Teachers’ Perceptions of Collective Efficacy and School Conditions for Professional Learning

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Paper Presented to the Annual Meeting of the
University Council for Educational Administration

Nashville, TN
November, 2005
Abstract
As educators look for approaches to school improvement that can help all students reach high levels of achievement it is timely and important to examine how districts can develop approaches to increasing the instructional capacities of their schools. The purpose of this article is to report on research conducted by Harford County Public Schools, a mid-sized district in a suburban region of Maryland, U.S.A., to develop effective strategies for supporting the development of professional learning communities that took into account existing collective efficacy beliefs of the districts’ teachers. A survey was conducted of 2,448 teachers in 49 schools in the district on school conditions of professional learning and their collective efficacy beliefs. Teacher’ perceptions of collective efficacy and conditions for professional learning communities were related to school level. In general, elementary teachers perceived higher collective efficacy and a more positive school culture for professional learning communities to develop than did middle and high school teachers. There were moderate to significant correlations between teachers’ collective efficacy beliefs and their perceptions of conditions supporting professional learning communities. This suggested that teachers who perceived their school to be characterized by shared leadership, focused vision, collaborative work, shared observation, and supportive conditions also perceived their colleagues to be effective in bringing about student learning. We found two variables, previous year’s proficiency and collective efficacy, to be significant predictors of reading proficiency among elementary schools. However, when we controlled for the effects of socioeconomic status, collective efficacy beliefs contributed substantially to mathematics achievement. Our findings suggest that school district leaders can develop strategies to support school-based professional learning communities with some confidence that in doing so they are fostering conditions supporting improved student learning outcomes.

Background

In a recent study researchers reported that school districts in the United States are developing intensive sets of locally designed strategies to address the requirements of implementing the No Child Left Behind Act (NCLB) (Center for Education Policy, 2004). This is not surprising because under this federal legislation, districts must demonstrate that they have met a number of performance requirements. However, districts now report that in order to meet the performance requirements of NCLB, they seek to identify exemplars of success and the research-based factors that explain their effectiveness.
In this article we report on research undertaken to support the efforts of the Central Instructional Leadership Team (CILT), led by the superintendent of Harford County Public Schools (HCPS), a suburban school district in Maryland, to develop effective district strategies to support sustained school improvement. District efforts occurred in the context of planning that occurred for the submission of a required Master Plan as set forth in State law. This Master Plan described strategic actions that were projected to support the District meeting all requirements of NCLB. These requirements included accountability elements for academic achievement, school safety, teacher qualifications, and the obligation to provide high quality professional development to all teachers.

**District Theory of Action**

As part of responding to NCLB requirements for districts to develop strategies for high quality teacher professional development, the superintendent examined research on the reform initiatives of other districts, and established a framework for district actions to build instructional leadership capacity through professional development. The resulting theory of action included elements aligned with NCLB requirements identified in current research as “high quality” professional development. The theory of action was designed to take into account evidence of the influence of workplace conditions and workplace culture on teachers’ practice, and consequently on student outcomes (Darling-Hammond, et al. 2002; Hall & Hord, 2001; Hord, 2000; Morrissey, 2000).

A number of promising strategies were developed as part of the theory of action for system improvement identified through examination of research taking two different perspectives on the organizational context required to develop teachers’ instructional capacities. One group of researchers has explored the conditions supporting the

**Collective Efficacy Beliefs**

School and district leaders seeking to understand these facets of motivation should examine the recent and growing body of research on the effect of self efficacy beliefs on the goals that individuals set for themselves, how much effort they expend, how long they persevere in face of difficulties, and their resilience to failures (Bandura, 1993, 1997). Over the past two decades researchers have consistently reported strong connections between teacher efficacy and teacher behaviors that foster student achievement (Gibson & Dembo, 1984; Tschannen-Moran et al, 1998). Their research has also revealed the importance of collective efficacy, reflecting the shared beliefs of capability of teachers and administrators that the efforts of the faculty as a whole will have a positive effect on students (Hoy & Miskel, 2005).

Collective efficacy is a cultural property of schools that reflects a collective set of beliefs that have a differential effect on student achievement (Bandura, 1993, 1997). Perceived collective efficacy is a construct derived from social cognitive theory that is based on the assumption that “the choices that individuals and organizations (through the actions of individuals) make are influenced by the strength of their efficacy beliefs” (Goddard et al, 2004a, p. 4). The basic assumption of social cognitive theory is that that human agency concerns the ways that people exercise some level of control over their
own lives. Bandura (1997) argues that personal agency operates within a broad network of sociostructural influences. Within this network, when collectives choose to intentionally pursue a course of action, their actions reflect the exercise of organizational agency.

**Sources of Collective Efficacy Beliefs**

Although perceived personal efficacy and perceived collective efficacy differ in their unit of agency, Bandura (1997, p. 478) argues, “in both forms efficacy beliefs have similar sources, serve similar functions, and operate through similar processes”. Bandura (1986, 1997) identifies four sources of efficacy formation: mastery experience, vicarious experience, social persuasion, and affective state.

Mastery experience, the perception that a performance has been successful tends to raise efficacy beliefs, in turn contributing to the assessment that similar proficiency can be expected in the future. Efficacy beliefs arising from mastery experiences are enhanced when attributions of success are made to controllable causes rather than to luck or external influences. Mastery experiences are associated with organizational learning, reflecting the phenomenon of that through the learning of group members, organizational learning occurs. However, if learning produces success to easily, when inevitable difficulties arise, failure is likely to be discouraging. Goddard et al observe, “a resilient sense of collective efficacy requires experience in overcoming difficulties through persistent effort” (2004a, p. 5). Research by Goddard (2001) provides evidence of these effects of mastery experience. In a study of school reading achievement, he found that mastery experience (prior school reading achievement) was a significant positive
predictor of differences among schools in perceived collective efficacy, more than aggregate measures of school measures and socioeconomic status.

Skills modeled by others provide vicarious experiences that influence collective efficacy beliefs. These beliefs are enhanced when observers identify those who performance is successful. How observational learning occurs in organizations has not yet been fully explored, although, there is some evidence that organizations may learn from others provided those organizations have achieved valued outcomes.

Social persuasion, exercised through encouragement or feedback concerning particular performances, depends on the credibility, trustworthiness, and expertise of the persuader (Bandura, 1996). Goddard et al (2004a, p. 6) argue that at the group level, social persuasion is a way of conceiving the ongoing socialization that organizational participants interdependently create and experience. Collective efficacy perceptions serve as normative expectations for goal attainment. A robust sense of group capability establishes a strong press for collective performance. . . In schools possessed by a high degree of perceived collective efficacy, new teachers learn that extra effort and educational success are the norm. In turn, these high expectations for action create a normative press that encourages all teachers to do what it takes to excel and discourages them from giving up when faced with difficult situations.

