty retention, alignment of effort and protection from competing reforms, and professional development and reform assistance. Before examining these factors as evident within these schools, a review of literature and methodology is provided. The review discusses concepts and findings offered in the literature about professional learning communities and the sustainability of CSR. The article concludes with a summary that emphasizes study recommendations for teachers and principals seeking to support learning communities within their own schools.

Professional Learning Communities

The whole school reform literature began to speak of learning organizations or professional learning communities as an outgrowth of reform efforts in the 1990s (Grossman, Wineburg, & Woolworth, 2000). The argument for such an approach followed Sarason's (1990) assertion that "it is virtually impossible to create and sustain over time conditions for productive learning for students when they do not exist for teachers" (p. 145) and incorporated Dewey's (1916/1966) philosophy. For Dewey, the ongoing life of the community required a continuous readaptation to new knowledge or needs. The scientific method was the decision-making process by which a community learned both to adapt and to develop a common vision toward its growth, which Dewey defined as the ability to develop one's talents and abilities as a member of the community and which development would also benefit the group. Thus, was he an early proponent of not only progressive child-centered education (a basis for the work of CES and IESN) but also

ideas that have taken root in literature on learning communities or organizations (Fullan, 1993; Senge, 1990). Both bodies of scholarship share an understanding that shifts learning from that of an individual process prevalent in traditional teacher professional development to a collegial process that is aligned with a systems approach. The long-term focus of such effort is improved learning for students (DuFour & Eaker, 1998; Kruse, Louis, & Bryk, 1995; Louis, Mark, & Kruse, 1996; McLaughlin & Talbert, 2001; National Association of Secondary School Principals, 2004).

Based on a 5-year program of research involving 24 schools in 16 states that addressed the issue of collaborative inquiry to support standards-based student achievement, Newmann (1996) identified five central elements to define learning community. A learning community is a group of professionals who possess a common vision for student learning and agreements that involve collaborating, sharing, and reflecting on their practice and who inquire into the teaching and learning process. Each of these elements has been supported in research (Achinstein, 2002; DuFour & Eaker, 1998; McLaughlin & Talbert, 2001; McLaughlin & Zarrow, 2001; Senge, 1990; Sergiovanni, 2000; Weinbaum et al., 2004).

As the self-governing aspect of a living system regulates the whole to sustain itself, a community working to maintain its intellectual focus for the long term can balance diverse, and potentially opposing, short-term needs (Newmann, 2002). Sustaining this ongoing public inquiry of practice and a results-oriented focus on student learning exposes a culture that is different than that of traditional schools (Goodlad, 1984; Sizer, 1984). Sizer (1996) later attempted to depict schools with a culture of learning for student and teacher and joined with a loose affiliation of schools, the CES, to implement the vision.

Sustainability of CSR

Research into the sustainability of CSR indicates a number of factors that affect its growth or persistence (Florian, 2000; Gersten, Chard, & Baker, 2000; Taylor, 2005). Florian (2000) studied four districts 9 years after they initiated a CSR effort. She found that the continuity of the changes was influenced by the following factors: staff development becoming routine, school culture supporting innovation, collaboration focusing on achieving goals, consistent leadership, and district structures and political context supporting reform ideals. She noted that these factors worked in tandem. Taylor (2005) extended this list to the following through reviewing the literature: (a) strong local capacity, (b) encouraging political context, (c) adequate funding, (d) positive student outcomes, (e) alignment between the reform design and the school, (f) leadership continuity, (g) faculty retention, (h) faculty commitment, (i) practical concrete reform specifications structured into daily school life, (j) sustained professional development, and (k) protection from competing reforms. After analyzing data from 395 urban, disadvantaged, low-achieving elementary and middle schools 3 years after they began CSR, he found that the absence of one or more of these factors contributed to the decision to end reform at every school.

The health of a natural ecosystem is the result of interlocking relationships of various elements termed environmental factors, which include water, temperature, soil conditions, and so on. Similarly, a number of factors support the health of the web of relationships that make up the human system of a school community. School leaders' attention to the factors noted by Taylor and Florian increase the chance of success in building and maintaining the school as a professional learning community. The following discussion examines the literature on the persistence of CSR as organized around five environmental factors: collaborative structures, administrative support, relational integrity, enablers, and coherence.

Collaborative Structures and Administrative Support

In a 3-year study of eight elementary, eight middle, and eight high schools that were successful at developing a professional community, Louis et al. (1996) developed a framework of structural conditions and social resources that made a substantial contribution to the strength of these communities. The four structural conditions were scheduled planning time, teacher empowerment, staff size, and staffing complexity. They also identified five social resources: supportive leadership, feedback on instructional performance, openness to innovation, respect, and professional development. Other authors are not as extensive in their considerations but generally concur that these conditions are important (Bray, Lee, Smith, & Yorks, 2000; DuFour & Eaker, 1998; Sarason, 1990; Senge et al., 2000; Weinbaum et al., 2004).

