Professional Learning Communities:
An Exploration

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Introduction

This paper explores research and literature related to professional learning communities (PLCs) and describes their attributes and structures, the impact of different environments in which professional learning communities can be sustained and the benefits for staff and students.

Section 1

Conceptions and Understandings of Professional Learning Communities

The conception of schools as learning communities is broadening understandings of the interactions and relationships that exist within the school environment, and how those interactions and relationships impact learning with both students and staff. There is increasing attention given to the types of environments that exist within schools, and the need to articulate change, reform and improvement initiatives around the context of improved student achievement within such learning communities.

Exploring meanings of professional learning communities

Learning communities focus on the processes of learning and grapple with questions of what, when and how learning should take place. Learning communities place an emphasis on the organizational structures, relationships and nature of individuals within an organization. They expand understandings of ways that community members can work together to facilitate change and school improvement.

Marzano's (2003) research on what works in schools reinforces the importance of authenticity in collaborative cultures by referencing Fullan and Hargreaves' description of collegiality. Authentic interactions that include openly sharing failures and mistakes, demonstrating respect and constructively analyzing and criticizing practices and procedures characterize collegiality. Marzano provides a research-based link between collaborative cultures and organizational climate, and school effectiveness and increased student achievement. He says "studies that have found a statistically significant relationship between school climate and student achievement have focused on collegiality and professionalism."[1] He defines collegiality and professionalism as "the manner in which staff members in the school interact and the extent to which they approach their work as professionals."[2] His definition is based on studies that identify factors that impact student achievement, including leadership, cooperation, shared vision and goals, practice-oriented staff development and a learning organization.[3]

Senge (2000) stresses the need to see the "learning organization approach to education" as more than just talking and working in groups, but rather involving everyone "in expressing their aspirations, building their awareness and developing their capabilities together."[4]

Senge's learning organizations involve the five key disciplines of:

- organizational learning: personal mastery
- shared vision
- mental models
- team learning
- systems thinking.

Learning organizations have parallels to the ways that current literature conceptualizes professional learning communities (PLCs).

Although a number of terms have evolved from the concepts of community and learning community to describe the concept of PLCs, definitions most often centre on a group of professionals who focus on learning within a supportive, self-created community. The terms learning communities, communities of practice, professional communities of learners and communities of continuous inquiry and improvement[5] are found throughout literature and research on school reform and improvement. They typically refer to the similar processes and common attributes of PLCs. As Hord (1997) notes, there is no universally accepted definition. Instead, definitions centre on attributes or characteristics that transform a group of professionals, working together, into a PLC. Hord's review of PLCs finds five key attributes or dimensions emerge from the literature: supportive and shared leadership, shared values and vision, collective learning and application of learning, supportive conditions and shared personal practice.

Morrissey's (2000) work extends Hord's identification of the dimensions of PLCs to include the benefits of establishing them; the link between PLCs, school improvement and increased student learning, achievement and growth; the centrality of capacity building and the necessity for support.[6]

> *Rather than becoming a reform initiative itself, a professional learning community becomes the supporting structure for schools to continuously transform themselves through their own internal capacity.*[7]
>
> Morrissey (2000, p. 10)

The work of the Alberta Teachers' Association with PLCs in six Alberta schools reiterates the cultural and professional changes that result when teachers and administrators focus on building capacity and trust within collaborative contexts.[8] Broader conceptions involve the need to consider the cognitive and procedural processes that occur in effective PLCs. The increasing call for the establishment of PLCs has impacted beliefs and views about the nature of teaching, learning and knowledge.

One of these beliefs involves a situative perspective[9] on learning. This perspective recognizes that cognition and learning take place in contexts that are interactive and related to individuals, organizations and systems.[10] Situational theorists say "that the physical and social contexts in which an activity takes place are an integral part of the activity, and that the activity is an integral part of the learning that takes place within it. How a person learns a particular set of knowledge and skills, and the situation in which a person learns, becomes a fundamental part of what is learned."[11] The perspective focuses on how "various settings for teachers' learning give rise to different kinds of knowing."[12]

Best Practice: Putnam and Borko describe projects that brought teachers, university-based researchers and staff developers together to create discourse communities.[13]

In the Community of Learners project (Wineburg and Grossman, 1998; Thomas, Wineburg, Grossman, Myhre and Woolworth, 1998) high-school teachers of English and history gathered with university-based educators to read books, discuss teaching and learning, and design an interdisciplinary humanities curriculum. Central to this work was the idea that each participant brings unique knowledge and beliefs to a professional learning community. Preliminary findings indicate that an intellectual community for teachers developed within the high school, collegiality among faculty within and across departments was enhanced, and the curriculum of the school was affected. Members of the university team gained new insights about the time, effort and trust required to reform the professional culture of teaching (Thomas et al., 1998).

In another project, Goldenberg and colleagues (Goldenberg and Gallimore, 1991; Saunders, Goldenberg and Hamann, 1992) worked with a group of teachers to elaborate the concept of instructional conversation—a mode of instruction that emphasizes active student involvement in goal and meaning-oriented discussions. Together, participants developed principles of instructional conversations for elementary classrooms as they engaged in instructional conversations themselves. Goldenberg played a critical role in guiding instructional conversations with teachers, while the teachers brought intimate knowledge of their own classrooms and teaching practices to the conversations (Saunders et al., 1992).

The consensus of understanding about PLCs centres primarily on the qualities and attributes needed to consider a group of professionals, working together, as a PLC. Conceptions and understandings revolve around relationships and connections between all individuals who are part of school and district settings.

Within a learning community, the learning of the teachers is as important as the learning of the children…. We assume, therefore, that a learning community consists in a group of people who take an active, reflective, collaborative, learning-oriented and growth-promoting approach toward both the mysteries and the problems of teaching and learning.[14]

Mitchell and Sackney (2000, p. 2)

The multiple environments for professional learning that currently exist—different organizational structures and priorities, alternate methods for collaboration and communication in professional development approaches and aligning professional development with elements such as district policy and curriculum needs—stress the importance of considering the ways in which learning takes place in the school environment through different lenses.[15] These lenses include viewing the teacher as a professional and recognizing the importance of a constructivist and inquiry-based stance to teacher learning.

> *Recent research on teaching and learning has established that teaching and learning is not a simple cause and effect relationship, but rather a complex process in which learning is co-constructed by teachers and students in a specific classroom context with instruction at any point in time reflecting the teacher's analysis of the various elements in play at that moment… The complexity of teaching and learning is incompatible with the narrow, short-term, episodic, special-project focus of much of traditional staff development.*[16]
>
> Reitzug (2002, p. 2)

PLCs are not limited to one group or a single dimension. They may involve different groups within the school authority who have a similar focus and need.

> *PLCs can be school-based, district based, cross-district or national; the membership in a particular PLC is determined by its focus. For example, a grade-level team of teachers may form a PLC to focus on improving their ability to coordinate their students' curriculum; a multigrade group of teachers may collaborate on ways to ensure a coherent learning pathway for their students; a group of math teachers may work together to adopt and implement a new mathematics program in ways that best benefit their students; teachers and administrators may meet as a PLC to learn and support innovative teaching strategies; principals or superintendents may concentrate on more effective ways to handle the particular challenges of their roles; a school system may meet regularly with core district representatives to improve operational effectiveness and to build capacity to support school and district efforts to improve schools; groups may form across districts, often as part of a national school reform initiative, to focus on common issues in their work.*[17]
>
> Annenberg Institute (2003, p. 2)

How professional learning communities have emerged

In the 1980s, change and reform processes centred on a recognition that schools and schooling had to move away from a traditional model of education to focus on accountability, collaborative environments and teacher efficacy.

> *During the eighties, Rosenholtz (1989) brought teachers' workplace factors into the discussion of teaching quality, maintaining that teachers who felt supported in their own ongoing learning and classroom practice were more committed and effective than those who did not receive such confirmation. Support by means of teacher networks, cooperation among colleagues and expanded professional roles increased teacher efficacy in meeting students' needs.*[18]
>
> Hord (1997a)

Subsequent research focused increasingly on the important link between teacher quality and student achievement. Educational research started to look more closely at organizational and systemic change and reform. Of primary influence were Sergiovanni's work on communities of learning and Peter Senge's (1990) book *The Fifth Discipline*. Senge's notion of a learning organization, "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together,"[19] had a strong influence on educators who were implementing school reform and improvement initiatives.

Recent literature emphasizes contextualized learning communities— PLCs that are an inherent aspect of the ways school improvement initiatives are identified, explored and implemented**.** These PLCs involve processes of leadership, capacity building and change as the means through which they continue their work. Much of the literature in the past 10 years emphasizes the following key understandings.

- PLCs are based on a stance toward learning that emphasizes inquiry and reflection. They function through a continuous engagement with the learning processes in the school that involve challenging the status quo—the teaching and learning, relationships, structures, functions and assumptions that are part of the organizational climate.[20]
- PLCs are successful because they build capacity for leadership, learning and growth. They both need and provide support within the physical and human environments of the learning organization.[21]
- PLCs emphasize the learning process of teaching and recognize and respect the professional knowledge embedded in their practice. They respect the principles of adult learning and provide relevant and meaningful professional development activities.[22]

- PLCs are themselves an impetus for change that is focused on the improvement of teacher quality and student learning, growth and achievement.[23]

Current research explores the attributes and, to some extent, the processes needed to initiate and sustain PLCs. This research seeks answers to questions about the relationship between PLCs, school improvement and increased student achievement and growth. As the focus of PLCs moves into the area of whole-school culture, it is increasingly important to view them as localized and unique initiatives that involve processes that are developed, defined and sustained at school and district levels.

Section 2

Attributes and Structures of Professional Learning Communities

There is a substantial body of research that explores what PLCs look like, as well as a great deal of agreement about those attributes that make a PLCs more than a group of teachers working together in a school. Most researchers agree that a deep commitment to a shared vision and mission is a crucial factor. There is a strong emphasis on collective and meaningful learning and on the processes of inquiry as a means of identifying goals and improvement initiatives. There is also consensus on the need for capacity building—people capacity, support structures and the organization within the school. Building capacity is most often associated with the need for support for initiating and maintaining a PLC.

Professional learning communities in the context of the school community

The messages that recur throughout the literature emphasize the need to facilitate the development of the PLC within the context of the culture of the school. PLCs are situated within the day-to-day operations, values and practices of the whole-school community and focus on norms of continuous school improvement. They do not involve isolated groups of teachers who may be working toward a common goal but are disconnected from the rest of the school community.

> *Throughout our research on professional learning communities, four key themes emerged that will be echoed here: (1) A professional learning community is not a thing; rather, it is a way of operating. (2) Change requires learning, and learning motivates change. (3) When staff work and learn within professional learning communities, continuous improvement becomes an embedded value. (4) Professional learning communities exist when each of the five dimensions are in place and working interdependently together*.[24]
>
> Morrissey (2000, p. 23)

A focus on PLCs has resulted in a changing view of the role of teachers. Schools that function as PLCs encourage teachers to move away from the traditional view of teachers as isolated practitioners toward a collaborative, learning-centred model. Although performance norms that affect teacher practice are influenced by external standards, a collaborative, learning-centered model emphasizes the need for teachers to work with these standards within their school communities. This is occurring in many Alberta districts and schools and through the results of Alberta initiatives and supports. The report from Alberta's Learning Commission emphasizes the need to provide adequate and comprehensive support for teachers in the implementation of new curriculum and recommends that schools operate as PLCs dedicated to continuous improvement in students' achievement.[25] The Alberta Teachers' Association submission to the

Learning Commission delineates a rationale and recommendations for supporting the development of PLCs.[26] Table 1 provides an example of the paradigm shift that moves teachers into a model of practice based on PLCs.

Table 1[27] **MOVING TOWARD PROFESSIONAL LEARNING COMMUNITIES**

In "Solo Practice," Teachers…	In Learning Communities, Teachers…
– are isolated in individual classrooms and do not collaborate on strategies to improve student learning; they work alone	– work collaboratively on problems that focus on student learning – feel a collective responsibility for the growth and learning of all teachers and students in the school – understand that no individual has all the answers but that each has important knowledge to contribute
– teach to a set of externally fixed curricular standards that remain static over time	– focus on jointly creating new knowledge and see their own and their students' learning as an ongoing process
– work individually with large groups of students in restrictive time periods	– work in cohorts of colleagues and with groups of students whom they get to know well over time
– are given little or no time to work collaboratively with their colleagues	– have structured time to observe and reflect on each others' work and serve as critical friends in support of each other
– perform in isolation according to externally determined professional standards – identify their personal teaching norms as individuals; these norms may or may not be the same as those of their colleagues	– commit to shared norms, with shared responsibility for growth in learning of all teachers and students in the school – build understanding of each others' styles and techniques so they can learn from one another and complement each others' work
– often fail to build professional relationships, communication and trust with their colleagues, students, parents and community members, due to a lack of shared goals, norms and understandings.	– value open and regular communications that are the foundation of trust, shared goals and professional norms among teachers, administrators, students, parents and community members.

Adapted from Carroll et al., (2005).

Recurring attributes

As the literature base expands, there is a consensus on the attributes necessary to build PLCs in schools and districts. Much of the literature is centred on Hord's (1997) research-based characteristics of PLCs and the work of DuFour (1998) and influenced by Senge's (2000) learning organizations and cultures. Others who have worked with PLCs, such as Kruse, Seashore Louis and Bryk (1994), Berlinger-Gustafson (2004) and Patterson and Rolheiser (2004), use these foundational principles and expand and apply them through their own research and practice. The Annenberg Institute's (2003) work with PLCs is an example of an approach that emphasizes system-wide reform initiatives and large-scale change.

Attributes

- **Supportive and shared leadership capacity**

  Leadership within a school community is shared. Supportive leadership is necessary to create an environment in which leadership capacity is developed for all community members. Shared leadership capacity empowers all members of PLC to share in the vision and mission of the school and make effective decisions that positively affect student learning and achievement.

- **Shared mission, focus, goals**

  A shared sense of the vision and goals of a learning community is constructed by its members, embedded in daily practice and visible to all. Such vision, focus and goals are woven into the fabric of school and community life and are centred on the improvement of student achievement, learning and growth.

- **Collective learning and application of learning**

  Collaborative relationships within the school community are centred on developing informed decision making and a knowledge base that positively impacts practice. It emphasizes the cognitive processes that result from effective PLCs and the importance of working collectively with curricular outcomes, instructional processes and best practices.

- **Continuous inquiry and practice**

  School and classroom initiatives involve an inquiry-based model and support for processes, such as action research, coaching, mentoring and collaborative and collegial decision making.

- **Focus on improvement**

  All school improvement initiatives are centred on the critical goal of improving student learning and achievement and stress the belief that improvement is part of the overall culture of all school beliefs, values and practice. It emphasizes the role of collecting data that establishes a base for decision making, problem solving and inquiries.