Goddard et al (2004a) also postulate that affective states may influence how organizations interpret and react to changes that they face. Thus, schools with organizational cultures framed by the robust collective efficacy beliefs of faculty may
tolerate the pressures and crises that are now associated with high stakes accountability without debilitating consequences.

**Elements of Collective Efficacy**

The major influences on collective efficacy are assumed to be the analysis and interpretation of the four sources of information that we have just outlined: mastery experience, vicarious experience, social persuasion, and emotional state. Goddard et al point out that in schools the processes of analysis and interpretation focus organizational attention on two related domains: the teaching task and teaching competence. They postulate that “perceptions of a group capability to successfully educate students result when teachers consider the level of difficulty of the teaching task in relation to their perceptions of group competence.” (2000, p. 9). They further suggest that this process occurs at both individual and school levels as “teachers analyze what constitutes successful teaching in their school, what barriers or limitations must be overcome, and what resources are available to achieve success” (p.9). Goddard and his colleagues (2000) further argue that teachers conduct their analysis of the teaching task “in conjunction with their assessment of the teaching competency of the faculty…At the school level, the analysis of teaching competence produces inferences about the faculty’s teaching skills, methods, training, and expertise [and may also include] positive faculty beliefs in the ability of all children in their school to succeed” (p. 10).

In developing the Collective Efficacy Scale, Goddard et al (2000) also postulated, “Because these analyses of task and competence occur simultaneously, it is difficult to separate these two domains of collective teacher efficacy. They interact with each other as collective efficacy emerges” (p.10). Goddard and his colleagues theorized that the
consequences of high collective teacher efficacy would be the acceptance of challenging goals, strong organizational effort, and a persistence that leads to better performance. Conversely, lower collective teacher efficacy leads to less effort, the propensity to give up, and a lower level of performance.

**Research on Collective Efficacy Beliefs**

The recent research interest in collective efficacy beliefs is based on emerging evidence suggesting that they are linked to group goal attainment. Several studies have shown a strong link between perceived collective efficacy and differences in student achievement among schools (Bandura, 1993, 1997; Goddard, 2001, Goddard et al., 2000). Goddard and his colleagues (2004a) found that “perceptions of collective efficacy directly affect the diligence and resolve with which groups choose to pursue their goals. Hence perceived collective efficacy is a potent way of characterizing the strong normative and behavioral influence on an organization’s culture” (p. 8).

Hoy and Miskel (2005) point out that research shows “a strong school culture of efficacy seems to promote high student achievement, in part, because it leads to the acceptance of challenging goals, strong organizational effort, and a persistence that leads to better performance” (p. 179). The opposite effect has also been found, so that lower collective efficacy seems to lead to less, effort, the propensity to give up, and a lower level of performance. Significantly for school districts faced with the sanctions imposed by NCLB as a result of lower school performance, once established, collective efficacy beliefs are hard to change. Researchers have found that analyses of teaching tasks and assessments of teaching competence that are the basis of estimations made by teachers in
forming collective efficacy beliefs are likely to remain unchanged unless something dramatic occurs.

A key lesson for school and district leaders is that a school culture of efficacy is a relatively stable property that requires substantial effort to change. Goddard et al (2004a & b) suggest that the determinants of collective efficacy may be found within the organizational context of the school. If this so then, there are some potentially promising directions to be taken in creating cultural change that can be gleaned from research into the collective context in which teachers engage in professional learning. Hord (1997), Morrissey (2000) and Massell (2000) all report that the most promising approaches to creating school cultures with norms of continuous improvement focus on the development of professional learning communities (PLCs).

**Professional Learning Communities**

Researchers studying the conditions of professional learning that promote and support the development of teacher instructional capacity identified several foundational aspects of the organizational arrangements in schools that are viewed exemplars of professional learning communities (Huffman & Hipp, 2003; Hord, 1997, 2000, 2004; Morrissey, 2000). Those researchers use the term ‘professional learning community’ (PLC) to describe a school that operates in a way that engages the entire group of professionals coming together for learning within a supportive self-created community. In these settings teachers and school leaders come together to interact, test their ideas, challenge their inferences and interpretations, and process new information with each other.

Research focus on professional learning communities is a relatively recent phenomenon. Researchers originally focused on identifying conditions in schools
conducive to change. In 1992 Boyd identified seventeen indicators that were highly indicative of a context in which change was likely to be initiated and sustained. The original indicators identified by Boyd were later clustered into four functional groupings (Boyd & Hord, 1994): 1) reducing isolation; 2) increasing staff capacity; 3) providing a caring, productive environment; and 4) promoting increased quality.

The first cluster, reducing isolation, was related to changing schedules, school structures, policies and practices associated with communication and collaboration, and increasing the sense of collegial relationships within the faculty. The second cluster, increasing staff capacity, pertains to creating conditions that increase teacher autonomy, improve staff development and decision-making, and increase the availability of resources. The third cluster, providing a caring productive environment, focuses on creating positive teacher and community attitudes, fostering the development of caring relationships, increasing motivation, and forming networks of partnerships to work on improved achievement. The final and fourth cluster, promoting increased quality, relates to creating the conditions to support continuous inquiry and improvement, and developing cultural practices to foster common vision and purpose among members of school communities.

Hord (1997) studied Boyd’s indicators and the clusters developed from these indicators and concluded that PLCs are schools in which staff operate along the continua of the five dimensions: 1) shared values and vision; 2) collective learning and application; 3) supportive and shared leadership; 4) supportive conditions; and 5) shared personal practice. In addition she found that a fundamental characteristic of a PLC is its strong and unwavering focus on student learning.
**Shared Values and Vision**

Hord defines a shared vision as a strong mental image of what is important to the individuals and the organization (Hord, 1997; Hall & Hord, 2001; Hord, 2004). The shared values and vision guide the staff and leadership decisions about teaching and learning, and support the norms and behaviors in the school and district community. The values and vision are embedded in the day-to-day actions of teachers and administrators. While staff is encouraged to get involved in defining and sustaining the vision, they hold themselves responsible to make all decisions on the basis of the vision and values. School or district leadership is responsible for repeatedly communicating and sustaining the vision throughout the organization. In an organization that functions as a PLC, the common good is “on a par with personal ambition” (Hord, 2004, p. 9).

**Collective Learning and Application of Learning**

Professional learning communities engage school staffs in processes that collectively seek new knowledge and processes. Problems are addressed through the collegial relationships and investigations that promote new knowledge and learning that can be applied to the day-to-day issues of student learning in the classroom. Schools that operate with this form of PLCs go far beyond issues of schedule, discipline, and fund raising to address the issues at the core of their mission – student learning. Hord (2004) states, “Such collaborative work is grounded in reflective dialogue or inquiry, where staff conduct conversations about students and teaching and learning, identifying related issues and problems” (p. 9). The inquiries inherent in this culture allow teachers and administrators to apply new information to problem solving, and therefore work to provide new conditions for addressing the needs of students. In these environments
educators apply the most effective pedagogy to the instruction of their students and take responsibility for the learning of each and every student.