Time for teachers to come together is the structural condition most commonly cited as a necessity and a challenge in CSR (Bray et al., 2000; DuFour & Eaker, 1998; Sarason, 1990; Senge et al., 2000; Weinbaum et al., 2004). Most CSR initiatives have teachers meeting outside of school time, usually with a stipend. This arrangement leaves the meeting as an extra that can be ignored when the teacher's life outside of school requires attention.

Time is usually dependent on resources. Appropriate resources, along with administrative support to provide those resources, are seen as critical (Bray et al., 2000; Little, 2002; Louis et al., 1996; Oja & Smulyan, 1989). Resources are needed for coaching, and also needed are substitutes to allow teachers to visit each other's classrooms, equipment to videotape teaching, financial support to present at conferences, and Internet access for professional communication. In addition, there needs to be resources committed to increased communication (Senge et al., 2000).

Support is also necessary to provide the autonomy and empowerment for teacher inquiry (DuFour & Eaker, 1998; Louis et al., 1996; Newmann, 2002; Senge et al., 2000). If teachers do not feel they have the power to make changes based on the findings of their inquiry, they will not invest the energy or effort into the challenging work of inquiry. This empowerment also can increase a sense of accountability, which can be further enhanced by opportunities to share the results of inquiries with a larger public, be it professional or the local community. Providing support for professional exchanges such as critical friends visits (where visiting groups provide feedback to the

host school), presenting at conferences, or hosting open house nights can develop teacher professionalism (Little, 2002). Administrative support may provide a fertile ground on which the interdependent relations of a community can grow but can be jeopardized when school leadership changes (Taylor, 2005) or becomes inconsistent in direction (Florian, 2000).

Relational Integrity and Enablers

Relational integrity is the internal accountability of the members of the community to continuous learning and to each other. Integrity comes from the goal orientation of a commitment to continuous learning and an acceptance of the accountability that goes with setting and measuring progress toward goals (Florian, 2000; Goldenberg, 2004). This is true whether the goal is student learning or teacher learning. Measurement of progress toward goals requires that teachers know the technical aspects of collaborative inquiry (Weinbaum et al., 2004). The knowledge of assessing as well as collecting, managing, and analyzing data that result is critical to inquiry and one of three skill sets necessary to collaborative inquiry and relational integrity.

Accepting responsibility for the learning of not only oneself but also all members is the central relational element of professional community (Allen, Blythe, & Seidel, 2002; Grossman, Wineburg, & Woolworth, 2001; Westheimer, 1998). This responsibility requires an acceptance of mutual respect (Cochran-Smith & Lytle, 1999), deprivatization of practice, and conversations that lead to shared vision and team learning. Engaging in effective conversations that compose deprivatization of practice requires a knowledge base of group theory or skills (Mohr & Dichter, 2002), the second skill set needed.

Although focusing on student work supports group cohesion by moving the focal point to actual data (MacMullen, 1996; Schmoker, 1999), the conversations are still challenging because of a diversity of views, fluidity of relationships, and the multidimensionality of group work. Yet meeting that challenge is necessary for learning (Achinstein, 2002) and requires the third skill set of conversational skills (Clark, 2001). It means having the conversational skills to balance honesty with care and concern so as to not shut others down (Grossman et al., 2001) and for setting norms of interaction (Weinbaum et al., 2004). Protocols are frequently cited in research as helpful tools for educators to practice ways of talking that are more productive in collaborative settings (Little, Gearhart, Curry, & Kafka, 2003; McDonald, Mohr, Dichter, & McDonald, 2003).

Oja and Smulyan (1989) identified technical support for learning the skill sets of new conversational skills, group dynamics, data-processing skills, and knowledge about the inquiry process as valuable, whereas Weinbaum et al. (2004) described using partners to support these as part of CSR. In particular, an external sympathetic partner can provide both the motivation and the pressure of occasional nudging to persist long enough for the efforts to take root (Guskey, 1995; Moffett, 2000). There are two key supporting partnerships or enablers discussed in the literature: coaches and networks.

The collective term *enabler* is used here because, to keep change efforts moving, there is frequent need to consider new ideas or perspectives and to challenge the underlying assumptions that may prevent progress, enabling growth.

Poglinco and Bach (2004) defined coaching as "a process whereby seasoned teachers provide instructional support, professional development opportunities, feedback, and materials to classroom teachers" (p. 398). Tung and Feldman (2001) described the responsibilities of coaches as (a) developing a collaborative culture, (b) improving teaching, learning, and assessment, (c) creating structures for high achievement, and (d) promoting decision making based on data-based inquiry. Each responsibility corresponds to an aspect of relational integrity: strengthening relationships, professional accountability, long-term goals, and use of evidence. At the same time, the tools a coach uses in Costa and Garmston's (1994) conception—observing, questioning, probing and clarifying, providing data, reflecting—enable coaches to model the inquiry cycle for teachers with whom they are working.