- **Supportive conditions and environments**

  Conditions that are necessary in order to accept and embrace change within school communities are identified. This includes both logistical supports, such as scheduling and resources, and social and cognitive supports, such as opportunity, leadership and communication.

The consensus that emerges from the literature points out common characteristics that emphasize similar processes, structures and supports and provide informal benchmarks for exploring issues of effectiveness, achievement and success. The recurrence of these attributes also highlights the connected and interrelated nature of each—shared visions and goals, and supportive conditions and environments, are strongly linked to shared leadership and the development of internal capacity for all members of the PLC. Table 2 provides a comparative examination of attributes that define PLCs.

Table 2 ATTRIBUTES OF PROFESSIONAL LEARNING COMMUNITIES

Attributes of a PLC	Hord (1997)[28]	DuFour and Eaker (1998)[29]	Senge (2000)[30]	Kruse, Seashore Louis, and Bryk (1994)[31]	Berlinger-Gustafson (2004)[32]	Patterson and Rolheiser (2004)[33]	Annenberg Institute (2003)[34]
Supportive and shared leadership capacity	Shared leadership structures in which administrators and teachers question, investigate and seek solutions for school improvement.		Personal mastery: articulate a coherent image of personal vision, expanding personal capacity.	Teacher empowerment and school autonomy, supportive leadership.	The collegial and facilitative participation of the principal, who shares leadership, has the ability to facilitate the work of staff and the ability to participate without dominating.	Build capacity for shared leadership.	Building internal capacity for leadership necessitates that groups share responsibility for leadership. This means building the capacity of school, district and community leaders to learn together and construct meaning and knowledge needed to support collaboration around improved instructional practices. This requires honing skills in communication, group-process facilitation, inquiry, conflict mediation and dialogue.
Shared mission, focus, goals	Values are embedded in day-to-day actions. Learning community engages and develops commitment and talents.	A solid foundation consisting of collaboratively developed and widely shared mission, vision, values and goals.	Shared vision: focus on mutual purpose to nourish a sense of commitment.	Collective focus, shared norms and values, trust and respect.	A shared vision developed from staff's unswerving commitment to students' learning that is consistently articulated and referenced for the staff's work.	Commit to change and reculturing, choose a meaningful focus.	Creating overlapping communities of practice; sharing a mission, vision and values focused on improved practice and student outcomes.
Collective learning and application of learning	Collectively seeking new knowledge and applying it to work, resulting in collaborative relationships.	Collaborative teams that work independently to achieve common goals.	Team learning: group interaction to transform collective thinking and learning and mobilize energies and actions to achieve common goals.	Collaboration, deprivatization of practice, socialization.	Collective learning among staff and application of that learning to solutions that focus on students' learning. Move beyond procedure to strategies for improvement based on high standards and best practices that are shared, public and applied.	Establish a safe and caring environment. Be open to possibilities and take risks. Establish trust. Model collaborative work.	Ensure content-based, outcomes-focused experiences; ongoing opportunities for learners to increase subject-matter knowledge. Acquire strategies for instruction and assessment. Examine current research and/or district policies to support instruction. Observe, analyze and coach peers and provide ideas and feedback to each other.

Table 2 ATTRIBUTES OF PROFESSIONAL LEARNING COMMUNITIES (CONTINUED)

Attributes of a PLC	Hord (1997)	DuFour and Eaker (1998)	Senge (2000)	Kruse, Seashore Louis, and Bryk (1994)	Berlinger-Gustafson (2004)	Patterson and Rolheiser (2004)	Annenberg Institute (2003)
Continuous inquiry and practice	Share personal practice through inquiry-oriented practice and collegial coaching.		Mental Models: reflection and inquiry skills focused around developing awareness of attitudes and perceptions.	Reflective learning.	Supportive conditions: the conditions determine when, where and how the staff regularly come together as a unit to do the learning, decision making, problem solving and creative work	Learn about change; specifically studying the change process helps increase the chance of sustaining change initiatives. Encourage professional discussion.	
Focus on improvement	Continuous improvement.	A focus on results as evidenced by a commitment to continuous improvement.		Openness to improvement.			Document evidence of improved practice. Develop a process to identify, collect and analyze specific examples of what changes in practice people made and the resulting impact on culture, norms and outcomes.
Supportive conditions and environments	Create supportive structures, including a collaborative environment – structural conditions and collegial relationships.		Systems thinking: interdependency and change to deal more effectively with the forces that shape the consequences of their actions. Find the leverage needed to get constructive change.	Structural conditions: time to meet and talk, physical proximity, interdependent teaching roles, communication structures.	Physical conditions and human capacities that support such an operation: time to meet and talk, small size of the school, physical proximity of staff, teaching roles that are interdependent, school autonomy, teacher empowerment.	Have high expectations and take responsibility for colleague's learning.	

Across districts and schools, the attributes of PLCs are applied to process frameworks and models that guide the development of PLCs within the context of school improvement initiatives. Many apply the criteria in the form of checklists, questionnaires or rubrics. These approaches to implementing PLCs are common, but can also bring up a number of questions that extend PLCs beyond a conceptual framework into a sustainable framework:[35]

- How do PLCs move from attributes to action?
- What processes, structures and steps are involved in establishing and sustaining PLCs?
- How do we know that these processes and steps are effective?

These questions have implications for an approach to assessing the effectiveness of PLCs that is based on processes of implementation. Stages in cycles of implementation are based on levels that reflect attainment of the critical attributes of PLCs. Such processes are reflected in the work of many Alberta schools and districts, the Alberta Teachers' Association and the Alberta Regional Professional Development Consortia, including:

- initiating – the beginning stage representing basic knowledge
- developing – developing capacity to function as an effective learning community
- integrating – group members apply criteria and focus on student achievement
- sustaining – skilled use of learning community criteria and evidence of improving student achievement of all students.

The need to view PLCs as a collaborative process is emphasized by Couture's (2003) adaptation of Grossman, Wineburg and Woolworth's (2001) three pathways that map teacher experiences and recognize the tensions and challenges inherent in establishing and sustaining meaningful PLCs.

- The first pathway: develop a shared identity by taking responsibility for each other.
- The second pathway: improve teaching by learning from our differences as practitioners.
- The third pathway: define and name student success.[36]

Table 3 provides a model that blends current research on PLCs with experiences across Alberta schools.

Table 3 THREE PATHWAYS IN THE PROFESSIONAL LEARNING COMMUNITY JOURNEY IN ALBERTA SCHOOLS[37]

Before the journey begins	Early steps in navigating the way	Nearing the destination and preparing for the next plateau
1. Developing a shared identity by taking responsibility for each other		
• focuses on personal growth and accomplishments in isolation from the school community's goals and purposes • defines professionalism in the context of individual teachers working in isolation with students • sees wellness and the psychic life of teachers as entirely personal issues • romanticizes teacher isolation and sees independence as an indicator of professional autonomy; e.g., new teachers are told to sink or swim	• recognizes people's unique contributions to the school community • defines professionalism as teams of adults cooperating on special projects and short term initiatives; e.g., AISI project teams • attempts to deal with teacher stress, isolation and overwork through wellness initiatives; e.g., workshops, leaves • sees the structures of the school and the ecology of work culture as unchangeable	• sees differences among staff as a source of strength that should be learned from • advocates shared responsibility for the well-being of students and teachers • defines professionalism as shared values and an ethical commitment to supporting learning; e.g., school-wide project teams that affect the entire school • sees stress and burnout as systemic organizational issues that must be addressed • looks to restructuring the school as a workplace for students and teachers so as to enhance teaching/learning; e.g., school week determined by proven research on work ecology rather than administrative convenience, such as bus schedules
2. Improving teaching by learning from our differences as practitioners		
• denies differences through institutional silence about what happens in classrooms; e.g., the egg crate organization of students and teachers by subject specialization as seen in typical high schools • ignores disagreements "by understanding new things in the same old ways" (Sergiovanni, 2000, p. 146) • resorts to defensive posturing when conflicts occur; sees debates as either/or rather than as chances to cooperate	• recognizes to a certain extent people's unique contributions to the school community • manages disagreements or superficially accepts them • avoids differences of opinion regarding teaching and learning • shares problem solving and concerns about classroom practice through peer review and short-term involvement in study groups	• looks at differences in teaching practices as a way to reflect on what the research says about effective teaching • promotes ongoing reflection on teaching practice; e.g., action research and professional inquiry projects • commits to mentoring, study groups and other collegial support • provides adult learning that focuses on the mysteries of teaching as opposed to technical problem solving (Gherardhi 1999)
3. Defining and naming together what student success looks like		
• assumes all teachers know what students ought to be learning, which is typically determined by so-called objective measures such as standardized tests • accepts drive-by measures of student learning; e.g., externally imposed high stakes tests, rather than testing for student learning • sees professional growth as a series of things done to teachers • allows district and school goals to develop in isolation	• focuses peer review of professional growth plans on student learning • shares concerns about classroom practice through formal peer review and study groups • allows some discussion of school goals and teaching strategies • adds school goals to district goals with some integration	• shares responsibility for achieving the collective goal of helping all students learn • recognizes that the richest professional growth occurs through shared values and a school culture that promotes shared learning and risk taking • ensures that the school continually develops different ways to acknowledge and celebrate student learning • infuses district goals into school goals in the critically reflective practice of teachers

Couture (2003, p. 39).

Implications for implementation

There are numerous studies that focus on identifying the extent to which schools and districts apply attributes of PLCs to achieve goals of school improvement and increased student learning and achievement. Researchers at the Southwest Educational Development Laboratory studied the evolution of PLCs in five schools to identify the actions that made them most effective. These include the:

- role of the principal
- culture of collaboration
- commitment from all staff
- presence of a catalyst
- use of a critical friend or change facilitator.[38]

Best Practice: The McREL Institute describes what a model PLC looks like in Lewis and Clark School, Missouri. [39]

Becoming a professional learning community is what Lewis and Clark Middle School is all about — not as an end in itself, but as a way of increasing student learning. For nearly 10 years, Lewis and Clark teachers have worked collaboratively to boost their repertoire of instructional strategies to engage students in learning and increase their performance. After analyzing data from an audit of classroom instructional practices conducted by a visiting team from the University of Missouri, teachers realized that the level of active teaching and learning in classrooms was lower than they expected. As a result, in the fall of 2000, the School Reform Committee implemented a system of Professional Development Strands to address the issue of student engagement. Each strand incorporates instructional content or methodology designed to increase student engagement and, ultimately, student achievement. As a result, students' achievement has increased significantly.

Some educators are calling for the work on PLCs to move forward into more specifics to avoid being lost.

> *The professional learning community model has now reached a critical juncture, one well known to those who have witnessed the fate of other well-intentioned school reform efforts. In this all-too-familiar cycle, initial enthusiasm gives way to confusion about the fundamental concepts driving the initiative, followed by inevitable implementation problems, the conclusion that the reform has failed to bring about the desired results, abandonment of the reform, and the launch of a new search for the next promising initiative. Another reform movement has come and gone, reinforcing the conventional education wisdom that promises, "This too shall pass."*[40]
>
> DuFour (2004, p. 6)

To this end, theorists and practitioners, such as Richard DuFour and Michael Fullan, have identified the big ideas of PLCs, in order to provide frameworks that emphasize sustainability, effectiveness and results.

- **Big Idea 1: Ensuring Students Learn**

  This idea centres on the exploration of three questions that drive the work of PLCs: What do we want each student to learn? How will we know when each student has learned it? How will we respond when a student experiences difficulty in learning? DuFour asserts that it is the answer to the third question that differentiates learning communities from traditional schools.

- **Big Idea 2: A Culture of Collaboration**

  This idea focuses on professional dialogue to foster a collaborative culture that promotes a collective purpose for learning. It moves teachers away from an isolationist view of practice and implements collaborative structures.

- **Big Idea 3: A Focus on Results**

  This idea requires every collaborative team to participate in an ongoing process of identifying the current level of student achievement, establishing a goal to improve the current level, working together to achieve that goal and providing periodic evidence of progress. Team goals are established through meaningful data collection and analysis that focuses on improvement of student achievement and growth.[41]

Best Practice: The principal of Avondale Elementary School in Grande Prairie, Alberta describes the actions and results of implementing a PLC.[42]

We have already seen the improvement in student learning that is directly attributable to questioning past practice and approaching our professional practice using the PLC model... We looked comprehensively at everything we were doing and, in questioning the status quo, put everything on the table without violating collective agreements or teachers' trust... As we started looking at the timetable, we found that a few minor adjustments facilitated all our grade-level pairings that had common preparation time... Then we looked at weekly routines and found that we could make better use of teacher time and, by doing so, create more collaborative opportunities... Our commitment is to examine everything we do at any time in lights of the learning needs that the students present in a given year.

Fullan (2005) also emphasizes the big picture of PLCs. "If we do not examine and improve the overall system at three levels, we will never have more than temporary havens of excellence that come and go. Without attention to the larger system, professional learning communities will always be in the minority, never rising above 20 percent in popularity in the nation, and will not last beyond the tenure of those fortunate enough to have established temporary collaborative cultures," he says.[43] Fullan points to a total system focus that is necessary at three levels:

- school/community level
- district level
- policy-making level—provincial or national.

Fullan says PLCs should focus on changing cultures to create new contexts, by conceptualizing sustainability and promoting leadership capacity.

> *In professional learning communities writ large, the system as a whole adopts the agenda of fostering deep learning communities. In other words, schools and communities explicitly pursue the development of new cultures of professional learning; districts, regions and schools establish infrastructures to support and monitor such development; and states or provinces commit themselves to policies and strategies for systemically addressing the evolution of professional learning cultures. This is a tri-level solution because it builds capacity across the three levels.*[44]
>
> Fullan (2005, p. 211)

Embedding professional learning communities in school culture

The conditions that exist within any school community are part of the culture of the school. DuFour (Online, 2005) says, "A culture is simply the expectations and beliefs and behaviours that constitute the norm for any organization. And every organization, every school, has one. The challenge for the principal is to create a culture that's advancing the school towards its vision and reinforcing the behaviours that are necessary to move the school forward."[45]

Peterson (1998) stresses the importance of school culture. "In study after study, where culture did not support and encourage reform, it did not happen. It is almost impossible to overstate the importance of culture and its relationship to improved student learning. You have to have the structures, a curriculum, appropriate assessments – all of that. But if you don't have a strong and healthy school culture, none of the rest will matter."[46] Others agree. Successful efforts to change what happens in the school environment and make school improvements are directly linked to school culture.