**Supportive Conditions**

Morrissey (2000) argues “creating supportive structures, including a collaborative environment, has been described as the ‘single most important factor’ for successful school improvement and ‘the first order of business’ for those seeking to enhance the effectiveness of their school” (p. 8). Hord (1997) identified the two kinds of supportive structures within a school that operates as a PLC as structural conditions and relationships.

Examples of structural conditions that must be addressed to create PLCs include use of time, communication procedures, size of the school, proximity of teachers to each other. Structural conditions must also ensure that teaching roles are interdependent, teachers feel empowered, and professional development processes are appropriate to teacher needs.

Aspects of supportive conditions that are relevant to relationships are meant to capitalize on the human capacities of the individuals within the organization. Examples of supportive structures that foster productive relationships include positive educator attitudes, shared vision and sense of purpose, willingness to accept feedback, strong cognitive skills, norms of continuous inquiry and improvement, respect, trust, and positive, caring relationships. Hord (2004) claims, “Supportive conditions determine when, where, and how the staff regularly come together to do the learning, decision-making, problem solving, and creative work that characterize a professional learning community” (p. 10).
Principals can provide aspects of both structural and relationship elements of PLCs. The functioning of the PLCs within the organization will be further enhanced if various district and community groups are supportive of the PLC structure as well. The elements under this dimension seem most clearly related to many of the indicators identified by Boyd (1992).

**Supportive and Shared Leadership**

The transformation of a school into a PLC requires more distributed leadership and joint learning with the staff and administration equally engaged. Within a school PLC, all staff must work and grow together to achieve jointly defined learning goals for staff and students. Hord (2004) argues, “Administrators, along with teachers, must be learners: questioning, investigating, and seeking solutions for school improvement and increased student achievement” (p. 8). Hord believes that schools can get a great deal accomplished if shared leadership is nurtured within a school. People in positions other than formally recognized leadership must be encouraged to provide leadership and direction in addressing the needs of students and staff.

**Shared Personal Practice**

Elmore (2000) states “schools and school systems that are improving directly and explicitly confront the issue of isolation” (p. 17). In the schools studied by Hord (1997, 2000), and Morrissey (2000) teachers had time to share their views and knowledge about professional aspects of teaching. Similarly, Elmore (2000) reports that schools can improve by “creating multiple avenues of interaction among educators and promoting inquiry-oriented practices while working toward high standards of student performance” (p. 2). Morrissey (2000) also reports that while shared personal practice is
a critical aspect of PLCs it is often the last dimension to be developed. Darling-Hammond (1998) reports that teachers who spend time sharing their expertise are more effective in developing higher-order thinking skills in their students and are more effective in meeting the diverse learning needs of today’s students.

_Research on Conditions Required for the Development of Professional Learning Communities_

In recent years a number of studies have been conducted to examine the conditions that foster development of the five dimensions of PLCs focused on individual schools that successfully improved student achievement. Hord (1997, 2000, 2004), and the SEDL group (Morrissey, 2000; Huffman & Hipp, 2003) conducted case studies on individual schools, identifying significant foundational factors, the presence of which contributed to PLC success, and the absence of which often presaged difficulty or failure in PLC implementation. Trust is essential to the development of PLCs. So also are conditions that enable teachers’ voices to be heard, and provide opportunities for open discussions about the impact of programmatic changes on teachers work. These foundational factors were highly focused on factors in the teachers’ workplace that supported their ongoing learning and their efforts to make improvements in classroom practices. Hall and Hord (2001, p. 197) elaborate:

> Such support was manifested as teachers worked together, sharing their craft and wisdom, learning from each other, and collaborating on problems and issues of concern to them. This support increased teacher efficacy, which meant that they gave more attention to students’ needs and adopted new classroom behaviors more readily.
Notably, Hord and Hall’s comments point to their claim that there is a possible relationship among supports created in professional learning communities and increases in teacher efficacy beliefs. Hord and Hall further postulate that increased teacher efficacy is likely to result in increased teacher attention to student needs and changes in teaching practices. These propositions provided an initial direction for our secondary analysis of the HCPS survey of the faculty perceptions of school readiness for professional learning and their collective efficacy beliefs. We next describe the analytic framework that guides our analysis.

**Guiding Analytic Framework**

Our analysis is framed within the context of the theory of action that we believe best reflects the underlying premises guiding the district’s efforts to develop professional learning communities. Figure 1 presents this theory of action.

Figure 1 suggests that district strategic actions enact transformation of teaching learning process in schools across the district by setting bureaucratic expectations, creating shared orientations, mediating power relations and addressing individual cognition and motivation. These district efforts should increase instructional leadership capacity, and in so doing mediate teachers’ perceptions of the readiness of schools to become learning organizations.
We assume that increases in instructional leadership capacity occur in the context of considerations of the characteristics of teachers in schools served by instructional leaders. We also assume that teachers in elementary, middle and high schools may perceive the readiness of their schools in different ways. We hypothesize that teachers’ perceptions of schools as learning organizations are related to their collective efficacy beliefs, and that both are influenced by the context of high stakes accountability. This influence we believe mediates the influence on student achievement of teacher efficacy beliefs and perceived readiness for professional learning.

**Data Sources**

In order to gain an understanding of existing organizational cultures, the district undertook an initial investigation of the relationships between teachers’ perceptions about collective efficacy, and their beliefs about their influence upon decision-making, the focus of the school upon student achievement, the nature and frequency of staff interactions around learning, opportunities for teachers to observe one another’s classes and provide feedback, and the resources and conditions available in the school to facilitate staff communication and trust. As a first step in developing these strategies, in August 2003, all teachers (N=2,448) and administrators (n=117) employed in the 49 district schools (31 elementary, 9 middle, 8 high) Harford County Public Schools were surveyed to determine their perceptions of school conditions supporting professional learning, and their perception of several indicators of collective efficacy beliefs (see Appendix 1 for the Conditions for Professional Learning Survey).

The School as Learning Organization Survey (SLO) (Hord, 1997) was administered to teachers and administrators in each of the 49 district schools. The survey also asked
teachers to indicate their school, grade level taught, gender, and years of teaching experience. Appended to the 17 SLO indicators were four items taken from the Collective Efficacy Scale (Goddard, 2002) designed to measure key aspects of collective efficacy beliefs (CE-Scale).

Student achievement was measured as the percent of students in the school achieving a rating of Proficient or better in reading and mathematics on the Maryland School Assessment (MSA), a standardized statewide measure of reading and mathematics skills used to calculate school AYP. Two separate analyses were performed, one for reading and one for mathematics.