Professional networks of individual teachers for the purpose of sharing ideas about practice have been around for many years. Schools involved in CSR have formed networks often supported by national organizations. McLaughlin (1990) suggested that "the embedded structure of greatest import to teachers might have little or nothing to do with policy—it might have to do with professional networks, school departments, or other school-level associations or colleagues, however organized" (p. 14). This may be because networks can provide the two-pronged action of support and pressure necessary for learning to occur (Meier, 2000). Lieberman and Grolnick (1996) studied 16 networks, finding that participants were able to grapple with problems in depth and immediately, to get multiple perspectives, with others who have common struggles and goals. Learning communities particularly benefit as networks tend to support collaboration, integrated change, facilitative leadership, multiperspective thinking, and teachers challenging each other to develop new ideas rather than administrators prescribing actions (Lieberman & Grolnick, 1996). By acting as "critical friends," members of a network can offer critical feedback through structures of school visits and protocols and also lend support by recognizing and celebrating successes when they occur (Ancess, 2003; Little, 1999; McDonald et al., 1999).

Coherence

Taylor (2005) identified the importance of a fit or alignment between the philosophy of the reform effort and that of the school for ensuring success. Goldenberg (2004) expanded the alignment to be between all factors that affected learning at school. All elements of a reform intervention, professional development, instructional strategies, indicators of success, culture, and community involvement must work together to provide the coherence necessary to sustain change (Berends, Bodilly, & Kirby, 2002).

Taylor's (2005) research noted the need for coherence not only at the school but also at the district office level through its support of the school efforts. This makes sense based on Meier's (2000) contention that innovative schools need to expend

energy on obtaining waivers and adjustments from rules and regulations designed to standardize schools. A district whose vision was aligned with that of the school would decrease the possibility of frustration and burnout of the staff from such efforts. It was this coherence that Pritchard and Marshall (2002) found in their research on healthy districts that had improved student achievement. The commonalities they determined by examining 18 sample districts from a pool of 100 included professional development that is integrated into the life and purposes of the district as a whole.

Fullan (2005) also contends that there must be coherence between the efforts not only of the school and district but also of the state, as many state regulations govern practice in schools. Fink (2000), Goldenberg (2004), and Ouchi (2003) extend this idea of coherence to developing support from the wider public community in order to decrease the challenges to change. It is this sense of coherence between the school environment and its structures, the professional development of teachers, the leadership, school goals, and professional culture that shifts from the modern worldview conception of fixing each teacher to that of a holistic approach to not only school reform but also learning.

This section on environmental factors identifies those elements that support a learning community and enhance the sustainability of learning process identified in CSR literature. Table 1 provides a summary of the key ideas discussed above. School leadership that embraces such practices increases the chance of success in building and maintaining the school as a professional learning community.

Method

Similar to the method employed by Coe (2000), Florian (2000), and Coburn (2003), this collective case study examined the current impact of a prior intervention. In this study, data were collected to describe four schools as learning communities 4 years after they participated in a 4-year CSR effort. As do the three studies cited, this study considered the current status of the schools as learning communities, including what had been sustained and what had changed since funding ended as well as those factors that might have influenced their current status. Data were collected through interviews, document analyses, and observations. The analysis of the data used a phenomenological approach to draw conclusions.

A case study affords recognition for the occurrence of multiple simultaneous actions in order to understand their interrelated nature (Schostak, 2002). Goldenberg (2004) argued case studies permit a more detailed description and analysis not afforded by other forms of research. It is this more detailed accounting that lets researchers answer the how and why questions so important in understanding school change. Because the original reform effort involved the schools operating as a network to support each other in becoming learning communities, this research explored one subset of schools from that network. Furthermore, Stake (1995) stated a collective case study facilitates pattern recognition in multiple schools, thereby lending credibility to the significance of the pattern.

Table 1. Environmental Factors for Sustainability of Reform Efforts

Environmental factor	Particular expression in sustainability research
Collaborative structures	Time to practice new reform practices; time for educators to come together; sustained professional development; development of staff ability is routine; sufficient funding
Administrative support	Leadership stability; leadership is consistent; political context supports reform; support from system; leadership; sufficient funding; protection from other reforms
Relational integrity	Faculty commitment; faculty retention; innovation supported; goals; goal focused; focus on student data; indicators of success
Enablers	Model developer assistance; professional networks; assistance from knowledgeable others
Coherence	Fit or alignment between reform design and school; practical concrete reforms are structured into daily life; factors working in tandem; coherence of efforts

The Schools

The demographic data for the four schools selected for study are offered in Table 2. School names are pseudonyms. Dewey is a small K-8 school of choice within its small city district. Emerson is a K-8 magnet school within a large urban district. Pierce is a comprehensive high school, the sole high school for the midsize city in which it is located. Thoreau is a comprehensive high school, also the sole high school, though in a small town in a rural setting. The four schools chosen for this study each had a core group of 7 to 10 teachers who remained constant throughout the 4 years of the reform effort. All four had administrative leadership that supported the involvement in the reform process, though the principal for each only occasionally attended events. Finally, each of these schools had the same school change coach for all 4 implementation years.