> *The effect of school culture on school improvement efforts is significant. The attitudes and beliefs of persons in the school shape that culture. Many times innovations are not put into practice because they conflict with deeply held internal images of how the world works, images that limit persons to familiar ways of thinking and acting (Senge, 1990; Senge and Lannon-Kim, 1991). This failure is played out in schools on a regular basis. The attitudes and beliefs of those in the school create mental models of what schooling is and how others in the school should and will respond to events and actions. It is from these attitudes and beliefs that the culture of the school is created*.[47]
>
> Boyd (1992, p. 1)

Barth (2002) also describes the power of a school's culture to shape professional learning and student achievement. "Probably the most important—and the most difficult—job of an instructional leader is to

change the prevailing culture of a school."[48] The reciprocal relationship between school culture and PLCs is tied to the rationale of many schools and districts engaged in establishing them. Many researchers and practitioners agree that school culture is the most important factor in the effectiveness and sustainability of PLCs.

> *Achieving cultural change is more elusive. It's about developing an atmosphere of respect and trust for professional educators to make decisions about teaching and learning. It's about developing a learning community for teachers that encourages and supports collaborative dialogue and reflective practice. It's about breaking down the barriers that promote isolation and developing a true spirit of teamwork…Without both structural and cultural change, it is unlikely that a professional learning community will be established.*[49]
>
> Skytt (2003, p. 8)

Many of the factors that contribute to school culture are reflected in the attributes of PLCs. Saphier and King's (1985) twelve norms of school culture that affect school improvement are strongly correlated to attributes of PLCs:

- collegiality
- experimentation
- high expectations
- trust and confidence
- tangible support
- reaching out to the knowledge base
- appreciation and recognition
- caring, celebration and humour
- involvement in decision making
- protection of what is important
- traditions
- honest, open communication. [50]

Berlinger-Gustafson (2004) identifies the following six guiding principles of organizational culture that have implications for establishing PLCs within the context of organizational change.

- Organizations adopt change; individuals implement change.
- The organizational culture influences the work of the individual.
- Organizations must value and support individuals in the change efforts.

- There are identifiable factors that describe the context of the learning organizations.
- Leadership for change facilitation is shared among all participants of a professional learning community.
- The unceasing quest for increased effectiveness drives the professional learning community.[51]

Research dealing with systemic change processes has had an influence on conceptualizing the processes involved in PLCs. Many researchers and practitioners argue that before education can improve, educators and schools must first build capacity for change.[52] They argue that systemic change must move teachers toward a strong professional community that demonstrates key attributes of PLCs—reflective dialogue, deprivatization of practice, collective focus, collaboration and shared norms and values. It is through these processes that many of the attributes of PLCs—shared vision and goals, focus on results, continuous inquiry and practice—will develop and be sustained.

Professional learning communities as collaborative cultures

The literature on organizational change, teacher effectiveness and school improvement has established the assumption that teachers work more effectively when they work collaboratively. The notion of a collaborative culture emphasizes structures and practices that facilitate the capacity to work meaningfully with colleagues in a context that emphasizes common goals and improved practice, learning and achievement.[53] Although the attributes of a PLC overwhelmingly stress the need for collaborative teams, inquiry and learning contexts, there are barriers to implementing such structures. A study by Leonard and Leonard (2003) in Louisiana schools indicated that although there are many instances and forms of collaborative practices that occur in schools, many remain centred in traditional practices of teacher individuality and isolation. In other words, the ideal does not always match the reality.[54]

> *Calls for a collaborative culture come from leading educational researchers who use unusually emphatic language. Milbrey McLaughlin and Joan Talbert (2001) found that effective high schools and effective departments within high schools were characterized by powerful professional collaboration. Kenneth Eastwood and Karen Seashore Louis (1992) concluded that creating a collaborative environment featuring cooperative problem solving was the single most important factor in successful school restructuring. Fred Newmann and Gary Wehlage (1995) found that nurturing a professional collaborative culture was one of the most significant factors in successful school improvement efforts. Judith Warren Little (1990) advised that effective collaboration between teachers was linked to gains in student achievement, higher quality solutions to problems, increased self-efficacy among all staff, more systematic assistance to*

> *beginning teachers, and an expanded pool of ideas, methods and materials that benefited all teachers.*[55]
>
> DuFour (2003, p. 63)

As much of the research on PLC asserts, the need to develop collaborative and communicative environments[56] becomes an essential component for success and sustainability. Many theorists agree that without meaningful opportunities to learn in collaborative contexts, a school's or team's capacity to become a learning organization is limited.[57]

> *When people come together to deal with practical problems, it's important for them to consider what they want to create, not just what they want to fix. This approach fosters shared aspirations. Most people in most organizations — and teachers are no exception to that — are obsessed with solving problems. They spend their lives trying to fix things that are broken. This obsession with problem solving diverts our attention from a far more important activity, which is creating the new.*
>
> *What I mean by creating is directing our energies into bringing things into reality that we really care about. And this is a profound shift, not just a semantic difference. When we're solving problems, we're trying to get rid of things we don't want. When we're creating, we are bringing into reality things that are valued by us.*[58]
>
> Lashway (1997, p. 45)

Eaker and DuFour (1998) say that placing an English, social studies, mathematics and science teacher in a team does not make a collaborative learning group; it simply comprises a group that represents four different subject areas. They cite a study that concludes effective teams are characterized by the following attributes.

- shared beliefs and attitudes
- high levels of trust that result in open communication, mutual respect for people and opinions and willingness to participate
- the belief that they have the authority to make important decisions and willingness to assume responsibility for the decisions they make
- effectively managed meetings with clear operational norms or ground rules, agendas developed with input from all, defined roles for members and minutes to provide continuity
- ongoing assessment of and discussions regarding the functioning of the team[59]

Models and structures that influence professional learning communities

There are a number of models and structures in the literature on PLCs that establish steps for creating collaborative learning teams or processes.

Many models emphasize inquiry or knowledge-seeking processes that focus on the improvement of student learning, achievement and growth and on teacher practice. Many are centred on collaborative, team-based initiatives and most incorporate assessment based on data collection and research. Many are constructivist-centred and highlight the cognitive processes inherent in any inquiries and improvement initiatives that come from a collaborative, research-based approach.

Table 4 provides three examples of models associated with collaborative learning and inquiry-centred decision making.

Table 4 MODELS OF COLLABORATIVE LEARNING AND DECISION MAKING

Wald and Castleberry's (2000) Five Stages of Work in a Collaborative Learning Cycle[60]	Alberta Teachers' Association (2000) Action Research[61]	Ross, Smith and Roberts (1994) Team Learning Wheel[62]
1. define what the team is going to learn and work on together 2. identify current practices, explore new research-based practices and revise the team plan as needed 3. design actions and experiment with new instructional strategies, practices, ideas and theories 4. reflect on the results individually and collectively; thoughtfully assess results 5. share regularly with other teams, teachers, students, administrators, community leaders and other interested people	1. define the focus or problem 2. collect information 3. make sense of the information 4. share the information 5. plan action 6. take action 7. collect information 8. analyze 9. assess your achievements 10. publish 11. future action	1. public reflection—members of the team talk about their assumptions and beliefs and challenge each other gently but relentlessly 2. shared meaning—the team arrives at common ground, shared insights 3. joint planning—the team designs action steps, an initiative to test their shared insights 4. coordinated action—the team carries out the action plan. This action need not be joint action but can be carried out independently by members of the team

Danielson's (2002) model for effective school improvement can also be considered a model for collaborative team development. Her model includes four components in a circular process that addresses the relationships and movement between each.

- What we want—the goals of a school as a set of organizing principles and a way of defining its direction.

- What we believe—the belief structure or guiding principles that influence all aspects of the school's program.
- What we know—the research base for school practices.
- What we do—practices that support the school's goals, reflect its underlying values and the relevant research. [63]

The process of action research is more explicitly embedded in the attributes of PLCs than perhaps any other process. The goal of action researchers is to develop a deep and practical understanding of how an initiative actually plays out in the world. They do this largely by becoming intimately involved in its design and implementation. At the earliest stages of program development, action researchers describe in a detailed, systematic way the design of an initiative—its various assumptions, requirements, strategies, plans, timetables, concrete activities and expected effects. Then, over time, the researchers work collaboratively with staff to monitor closely how the initiative unfolds and what effects it has at critical steps along the way. The researchers focus on how the initiative is designed in theory and on how it is actually enacted over time.

> *Action research is one form of applied research. Because action research draws on a range of designs and methodologies, it can provide teachers with the opportunity to examine a practical problem within a classroom or school setting. Action research has the potential to greatly enhance both teacher professional development and school improvement initiatives.*[64]
>
> Alberta Teachers' Association (2000, p. 3)

Action researchers focus on constructing a detailed, coherent, useful understanding of what was intended and of what actually happened and why. They do not limit their role and responsibilities to judging program effectiveness. They actively work on an initiative to:

- observe and analyze the unfolding of the initiative
- continually revise their thinking about the paths to achieving program goals
- actively engage the various stakeholders to test the soundness of the initiative.

The action research process lends itself to a spiral of cycles, with researchers reflecting on each stage of the process. When the results of the first action have been studied, researchers then plan the next series of actions. Each reflective phase yields more information about the issue and increases researchers' understanding. Sometimes, the information gained leads researchers to refine the question with a different focus. The most important skill researchers need in action research is the ability to engage in reflection. Reflection moves the practitioner from one stage to the next. Action is based on reflection.[65] Of central

importance to action research is reflective practice—and the ability to explicitly discuss mental models, as well as the assumptions upon which decisions and actions are based.[66]

> *Educators' mental models also play key roles in establishing professional learning goals and improving practice. Mental models are our beliefs and perceptions, the images and assumptions that are an important part of who we are. Some people use the terms paradigms or scripts as synonyms. Because they are often hidden from view, mental models may remain undiscussed, with their influence on behaviour unrecognized. And because they are undiscussed, it is easy to assume that everyone shares our view of reality, which is typically not the case.*[67]
>
> Sparks (2002)

Many underscore the importance of reflective practice to effective and sustainable PLCs. Reflective practice builds those aspects of school culture that affect teachers' abilities to sustain an openness to learning and is shaped by the school's organizational memory, the shared knowledge base and the way that information is distributed and interpreted.[68]

Understanding of learning itself—for both students and adults—also has a significant impact on the processes that influence professional learning.[69] Sparks (2002) emphasizes the importance of changing views of learning and the impact of constructivist learning theory on conceptions of professional learning.[70] Others concur.[71] The emergence of learner-centred theory and the substantial body of research on the brain are reconceptualizing how the processes of learning are viewed. Research in the field of cognitive psychology[72] adds to this knowledge base and suggests that learning contexts should be based on these learning principles.

- Learning builds from and is mediated by one's existing knowledge.
- Reflection is essential to learning.
- Motivation and other affective factors play a significant role in learning.
- Learning, though unique for each person, follows some basic developmental stages.
- Learning happens as much socially and in practice as it does individually and in one's head.

> *Arguably, the most critical body of research for educators to incorporate into their practice is that on learning—after all, promoting student learning is the essential mission of schools. Only by understanding how people—both children and adults—learn can educators hope to design instructional programs that will maximize learning.*[73]
>
> Danielson (2002, p. 22)

Best Practices: Darling-Hammond (1998) describes a process used to emphasize and build collaborative learning structures that focused on honouring teacher knowledge and expertise.

Wells Junior High is a Professional Development School working with the University of Southern Maine. The whole notion of staff development was turned on its head. The emphasis shifted from outside consultants to in-house experts. Collaborative learning groups replaced the traditional lecture/demonstration format. Problem posing and problem solving supplanted the recipes and prescriptions for effective schools that teachers had heard for years and never managed to implement. Using the knowledge became the starting point for developing a new view of staff development. . . [Allocated workshop days] were used for teachers' review of research and for critical discussion and reflection. On one such day, teachers spent two hours individually reading research about grouping. During another day, they worked in cooperative groups to share their perceptions on the research they had read. On yet another day, the staff met to engage in the process of consensus building with the goal of reaching a decision about grouping practices in the school (Miller and Silvernail 1994, pp. 30, 31).[74]

Integral to the processes of learning inquiry and continuous improvement in PLCs is the use of data and information and the emphasis on collaborative processes of research. Many researchers agree that PLCs must become research based and data driven to use processes that reflect inquiry-based models.[75] A number of studies stress the importance of basing decisions on data obtained through an inquiry process, as well as on establishing benchmarks in which to contextualize improvement initiatives. Both theorists and researchers are noting the results of such an approach. Data-based inquiry results in a more purposeful, professional culture that facilitates professional dialogue and reflective practice centred on the rationale of school improvement and student achievement and learning.[76] As Senge (1996) notes, "the rationale for any strategy for building a learning organization revolves around the premise that such organizations will produce dramatically improved results."[77]

> *The literature on learning organizations and professional communities demonstrates that a large part of a school's capacity to be effective and improve depends on how it is organized to learn. A school's capacity to learn is defined by a combination of its human, social, structural and organizational capital (see Century, 2000). The common attributes of school learning organizations and professional learning communities provide the structure and culture conducive to organizational learning by focusing on the following: teaching and learning; collaboration among staff and with external partners; inquiry-based learning and reflection, shared values, norms and dispositions of teachers, and a commitment to continuous improvement. When imbued with data and information, learning organizations and professional learning communities can maximize these attributes to positively affect professional learning, educational change and reform.*[78]
>
> Mason (2003, p. 6)

Best Practices: Mason identified factors that influence best practice in the use of data within the context of PLCs.

In the course of our research, we have learned that in addition to building school-level culture, processes and skills, schools also need to create organizational and structural mechanisms for using data to improve teaching and learning. We learned that decision-making and reform capacity needed to be distributed beyond the scope of administrators to include classroom practitioners. We have learned that many schools are simply not organized to use data to improve teaching and learning. In our most recent study, school teams worked collaboratively to learn about continuous improvement, decision-making and data inquiry processes, and the analysis, application and use of data. Ongoing field research has revealed that these school teams and the processes they employed exemplify the key characteristics of learning communities. Moreover, these professional learning communities appear to provide an ideal organizational structure to address the challenges of schools and the needs of teachers as they seek to learn from data and use it effectively to improve student learning (Clune and Webb, 2002; Webb, 2001, 2002).[79]

There are a number of other processes that support collaborative learning environments and are gaining increasing recognition within the context of PLCs. Whole-faculty study groups, critical friends and focused conversations are processes that support the stance toward collective inquiry and cognition required for PLCs to function effectively. Whole-faculty study groups, as developed by Murphy and Lick (2001), engage the entire school staff in small groups of three to five educators.[80] Using performance data, groups explore issues and research practices that target increased student learning and achievement and monitor the impact of instructional initiatives on students. The decision-making cycle of a whole-faculty study group assumes that everyone participates collaboratively in the process, that leadership is shared and that the work of the study group is public. Focused conversations involve a process of asking questions at four levels in order to explore issues and challenges facing a staff.

- objective questions about facts
- reflective questions that elicit personal reactions and feelings
- interpretive questions that focus on meanings, values and implications
- decisional questions that lead to resolution and a decision about the topic[81]

Processes such as mentoring and cognitive coaching also provide supportive structures in which collaborative cultures and teams can develop.