Results

Table 1 displays the Cronbach Alpha reliabilities and associated statistics for the five dimensions of the SLO and for the items selected from the CE-Scale to capture the interaction of Task Analysis and Group Competency assessment for the 49 schools. The number of teachers who completed all 20 items is presented in the third column. The Alpha reliabilities for the dimensions ranged from .93 for the 17 PLC items, to .74 for the 3 CE-Scale items.

Analysis of responses to the four items selected from the CE-Scale indicated that one item of the four items appeared to be unrelated to the other three. This item, which asked teachers to indicate their level of agreement on the six point Likert scale to the following
statement: Teachers here need more training to know how to deal with difficult students.

Principal components analysis of the remaining three items produced a single eigenvalue that accounted for 66.9% of the variance. The Alpha reliability for the remaining three items CE-Scale items was .75, lower than that reported by Goddard in field-testing the CE-Scale (.96). A total CE score was computed by summing the three related items. Two of these items loaded on both General Competence and Task Analysis components of collective efficacy, reflecting the tendency for teachers to engage in the cognitive processes of considering one component in light of the other and visa versa.

*Teachers’ Perceptions of Professional Learning Community Readiness and Collective Efficacy Beliefs*

The descriptive statistics providing means and standard deviations of teachers’ ratings on 5 point Likert scales for the five dimensions of PLCs and the summed CE items are presented in Table 2 (All levels, Elementary) Table 3 (Middle, High School). Mean ratings of teachers in elementary schools were higher for all five PLC dimensions and for Collective Efficacy Beliefs. Associated standard deviations were lower. Data presented in these tables suggest that teachers’ perceptions of collective efficacy and school readiness for professional learning communities are related to school level. In general, elementary school teachers appear to perceive high collective efficacy and a school culture more conducive to supporting a professional learning community than middle and high school teachers. Furthermore, perceptions generally tend to be more diverse among secondary (middle and high) compared to elementary school teachers.
We also explored the relationships between collective efficacy beliefs and perceptions of conditions of readiness as a professional learning community. Our analysis of correlations, presented in Table 4, suggests HCPS teachers’ perceptions of collective efficacy and their perceptions of conditions supporting professional learning communities are moderately or substantially related, and all are positive. All correlations are significant at the .01 level. The lowest correlation was between collective efficacy and shared personal practice (.18), however, the two other lowest correlations were also with the dimension shared personal practice (with shared leadership .27, and with shared vision and values .29).

Table 4 also shows that, ignoring correlations between separate dimensions and the PLC total score, the majority of the intercorrelations were moderate, being in the .40s -.70s. This suggests that teachers who perceive their schools to be characterized by shared leadership, focused vision, collaborative work, shared observation, and supportive conditions also perceive their colleagues to be effective in bringing about student learning.
Differences in Teacher Characteristics and Perceptions of Collective Efficacy Beliefs

We were also interested in examining the relationship between collective efficacy beliefs and variables including teacher gender, years of experience, and school assignment (elementary, middle, and high school). Analysis of variance performed on the CE scores indicated that teachers’ perceptions of collective efficacy are related to levels: elementary teachers perceiving higher collective efficacy than middle and high school teachers. Table 5 presents the analysis, showing that there was a significant differences in teacher CE beliefs between levels.

In addition correlations between teachers’ self reported years of experience in teaching, years of experience in school, gender, and perceptions of collective efficacy were also calculated. The correlation between collective efficacy and gender was small, but statistically significant (r=. 12, p<. 00), suggesting that females perceive higher levels of collective efficacy than males. The correlations between collective efficacy beliefs and teaching experience are, however, negligible (r=. 05, p<. 01), suggesting that individuals who remain in the profession longer are no more likely than novice teachers to perceive their colleagues as effective. Additionally, teachers who remained in the same school for a long period of time were no more likely than new teachers to perceive their colleagues (in that school) as effective (r=. 03, p<. 01).

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Relationships between Collective Efficacy Beliefs, Perceptions of Professional Learning Community and Student Achievement

Our analytic framework proposes that there are relationships between collective efficacy beliefs, perceptions of school conditions for professional learning communities, and student achievement. We examined these relationships in a regression analysis performed with school mean scores. Student achievement was measured as the percent of students in the school achieving a rating of Proficient or better in reading and mathematics on the Maryland School Assessment (MSA), a standardized statewide measure of reading and mathematics skills used to calculate school AYP. Two separate analyses were performed, one for reading and one for mathematics. Both analyses included only elementary school data.

In the first regression analysis, student proficiency on the 2004 MSA reading test served as the dependent variable. Predictor variables included the previous year’s percent at proficient, the percent of students in the school eligible for FaRMS (an index of student poverty), the percent of teachers holding an Advanced Professional Certificate (a proxy for highly-qualified teachers), the school mean score on the SLO survey, and the school mean on the CE-Scale items used in the HCPS survey.

Table 6 indicates that only two variables, previous year’s proficiency and collective efficacy beliefs, are significant predictors of current reading proficiency among elementary schools.

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A similar analysis was done for mathematics. Table 7 indicates that none of these variables predicted current levels of proficiency in mathematics.

Insert Table 7 About Here

These findings suggest that the relationship between perceptions of professional learning communities and student achievement are not easy to disentangle from the context of schools, where differences in socioeconomic and minority status of students are strongly related to student achievement. The finding of a significant relationship between collective efficacy beliefs and student reading achievement in these analyses suggests that these relationships should be examined more extensively, as we do in the next sections of this article.

Collective Efficacy Belief Effects on Student Achievement at the School Level

To further explore these effects we undertook analysis of responses aggregated to the school level to determine the nature and direction of the relationship among the following:

- Student (%FaRMS and % Not White) and teacher characteristics (Mean Years Teaching, % Not Highly Qualified) and Student Achievement (% proficient in reading and mathematics);
• Collective efficacy beliefs and teacher characteristics, including mean years of
teaching experience of teachers, and teacher qualification status- as defined by
Maryland requirements for teaching in subject areas;
• Student characteristics (% FaRMS, % non White Students) and collective
efficacy beliefs; and
• Student achievement outcomes and collective efficacy.

The results of our analysis of these relationships are presented in Figure 2. Here we
show that as expected, student achievement, especially in reading is strongly associated
with student demographics, poverty and race. The relationships for mathematics are in
the same direction, but weaker. There is also a direct relationship between teacher
qualifications and student achievement in both mathematics and reading. Again,
however, the relationships are hard to interpret because not highly qualified teachers are
more likely to be teaching in schools with higher concentrations of poverty and minority
students.

We also show that, as predicted, collective efficacy beliefs are associated with student
achievement. The association, however, appears to be stronger in mathematics. Student
characteristics, on the other hand seem to be a more important for reading achievement.
Since mathematics is more closely associated with the quality of instruction (which students can learn on their own), this finding is in keeping with expected results.