Data Collection

Group interviews were the primary vehicle to collect data on the perceptions of teachers as to the continuation of the reform efforts. Participants reviewed transcriptions of the interviews and had the opportunity to share additional thoughts. These interviews were followed up with individual interviews of two teachers at each school to gain a teacher's perspective on current classroom practice, interaction with the whole school, and impact of those parts of the reform effort that had been sustained.

Table 2. School Demographic Data

	Dewey	Emerson	Pierce	Thoreau
Staff FTE	12	26	163	78
Student enrollment	176	290	2,269	910
Low SES (%)	48	72	32	15
White (%)	75	5	75	92
Black (%)	9	89	8	0
Hispanic (%)	6	2	14	6
Asian (%)	5	0	1	0
Attendance rate (%)	95	96	95	95
ISTEP pass rate (%)	60	43	60	71

Note: FTE = full-time equivalent; SES = socioeconomic status; ISTEP = Indiana Statewide Testing for Educational Progress

Beside interviews, document analysis and observations were conducted as part of the study. The reform effort's emphasis on learning community considered issues of both whole school change and individual teacher practice, so data collection focused on effects on the whole school community, small working groups of school community members, and individual teachers. Gathered data included school reform plans, accreditation documents, parent and staff newsletters, and observations of meetings for evidence about whether the whole school or small groups within this school had the qualities of a learning community.

Data Analysis and Trustworthiness

Two coding schemes were employed in analyzing data. The first was developed from the review of the literature on learning communities as offered in the previous section. The characteristics, habits, and supporting environmental factors of learning communities were examined. The second scheme developed from an analysis of the data to make sense of the perspectives of the teachers about the influences on their interactions and professional practice (van den Hoonaard, 1997). A constant comparative method was employed to develop a grounded, sensitizing framework for interpreting data. These concepts were adjusted as additional data were reviewed and organized, which became the themes of change, loss, and hope reported here. These themes were common across the interviews and schools and were integral to understanding the perceptions of teachers.

Follow-up phone interviews were conducted in conjunction with member checking, when necessary. These provided additional clarification and validity for the conclusions being drawn. In addition to these steps for assessing the accuracy of collected and analyzed data, the validity of conclusions depended on the presence of multiple incidents of supporting evidence across schools and teachers. Last, a thick description of the themes in the report of the findings provides transparency that permits readers to determine the strength of the research.

Limitations

As this is a case study of just four schools from one state, the conclusions it draws are not readily generalized to other contexts. Conclusions are based on a limited range of possibilities from these sites, and it is probable that some important issues of schools as learning communities have not emerged in this study. The relevance of the findings to another school depends on its educational setting and its similarity to the schools studied here (Florian, 2000). Also though some conclusions are drawn regarding potential impacts on the development (or lack thereof) of learning communities, the research was not designed to determine causal relationships but rather to suggest possibilities for further research in this area.

Findings

Each of the schools in this study had its own journey, yet there were commonalities among them. A description of the IESN initiative and each of the schools as professional learning communities is offered elsewhere (Kilbane, 2007). The following section explores the themes that emerged across the schools as related to their efforts to maintain and develop CSR practices, strategies, and structures. Analyzing the stories and responses shared by teachers, observations of school meetings and classrooms, and artifacts generated by teachers exposed insights about the sustainability of CSR in these schools as involving issues of change, loss, and hope. After offering a description of each of these themes, a discussion is offered that draws connections to the environmental factors of administrative support, collaborative structures, relational integrity, enablers, and coherence that operated to perpetuate reform in these schools. As might be expected in a complex system, there are connections between each of the themes, so although each is addressed separately, there is also overlap from one to the others.