> *Learning communities are strengthened when other support staff, administrators and even school board members choose to participate, and when communication is facilitated between teams. Because of this common focus and clear direction, problems of fragmentation and incoherence that typically thwart school improvement efforts are eliminated.*
>
> *Administrator learning communities also meet on a regular basis to deepen participants' understanding of instructional leadership, identify practical ways to assist teachers in improving*

> *the quality of student work, critique one another's school improvement efforts, and learn important skills such as data analysis and providing helpful feedback to teachers.*[82]
>
> National Staff Development (2005)

Leadership as a critical factor

Much of the literature reiterates the importance of leadership in schools' or districts' ability to establish and maintain PLCs. However, the conception of leadership is shifting from leader-centred to leadership capacity and is linked to discussions of collaborative cultures, capacity building and change process. The view of the principal as the instructional leader is changing to one that reflects the principal's role within a community of learners and leaders.

> *Current definitions of instructional leadership are richer and more expansive than those of the 1980s. Originally, the role involved traditional tasks such as setting clear goals, allocating resources to instruction, managing the curriculum, monitoring lesson plans, and evaluating teachers. Today, it includes much deeper involvement in the core technology of teaching and learning, carries more sophisticated views of professional development, and emphasizes the use of data to make decisions (Deborah King 2002). Attention has shifted from teaching to learning and some now prefer the term learning leader over instructional leader (Richard DuFour 2002).*[83]
>
> Lashway (2002)

According to Fullan (2002), leadership that results in change requires more than instructional leadership. The principal must also be a change leader who focuses on the improvement of school culture. Change leaders share five characteristics.

- moral purpose
- an understanding of the change process
- the ability to improve relationships
- a desire to create and share knowledge throughout the organization
- the ability to generate coherent reform[84]

Fullan states that in order to "sustain reforms, change leaders develop the broader social environment, learn where they work (and ensure that others in the school and district have opportunities to learn in work settings as well), cultivate leaders at all levels of the organization and enhance the teaching profession. Thus, we need leaders who can create a fundamental transformation in the learning cultures of schools and of the teaching profession itself."[85]

As leading researchers like Fullan (2002), Marzano (2003) and others assert, the role of leadership is crucial to any school improvement process and particularly to PLCs.[86] Connections in the research point to the necessity of effective leadership for school improvement, the establishment of viable learning communities, the development of collegial environments and the relationship to student achievement results.

> *In schools with strong leadership; dedicated people who work and learn within a community of learners; adequate resources; focused, clear goals; multiple, rich opportunities for professional learning; and a spirit of efficacy, responsibility and accountability, student achievement results increase.*[87]
>
> Killion (1999, p. 78)

Best Practice: The staff of J. Hawkey Elementary School, in Airdrie, Alberta describes the importance of a focus on teacher learning and leadership in establishing PLCs through their involvement with an Alberta Initiative for School Improvement (AISI) project.[88]

During this past year, we brought our Grade 1 and 2 teams into AISI with a learning project related to developing moral intelligence. To facilitate teacher learning and leadership this year, we mandated a single period into their weekly schedules for reading, reflection and dialogue. About every two months, we met for a 1–2 as a Grade 3–4 dialogue group and a separate Grade 1–2 dialogue group. The discussions and the resulting focus on the improvement of teacher and student learning have reinforced the concepts presented by Barth (2001) in Learning by Heart, who emphasized the importance of teacher leadership in developing and sustaining a community of learners. We are discovering how much of our leadership and expertise can come from within.

DuFour (2001) says that there are fundamental steps principals can take, as staff development leaders, to embed collaboration and leadership capacity in the structure and function of their schools. They must:

- provide time for collaboration in the school day and school year
- identify critical questions to guide the work of collaborative teams
- ask teams to create products as a result of their collaboration
- insist that teams identify and pursue specific student achievement goals
- provide teams with relevant data and information. [89]

These assertions are supported by studies that focus on the effect of principals identified as having positive influences on student learning. Themes from these studies emphasize the importance of practice-centred conversations, dialogue, talk and questions, as well as strong support for ongoing learning in the form of professional development.[90]

Fullan (2002) outlines a leadership role for principals, whom he calls cultural change principals. Cultural change principals work within a framework that consists of personal characteristics of energy, enthusiasm and hope and "five essential components of leadership: moral purpose, understanding change, relationship building, knowledge creation, and sharing and coherence making."[91] In general, for professional development initiatives to be effective, experts stress the importance of principals' roles as instructional and learning leaders who view professional development as a systemic effort.[92]

The National Association of Elementary School Principals (2001) provides a model for instructional leadership that links directly to PLCs. In their view, instructional leaders have six roles.

- make student and adult learning the priority
- set high expectations for performance
- align content and instruction to standards
- create a culture of continuous learning for adults
- use multiple sources of data to assess learning
- activate the community's support for school success[93]

Although their model reflects the key and recurring attributes of PLCs, they introduce the importance of participation from the broader community into the context of school improvement and success. This stance reinforces the bigger picture approach advocated by more recent work on PLCs by Fullan and DuFour.

Studies conducted by collaborating researchers, Louis and Kruse (1995), synthesize and report the learnings from five urban schools. In linking the school leadership role to the development of professional community, Louis and Kruse identify six issues.

- **Leadership at the centre**: In three of the schools that were successfully developing community, school leaders clearly positioned themselves in the centre of the staff rather than at the top.
- **Teacher classroom support**: In the successfully developing schools, there were persons available to provide support to individual teachers. In one of the schools, individual teachers' problems with teaching and learning were brought before the whole group of teachers for discussion and problem solving. This strategy enhanced individual teacher growth in teaching competency and reinforced the community's responsibility for teaching and for each other.
- **A vision of professional community**: Leaders model the behaviours of a professional community, keeping the vision of such a workplace culture alive and visible.
- **A culture of high intellectual quality**: Acquiring and applying new knowledge is an intellectual task and a high priority in a PLC. Leaders in the most successful schools actively supported a culture of

inquiry through constant scanning and bringing in new ideas and people to help teachers reflect on their teaching practice and develop increased skills.

- **The management of conflict**: A reflective organization is one in which the members question its activities and challenge its values. Such reflection almost certainly leads to conflict. Principals can address this conflict by providing an environment in which teachers resolve their dissension through discussion and debate.
- **An inclusive community**: At one of the schools, an external stimulus kept a core set of issues on the agenda for cross-team discussion, providing the opportunity for school-wide professional community development. At another school, the principal was sensitive to including all staff and systematically identified issues that required the attention of all teams of teachers.

In addition to the actions suggested for campus-based leaders in promoting school-wide professional communities, Louis and Kruse examine additional data beyond their cases and make inferences about actions that should be taken by others outside the school to promote community development, including:

- school-based management support
- effective school leadership
- information and assistance
- community attention to teacher needs.[94]

The link between professional development and professional learning communities

The recognition that effective professional development requires support structures and processes links many professional development initiatives to the work being done to establish and maintain PLCs. These support structures emphasize the need to empower districts, schools and classrooms with the capacity to deal with change and the abilities to develop effective and sustainable leadership skills and processes. Many professional development initiatives are centred in such capacity building and are implemented through the PLCs that are functioning in districts and schools.

Many researchers recognize that support for professional development occurs within the context of the school community and involves people resources and professional development models that include mentoring and community building. This changing conception of what is required for professional development is also reinforced by increasing agreement that professional development should be contextualized within the development of collaborative learning communities, recognize the impact of change and school improvement processes and build in structures and processes that facilitate the development of leadership capacity.

The Alberta Teachers' Association recognizes the necessity of supporting collaborative cultures and the importance of professional development support in developing and sustaining PLCs.[95] The work of professional development organizations such as the Alberta Regional Professional Development Consortia also reflects this stance. The importance of collaborative communities of learning is reflected in their beliefs about curriculum implementation and the role that professional development experiences and learning play.[96] This stance is reflected in work being done on new curriculum implementation in Alberta through partnerships between Alberta Education, the Alberta Teachers' Association and the Alberta Regional Professional Development Consortia. This partnership emphasizes a three-step implementation cycle at regional, jurisdictional and school levels.

The Alberta Initiative for School Improvement is another area where a collaborative partnership has resulted in the development of innovative projects to improve student learning. Many of theses projects, developed by school authorities across the province, are being implemented using the PLC model.

To some educators, the development of collaborative learning environments is the single most important factor in ensuring that professional development experiences are effective.[97] Growing recognition of the need to develop positive relationships and their impact on improved teaching practices, as well as explicit references to the roles of PLCs, are making their way into the literature on effective professional development. The research and literature connected to collaborative environments and learning communities is substantial—and the literature on effective professional development is making connections between school culture, collaborative working teams, learning teams, communities of teacher researchers, collaborative exchange and learning communities.[98]

Findings on the effectiveness of learning communities indicate that they can provide advantages that impact classroom practice, increased teacher capacity, commitment to change and collective responsibility for student learning.[99]

Effective learning communities have also been found to have an impact on student attendance and result in increased achievement and smaller achievement gaps.[100]

> *There is broad, even remarkable, concurrence among members of the research community on the effects of carefully structured learning teams on the improvement of instruction. Add to this that such structures are probably the most practical, affordable and professionally dignifying route to better instruction in our schools.*[101]
>
> Schmoker (2004, p. 430)

Elmore (2002) stresses the importance of collaborative environments in professional development, as do many others.[102] Although there is little empirical research that links collaborative processes directly with student learning and achievement, there is a relatively consistent recommendation emerging from the literature on professional development—those who share the same concerns and challenges will learn more effectively if they work together in a professional development experience and teacher quality can be positively affected.

> *Professional development, in the consensus view, should be designed to develop the capacity of teachers to work collectively on problems of practice, within their own schools and with practitioners in other settings, as much as to support the knowledge and skill development of individual educators. This view derives from the assumption that learning is essentially a collaborative, rather than an individual, activity—that educators learn more powerfully in concert with others who are struggling with the same problems—and that the essential purpose of professional development should be the improvement of schools and school systems, not just the improvement of the individuals who work in them. The improvement of schools and school systems, likewise, has to engage the active support and collaboration of leaders, not just their tacit or implicit support, and this support should be manifested in decisions about the use of time and money.*[103]
>
> Elmore (2002, p. 8)

Critical areas of support

Many questions are being raised about the sustainability of PLCs over the long term. Issues relating to school-, district- and provincial-level support touch on many structural and logistical factors. Although these are intrinsically linked to the attributes of effective PLCs, they also create a requirement of their own. PLCs must be managed. The level of commitment required to sustain them is connected not only to the vision and goals of the school community, but also to the logistical and structural supports that are implemented to allow them every opportunity for success. PLCs can be sustained through structural and supportive processes:

- providing and building capacity for leadership throughout the whole community
- using resources and structures that support and maintain PLCs—time, physical proximity, communication structures
- promoting individual and collective learning through processes, such as action research, critical and reflective inquiry, and data-driven decision making
- explicitly promoting and monitoring the effects and results of the PLC.

Kruse, Louis and Byrk (1994) outline five structural conditions of a professional community: time to meet and talk, physical proximity, interdependent teaching roles, communication structures and teacher empowerment and school autonomy.[104]

There is consensus on the necessary conditions for supporting PLCs within the structures and logistical operations of the school. Many of these requirements are linked to the attributes of PLCs and are connected to prerequisites for collaborative environments, supportive school cultures, ongoing professional development and collective inquiry. DuFour and Eaker (1998) stress the need to establish four key prerequisites that allow collaborative teams to function effectively in a school environment.

- **Time for collaboration must be built into the school day and year**
  The way in which a school structures its time can have a tremendous impact upon commitment to a change process. This fact is often overlooked in school improvement initiatives. Time must be incorporated as an integral part of the school day.
- **The purpose of collaboration must be made explicit**
  Forming teams is a means to an end, not the end itself. A team is a group of people who need each other to accomplish an objective. Teams are most effective when they are clear about the results they are to achieve and given clearly stated performance goals.
- **School personnel need training and support to be effective collaborators**
  In their effort to foster a collaborative culture, educators must address potential problems and increase the likelihood of teams developing the necessary clarity and skills to work well together by exploring questions that focus on expectations, goals, indicators and conflict-resolution processes.
- **Educators must accept their responsibility to work together as true professional colleagues**
  Even if teachers have the time, structure and training to engage in collaboration, one prerequisite remains—they must acknowledge their responsibility to do so. Educators often bemoan their lack of opportunity to work together, but little will change unless they also acknowledge that they have contributed to the problem.[105]

There is also concurrence on the importance of communication to the change process and the establishment of collaborative cultures.

> *Mission, vision, values and goals will become irrelevant and the change process will stall unless the significance of these building blocks is communicated on a daily basis throughout the school. Volumes of philosophy statements, strategic plans and long-range goals have been written by school districts, only to end up gathering dust in file cabinets as educators continue with business*

> *as usual. The same fate awaits those who attempt to create professional learning communities unless they appreciate the need for clear, constant communication in support of their objective.*[106]
>
> DuFour and Eaker (1998, p. 106)

DuFour and Eaker say eight elements promote effective communication processes for PLCs. Each element addresses questions that focus processes of collective inquiry and practice.[107] Table 5 describes the questions and processes associated with each.

Table 5 PROCESSES FOR COLLECTIVE INQUIRY AND PRACTICE

1. What do we plan for?	When a school develops and articulates specific plans to advance its vision and values and achieve its goals, it sends the message that these areas are priorities. The preparation and public presentation of a plan signals that this issue is so significant that the school intends to be purposeful in pursuing it.
2. What do we monitor?	In most organizations, what gets monitored gets done. When a school devotes considerable time and effort to the continual assessment of a particular condition or outcome, it notifies all members that the condition or outcome is considered important.
3. What questions do we ask?	The questions that an organization poses and pursues communicate priorities and point its people in a particular direction. Once a school has answered the questions posed when developing its mission, vision, values and goals, it can help sustain its initiative to create a PLC by asking tough questions, such as the following. • Are we acting in accordance with our fundamental mission? • Have we clarified what we want all students to know and be able to do? • What is the most effective response for students who are not succeeding? • What are the discrepancies between actual conditions in our school and the school we hope to become? • What are our specific plans to reduce these discrepancies? • Are the proposals under consideration consistent with our vision and values? • What steps are we taking to advance vision and values in the day-to-day operation of the school? • What results do we seek and what evidence are we gathering to assess our effectiveness? • Have we established systematic collaboration as the norm in our school? • Are there more effective ways to fulfill our mission, vision and values?
4. What do we model?	One of the best strategies for communicating what is important within an organization is modelling. Modelling is particularly critical for those who lead a change effort.
5. How do we allocate our time?	The allocation of time is one of the truest tests of what is really important in any organization. The time devoted to an issue on both the annual calendar and within the daily schedule of an organization reveals what is really valued. Teachers and principals will know a district is serious about transforming schools into PLCs only when they are given the time they need to handle the complexity of that task.
6. What do we celebrate?	Regardless of the eloquence of vision and values statements, those statements will not have an impact unless progress toward the vision is apparent and unless the implementation of the values is recognized and celebrated on a consistent basis.
7. What are we willing to confront?	If the vision and values of the school are to be communicated in a clear and unequivocal manner, those who violate the vision and values must be confronted.
8. Keep it simple.	The message of change must be simplified and amplified. Metaphors, analogies, logos and examples can present verbal pictures of a change initiative more effectively than pages of text.