We also considered the nature and direction of the relationship between student characteristics and collective efficacy. The direction of the relationship between the two indicators of the group of students served (socioeconomic status -% FaRMS, and majority race/ethnicity and teachers’ collective efficacy beliefs is as predicted. Teachers teaching in schools with high student poverty perceive less collective efficacy and teachers in schools with a higher proportion of White students perceive greater collective efficacy in their schools. However, we note that we found a statistically significant relation between the per cent of not highly qualified teachers and the per cent White students ($r = -0.22$, $p < 0.003$), and a positive (but not significant) relationship between the presence of not highly qualified teachers and high poverty students ($r = 0.17$), suggesting that it could be the combination of challenging students (high poverty, non White), and less qualified teachers that combine to reduce the level of collective efficacy beliefs.

We found to be indeterminate the magnitude of the relationship between collective efficacy and two characteristics of the teaching staff: experience (measured as total years spent in teaching) and qualifications (measured by the percent of teachers not meeting state requirements for “highly qualified.” Although our small sample size ($N = 49$) complicates our analysis, there does appear to be at least a moderately positive relationship between qualified teachers in the school and collective efficacy beliefs.

*Contribution of Collective Efficacy Beliefs to Addressing Socioeconomic and Minority Status Conditions Affecting Student Achievement*
One of the most important policy concerns that we wished to address in this study was whether collective efficacy beliefs predict student achievement, as other researchers have found. If they do, then questions of how such beliefs can be fostered become more salient when designing approaches to teacher professional growth and development.

In further exploring the relationship between collective efficacy beliefs and student achievement, we asked the following question: Do collective efficacy beliefs predict student achievement, when SES and race are controlled? In order to address this question we conducted two analyses. In the first analysis our guiding question was: Is the relationship between collective efficacy beliefs and student achievement affected by student characteristics such that in certain contexts, for example in schools where there is a high proportion of FaRMS eligible students, are collective efficacy beliefs more or less important?

To address this question we examined the relationships between collective efficacy beliefs and reading achievement across all grades controlling first for FaRMS and then for Minority Enrolment. We conducted the same analysis for mathematics.

Figure 3 presents our findings. It shows that when FaRMs is controlled, collective efficacy beliefs contribute moderately to reading achievement ($r=.35, p<.05$). However, collective efficacy beliefs contribute substantially to mathematics achievement when FaRMs is controlled ($r=.73, p<.01$). There is no effect of collective efficacy beliefs on reading achievement when minority enrolment is controlled, but there is a significant effect of collective efficacy beliefs in mathematics when minority enrolment is controlled ($r=.71, p<.00$).
Discussion of Findings

The HCPS – CILT found the research on PLC’s to be a useful framework for developing the district’s strategies for improving instructional capacities in schools. However, the CILT also recognized that their efforts to support the development of PLCs must take into account the effect on teachers of the pressures created by NCLB requirements that students of all subgroups demonstrate Adequate Yearly Progress. With this recognition, the CILT turned for guidance in developing the HCPS strategies to research on teachers’ collective efficacy. CILT members recognized that with increased school accountability for student performance, it has become important to address teachers’ knowledge and commitment to helping all children to master the curriculum.

This commitment is demonstrated most clearly by teachers’ persistence and perseverance in working with “difficult” or “struggling” students. Teachers’ sense of efficacy, their belief that they can bring about learning, has been shown to predict their classroom performance. In refining strategies to support the development of cultural conditions essential to school-based professional learning communities, the HCPS- CILT took into account the conclusion reached by Goddard et al (2004a) that knowledge about collective efficacy beliefs is “critical to understanding the influence of school culture on teachers’ professional work and, in turn, student achievement” (p. 8).
Review of Findings

In the analysis we have reported in this article, we have attempted to increase knowledge about these relationships. Analysis of correlations revealed that teachers’ perceptions of collective efficacy and conditions for professional learning communities are related to school level. In general, elementary teachers appear to perceive higher collective efficacy and a more positive school culture for professional learning communities to develop than do middle and high school teachers. Furthermore, perceptions generally tend to be more diverse among secondary compared to elementary school teachers. Analysis of variance performed on the CE scores supports that finding. A post-hoc comparison of group means indicated that all three groups were significantly different from one another.

Correlations between teachers’ self-reported years of experience in teaching, years of experience in the school, gender, and perceptions about collective efficacy were also calculated. The correlation between collective efficacy and gender was small but statistically significant ($r = .12$, $p < .00$), suggesting that females perceive higher levels of collective efficacy than males. The correlations between perceived collective efficacy and teaching experience, however, was negligible ($r = .05$, $p < .01$), suggesting that individuals who remain in the profession longer are no more likely than novice teachers to perceive their colleagues as effective. Additionally, teachers who remained in the same school for a long period of time were no more likely than new teachers to perceive their colleagues (in that school) as effective ($r = 0.03$, $p < .01$).

Teachers’ perceptions of collective efficacy and their perceptions of professional learning community readiness are moderately or substantially related. This suggests that
teachers who perceive their school to be characterized by shared leadership, focused vision, collaborative work, shared observation, and supportive conditions also perceive their colleagues to be effective in bringing about student learning.

Finally, relations between collective efficacy beliefs and perceptions of professional learning community readiness and student achievement were examined in a regression analysis performed with school mean scores. Student achievement was measured as the percent of students in the school achieving a rating of Proficient or better in reading and mathematics on the Maryland School Assessment, a standardized statewide measure of reading and mathematics skills used to calculate school AYP. Two separate analyses were performed, one for reading and one for mathematics. Both analyses included only elementary school data. In the first regression analysis, student proficiency on the 2004 Reading Test served as the dependent variable. Predictor variables included the previous year’s per cent at proficient, the per cent of students in the school eligible for FARMS (an index of student poverty), the per cent of teachers holding an Advanced Professional Certificate (a proxy for highly-qualified teachers), the school mean score on the Professional Learning Community Survey, and the school mean score on the Collective Efficacy scale.

We found only two variables, previous year’s proficiency, and collective efficacy, to be significant predictors of current reading proficiency among elementary schools. None of these variables predicts current levels of proficiency in mathematics.

Significance and Implications

Analysis of the survey of teachers’ perceptions of conditions conducive to professional learning communities and their collective efficacy beliefs support the
findings of Goddard and his colleagues (2000, 2004a &b). Goddard et al (2000), for example, found that even after controlling for students’ prior achievement, race/ethnicity, SES, and gender, collective efficacy beliefs have stronger effects on student achievement than student race or SES. This was true only in the case of reading achievement in the HCPS survey. Significantly the HCPS study supports Goddard’s (2001) hypothesis that the perception that a performance has been successful tends to raise efficacy beliefs. He found that mastery experience, defined, as prior school reading achievement, was a significant positive predictor of differences among schools in perceived collective efficacy.