An Individual Response to Change

In each of the four schools, the CSR initiative attempted to change practice at both the classroom level and the whole school level. One year after the initiative ended, Thoreau's principal retired and the principals at Pierce and Dewey were replaced. The new principal of Pierce was then replaced the following year. Although the leadership of Thoreau and Pierce remained stable after these changes, Dewey experienced a series of new leaders, which also occurred while the CSR was underway. Unlike the other three schools, Emerson retained its principal during and after the initiative. In both Thoreau and Pierce, faculty claimed the new administration had moved away from group decision making, nor was work of building a shared vision manifest according to teachers. "I don't think we have a shared vision now. I think it's 'Here's what I want to do and this is the way we are going to do it'" (Peirce group interview). Teachers discussed being left with two options for continuing the work. One choice was to foster the collaborative skills learned within traditional structures (e.g., department

meetings, department chair meetings, instructional leadership team meetings), and/or they could continue the changes made individually in their classrooms. Evidence of the first option was rarely apparent in both schools. Department chair meetings in both high schools were described as being one-way communication venues. Furthermore, the CSR conversation protocols were completely abandoned at Pierce, and at Thoreau their use became very limited. Perhaps the teachers involved were not yet comfortable enough with the collaborative processes to teach others in their use or insist that these practices be continued. For whatever reason, the knowledge and formal deployment of CSR strategies in group settings contracted.

At Dewey and Emerson, faculty also talked about giving less attention and energy to whole school processes that were instituted as part of CSR once involvement with IESN ended. Dewey's teachers struggled with maintaining use of the protocols not because of opposition but rather through neglect of its administration and faculty. The turnover in principals was also evident in its staff. Within 2 years more than half of the teachers in the school had changed, and those who remained struggled with how to maintain group processes in the face of multiple challenges.

Emerson too experienced significant staff turn over. In addition, those teachers who remained discussed how they had used the group decision-making structures to back away from multiage instruction, which had been advocated by their principal. The teachers felt that as a result of this outcome their principal was less supportive of engaging in CSR processes and appeared to revert to more traditional forms of managing the school. The use of group meetings had become unproductive. They shared, "It is just because we are met out. Meetings seemed to have slowed a little bit. . . . People are tired of meetings, especially meetings that don't seem to be all that productive" (group interview). The teachers at Emerson discussed how they continued to use what they had learned through the IESN initiative in their classrooms as it pertained to student learning.

Teachers at the other three schools also described using their new skills on an individual basis. Most importantly, teachers shared that practices such as classroom-level student inquiry continued through modeling and as a result of state-required portfolios. The CSR principle of "student as worker" and "teacher as coach" was discussed by nearly all of the teachers as a goal they continued to value. Students displaying their knowledge through exhibition, cowriting rubrics with teachers, and providing input into the development of their classes were some of the CSR elements that were still carried on. And yet the fact that the teachers described these practices as being the same as when the IESN initiative ended indicated a lack of growth or development that would be expected in a learning community.

The lack of development was not surprising because several made comments that reflected the following:

> I guess I don't [do] as much. I would also say that it really hadn't come to my mind, due to always being busy just getting grading done and stuff. I'm glad you brought that up, because, you know what, I really miss part of that . . . because it gets them to think about it a little bit more. (Thoreau group interview)

The problem that these teachers were pointing at is reflected in Rallis and MacMullen's (2000) study of 18 schools in six states associated with the Annenburg Challenge, which included an inquiry component like IESN's. They argued that a school with teachers doing individual inquiries does not result in an inquiry-minded school. Without the support of larger group, it is easy for individual teachers to revert to familiar and traditional practices. Similarly, Shank (2000) found in her case study of a collaborative inquiry group that change in individual practice occurs when it is supported by a "web of connections" (p. 285). Something about the group component of the work made difficulties easier, particularly when teachers could see their effort as connected with others for making the school better.

Shackles and Loss

Teachers at the four schools spoke about school leadership as one of the limits to their pursuing reform objectives schoolwide. Particularly at Pierce, teachers described the change in leadership and direction at the building level as leading to devaluation of the collaborative element of their work, reduction in opportunities for local inquiry, and curtailment of their empowerment. At one time teachers had used time together to investigate, and "nothing [was] too faux pas to talk about" (group interview). Meetings had become places where the principal shared ideas and attempted to gain consensus. A similar impact was evident at Thoreau, where there was also a change in leadership. Much of the sense of loss that teachers at Thoreau felt over not being able to affect change, provide leadership, or meet together was attributed to the actions and comments of their new administration. Thoreau teachers shared their fear of meeting as a group. They related incidents where they had been told that they were undermining the administration, particularly when they asked questions about school practices, which questioning had been encouraged as part of the CSR effort. At both Pierce and Thoreau, teachers felt they were limited in implementing what they had learned during the previous 4 years.

Faculty in these schools also discussed the impact of state- and federal-level mandates as limiting implementation of initiative ideals. A teacher at Pierce explained that the mandates forwarded within NCLB were "so totally contrary" to the CSR effort and that many teachers felt no connection could be made between the two. "Now it just seems like there are so many unfunded mandates from everywhere. There's no common anchor. So it's all fragmented and there's no common energy" (teacher interview). At Thoreau, a teacher commented without being challenged by others that the faculty no longer shared the bigger picture. Fragmentation of efforts, a hallmark of traditional school culture, was being reasserted in these schools.