Adapted from DuFour & Eaker (1998).

Section 3

Benefits of Professional Learning Communities

The benefits of PLCs are well established in literature describing school and district practice and experiences. Numerous studies have found that PLCs are an important factor in improving student achievement, particularly in those schools with low-achieving students.[108]

Exploring the benefits of professional learning communities

Hord's (1997) review of the benefits of PLCs involved a number of questions about effectiveness.[109] What difference does it make if staff are communally organized? What results, if any, might be gained from this kind of arrangement? Similar questions recur throughout articles, research studies and projects focusing on the benefits of PLCs. The Annenberg Institute (2003) found that four key benefits result from PLCs. These results are based on their experiences with English language learners and students from low-income backgrounds. The key benefits are:

- building productive relationships that are required to collaborate, partner, reflect and act to carry out a school-improvement program
- engaging educators at all levels in collective, consistent and context-specific learning
- addressing inequities in teaching and learning opportunities by supporting teachers who work with students requiring the most assistance
- promoting efforts to improve results in terms of school and system culture, teacher practice and student learning.[110]

> *Research demonstrates that the development of a strong professional community among educators is a key ingredient in improving schools (Fullan 1999; Langer 2000; Little and McLaughlin 1993; Louis, Kruse and Marks 1996; Newmann and Associates 1996). Louis et al. (1995, p. 17) identify effective professional learning communities as being firmly embedded in the school and using schoolwide reform goals as the basis for teachers' commitment and interaction. These professional learning communities provide opportunities for adults across a school system to learn and think together about how to improve their practice in ways that lead to improved student achievement. This kind of collaboration is rarely found in more traditional types of professional development or in common staff meeting time.*[111]
>
> Annenberg Institute (2003, p. 2)

Table 6 synthesizes findings that highlight some of the benefits of PLCs.

Table 6 RESEARCH-BASED FINDINGS ON THE BENEFITS OF PROFESSIONAL LEARNING COMMUNITIES

Benefits	Research
reduced isolation and encouragement of collaborative cultures between teachers *Lieberman reports that providing ways for teachers to talk publicly with each other about their work in behalf of students reduces the isolation of teachers and mobilizes them to commit themselves to making major changes in how they participate in the school.*[112]	Lieberman (1995) Hord (1997)
increased efficacy and collective responsibility	Louis (1992) Little (1990) Lee, Smith and Croninger (1995)
higher morale, greater job satisfaction, greater retention rates and enthusiasm	Lee, Smith and Croninger (1995) Hall and Hord (2001)
greater commitment to change and increased participation in decision making *…schools with strong democratic practices and expanded local participation are more likely to undertake fundamental, systemic change. They advised helping schools to become professional learning communities in order to provide learning environments for adults as well as students, so that the full potential of reform may be reached*[113]	Bryk, Anthony S., John Q. Easton, David Kerbow, Sharon G. Rollow and Penny Bender Sebring (1993) Gordon (2002)
academic improvement, including increased learning, lower dropout rates and smaller achievement gaps *The most successful schools were those that used restructuring tools to help them function as professional communities. That is, they found a way to channel staff and student efforts toward a clear, commonly shared purpose for student learning; they created opportunities for teachers to collaborate and help one another achieve the purpose;, and teachers in these schools took collective not just individual responsibility for student learning. Schools with strong professional communities were better able to offer authentic pedagogy and were more effective in promoting student achievement.*[114]	Lee, Smith and Croninger (1995) Smith, Lee and Newmann (2001) Newmann and Associates (1996)
increased leadership capacity among all team members	Zepeda (1999) Lambert (1998)

interconnected communities of practice that promote ongoing development and continuous improvement *…the most essential factor in a successful school is that of connection; the most successful learning occurs when teachers teach effectively in their own classrooms but also find solutions together. In such schools, teachers operate as team members, with shared goals and time routinely designated for professional collaboration. Under these conditions, teachers are more likely to be consistently well informed, professionally renewed and inspired so that they inspire students.*[115]	Resnick and Hall (2001) Mitchell et al. (2001) Coburn (2003) Newmann and Wehlage (1995) Darling-Hammond, Lieberman and McLaughlin (1995) Boyer (1995)
changes in classroom pedagogy resulting in increased student achievement *As a result, they engaged students in high intellectual learning tasks, and students achieved greater academic gains in math, science, history and reading than students in traditionally organized schools. In addition, the achievement gaps between students from different backgrounds were smaller in these schools, students learned more and, in the smaller high schools, learning was distributed more equitably.* *The schools in the study were communally organized and promoted a setting in which staff (and students) were committed to the mission of the school and worked together to strengthen that mission. Staff members saw themselves as responsible for the total development of the students and shared a collective responsibility for the success of students. In such schools, teachers and other staff members experience more satisfaction and higher morale, while students drop out less often and cut fewer classes. And both staff and students post lower rates of absenteeism.*[116]	Louis, K.S. and Kruse, S.D. (1995)

Best Practices: Hord and Rutherford describe the best practices evident at Cottonwood Creek School with the application of PLCs to the implementation of a new curriculum.

In 1991, the school … was ranked in the lowest quartile of schools in the school district. In the spring 1996… the school had moved to the top quartile of the districts' 65 elementary schools. The school staff joined together as a professional community of learners, engaging in reflection, assessment, study and learning about how to make [the new curriculum] work in their classrooms. The teachers felt the new programs have required their collaboration and coming together to learn as a unit… Their principal encouraged collective learning, making it clear that expectations were high.

Such learning was enabled through arranging time, schedules and structures to accommodate it. Again, the principal was active—managing and effectively utilizing resources, monitoring and encouraging efforts. The principal maximized the resources brought by grants, large and small, for the benefit of the students. Further, she gave teachers the freedom and the responsibility for making decisions; she created a climate where this could happen.

As a result of working toward implementation of [the new curriculum], faculty shared their ideas and practice. The principal facilitated and encouraged internal open house for the faculty where teachers

shared successes. Trust is one element upon which this way of working is built: the principal's trust in the teachers and their reciprocal trust in the principal.[117]

In other work relating to the development of PLCs, benefits are identified that link to the processes and structures that can be used to build collaborative teams and initiate inquiry-based learning. Although these benefits are not linked explicitly to empirical research, they support the case for centring PLCs on commonly recognized attributes and characteristics. Table 7 provides an example of such actions and benefits within a school environment.

Table 7 BENEFITS OF ACTIVITIES IN A LEARNING COMMUNITY

How is My School Like a Learning Community?[118]	
Learning Community Activities	Direct Benefits
use shared planning to develop units, lessons and activities	divides the labour, saves time because no one has to do it all, increases quantity and quality of ideas
learn from one another by watching each other teach	provides concrete examples of effective practices, expands the observer's repertoire of skills, stimulates analytical thinking about teaching
collectively study student work to identify weaknesses and plan new ways to teach to those weaknesses	increases quantity and quality of insights into student performance, focuses efforts on the bottom line—student learning, increases professionalism and self-esteem of learning community members
share articles and other professional resources for ideas and insights, conduct studies of books on teaching and learning	expands pool of ideas and resources available to members of the learning community
talk with one another about what and how you teach and the results your teaching produces	decreases feelings of isolation, increases experimentation and analysis of teaching practices, increases confidence of teachers, provides teachers with greater access to a range of teaching styles, models and philosophies
provide moral support, comradeship and encouragement	enables teachers to stick with new practices through the rough early stages, decreases burnout and stress, increases team members' willingness to try new methods and share ideas and concerns with other members of the learning community
jointly explore a problem, including data collection and analysis, conduct action research	improves quality of insights and solutions, increases professionalism
attend training together and help each other implement the content of the training	helps learning community members get more out of training, enables them to go to one another with questions or for clarification about what was presented during training
participate in continual quality improvement activities	creates more efficient use of time, takes advantage of particular talents or interests of learning community members

How is My School Like a Learning Community?[118]	
use collective decision making to reach decisions that produce collective action	improves quality of instruction, student performance and school operations
provide support for help-seeking as well as help-giving	makes a strong statement of shared responsibility and commitment to one another's learning
share the responsibility for making and/or collecting materials	helps learning community members feel secure in asking for help and advice, enables the giving of assistance and advice without establishing one-up/one-down relationships

Adapted from Collins (2000).

Linking benefits and effectiveness to sustainability

Current research into the results of PLCs is starting to emphasize the long-term sustainability of such initiatives. Concerns arise about what happens when key individuals leave a community or if district focus and goals change. These concerns are leading both researchers and practitioners to identify factors that can reduce effectiveness of PLCs, as well as conditions required for long-term viability. Groups such as the Alberta Regional Professional Development Consortia and the Alberta Teachers' Association recognize the need to centre professional learning and school improvement initiatives in contexts that emphasize sustainability. The Alberta Initiative for School Improvement project recognizes the importance of professional development and requires that school authorities include a professional development component in their project proposal. The Annenberg Institute (2003) has shifted its work with PLCs to more effectively address barriers identified through their research. To this end, they are supporting the development of PLCs within a broader network of schools and districts and developing processes to overcome barriers such as:

- focusing on process that diverts attention from instructional content and approaches
- reluctance to make work public that limits rigorous feedback
- deep-seated issues of trust and equity that are often not addressed
- leadership capacity that remains underdeveloped
- effects of changes in practice and improved student learning that are often poorly documented
- structural changes that, alone, do not ensure change in practice.

If PLCs are to help change culture, improve practice and develop leadership, they must identify clear and essential areas of focus for their work, along with strategies for measuring the impact of their efforts. For example, members of a district-based PLC might focus on monitoring the implementation of a curriculum framework, but this work would be enhanced by examining the necessary changes in their own practice that would align and coordinate existing tools and resources to support that framework.[119]

Annenberg Institute (2003, p. 7)

The shifting focus of from school-based to district and systemic initiatives reiterates the link between the benefits of PLCs and their sustainability. PLCs that make a difference to student learning are increasingly being formed around processes and results.

Conclusion

Professional learning communities (PLCs) are increasingly recognized as an important aspect of the relationships and culture within school environments. In Alberta and across North America, evolving understandings emphasize the need to centre initiatives in local, school-based contexts as well as to consider the broader supports, necessary from district and provincial organizations, to sustain them. There is consensus that PLCs can improve professional practice and efficacy as well as student learning and growth and that processes centred on teacher inquiry and decision making impact the effectiveness of PLCs. There are also increasing calls for structures and supports that facilitate the development of school cultures that encourage effective and sustainable PLCs. These supports are typically focused on the provision of time and flexible logistical structures within a school's organizational structures, the ability to form collaborative working relationships and the allocation of resources to develop leadership capacity and provide professional development support. Researchers agree that, within the context of a facilitative school culture, PLCs have the potential to significantly impact teacher practice, views of learning and student achievement.

Annotated Bibliography

Alberta's Commission on Learning. (2003). *Every child learns. every child succeeds.* ***Report and recommendations*****.**

http://www.education.gov.ab.ca/commission

Every child learns. Every child succeeds is the report of the Alberta's Commission on Learning review of Alberta's Kindergarten to Grade 12 education system. The report resulted in a number of recommendations. One key recommendation was to develop excellent teachers and school leaders. The report states teachers are critical to the success of students and of the education system. Alberta needs to ensure that they continue to be well prepared for the challenges they face and that consistent professional development activities are available throughout their careers. The role of the principal is becoming increasingly challenging and deserves a special focus within the education system, particularly in preparing principals and providing ongoing support and professional development.

Alberta Regional PD Consortia. (2004). ***Our beliefs about curriculum implementation.*** **Alberta Regional PD Consortia Working Paper. Edmonton, AB: Author.**

This paper outlines research-based premises and beliefs about effective curriculum implementation, connected to both professional development and PLCs.

Alberta Teachers' Association. (2004). ***Current challenges and opportunities: summary of the 2004 ATA PD survey.*** **Edmonton, AB: Author.**

This report summarizes provincial trends and analyzes a longitudinal database of professional development programs and opportunities gathered since 1998.

Alberta Teachers' Association. (2000). ***Action research guide for Alberta teachers*****. Edmonton, AB: Author.**

This guide includes strategies and approaches staffs can use to engage in action research focused on school improvement, curriculum development, student behaviour and staff development. Whole-staff collaborative action research has the potential to increase teamwork, improve staff morale and increase student achievement.

Available in downloadable PDF format on www.teachers.ab.ca.

Alberta Teachers' Association: www.teachers.ab.ca.

This Web site provides links to professional development programs that support the initiation and development of PLCs.

Alexander, P.A. and Murphy, P.K. (1998). The research base for APA's learner-centered psychological principles. In N.M. Lambert and B.L. McCoombs (Eds.), ***Issues in School Reform: A Sampler of Psychological Perspectives on Learner-Centered Schools*****. Washington, D.C.: The American Psychological Association.**

When different beliefs are held, inclusive dialogue is the process for learning and relationships become the vehicle for change. A learner-centred perspective suggests that professionals plan, implement, manage and evaluate programs within a sociocultural and developmental framework, with an eye toward fostering lifelong learning and a genuine concern for the personal, social, academic and career needs of students (Green and Keys, 2001; Sink, 2002). In this age of school reform, accountability, standards and high-stakes assessments, school-based group counselling is one responsive service. The article also explores ways in which these principles can be readily infused into existing small groups.

Annenberg Institute for School Reform (2003). ***Professional learning communities: Professional development strategies that improve instruction*****. Providence, RI: Author.**

http://www.annenberginstitute.org/images/ProfLearning.pdf (Accessed September 24, 2005).

This paper encourages the use of PLCs as a central element for effective professional development as part of a comprehensive reform initiative. The authors assert that PLCs have the potential to enhance the professional culture within a school district in four key areas. They can:

- build the productive relationships required to collaborate, partner, reflect and act to carry out a school improvement program
- engage educators at all levels in collective, consistent and context-specific learning
- address inequities in teaching and learning opportunities by supporting teachers who work with students requiring the most assistance
- promote efforts to improve results in terms of school and system culture, teacher practice and student learning.

Barth, Roland (2002). The culture builder. *Educational Leadership* Vol. 59, No. 8. Alexandria, VI: Association for Supervision and Curriculum Development.