Significantly the HCPS study found correlations between teachers’ perceptions of conditions conducive to professional learning communities and their perceptions of collective efficacy in their schools. This evidence provides support for the general conclusion reached by Goddard et al (2004a) that “teachers’ sense of efficacy is positively related to aspects of organizational context such as positive school climate, lack of impediments to effective instruction, teacher empowerment, as well as principal influence with superiors and the academic press of a school” (p.8).

**Concluding Comments**

Many observers claim that the pressures of NCLB on districts, schools and their faculties create exactly the kind of shock that leads to reassessments of collective efficacy beliefs. Theories of collective efficacy suggest, however, that such stresses can lead to dysfunctional organizational activity, if a faculty has not had mastery experiences to sustain their effort and persistence, or if they are not subject to social persuasion, or provided with vicarious opportunities to learn.
We have argued that such experiences are likely to occur in professional learning communities. We have also shown that even before the Central Leadership Team of Harford County Public School began to make concerted effort to foster their development, teachers’ perceptions of conditions of PLC readiness in their schools were found to be related to their collective efficacy beliefs. Our analysis also suggests that at least prior to any strategic actions by the district to foster PLCs there was considerable variability among schools in the strength of this correlation. Low achieving schools appear to be likely beneficiaries of strategic actions by districts to transform its cultural system.

At the same time we are cautious in claiming that such transformations are simple. We agree with Hipp and Huffman’s (2003, p. 5) that:

Staffs that prevail [in establishing PLCs] usually move to the institutionalization phase, where the change initiative becomes embedded into the culture of the school. Guided by a shared vision the school community is committed and accountable for student learning. They do so by identifying and solving problems amid a climate that invites risk and therefore continual refocusing. . . . Our belief is that institutionalization across the five PLC dimensions is essential for schools to engage in sustained improvement and for continuous learning to occur.

Our analysis suggests, however, that such discussions should be undertaken after careful analysis of teachers’ conceptions of collective efficacy in schools. We have shown that teachers’ perceptions of collective efficacy do appear to predict student achievement. Such relationships have not yet been found between their perceptions of school PLC readiness, not withstanding the correlations that appear to exist between
collective efficacy beliefs and PLC readiness perceptions. These correlations point to an important direction for further research on relationships between the strategic actions that districts like HCPS are now taking to develop school-based professional learning communities and the sources of collective efficacy beliefs that have been identified.

Our analysis suggests that correlations exist among dimensions of PLCs and the set of three CE items used in the HCPS survey to represent the reciprocal analysis that teachers’ make of teaching tasks and group teaching competence. We believe that further examination of these relationships through in depth qualitative case studies may provide both researchers and districts with a more robust understanding of the sources of collective efficacy beliefs that are embedded in teachers’ experiences in professional learning communities. Such research would contribute to the further development of theoretical formulations of the effects of both collective efficacy beliefs and their sources in professional learning communities.

There are significant implications of such research for school districts that seek to initiate, support, and sustain transformational processes that change the systemic context in which teaching and learning occurs in schools. In order to create the conditions to support the development of school based professional learning communities districts must transform structural systems by revising bureaucratic expectations, creating roles and expectations that set official targets for action. However, individuals also make sense of organizational structures through cognitive processes in which they create meaningful, coherent representations of teaching tasks and group capacities. Our findings, therefore, also suggest that in order to support conditions for collective efficacy beliefs to develop, districts must also find ways to transform the context in which individuals experience
organizational structure and culture. Research is needed to support districts in this endeavor.

References


Center On Education Policy (2004). *From the capital to the classroom: Year 2 of the No Child Left Behind Act.*


Perceptions of Schools as Learning Organizations

Shared and Supportive Leadership
Shared Values and Vision
Collective Learning and Application
Supportive conditions
Shared Practice

Collective Efficacy Beliefs

School Characteristics
Level
Elementary
Middle
High School

District Strategic Actions to Enact Transformation of Teaching Learning Process
Set Bureaucratic Expectations
Create Shared Orientations
Mediate Power Relations
Address Individual Cognition and Motivation

Increase Instructional Leadership Capacity
Central Instructional Leadership
School Instructional Leadership

Teacher Characteristics
Gender
Qualification Status
Years of Experience
Years at School
Subject/Core/Tested

Student Characteristics
Socioeconomic Status (FaRMS)
Majority Race/Ethnicity
Mobility

Maryland’s Performance Assessment System
Content Standards
Assessment Limits
Adequate Yearly Progress Sanctions

Elementary Student Achievement
% Proficient in Math
% Proficient in Reading
Table 1
Cronbach Alpha Reliabilities for the Five Dimensions, the Collective Efficacy Items and the Total Instrument for the Teachers in 49 Schools

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of Items</th>
<th>Number of Teachers (N)*</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLC Total</td>
<td>17</td>
<td>2,188</td>
<td>.93</td>
</tr>
<tr>
<td>PLC Total + CE Items</td>
<td>20</td>
<td>2,164</td>
<td>.84</td>
</tr>
<tr>
<td>Principal’s Facilitative Leadership</td>
<td>2</td>
<td>2,408</td>
<td>.86</td>
</tr>
<tr>
<td>Shared Visions for Improvement</td>
<td>3</td>
<td>2,364</td>
<td>.88</td>
</tr>
<tr>
<td>Collective Creativity and Learning</td>
<td>5</td>
<td>2,366</td>
<td>.88</td>
</tr>
<tr>
<td>Classroom Observations and Feedback</td>
<td>2</td>
<td>2,316</td>
<td>.82</td>
</tr>
<tr>
<td>School Conditions and Capabilities</td>
<td>5</td>
<td>2,339</td>
<td>.83</td>
</tr>
<tr>
<td>Collective Efficacy Beliefs**</td>
<td>3</td>
<td>2,380</td>
<td>.75</td>
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</tbody>
</table>

*This is the number of teachers who completed all items in the instrument, which is usually less than the number of teachers completing the items for the dimensions and set of collective efficacy items.
Table 2
All Levels of Teacher Perceptions of Schools as Learning Organizations and Collective Efficacy (N=2114)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective Efficacy</td>
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</tr>
<tr>
<td>Shared and Supportive Leadership</td>
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<td>1.58</td>
</tr>
<tr>
<td>Shared Values and Vision</td>
<td>11.96</td>
<td>2.10</td>
</tr>
<tr>
<td>Collective Learning and Application</td>
<td>18.82</td>
<td>3.20</td>
</tr>
<tr>
<td>Shared Personal Practice</td>
<td>5.52</td>
<td>2.02</td>
</tr>
<tr>
<td>Supportive Conditions</td>
<td>18.50</td>
<td>3.64</td>
</tr>
<tr>
<td>All PLC Dimensions</td>
<td>62.13</td>
<td>10.22</td>
</tr>
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</table>