Teachers raised concerns over lack of control about personal energy and unfunded decisions affecting resources:

> There have been more expectations placed on us from the state, the school has had to take a lot of the limited resources that we have, with respect to people

who are involved in those kinds of initiatives, and force them to refocus on things that are required of us, instead of things we would necessarily like to be participating in. That also means that for me, personally, because we have been in such a state of transition as a result of that, I've not had the time personally to dedicate to whole school efforts because I'm trying to keep myself afloat in my own classroom. . . . I think it's just you have this much energy and you have this many things you need to get accomplished [hands spread out] and you have to prioritize. (Pierce group interview)

The loss teachers experienced extended to their understanding of their own efficacy. Feeling disconnected and disempowered for these teachers was seen as ironic. "Now is when we can really use those things that we came up with. And we have no vehicle to do that. That's what I think is upsetting to me" (Pierce group interview).

The teachers at both Pierce and Thoreau reflected on the fact that what they might have been experiencing was a changing of the guard and that they were no longer part of the group making the change. Indeed, teachers in both schools noted that they no longer felt invited to be part of the work. For all these teachers, the perceived inability to affect whole school change for improving learning for students, when at one time they felt it was quite possible, was central to their feelings of loss and being shackled. To many, it appeared that their only option was to respond individually.

Even teachers at Dewey felt the loss and disempowerment from key staff having been replaced and from being under consideration by the district for closure. For Dewey teachers, the obstacle was the lack of perceived support on the part of the district and building administration rather than the overt opposition experienced at Pierce and Thoreau. Because administering Dewey was only one of several district responsibilities for its principal, key roles of leadership, such as setting direction, developing curriculum, and monitoring success through data collection, were fulfilled by the staff and parents. Dewey was not dependent on official leadership for the impetus to change. Yet the value that administrative support and leadership played, even in a nominal form, was evident here given that decisions by others about resources negatively affected their efforts.

Emerson was the only school where teachers did not view state and federal mandates as being in opposition to their CSR work. They felt that the collection and analysis of student data aligned with the CSR effort. The identification of standards for student performance was also perceived as contributing to their conversations about teaching and learning. Teachers at Emerson, however, were not without criticism of NCLB and its influence on their work: "It's harder when our time is itemized for us. And we no longer get to decide what is important to us. So the things that are important to us, they get harder and harder to do" (group interview).

Accepting the responsibility of becoming an inquirer into one's practice is a component of Rallis and MacMullen's (2000) internal accountability. Until recently, accountability, whether internal or external, has played a minor role in the culture and conversation of teaching. Currently, it manifests as an externally mandated

accountability (e.g., standardized test scores, media school report cards). Building internal accountability, then, not only takes time but also goes against the grain both of traditional teacher practice and of the external accountability of efforts such as NCLB. All the teachers in the project insisted on the value and importance of the coaching they received as part of the CRS effort for holding them accountable. Studies on school change coaches describe the challenge of building capacity among teachers to hold themselves accountable but with no clear advice on how the role of coach moves teachers toward the independence needed for internal accountability (see Neufeld & Roper, 2003; Tung & Feldman, 2001). Teachers in schools need to be accountable as opposed to being held accountable. The comments of teachers on the importance of coaching for holding them accountable indicated that they had not internalized this aspect of their professional role. Therefore, external accountability of NCLB appeared unconnected to the internal accountability of a learning community that hindered development of anything more than an individual response to change and contributed to the sense of alienation and disempowerment expressed by participants.

Hope: Cultural Change Taking Hold

The impact of the CSR effort on the classroom practice of individual teachers contin- ues. That these inquiry practices and collaborative approaches have become meaningful to the teachers and have been maintained signifies a cultural change. Indeed, Evers, one of the guest contributors to *Schools That Learn* (Senge et al., 2000), discussed the need for members of a learning organization to "muddle through" (pp. 150-151) the development of a shared vision and shared understandings about learning and about themselves as an organization. This takes time, energy, patience, and a belief that in the end you will come to a better endpoint. Cultural change means attending to the culture—consistently working on it, developing accountability for it, and working on multiple aspects at once.

In the interviews at Dewey, participants most clearly described the influx of new teachers and the ways they were attending to their culture to redevelop a shared vision and rebuild a web of connections. Teachers characterized Dewey during this time as a "learning organization in conflict." Dewey staff discussed confronting changes in their culture with which they were familiar and comfortable. The conflict was particu- larly pronounced for the new teachers at Dewey who, because they were busy meeting state licensing requirements and simultaneously trying to stay abreast of their work, struggled with incorporating inquiry into their practice. The experienced staff were at a loss with how to support the new teachers and not further overwhelm them in the effort to maintain or strengthen the school's culture. In addition, both new and experi- enced teachers at all schools pointed to other activities competing for their time as a major reason for their lack of follow-through in continuing with inquiry processes.