Barth describes how the most important and the most difficult job of an instructional leader is to change the prevailing culture of a school. Barth describes forms of leadership that invite others to join as observers of the old and architects of the new.

Barth, R. (1990). *Improving schools from within*. San Francisco: Jossey-Bass.

This book focuses on the role of principals in bringing about reform in schools. Barth emphasizes the relationship between principal and teacher and the importance of collegial relationships and leadership capacity. Building on the existing strengths of staff, student learning can be increased.

Berlinger-Gustafson, Cathy (2004). *Building professional learning communities.* From the presentation by Cathy Berlinger-Gustafson on May 3, 2004 in support of the Florida Professional Development System Evaluation Protocol.

http://www.teachinflorida.com/teachertoolkit/PLC.htm (Accessed September 10, 2005).

The author outlines the attributes of PLCs, the guiding principles of organization culture, processes and procedures for developing learning communities, common mistakes and the results of PLCs.

Blase, J., and J. R. Blasé (2000). *Empowering teachers: What successful principals do,* 2nd Edition Thousand Oaks, Calif.: Corwin Press.

The authors base their book on shared governance—the foundation necessary for empowerment to occur. Each chapter describes a strategy, discusses its importance, and provides a break down of specific practices that are effective in implementing the strategy. Teacher feedback is included. It discusses three dimensions of teacher empowerment to improve learning, that include the:

- affective dimension: teacher satisfaction, motivation, esteem, confidence, security, sense of inclusion and identification with the group and its work
- classroom dimension: innovation, creativity, reflection, autonomy, individualization of instruction, professional growth and classroom efficacy
- schoolwide dimension: expression, ownership, commitment, sense of team and schoolwide efficacy.

Boese, B., Keyser, L. and Forsyth, S. (2003). From chaos to order and back again: The learning journey of an AISI school. *ATA Magazine*, Vol. 83, No. 4, pp. 13-14.

This article describes the journey of a school engaged in an Alberta Initiative for School Improvement project in the spring of 2000.

Boyd, Victoria (1992). *School context: Bridge or barrier to change?* Online guide. Southwest Educational Development Laboratory.

http://www.sedl.org/change/school/welcome.html (Accessed September 29, 2005).

This paper presents the context of schools as a set of factors. Though these factors are discussed individually, they are both interrelated and interdependent. These interrelationships are important to school leaders seeking to improve schools for at-risk students.

Brandt, R. (2003). Is this school a learning organization? 10 ways to tell. *Journal of Staff Development, 24*(1), pp. 10-16.

Brandt contends that individuals learn best when the content is meaningful to them, they have opportunities for social interaction and the environment supports the learning. That idea applies to organizations as well. To check whether a school is functioning as a learning organization, its staff members and others need to consider this list of characteristics not as a checklist but as elements of the whole. Learning organizations should be fully engaged with the broader community, offering leadership and responding intelligently to social, economic and political conditions.

Carroll, Thomas G., Fulton, Kathleen, Yoon, Irene, and Lee, Christine. (2005). *Induction into learning communities*. Washington D.C.: National Commission on Teaching and America's Future.

http://www.nctaf.org/documents/nctaf/NCTAF_Induction_Paper_2005.pdf (Accessed September 9, 2005).

This report presents recommendations to leaders of states, districts, schools and higher education systems for supporting comprehensive induction systems based on four central goals that include:

- building and deepening teacher knowledge
- integrating new practitioners into a teaching community and school culture that support the continuous professional growth of all teachers
- supporting the constant development of the teaching community in the school
- encouraging a professional dialogue that articulates the goals, values and best practices of a community.

The authors assert that quality teaching is the responsibility of the entire school community. Fostering a supportive community that helps new teachers become good teachers—and good teachers become great teachers—is critical to providing a rewarding career path for educators and a quality learning environment for students.

Collins, David (2000). ***Achieving your vision of professional development.*** **Tallahassee, FL: The Regional Educational Laboratory at SERVE, pp. 31-32.**

http://www.solon.k12.ia.us/staffdevelop/nsdc/content/foundation/community/BYD-002651-index.htm (Accessed September 20, 2005).

This resource guide offers tips for building effective professional development systems, including tips for developing a vision, creating a context for change, planning, investing resources, providing continual assistance and assessing and monitoring progress. It also includes summaries of the 1997–1998 winners of the National Awards Program for Model Professional Development and five examples of model schools.

Couture, J-C. (2003). Three paths in a journey. ***ATA Magazine,*** **Vol. 83, No. 4, pp. 36-43.**

This article explores the processes involved in establishing PLCs within schools. The author uses an analogy of three pathways to describe the steps that are part of the journey of establishing and maintaining effective PLCs.

Danielson, Charlotte (2002). ***Enhancing student achievement: A framework for school improvement.*** **Alexandria, VI: Association for Supervision and Curriculum Development.**

Using the four critical criteria for successful school improvement, Danielson outlines factors that ensure optimum student learning, including school organization, team planning and teaching practices. Rubrics at the end of each chapter evaluate how teacher and school policies and programs support improvement efforts. It includes an action-planning guide to help teachers implement their framework based on evidence of improvement.

Darling-Hammond, Linda (1998). Teacher learning that supports student learning. ***Educational Leadership*** **February 1998, Vol. 55 No. 5.**

http://www.ascd.org/ed_topics/el199802_darlinghammond.html (Accessed September 16, 2005).

This article describes the shift from old models of teacher training to models in which teachers confront research and theory directly, are regularly engaged in evaluating their practice and use their colleagues for mutual assistance. Growing evidence suggests that this kind of professional

development not only makes teachers feel better about their practice but reaps learning gains for students. When teachers have the opportunity for continual learning they inspire greater achievement from students.

Darling-Hammond, Linda. (1996). The quiet revolution: Rethinking teacher development. ***Educational leadership, 53*****(6): pp. 4-10.**

The author examines ways to develop a highly qualified and committed teaching force by redesigning initial teacher preparation, rethinking professional development and involving teachers in research, collaborative inquiry and standard setting in the profession. Darling-Hammond looks at how other countries prepare teachers and encourage their professional development. In the countries she cites, teachers have more decision-making authority, are better prepared, better paid and better supported in their professional growth than U.S. teachers. If policies are built on a strong foundation of teaching knowledge and sustained by a commitment to structural rather than symbolic change, improvement and success can result.

Darling-Hammond, Linda and Loewenberg-Ball, Deborah (1998). ***Teaching for high standards: What policymakers need to know and be able to do*****. National Commission on Teaching and America's Future: Consortium for Policy Research in Education. CPRE Joint Report Series.**

This report examines the relationship between teacher knowledge and student performance, what research suggests about the education and professional development teachers require in order to teach to high standards, what states are doing to provide these opportunities and the results of these efforts. Research confirms that teacher expertise, as measured by factors such as teacher education and experience, is associated with significant increases in student achievement.

DuFour, Richard (nd). ***What is school culture?*** **Online.**

http://www.ascd.org/portal/site/ascd/menuitem.56b9a2dd41f0500cbfb3ffdb62108a0c/ (Accessed September 12, 2005).

This online resource provides a number of text and video clips discussing various aspects of school culture.

DuFour, Richard. (2004). Schools as learning communities. ***Educational Leadership,*** **Vol. 61, No. 8, Alexandria, VA: Association for Supervision and Curriculum Development, pp. 6-11.**

http://www.teacherleaders.org/misc/DuFour_PLCs.pdf (Accessed September 8, 2005).

The PLC model has reached a critical juncture, one well known to those who have witnessed the fate of other school reform efforts. In this cycle, initial enthusiasm gives way to confusion about the fundamental concepts, followed by implementation problems, the conclusion that the reform has failed and abandonment and the launch of a search for the next promising initiative. DuFour discusses how the movement to develop PLCs can avoid this cycle if educators reflect critically on the concept's merits.

DuFour, Richard (2003). Leading edge: 'Collaboration lite' puts student achievement on a starvation diet. *Journal of Staff Development,* Vol. 24, No. 3.
http://www.nsdc.org/library/publications/jsd/DuFour244.cfm (Accessed September 10, 2005).
Leaders determined to impact student achievement must not settle for congeniality, coordination, delegating responsibilities or any form of "collaboration lite." They must promote a collaborative culture by defining collaboration in narrow terms; the systematic process in which people work together to analyze and impact professional practice in order to improve individual and collective results. The first key term in this definition is systematic. Collaboration is embedded in the routine practices of the school. Teachers are organized into teams and provided time to meet during the school day. The process is designed to impact professional practice and staff members do more than analyze, reflect, discuss or debate. They use collaboration as a catalyst to change their practices. The effectiveness of the collaborative process is assessed on results rather than perceptions, projects or positive intentions. Teams identify and pursue specific, measurable, results-oriented goals and look for evidence of student achievement as the barometer of success.

DuFour, Richard (2001). In the right context. *Journal of Staff Development,* Winter 2001 (Vol. 22, No. 1). Oxford, OH: National Staff Development Council.
http://www.nsdc.org/library/publications/jsd/DuFour221.cfm (Accessed September 8, 2005).
This article describes factors that influence principals' roles as effective staff development leaders in the school.

DuFour, Richard and Eaker, Robert. (1998). *Professional learning communities at work: Best practices for enhancing student achievement.* Bloomington, IN: National Educational Service and Alexandria, VA: Association of Supervision and Curriculum Development.
http://www.solon.k12.ia.us/staffdevelop/nsdc/content/foundation/community/BYD-002646-DuFour6.htm (Accessed September 15, 2005).

The authors offer recommendations for those seeking to transform their schools into PLCs as characterized by mutual collaboration, emotional support, personal growth and a synergy of efforts. Brief summaries of directions for curriculum, teacher preparation, school leadership, professional development, school–parent partnerships and assessment practices are included, along with sample vision statements.

Eaker, R., DuFour, R., and Burnette, R. (2002). ***Getting started: Reculturing schools to become professional learning communities*****. Bloomington, IN: National Educational Service.**

This book describes 10 steps for implementing PLCs, the PLC continuum, master schedule for instruction, summary checklist for tracking cultural shifts, team feedback sheet, mid-year reflections survey, student achievement goal-setting worksheet, description of how schools respond to students who are not learning, sample school improvement plan and quality indicators questionnaire for school improvement planning. The authors focus on the cultural shifts that must take place as schools move to functioning as PLCs. It includes a case study on how one school made the transition in one year with dramatic results.

Elmore, R. F. (2002). ***Bridging the gap between standards and achievement: The imperative for professional development in education*****. Albert Shanker Institute.**

This paper discusses performance-based accountability, improving the quality of the educational experience for all students and school performance. It discusses implications for professional development and the connection between accountability and changes in models of professional development. It provides an overview of the research in effective professional development.

Feldman, J., and Tung, R. (2001). ***Whole-school reform: How schools use the Data-Based Inquiry and Decision-Making process*****. Paper presented at the 82nd annual meeting of the American Educational Research Association, Seattle, WA.**

This study examines six schools that used the process of data-based inquiry and decision making (DBDM). The six schools, all in Massachusetts, were studied by the Center for Collaborative Education, an organization that promotes whole-school change through collaborative partnerships. DBDM is a process in which school personnel engage in ongoing analysis of data from multilevel sources to provide a comprehensive picture of the school's strengths and challenges and develop a plan to prioritize and address those challenges. In successful DBDM schools, teachers become reflective about their practices and the school becomes a professional culture.

Felner, R. D., Jackson, A. W., Kasak, D., Mulhall, P., Brand, S., and Flowers, N. (1997). The impact of school reform for the middle years: Longitudinal study of a network engaged in Turning Points-based comprehensive school transformation. *Phi Delta Kappan 78*(7), pp. 528–50.

The authors discuss how school reform can succeed when it is comprehensive and integrative, with careful attention to sequencing and the establishment of *Turning Points* building blocks on which other elements can be mounted. They discuss patterns of interdependence among implementation elements that may require further consideration by those involved in school reform efforts. One of the clearest patterns that emerges from the data is the difference between checklist-based implementation and implementation that is idea-driven.

Fullan, Michael. (2005) Professional learning communities writ large. Chapter in *On Common Ground* DuFour, Eaker, DuFour (Ed.) Bloomington, IN: National Education Service: pp. 209-223.

http://home.oise.utoronto.ca/%7Echangeforces/Articles_05/UK_Ireland_preread_final.pdf (Accessed September 8, 2005).

There is an increasingly clear picture of the nature and importance of schools that function as PLCs; however, such schools will remain rare and transitory if the larger system of education is not examined and improved.

Fullan, Michael (2002). Role of principals: The change leader. *Educational leadership* May 2002, Alexandria, VI: Association for Supervision and Curriculum Development, pp. 16-20.

The role of the principal as instructional leader is too narrow a concept to carry the weight of the kinds of reform that lead to continual improvement in schools. Effective principals are change leaders, who share five characteristics: moral purpose, an understanding of the change process, the ability to improve relationships, a desire to create and share knowledge throughout the organization and the ability to generate coherent reform. To sustain reforms, change leaders develop the broader social environment, learn where they work and ensure that others have opportunities to learn in work settings as well, cultivate leaders at all levels of the organization and enhance the teaching profession.

Fullan, Michael (2001). Implementing change at the building level. Paper prepared for W. Owings and L. Kaplan (eds.) *Critical and Emerging Issues in Educational Leadership.*

http://home.oise.utoronto.ca/~changeforces/Articles_01/08_01.htm (Accessed September 8, 2005).

There is an increasingly clear picture of what is required at the building level to achieve implementation that positively affects student learning, but strategies are required to increase the number of schools engaged in successful reform strategies. Implementation only occurs at the school and classroom level. If schools are left on their own, only a minority of schools will evidence the kind of school capacity required and fewer still will be able to sustain it. Rethinking the roles of districts and state policies is required in order to stimulate and support school-based capacity building.

Fullan, M. (2001a). ***The new meaning of educational change (3rd ed.)*****. New York, NY: Teachers College Press.**

Fullan reviews the literature of planned educational change over the last 30 years to provide insights about the do's and don'ts of bringing about change in elementary and secondary schools. Fullan describes how participants can cope with and influence educational change. He compiles the best theory and practice in order to explain why change processes work.

Gamoran, Adam and Eric Grodsky (2003). The relationship between professional development and professional community in American schools. *School Effectiveness and School Improvement*, Vol. 14, No. l, March 2003, pp. l-29.

This article discusses the use of hierarchical linear models to determine whether school-based professional development contributes to schoolwide professional community. It finds positive effects of school-sponsored professional development on professional community at both the school and individual teacher levels.

Geringer, J. (2003). Reflections on professional development: Towards high-quality teaching and learning. *Phi Delta Kappan***, January 2003, pp. 373–380.**

This article provides recommendations for improving the quality of teaching and initiating state, district and school-level policies that entrench professional development in the daily lives of teachers. Based on his years as chair of the education commission and as governor of Wyoming, Gov. Geringer suggests these initiatives require the efforts and involvement of schools of teacher education, teachers, school administrators, certification boards, state governments, district administrators and business leaders.