Elementary Teacher Perceptions of Schools as Learning Organizations and Collective Efficacy (n=1,021)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective Efficacy</td>
<td>14.99</td>
<td>2.32</td>
<td>13.20</td>
<td>16.21</td>
</tr>
<tr>
<td>Shared and Supportive Leadership</td>
<td>7.65</td>
<td>1.41</td>
<td>6.26</td>
<td>8.49</td>
</tr>
<tr>
<td>Shared Values and Vision</td>
<td>12.68</td>
<td>1.79</td>
<td>10.98</td>
<td>14.04</td>
</tr>
<tr>
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<td>2.75</td>
<td>17.82</td>
<td>22.42</td>
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<tr>
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<td>5.66</td>
<td>2.05</td>
<td>3.88</td>
<td>7.16</td>
</tr>
<tr>
<td>Supportive Conditions</td>
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<td>16.77</td>
<td>21.83</td>
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<tr>
<td>All PLC Dimensions</td>
<td>65.70</td>
<td>8.59</td>
<td>56.35</td>
<td>71.89</td>
</tr>
</tbody>
</table>
Table 3

**Middle School Teacher Perceptions of Schools as Learning Organizations and Collective Efficacy (n=460)**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
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<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective Efficacy</td>
<td>13.83</td>
<td>2.81</td>
<td>12.30</td>
<td>15.16</td>
</tr>
<tr>
<td>Shared and Supportive Leadership</td>
<td>6.96</td>
<td>1.60</td>
<td>5.86</td>
<td>7.95</td>
</tr>
<tr>
<td>Shared Values and Vision</td>
<td>11.67</td>
<td>2.11</td>
<td>10.02</td>
<td>12.96</td>
</tr>
<tr>
<td>Collective Learning and Application</td>
<td>18.68</td>
<td>3.06</td>
<td>17.00</td>
<td>20.35</td>
</tr>
<tr>
<td>Shared Personal Practice</td>
<td>5.45</td>
<td>2.00</td>
<td>4.56</td>
<td>6.18</td>
</tr>
<tr>
<td>Supportive Conditions</td>
<td>18.42</td>
<td>3.57</td>
<td>15.61</td>
<td>21.14</td>
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<tr>
<td>All PLC Dimensions</td>
<td>61.19</td>
<td>10.32</td>
<td>53.12</td>
<td>68.37</td>
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</table>

**High School Teacher Perceptions of Schools as Learning Organizations and Collective Efficacy (n=643)**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective Efficacy</td>
<td>12.58</td>
<td>2.83</td>
<td>11.17</td>
<td>13.48</td>
</tr>
<tr>
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<td>6.95</td>
<td>1.62</td>
<td>5.51</td>
<td>7.89</td>
</tr>
<tr>
<td>Shared Values and Vision</td>
<td>11.10</td>
<td>2.17</td>
<td>9.48</td>
<td>12.17</td>
</tr>
<tr>
<td>Collective Learning and Application</td>
<td>17.19</td>
<td>3.38</td>
<td>15.12</td>
<td>18.45</td>
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<tr>
<td>Shared Personal Practice</td>
<td>5.26</td>
<td>1.94</td>
<td>4.55</td>
<td>5.80</td>
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<td>Supportive Conditions</td>
<td>16.65</td>
<td>3.63</td>
<td>14.82</td>
<td>17.89</td>
</tr>
<tr>
<td>All PLC Dimensions</td>
<td>57.18</td>
<td>10.32</td>
<td>51.34</td>
<td>60.90</td>
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</table>
Table 4: Pearson product-moment correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Collective Efficacy</th>
<th>Shared Values and Vision</th>
<th>Collective Learning and Application</th>
<th>Shared Personal Practice</th>
<th>Supportive Conditions</th>
<th>All PLC Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective Efficacy</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared and Supportive Leadership</td>
<td>.31*</td>
<td>1.0</td>
<td>.60*</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Values and Vision</td>
<td>.41*</td>
<td>.60*</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective Learning and Application</td>
<td>.44*</td>
<td>.55*</td>
<td>.71*</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Personal Practice</td>
<td>.18*</td>
<td>.27*</td>
<td>.29*</td>
<td>.42*</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Supportive Conditions</td>
<td>.47*</td>
<td>.56*</td>
<td>.65*</td>
<td>.71*</td>
<td>.45*</td>
<td>1.0</td>
</tr>
<tr>
<td>All PLC Dimensions</td>
<td>.48*</td>
<td>.70*</td>
<td>.81*</td>
<td>.89*</td>
<td>.60*</td>
<td>.89*</td>
</tr>
</tbody>
</table>
Table 5

Comparison of Elementary, Middle and High School Teachers’ Perceptions of Collective Efficacy

<table>
<thead>
<tr>
<th>Level</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>14.99</td>
<td>2.32</td>
</tr>
<tr>
<td>Middle</td>
<td>13.83</td>
<td>2.81</td>
</tr>
<tr>
<td>High</td>
<td>12.58</td>
<td>2.83</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between (Level)</td>
<td>2529.38</td>
<td>2</td>
<td>1264.19</td>
<td>186.69**</td>
</tr>
<tr>
<td>Within</td>
<td>15780.61</td>
<td>2332</td>
<td>6.76</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18310.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p<.001 level
Table 6

Elementary Schools’ Previous Reading Achievement, Student Socioeconomic Status, Teacher Quality, School Professional Learning Community Readiness and Collective Efficacy as Predictors of Student Proficiency in Reading (n=1,021)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Standardized Regression Coefficient</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous Years Proficiency in Reading</td>
<td>.451</td>
<td>2.105*</td>
</tr>
<tr>
<td>PerCent FaRMS</td>
<td>-.137</td>
<td>0.688</td>
</tr>
<tr>
<td>Per Cent Qualified Teachers</td>
<td>.163</td>
<td>1.281</td>
</tr>
<tr>
<td>PLC Readiness</td>
<td>-.19</td>
<td>1.72</td>
</tr>
<tr>
<td>Collective Efficacy Beliefs</td>
<td>.350</td>
<td>3.36**</td>
</tr>
</tbody>
</table>

Table 7

Elementary Schools’ Previous Mathematics Achievement, Student Socioeconomic Status, Teacher Quality, School Professional Learning Community Readiness and Collective Efficacy as Predictors of Student Proficiency in Mathematics (n=1,021)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Standardized Regression Coefficient</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous Years Proficiency in Mathematics</td>
<td>.357</td>
<td>1.13</td>
</tr>
<tr>
<td>Per Cent FaRMS</td>
<td>-.433</td>
<td>1.54</td>
</tr>
<tr>
<td>Per Cent Qualified Teachers</td>
<td>-.012</td>
<td>.07</td>
</tr>
<tr>
<td>PLC Readiness</td>
<td>-.06</td>
<td>.41</td>
</tr>
<tr>
<td>Collective Efficacy Beliefs</td>
<td>-.043</td>
<td>.086</td>
</tr>
</tbody>
</table>

*p<.05
**p<.002
Figure 3: Variables Related to School Achievement

Mean Teacher Experience in School

Teacher Qualification
% Not Highly Qualified Teachers

School Minority Enrolment
% White

School Socioeconomic Status
% FARMS

Perceived Collective Efficacy
School Means

Reading Achievement
% Proficient in Reading in 49 Schools

Mathematics Achievement
% Proficient in Mathematics in 49 Schools

*p<.003
**p<.01
***p<.000
Figure 2
Relationship Between Collective Efficacy and Achievement in Reading and Mathematics Controlling for Socioeconomic and Minority Status

Perceived Collective Efficacy
School Means

Control for Minority Student Enrolment
% White

Control for School Socioeconomic Status
FaRMS

.26

.34*

.71*

.73*

Reading Achievement
% Proficient

Mathematics Achievement
% Proficient

*p<01
Appendix 1: School Conditions for Professional Learning
Harford County Public Schools, Maryland, USA

This questionnaire consists of three parts. Part 1 concerns your teaching experience, Part 2, concerns your perceptions about your school as a learning organization. Part 3 concerns your perceptions of collective efficacy in your school.