Despite such challenge, Dewey's commonly and tightly held goal of better oppor- tunities for student learning acted to encourage faculty to move through the conflict and uncertainty in the hopes of reaching their goal. Although the smaller staff size

gave every individual the opportunity to be heard, their greatest advantage was that the experienced teachers, through practice and the use of democratic structures, understood the time and energy necessary to develop that shared vision and the necessity of relational integrity for supporting it. Dewey's faculty also benefited from the participation and commitment of its parents who took over the role of enabler from the school change coach. As the parents were central to the Dewey community, the teachers' dedication to them and to their children created a more authentic accountability, overlapping the internal and external for the teachers.

Teachers at the other three schools also referenced their labor in building and maintaining the inquiry processes and collaborative strategies. Teachers at Thoreau discussed informally meeting one on one with each other and mentoring new teachers, both formally as part of the state-mandated program and informally as peers. At Emerson, former student teachers were hired (particularly those who had spent 2 years at the school), which strengthened their interconnectedness and relational integrity. "The staff looks on new people as being able to mentor them also" (Emerson group interview), indicating that ongoing learning had taken hold.

Although evidence of whole school or group cultural change was less apparent in the four schools, there are two notable instances. One indication of more systemic cultural change at Thoreau was present in the work that one teacher termed "collaborative inquiry–esque." The school had adopted a Freshman Literacy project. The project's design and implementation had been heavily influenced by teachers who had participated in the CSR effort, and they embedded in it elements of inquiry, collaboration, team learning, and a focus on student learning, which had been promoted within IESN's change effort. In particular, the group of Freshman Literacy facilitators met weekly during school time and regularly outside of school time to discuss their practice and to plan ways to extend their knowledge to others. These sessions were based on collaborative inquiry groups who shared and discussed readings, considered practices that were and were not working, offered support to each other, and exchanged ideas about working with the students. This group also developed, and invited other staff to attend, sessions at which staff members could learn how to use and develop these same skills with all students in their classes. Most staff members participated in this schoolwide team learning activity.

The second clear example of whole school reform taking hold was evident in Emerson. In trying to improve the overall learning experience of their students, Emerson's staff implemented a curriculum with a focus on the environment to unify the academic experience of their students. They instituted multiage classrooms and later used looping to develop strong relations between teacher and student so that teachers could spend more time and be more effective at developing strengths and weaknesses. Interwoven through the effort was the collaborative review of both student achievement and demographic data. All activities working together in a coherent manner.

In all the schools, there were some elements of the reform effort. Although most of those elements were sustained by individuals in relation to their individual practice, there were some changes at the whole school level. Coe (2000) found in her follow-up

study to a professional development program that those who had learned new practices and ideas were implementing them in new settings, affecting others, and slowly changing the larger culture over time. In the same way, in each of these four schools, changes that supported a learning community were slowly taking place. These findings support Tyack and Cuban's (1995) argument that school change is a slow, evolutionary process. The last section considers the impact of the factors on the development of these professional learning communities.

Discussion: Impact of Environmental Factors

Dewey is unique in that it is a small school and the entire staff is easily assembled for working as a whole. Dewey appeared to have the best chance of sustaining its change efforts for three reasons. First, there was involvement of the whole staff. Second, it was begun as a CES school. And third, faculty had developed an active community with parents and students. During the initiative, unlike at the other schools, where staff had to meet after school on their personal time, Dewey's staff had met twice a week for an hour before the students came to school as part of their contractual day. Like the other schools, however, much of what the IESN initiative expected to continue at Dewey did not. Dewey was buffeted by the same environmental factors as the other schools. The particulars included limitations on time and resources, change in leadership, change in staff, loss of external support, and the impact of NCLB and other mandated programs, all noted by Taylor (2005) in his review of reform sustainability.

Collaborative Structures and Administrative Support

Although there is some interplay among all the environmental factors (e.g., having collaborative structures improved the relational integrity), administrative support was unique. Given the hierarchical structure of most districts and schools, the leadership of administrators was key to the promotion or hindrance of the other factors. For the schools in this study, administrative support was critical in the strength of the learning community sustained.

In both high schools, a change in principal meant a change in the direction of the school community. In the period following reform, the decision-making power the teachers (or some group of them) had shared returned to their principal. In all cases, their ability to affect schoolwide change was lessened, and it led to the feelings of loss and being shackled. One teacher in Thoreau offered a comment that was shared by many others:

> We used to have conversations about why we do things, and part of the reason we had those conversations is because our vision and our mission was something we all generated together. We all had convictions about it and we had common belief. And we don't necessarily have that now. So you run up [against] a brick wall. (group interview)

When administrators did not share in the vision and did not develop a new, shared one, it left open the possibility for an individual response on the part of the teachers.