Guskey, Thomas R. (2003). Analyzing lists of the characteristics of effective professional development to promote visionary leadership. *Bulletin,* Vol. 87, No. 637, December 2003, National Association of Secondary School Principals: pp. 4–19.

In recent years, different researchers and research agencies, teacher associations, national education organizations and the U.S. Department of Education have published lists of the characteristics of effective professional development to guide school leaders in their improvement efforts. This study analyzed 13 of these lists to determine whether they were derived through similar procedures, based on similar frames of reference and included the same elements or characteristics. Results show that individual characteristics vary widely and that no characteristic is consistently named in all lists. In addition, research evidence is inconsistent and often contradictory.

Guskey, Thomas R. (1995). *Results-oriented professional development: In search of an optimal mix of effective practices*. North Central Regional Educational Laboratory.

This report provides an overview of the research on professional development, as well as guidelines for implementing effective professional development initiatives.

Hawley, Willis D. and Linda Valli (2000). Learner centered professional development. *Research Bulletin,* August 2000, No. 27. Phi Delta Kappa Center for Evaluation, Development, and Research.

http://www.pdkintl.org/edres/resbul27.htm (Accessed September 15, 2005).

The authors describe an almost unprecedented consensus on ways to substantially increase the knowledge and skills of educators. The new consensus calls for collegial opportunities for staff learning linked to actual student performance. Synthesizing recent research, eight characteristics of effective professional development are identified. Professional development should be continuous and supported, based on theoretical understanding and collaborative problem solving, involve teachers, set explicit goals and student performance, be school based, information rich and part of a comprehensive change process.

Hord, Shirley (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, TX: Southwest Educational Development Laboratory.

PLCs can increase staff capacity to serve students, but success depends on what staff do in their collective efforts. Creating a setting where inquiry is normal and the conditions of the workplace support continuous, collegial inquiry involves the total faculty, builds community, serves to increase

student learning through the study of instruction and curriculum and seeks to provide a nurturant organization through collective study of the health of the school.

Hord, Shirley. (1997a). SEDL PLCs: What are they and why are they important? *Issues about change,* Vol. 6, No. 1. Austin, TX: Southwest Educational Development Laboratory.
http://www.sedl.org/change/issues/issues61.html (Accessed September 11, 2005).
In this report, Hord summarizes research articulating the requirements for effective PLCs. They include:

- the collegial and facilitative participation of the principal who shares leadership, power and authority through inviting staff input in decision making
- a shared vision that is developed from staff's unswerving commitment to student learning and that is consistently articulated and referenced for staff work
- collective learning among staff and application of the learning to solutions that address student needs
- the visitation and review of each teacher's classroom behaviour by peers as a feedback and assistance activity to support teachers
- physical conditions and human capacities that support such an operation.

Hord, S. M. (1998). Creating a professional learning community: Cottonwood Creek School. *Issues about Change 6*(2), pp. 1–8.
Hord describes how one school staff joined together as a professional community of learners, engaging in reflection, assessment, study and learning. The staff at Cottonwood had the capacity, a long-term commitment to their students and student learning as the centerpiece of their vision. As a result of working toward implementation of a new curriculum, faculty shared their ideas and practice. The principal facilitated and encouraged an internal open house where teachers shared successes. This way of working is built on trust—the principal's trust in the teachers and their reciprocal trust in the principal.

Killion, Joellen. (1999). *Islands of hope in a sea of dreams: A research report on the eight schools that received the National Award for model professional development.* U.S. Department of Education and WestEd.
This research report summarizes a study of eight award-winning schools recognized by the National Awards Program for Model Professional Development. The study describes how teachers learn in these schools, how their learning is supported and the characteristics that allow these teachers to excel.

Kruse, S., Louis, K., and Bryk, A. (1994). *Building professional community in schools.* Madison, WI: Center on Organization and Restructuring Schools.

http://www.wcer.wisc.edu/archives/completed/cors/Issues_in_Restructuring_Schools/ISSUES_NO_6_SPRING_1994.pdf (Accessed September 21, 2005).

If education is to improve, the school must be the focus of change. Teachers in a strong professional community must demonstrate reflective dialogue, deprivatization of practice, collective focus, collaboration and shared norms and values. The authors outline five structural conditions of a professional community: time to meet and talk, physical proximity, interdependent teaching roles, communication structures and teacher empowerment and school autonomy.

Kruse, Sharon D. and Karen Seashore Louis (2005). "Professional communities and learning communities: What school leaders need to know." *ORBIT,* Volume 30, No.1.

http://www.oise.utoronto.ca/orbit/core7_class_manage.html (Accessed September 16, 2005).

Professional communities allow teachers to begin the process of defining and refining their educational mission and goals. While there is likely no one centre that can capture the attention of every member of the school community, teachers and administrators can simultaneously consider a variety of closely linked complementary interests allowing individual members to participate in diverse ways.

Lambert, L. (1998). *Building leadership capacity in schools*. Alexandria, VA: Association for Supervision and Curriculum Development.

Leadership capacity refers to the breadth of participation in leadership and the depth of skills that teachers, administrators, parents, students and community members bring to the work. The stories of three schools are explored to illustrate the five features of effective leadership. These include:

- broad-based, skillful participation in the work of leadership
- inquiry-based use of information to inform decisions and practices
- roles and responsibilities that reflect broad involvement and collaboration
- reflective practice/innovation as a norm
- high student achievement.

Lashway, Larry (2002). *Developing instructional leaders*. ERIC Digest, Eugene, OR: ERIC Clearinghouse on Educational Management.

http://www.nsula.edu/pk16council/ed466023.html (Accessed September 11, 2005).

This article describes how instruction has surged back to the top of the leadership agenda, driven by the growth of standards-based accountability systems. Explicit standards of learning, coupled with heavy pressure to provide tangible evidence of success, have reaffirmed the importance of instructional leadership. Despite general agreement that instructional leadership is a critical skill, few principals and superintendents have had in-depth training for that role, especially in a standards-based environment. This digest reviews the demands of today's instructional leadership and discusses steps that universities and school districts can take to help leaders develop necessary skills.

Lashway, Larry (1998). ***Creating a learning organization.*** **Eugene, OR:** ***ERIC Digest*** **121, April 1998.**

http://cepm.uoregon.edu/publications/digests/digest121.html (Accessed September 18, 2005).

Schools that dedicate themselves to systematic, collaborative problem-solving can continually develop and implement new ideas—not just improving but transforming themselves. Researchers have begun to identify schools in which entire faculties have become proficient in new forms of instruction, resulting in an immediate impact on student learning and behaviour. Teachers should be encouraged to use new methods immediately and frequently and organize themselves into study teams for sharing, observation and peer coaching. Encouraging strategies that promote learning in small groups provides motivation, support, sympathetic sounding boards and technical assistance. Leaders must view their organizations as learning communities for faculty as well as students. This requires casting school improvement in terms of hypotheses to be tested rather than solutions to be handed out, attacking the barriers to collaboration and making decisions democratically rather than bureaucratically.

Lashway, Larry (1997). ***Leading with vision.*** **Eugene, OR: ERIC Clearinghouse on Educational Management.**

Lashway synthesizes a variety of research in school reform and organizational change. Arguing that the principal is the primary agent of school change, he articulates a process of vision building that can lead to systematic and significant change. The article contains surveys that can be used to assess faculty perspectives and provides other concrete troubleshooting information for the vision-building process.

Leonard, L. and Leonard, P. (2003). The continuing trouble with collaboration: Teachers talk. ***Current Issues in Education*** **[On-line], Vol. 6, No. 15.**

http://cie.ed.asu.edu/volume6/number15/ (Accessed September 8, 2005)

The institutionalization of collaborative working environments is widely considered to be critical to the creation and maintenance of schools as PLCs. Improved student performance may be fully realized only when teachers routinely function as teams and abandon their traditional norms of isolationism and individualism. This interpretive study involving teachers in 45 North Louisiana schools suggests that while some schools and school districts are characterized by elements of the learning community, others remain largely mired in customary practices counterproductive to realizing the newer collaborative standards. Participating teachers report that major impediments to joint professional work remain and they make suggestions for better meeting the continuing collaborative challenge.

Leonard, P., and Leonard, L. (2001). Assessing aspects of professional collaboration in schools: Beliefs versus practices. ***Alberta Journal of Educational Research,*** **47(1), pp. 4-23.**
http://www.ucalgary.ca/~iejll/volume6/leonard.html.
Increasing attention is being given to the need to establish and sustain schools as PLCs. No aspect of that objective is more critical than fostering the collective capacity of teachers to work together toward continuous school improvement and enhanced student outcomes. This study uses survey data collected from 238 Louisiana teachers in 10 districts and 88 schools to reveal additional understandings about this complex and highly contextual aspiration. Although there appears to be a general sense among teachers as to what is desirable in terms of sustaining schools as collaborative communities, conditions in their own schools continue to impede such realization and some schools, by their very structure and size, may be more or less predisposed to collaborative orientations.

Loucks-Horsley, Susan and Matsumoto, Carloee (1999). Research into practice. ***School Science and Mathematics*****, Vol. 5, No. 5, May 1999: pp. 258–271.**
This article examines a study that focused on the influence of research on practice in the area of professional development. It presents a model to organize research on professional development and deals with the importance of teacher learning and expertise to student achievement and learning.

Louis, K. S., Kruse, S. D., and Associates. (1995). ***Professionalism and community: Perspectives on reforming urban schools*****. Thousand Oaks, CA: Corwin Press.**
This book describes the ways a learning community comes together when people work collaboratively at all levels. That collaborative work is founded in reflective dialogue—staff conversations about issues and problems related to students, learning and teaching.

Louis, Karen; Sharon D. Kruse, and Raywid (1996). Putting Teachers at the Center of Reform: Learning Schools and Professional Communities. ***National Association of Secondary Schools Principals Bulletin,*** **80 (580): pp. 9-21.**

When schools are viewed as learning organizations and professional communities, attention is focused on teachers' work as a key instrument of reform. This article discusses the role of principals to lead teachers' work in meaningful directions. The creation of innovative schools involves innovative leaders who can forge the conditions that give rise to the growth of professionals within schools. By focusing their efforts on increasing learning and community within schools, administrators can address reform issues in meaningful ways.

Marzano, Robert J. (2003). ***What works in schools: Translating research into action*****. Alexandria, VA: Association for Supervision and Curriculum Development.**

This book provides a synthesis of research that names 12 key factors shown by research to impact student achievement. Each factor is addressed in a separate chapter. Marzano includes a review and synthesis of related research spanning the past 35 years and recommends specific action steps for implementing the findings of that research.

Mason, Sarah A. (2003). ***Learning from data: The role of professional learning communities*****. A paper presented at the annual conference of the American Education Research Association, Chicago, April 2003.**

http://www.wcer.wisc.edu/mps/AERA%202003/Learning%20from%20Data%204%2016%2002%20FINAL.doc (Accessed September 8, 2005).

This paper draws upon three related research studies conducted in Milwaukee Public Schools. A common goal of the studies was to build the capacity of school staff to use data more effectively for continuous improvement. This paper sheds light on what school staffs need to learn from data, the organizational barriers to learning from data and how PLCs can contribute to improving the organizational culture and structure necessary for effective data use. Examples from recent research studies illustrate why PLCs provide an ideal organizational structure to address both the challenges schools face and the needs of teachers as school staffs seek to learn from data and use it effectively to improve student learning.

Mertens, S. B., and Flowers, N. (2003). Middle school practices improve student achievement in high poverty schools. ***Middle School Journal 35*****(1), pp. 33–43.**

This paper describes a study that examined factors impacting student achievement, including combined effects of teaming with common planning time, classroom practices, length of time teaming and family income levels. The authors discuss the influence of socioeconomic background, gender and diverse teaching and learning strategies.

Mid-continent Research for Education and Learning (2003). *Sustaining school improvement: Professional learning communities*. Aurora, CO: Author.
http://www.mcrel.org/PDF/LeadershipOrganizationDevelopment/5031TG_proflrncommfolio.pdf (Accessed September 9, 2005).

This article describes the attributes of effective PLCs, where teachers and administrators:

- share a vision focused on student learning
- share leadership and decision making
- work and learn together as they continually examine instructional practices.

All of these are supported by strong personal and professional relationships, time for collaboration and good communication.

Mitchell, C. and Sackney, L. (2001). Building capacity for a learning community. *Canadian Journal of Educational Administration and Policy,* Issue #19, February 24, 2001.
This paper discusses the school as a learning community—a fundamental shift in ideology that shapes the understanding of schools and professional practice. The authors discuss how people construct organizational narratives that shape thinking and learning and limit professional practice and discourse. Exposing and critiqueing those narratives may be necessary to improve learning.

Morris, M., Chrispeels, J. and Burke, P. (2003). The power of two: Linking external with internal teachers' professional development. *Phi Delta Kappan***, June 2003, pp 764–766.**
When teachers participate in external teacher professional networks and internal school reform networks, the link can transform teacher learning in profound and sustainable ways. Describing examples of how this works in practice for teachers in California and New England, the authors show ways that content-based external networks provide opportunities for deepening teachers' content and pedagogical knowledge and take them outside the limited worlds of their own schools. Meanwhile, grade-level or interdisciplinary meetings in their own schools focus on their own students' work. Used together, these approaches have a powerful impact, individually and collectively. The key is cooperative administrators who structure environments not only friendly to new ideas but also supportive of teachers sharing what they learn.

Morrissey, Melanie (2000). *Professional learning communities: An ongoing exploration*. Austin, TX: Southwest Educational Development Laboratory.

http://www.sedl.org/pubs/change45/plc-ongoing.pdf (Accessed September 10, 2005).

PLCs offer a structure to provide a context of collegiality that supports teachers and administrators in improving their practice through learning new curriculum and instructional strategies and methods for interacting meaningfully with students. This paper discusses the need for communities of continuous inquiry and improvement, as well as the structures and conditions required to nurture the development of PLCs in schools.

Morrissey, Melanie (2000a). Comprehensive school improvement: Addressing the challenges. *Issues about change, 9* (1).

http://www.sedl.org/change/issues/issues91/.

This report, coupled with current nationwide interest in encouraging schools to adopt comprehensive reform strategies, communicates the need for school improvement. The paper provides a deeper understanding of how schools experience comprehensive reform and identifies the issues that affect schools' efforts at improvement.

Murphy, C. U., and Lick, D. W. (2001). *Whole-faculty study groups: Creating student-based professional development* (2nd ed.). Thousand Oaks, CA: Corwin Press.