Part 1: Experience
1. Gender: Male O Female O
2. Number of years in teaching: ______
3. Number of years in current school: ______
4. What grade level do you teach for the majority of your time this year? ______
5. How many years have you taught this grade level? ______
6. Do you teach at least one course for which there is a High School Assessment?
   Yes O No: O
7. Do you teach tenth grade English:
   Yes O No: O

Part 2: School as Learning Organization: Survey for Teachers

Directions: This questionnaire concerns your perceptions about your school as a learning organization. There are no right or wrong responses. Please consider where you believe your school is in its development of each of the five numbered descriptions shown in bold-faced type. Each sub-item has a five-point scale. On each scale, darken the bubble that best represents the degree to which you feel your school has developed.

1. School administrators participate democratically with teachers sharing power, authority, and decision making.

1a  5 -- -- -- 4 -- -- -- 3 -- -- -- 2 -- -- -- 1
   O O O O O O O O O O O O O O O O O O

Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about most school issues.

Administrators invite advice and counsel from the staff and then make decisions themselves.

Administrators never share information with the staff nor provide opportunities to be involved in decision making.

----

1b

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>
| Administrators involve the entire staff. | Administrators involve a small committee, council, or team of staff. | Administrators do not involve any staff.

2. Shared visions for school improvement have an undeviating focus on student learning and are consistently referenced for the staff’s work.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>
| Visions for improvement are discussed by the entire staff such that consensus and a shared vision results. | Visions for improvement are not thoroughly explored; some staff agree and others do not. | Visions for improvement held by the staff are widely divergent.

2b

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>
| Visions for improvement are always focused on students and teaching and learning. | Visions for improvement are sometimes focused on students and teaching and learning. | Visions for improvement do not target students and teaching and learning.

2c

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>
| Visions for improvement target high quality learning experiences for all students. | Visions for improvement address quality learning experiences in terms of students’ abilities. | Visions for improvement do not include concerns about the equality of learning experiences.

3. Staff’s collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>
| The entire staff meets to discuss issues, share information, and learn with and from each other. | Subgroups of the staff meet to discuss issues, share information, and learn with and form each other. | Individuals discuss issues, share information, and learn with and from each other.

3b

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>
| The staff meets regularly and frequently on substantive student-centered educational issues. | The staff meets occasionally on substantive student-centered educational issues. | The staff never meets to consider substantive educational issues.
### 3c

<table>
<thead>
<tr>
<th>5</th>
<th>--</th>
<th>--</th>
<th>--</th>
<th>4</th>
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<th>3</th>
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<th>2</th>
<th>--</th>
<th>--</th>
<th>--</th>
<th>1</th>
</tr>
</thead>
</table>

The staff discusses the quality of their teaching and students’ learning.

The staff does not often discuss their instructional practices nor its influence on student learning.

The staff basically discusses non-teaching and non-learning issues.

### 3d

<table>
<thead>
<tr>
<th>5</th>
<th>--</th>
<th>--</th>
<th>--</th>
<th>4</th>
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<th>--</th>
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<th>2</th>
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The staff, based on their learnings, makes and implements plans that address students’ needs, more effective teaching and more successful student learning.

The staff occasionally acts on their learnings and makes and implements plans to improve teaching and learning.

The staff does not act on their learning.

### 3e

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The staff debriefs and assesses the impact of their actions and makes revisions.

The staff infrequently assesses the impact of their actions and makes revisions based on results.

The staff does not assess their work.

### 4. Peers review and give feedback based on observing each other’s classroom behaviors in order to increase individual and organizational capacity.

#### 4a

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Staff regularly and frequently visit and observe each other’s classroom teaching.

Staff occasionally visit and observe each other’s teaching.

Staff never visit their peers’ classrooms.

#### 4b

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Staff provide feedback to each other about teaching and learning based on their classroom observations.

Staff discuss non-teaching issues after classroom observations.

Staff do not interact after classroom observations.

### 5. Conditions and capacities support the school’s arrangement as a professional learning organization.

#### 5a

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Time is arranged and committed for whole staff interactions.

Time is arranged but frequently the staff fails to meet.

Staff cannot arrange time for interacting.
5b.  5 -- -- -- 4 -- -- -- 3 -- -- -- 2 -- -- -- 1
O O O O O O O O O O O O O O O O O O O O
The site, structure, and arrangements of the school facilitate staff proximity and interaction. While the facility and school membership are large, the staff are working to maximize existing arrangements for interaction. The staff takes no action to manage the facility and personnel for interaction.

5c.  5 -- -- -- 4 -- -- -- 3 -- -- -- 2 -- -- -- 1
O O O O O O O O O O O O O O O O O O O O
A variety of processes and procedures are used to encourage staff communication. A single communication exists and is sometimes used to share information. Communication devices are not given attention.

5d.  5 -- -- -- 4 -- -- -- 3 -- -- -- 2 -- -- -- 1
O O O O O O O O O O O O O O O O O O O O
Trust and openness characterize all the staff. Some of the staff are trusting and open. Trust and openness do not exist among the staff.

5e.  5 -- -- -- 4 -- -- -- 3 -- -- -- 2 -- -- -- 1
O O O O O O O O O O O O O O O O O O O O
Caring, collaborative, and productive relationships exist among all the staff. Caring and collaboration are inconsistently demonstrated among the staff. Staff are isolated and work alone at their task.

Part 3: Collective Efficacy Beliefs

For the following statements, indicate your level of agreement from STRONGLY AGREE (1) to STRONGLY DISAGREE (6)

SA  1  2  3  4  5  6
      O O O O O O  1. Teachers in the school are able to get through to the most difficult students.
      O O O O O O  2. Teachers in this school have what it takes to get the children to learn.
      O O O O O O  3. Teachers here need more training to know how to deal with difficult students.
      O O O O O O  4. Teachers in this school truly believe every child can learn

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