Principals strongly factor in determining the use of time and resources and play a critical role in creating collaborative structures. The lack of time or vehicle for collaborative inquiry, or any type of shared decision-making process, played a key role in slowing the evolution of all of the schools as learning communities. To ensure that the time is used wisely, protocols and other procedures, as well as the development of the attendant skills of teachers, are necessary.

Relational Integrity and Enablers

If collaborative inquiry or any practice related to a learning community is dependent on teachers giving energy and time outside of work, then burnout and personal life changes that create barriers to the ongoing learning are real threats. Life changes or burnout stopped people from learning and pulled them out of the web of connections at Emerson, Pierce, and Thoreau. At Dewey, the personal investment of energy in efforts to survive as a school redirected efforts that would normally have tended to relational integrity. In all cases, the dedication to maintaining relationships suffered, as did the shared accountability to each other. Goldenberg (2004) discusses the impact of key individuals leaving as having far-reaching consequences because of the interdependency of environmental factors.

Lack of resources for presenting at or attending conferences, hiring an external consultant, or making critical friend visits limited the public accountability that all the participants saw as important to deepening their learning. The accountability to others who operated as enablers was one facet of the integrity held by the learning community, one that teachers characterized as facilitating their professional growth. This was particularly true in the case of a facilitator who supported the development of their technical skills. This was clearly a resource issue, though once the skills were learned, participation in a network or with a critical friend partner provided support and challenged thinking. In the case of Emerson, the staff's participation in a partnership with a local university provided them with a regular influx of ideas and questions. At Dewey, it was the parents who played the role because they had both invested in the community and wanted a sound experience for their children.

Coherence

Although each of the changes at these schools by itself would not appear to be a fatal blow to the learning communities that had developed, the multiplicity of simultaneous changes led to a weakening of their resiliency. Taylor (2005) notes that external support longer than the 4 years is often required for changes of an initiative to take effect. Furthermore, when the grant ended, financial resources that supported many of the environmental factors were lost, and this loss was exacerbated by the appearance of NCLB measures.

The NCLB mandates appeared to prevent movement toward the coherence the schools were expected to develop. Although there were some parallels with IESN's reform (school improvement and professional development plans, use of data for decision making, teaching portfolios), there were also dissonant elements. Particularly when the schools were trying to focus on individual learning, portfolios, and student projects, many of the mandated interventions did not mesh well with the underlying CSR philosophy. Specifically, the top-down nature of mandates conflicted with the local decision-making approach of IESN's work. This dissonance took teachers' time and energy away from other activities, such as their involvement in collaborative inquiry. Teachers also had little choice but to attend to mandates. Although there might have been a possibility of incorporating the legislated mandates, such as NCLB, into IESN's more holistic orientation, that orientation had most likely not matured enough to accomplish such.

Conclusion

Together, the adverse effect of the changes in the environmental factors promoted a climate hostile to cultural change necessary for sustaining the professional learning communities within these schools. Without collaborative structures and time as well as the leadership willing to dedicate resources to pursue individual and schoolwide inquiries, the teachers were limited in their professional learning. In addition, when the external support disappeared, and with it reform assistance, the pressure for holistic change was also modified. At the same time that funding was withdrawn, what appeared were a new external accountability measure and pressure for achievement on a standardized test. This shift in focus created a dissonance for the teachers. Faced with a less than favorable environment, teachers mostly chose to disengage, seizing on occasional opportunities (individual change in their classrooms, "collaborative inquiry–esque" activities, etc.) to return to the work of the professional learning community that had sustained their change efforts during the reform initiative.

In the commonalities of the journeys of these four schools, there were three responses to changes in the environmental factors. First, teachers attempted to maintain the ideals of the change effort individually as best they could, whether that was in the individual classroom or through maintaining their web of connections. Second, there was a feeling of loss and limitation on the part of the teachers who had participated in the CSR effort. Third, there was a schoolwide fostering of those ideals that had taken root in the culture of the school. The great challenge of culture change when a school attempts to transform into a professional learning community was iterated. Although every school had small pockets where cultural change had taken root, it was most pronounced at Dewey, where the learning community had the greatest influence on its environmental factors.

Like the latest research on teaching, this work on school reform points out its complexity. School reform, and the leadership of a school, is not a simple or straightforward task. This research suggests that the environmental factors of administrative support,

collaborative structures, relational integrity, enablers, and coherence, which support professional learning communities, must all be present and fostered because of their interrelated nature. Leadership and administrative support play a more critical role than the others given the concentration of power and decision making in the office of the principal. Just as the environmental factors can promote or hinder the ability of a natural ecosystem to flourish, the system of relationships or culture in a school can be supported or hindered by the actions and activities of key personnel. A school leader's attention to these factors can increase the chance of success in building and maintaining a professional learning community within a school.

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Bio

James F. Kilbane, Jr. is currently an Assistant Professor at Pace University in New York City preparing and working with science teachers.