A whole faculty study group involves organizing the entire school faculty into study groups to bring about school-wide improvement. These groups:

- allow teachers more personal flexibility
- allow teachers to use the study group action plan as their own individual staff development plan
- can address set goals and objectives
- can allow for fewer staff meetings (traditional staff meeting time is donated for study groups)
- reduce teacher isolation
- allow teachers to substitute required workshop times
- encourage teachers to experiment. In groups, teachers try new materials, new techniques, new strategies, new technologies. Teachers reflect on what works and what does not.

National Association of Elementary School Principals, (2001). *Leading learning communities: Standards for what principals should know and be able to do*. Alexandria, VA: Author.

This document outlines the belief that one "cannot have a first-rate school without first-rate school leadership" and that school leaders need to exhibit more than charisma and good management skills. NAESP standards are tied to these indicators of quality schools:

- leadership that places student and adult learning at the centre of schools
- expectations for, and commitment to, high standards of academic performance
- safe and secure learning environments for students
- curriculum and instruction tied to school and student learning goals
- collaborative learning community for adults
- an engaged community.

NAESP derived its standards from what principals themselves see as their proper role and focus. The document provides strategies for achieving each standard.

National Staff Development Council www.nsdc.org.

http://www.nsdc.org/standards/learningcommunities.cfm (Accessed September 8, 2005).

The staff development library on the National Staff Development Council's Web site provides discussion of learning communities, including topics such as leadership, teamwork skills, conflict resolution, consensus decision making, mission and vision, norms, school culture and staff meetings.

Newmann, F. M., and Wehlage, G. G. (1995). *Successful school restructuring*. Madison, WI: Center on Organization and Restructuring of Schools, School of Education, University of Wisconsin-Madison.

http://llanes.panam.edu/journal/library/Vol1No1/success.html (Accessed September 18, 2005).

This report documents the positive effect of authentic pedagogy on student learning. Achievement gains in mathematics and science are presented and the relationship between student performance and varying levels of authentic pedagogy is documented with supporting data.

Paterson, Kent (1998). Students learning grows in professional cultures. *Tools for Schools*, Oxford, OH: National Staff Development Council (August/September 1998).

Paterson discusses the link between school culture and reform and their relationship to improved student learning. He describes the impact of a strong and healthy school culture in the winners of this year's U.S. Department of Education Model Professional Development Awards and how each school can point to a time when the school's culture began to shift.

Patterson, Deborah and Rolhieser, Carol (2004). *Creating a culture of change*. Oxford, OH: National Staff Development Council.

http://www.nsdc.org/library/publications/jsd/patterson252.pdf (Accessed September 18, 2005).

Developing deep changes in the culture of learning and establishing schools as PLCs requires planning. The authors discuss how professional dialogue between colleagues must be encouraged at all levels, and teachers must be supported in collectively building on their knowledge. As a district-wide initiative, Assessment for Learning has focused on change that impacts the culture of every school in the district. The article describes the attributes of a successful AFL initiative, centred in a learning community.

Porter, Andrew C.; Garet, Michael S.; Desimone, Laura; Yoon, Kwang Suk; Birman, Beatrice F. (2000). *Does Professional Development Change Teaching Practice? Results from a Three-Year Study*. U.S. Department of Education Office of the Under Secretary.

This report describes the design of a longitudinal study of teacher change and the way it builds on national findings. It describes the quality of professional development experienced by teachers in the sample and explores the effects of professional development on teaching practice. It also examine trends in teaching practice and discusses how they inform findings on the effectiveness of professional development in changing teacher instruction. The report summarizes results and suggests implications for professional development programs to increase their effectiveness in fostering teacher change.

Putnam, Ralph T. and Borko, Hilda. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher,* Vol. 29, No. 1, pp. 4–15.

http://www.coe.ohio-state.edu/ahoy/Borko%20&%20Putnam.pdf (September 10, 2005).

The purpose of this article is to consider teachers' learning. The authors use ideas about the nature of learning and knowing as a lens for understanding recent research. They explore new issues about teacher learning and teacher education that this perspective brings to light. They provide an overview of three conceptual themes central to the situative perspective (Greeno, 1997; Greeno, Collins, and Resnick, 1996)—that cognition is situated in particular physical and social contexts, is social in nature and is distributed across the individual, other persons and tools.

Reitzug Ulrich C. (2002). Professional development. In Molnar, Alex (Ed.) *School Reform Proposals: The Research Evidence.* Information Age Publishing. Retrieved from

www.asu.edu/educ/epsl/EPRU/documents/EPRU%202002-101/Chapter%2012-Reitzug-Final.htm (September 15, 2005).

Empirical literature on professional development is sparse and studies linking it to achievement more so. Confounding variables make it difficult to establish a direct relationship among development, improvements in teaching and student achievement. This chapter discusses the status quo and recent research in professional development. Development includes training, experiences embedded in work, networks of educators and professional development schools. Development outcomes can be seen in teacher knowledge, teacher attitudes and beliefs, teaching practice, school-level practice and student achievement. It presents guidelines for effective professional development from the research and a set of recommendations.

Richardson, V. (2003). "The Dilemmas of Professional Development: Towards High-Quality Teaching and Learning." Phi Delta Kappan, January 2003, pp 401 – 406.

This article explores why professional development programs do not incorporate features that research has shown to be effective. The article suggests that the recommended practices may be at odds with America's culture of individualism.

Saphier, J. and King (1985). Good seeds grow in strong cultures. *Educational Leadership*, Vol. 42, No. 6, Alexandria, VI: Association for Supervision and Curriculum Development, pp. 67–74.

School culture either energizes or undermines. The culture of the school is the foundation for school improvement. The authors describe teachers as culture shapers and reiterate the importance of shaping culture through a clear, articulated vision that addresses a school's core values and purposes.

Schmoker, Mike (2004). Tipping point: From feckless reform to substantive instructional improvement. *Phi Delta Kappan*, Vol. X, No. x, Feb 2004: pp. 424–432.

Although educators already know the best way to improve instruction, they persist in pursuing strategies that have repeatedly failed. The author urges educators to break free of their addiction to strategic planning and large-scale reform.

Schmoker, M. (2001). *The results fieldbook: Practical strategies from dramatically improved schools.* Alexandria, VA: Association for Supervision and Curriculum Development.

Schmoker describes how five school systems overcame obstacles and achieved exceptional results for their students. With each case study, brief vignettes reveal how core practices—teamwork, the use of achievement data and planning for measurable goals—made an immediate and profound difference in

student learning. Schmoker emphasizes school improvement efforts that focus on collective, organized teacher intelligence and includes strategies for effective data-collection processes.

Senge, Peter. (2000). ***Schools that learn: A Fifth Discipline Fieldbook for Parents, Educators, and Everyone Who Cares About Education*****. New York, NY: Doubleday.**

Schools are complex systems, grounded in industrial-age assumptions about learning. Trapped by these assumptions, neither teachers, administrators nor parents have the ability to change the system alone. Nor can policy makers produce effective change by setting standards and giving tests. Effective change can only happen through long-term conversations among teachers, administrators, parents and students and by giving people the chance to act on what they learn.

Senge, Peter M. (1994). ***The Fifth Discipline: The Art and Practice of the Learning Organization.*** **New York: Doubleday.**

Senge introduces the integrated corporate framework that is structured around personal mastery, mental models, shared vision and team learning. Using ideas that originate in fields that vary from science to spirituality, Senge explains why the learning organization matters.

Sergiovanni, T. (1994). ***Building community in schools*****. San Francisco, CA: Jossey-Bass.**

Sergiovanni discusses the importance of building a learning community by reorganizing educational values, beliefs and practices, rather than just using the word community in mission statements. He describes community as a collection of individuals bonded together by natural will and bound to a set of shared ideas and ideals. This bonding and binding is tight enough to transform them from a collection of "I's" into a collective "we." As "we," members are part of a tightly knit web of meaningful relationships sharing common sustaining sentiments and traditions.

Sergiovanni, T. J. (1992). ***Moral Leadership: Getting to the heart of school improvement.*** **San Francisco, CA: Jossey-Bass.**

Responsibility for building trust among teachers falls on the shoulders of principals and teachers alike. Principals can, and should, take an active role in creating the necessary conditions for teacher relationships that are both collegial and congenial.

Skytt, Jacqueline (2003). Professional learning communities: Empowering teachers in school improvement. ***ATA Magazine,*** **Vol. 83, No. 4, pp. 5–9.**

This article discusses work that the professional development staff of the Alberta Teachers' Association conducted with six Alberta schools implementing strategies to become PLCs. The author shares her reflections and what was learned about the processes used.

Smylie, M. A., and Hart, A. W. (1999). School leadership for teacher learning and change: A human and social capital development perspective. In. J. Murphy and K. S. Louis (Eds.), ***Handbook of research on educational administration*** **(2nd Ed., pp. 421–441). San Francisco: Jossey-Bass.**

This handbook is a comprehensive reference describing how organizational and leadership theory and practice have not only influenced but responded to systemic changes in education. The article examines the individual, organizational and institutional dimensions of leadership as they relate to changing views of teaching and learning, new forms of school organization and governance and shifting trends in the social and community climate. They discuss the changing roles and responsibilities of school administrators and the vital task of preparing new professionals for the field.

Sparks, Dennis (2002). Dreaming all that we might realize. ***ENC Focus*** **Vol. 9, No.1. National Staff Development Council.**

http://www.enc.org/features/focus/archive/pd/document.shtm?input=FOC-002595-index (Accessed September 9, 2005).

This book promotes a detailed vision of professional development, a deeper understanding of standards-based professional learning, clarity regarding next steps and a sense of accountability for putting improvement plans into action. The book is based on three premises: quality teaching makes a difference in student learning, the professional learning of teachers and principals is a central factor in determining the quality of teaching, district structures and culture that surround the school play a critical role in determining the quality of professional learning experienced by teachers and principals.

Sparks, Dennis (2001). Why change is so challenging for schools: An interview with Peter Senge. ***Journal of Staff Development,*** **Vol. 22, No. 3, Summer 2001.**

http://www.nsdc.org/library/publications/jsd/senge223.cfm (Accessed September 8, 2005).

Senge discusses the factors that impact school improvement and effectiveness, including those that affect the development of a capacity for change. Senge's discussions are based on his book *Schools that Learn*.

Sparks, Dennis. (1994). A paradigm shift in staff development. *Journal of Staff Development*, Vol. 15, No. 4, Fall 1994. National Staff Development Council.

This article discusses three ideas that are changing schools and the staff development that occurs within them: results-driven education, systems thinking and constructivism. It also discusses changes in staff development that have resulted.

Speck, M. (1999). *The principalship: Building a learning community*. Upper Saddle River, NJ: Prentice-Hall Inc.

The author encourages principals to build PLCs based on shared conceptions of vision, purpose and means. It is the leader's responsibility to appraise the present, envision the future and determine the capacity for change.

Stanfield, Brian (2000). *The courage to lead: Transform self, transform society*. Canadian Institute of Cultural Affairs, Toronto, ON.

To transform society, people first need to transform themselves. This book presents 12 convictions about life that are manifested externally and required for the effective and sustained practice of leadership. Its message is simple—if you relate authentically to life, yourself, the world and society, you can not only start the process of social change from where you are, but you can be a leader as well.

Thiessen, D., and Anderson, S. E. (1999). *Transforming learning communities: Getting into the habit of change in Ohio schools. The cross-case study of 12 transforming learning communities*. Toronto: Ontario Institute for Studies in Education of the University of Toronto.

This book describes 12 Ohio schools selected for a case study from a sample of over 500. It outlines the process of transforming learning communities, focusing on the tradition of change, strategic actions and enduring tensions. The authors discuss the nature of teachers' work and how classroom-centred strategic actions, the redefining of student work, the reorientation of teaching practices and cross-disciplinary learning experiences change schools. They describe the transformation of teachers' work lives, collegial development, shared responsibility, joint responsibility and decentralized control. It includes strategies for working with parents and other stakeholders and offers advice on how schools developed the habit of change.

Wald, P. J., and Castleberry, M. S. (Eds.). (2000). ***Educators as learners: Creating a professional learning community in your school*****. Alexandria, VA: Association for Supervision and Curriculum Development.**

This book describes a professional development model that supports educators and families in learning and growing together. It offers a framework and guidance for renewing the capacity of schools to produce positive results for all students. Part One discusses concepts, assumptions and leadership qualities. Part Two presents case studies and activities that describe how to build PLCs. Part Three has practical, field-tested staff development tools.

Waterhouse, R. John. Professional learning communities: One school on its way. ***ATA Magazine*****, Vol. 83, No. 4, pp. 19–21.**

This article describes the process one school used to establish a PLCs.

Wenglinsky, Harold (2000). ***How teaching matters: Bringing the classroom back into discussions of teacher quality*****. Milken Family Foundation and Educational Testing Service.**

While teacher inputs, professional development and classroom practices all influence student achievement, the greatest role is played by classroom practices. When teachers make use of hands-on activities to illustrate concepts in mathematics and science, students perform better on assessments. When teachers focus on conveying higher-order thinking skills, students perform better on mathematics assessments. The study also finds that the methods teachers use to assess student progress have an impact on achievement. Tests given at a particular point in time are associated with higher student performance than ongoing techniques, such as portfolio or project-based assessment. Professional development activities in hands-on learning and higher-order thinking skills are associated with improved student performance.

Endnotes

[1] Marzano, Robert J. (2003). *What works in schools: Translating research into action.* Alexandria, VA: Association for Supervision and Curriculum Development, p. 61.

[2] Ibid, p. 60.

[3] Marzano references a number of studies that inform his definition of collegiality and professionalism. See Marzano (2000), Scheerens and Bosker (1997), Sammons, Levine and Lezotte (1990), and Edmonds (1979, 1981). Referenced in Marzano (2003, pp. 16–19).

[4] Senge, Peter. (2000). *Schools that learn*. New York, NY: Doubleday, p. 5.

[5] See Hord, S.M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement.* Austin: Southwest Educational Development Laboratory. See also Morrissey (2000). *Professional learning communities: An ongoing exploration.* Austin, TX: Southwest Educational Development Laboratory. Retrieved from http://www.sedl.org/pubs/change45/plc-ongoing.pdf (September 10, 2005).

[6] See Morrissey (2000).

[7] Ibid, p. 10.

[8] Skytt, Jacqueline (2003). Professional learning communities: Empowering teachers in school improvement. *ATA Magazine*, 83, (4), pp. 5–9.

[9] See Greeno (1997); Greeno, Collins, and Resnick (1996), in Putnam, Ralph T. and Borko, Hilda. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, Vol. 29, No. 1, pp. 4–15. Retrieved from http://www.coe.ohio-state.edu/ahoy/Borko%20&%20Putnam.pdf (September 10, 2005).

[10] Ibid.

[11] Ibid.

[12] Ibid, p. 6.

[13] Ibid.

[14] Mitchell, C. and Sackney, L. (2001). Building capacity for a learning community. *Canadian Journal of Educational Administration and Policy*, Issue 19, February 24, 2001.

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