

Book Prospectus

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## **Building a Professional Learning Community: Lessons from the Front Line**

### About the Project

#### **Rationale:**

In an age of accountability and high expectations, school administrators and teacher leaders are recognizing that top-down leadership models have failed to create the kinds of schools that our children need. In order to ensure that all children are academically successful, schools must adopt models of collaboration, distributed leadership, and professional reflection—in short, school leaders must create professional learning communities that support ongoing, thoughtful, and purposeful conversations focused on issues of teaching and learning. But developing these types of schools is no easy task.

This book will outline the process of creating a professional learning community from both the teacher and administrator perspectives. Chronicling the first year of the creation of a PLC middle school, this book will identify specific stages and challenges inherent in the PLC process, focusing on practical and effective strategies that both teachers and administrators can implement. By putting a human face on the complex and challenging process of creating a professional learning community, this book will serve

as a valuable companion to teachers and administrators interested in real organizational reform.

**Knowledge Base:**

The authors worked together as a teacher (Bill) and administrator (Parry) at Central Middle School, a first-year middle school in Wake County, North Carolina developed around the professional learning community model. Bill worked as a 6<sup>th</sup> grade Language Arts/Social Studies teacher at Central, and Parry worked as an administrative intern/assistant principal while also completing his doctorate in educational leadership at UNC-Chapel Hill.

Prior to coming to Central, Bill taught for 11 years at both the elementary and middle school levels. Bill has been a Nationally Board Certified teacher since 1996, he is a Senior Fellow in the Teacher Leaders Network, he was a Teacher in Residence at the Center for Teaching Quality in the summer of 2004, and he is an active member of the William and Mary Mentoring Partnership. In 2005, Bill was selected as the Wake County Teacher of the Year. He still teaches 6<sup>th</sup> grade Language Arts and Social Studies at Central Middle. In the past two years, he has written several articles about the impact that professional learning communities have had on his own instructional practice.

Before coming to Central, Parry taught high school German for six years in North Andover, Massachusetts, and then spent four years working for Co-nect, a national professional development organization. While at Co-nect, Parry was responsible for developing, delivering, and managing national professional development programs focused on instructional quality, teacher collaboration, and instructional technology.

Parry is currently an assistant principal at Cedar Fork Elementary School in Wake County, and he is completing his doctoral dissertation at UNC-Chapel Hill, focusing on the relationship between professional learning community activities and teacher improvement.

**Nature of Content:**

The book will present a chronological account of the first year of the development of a professional learning community. Broken into four sections (Summer, Fall, Winter, Spring) with two chapters per section, the book will use real-life vignettes, practical recommendations, and summarized research to identify the typical challenges faced in the development of a PLC. At the same time, the book will outline specific strategies that administrators and teachers can employ to address challenges and facilitate success. More than anything else, this book is intended to be practical and relevant, putting a “human” face on the complex process of developing a successful professional learning community.

**Primary Audience:**

The primary market for this book is school leaders and teachers either interested in or currently involved in the development of a professional learning community. A secondary audience, however, would be educators interested in encouraging and participating in purposeful conversations around teaching and learning. While the book is intended to chronicle the development of a professional learning community in a specific school, we believe that the process of developing a PLC is analogous to any school-based

reform effort that encourages faculty collaboration and a committed look at instructional practices and student learning.

**Alternative Title Possibilities:**

Building a Professional Learning Community: Lessons from the Front Line

Breaking Down the Walls: The Power of Professional Learning Teams

Professional Learning Communities: A Practical Guide for Principals and Teachers

Creating a Professional Learning Community: The Story of One School's Journey

**Competing or Related Works:**

A number of important books and articles have been written over the past decade on the subject of professional learning communities, most of which were used as reference materials in the creation of a PLC at Central Middle. Notable among these are Dufour and Eaker's 1998 book *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement*; DuFour's 2004 article in *Educational Leadership*, "What is a 'Professional Learning Community'?"; Shirley Hord's 2003 book *Learning Together, Leading Together: Changing Schools through Professional Learning Communities*; and DuFour et al.'s more recent 2004 title *Whatever it Takes: How Professional Learning Communities Respond When Kids Don't Learn*.

While each of these books provide valuable information and served as important resources in the development of Central Middle's professional learning community, one of the things that we found missing in the literature was a more direct, specific, and first-hand account of the day-to-day struggles and successes inherent in the process of creating

a PLC. Having seen this gap in the literature as we went through our own process of building a professional learning community, we resolved to try to fill that gap. We believe that the book we are proposing will serve as an important complement to the existing books available, providing a practical and “front-line” counterpoint to the more theoretical references that already exist.

### **Special Materials:**

At the end of each chapter, we will provide readers with practical templates, worksheets, and checklists that they can use as they reach various stages in the creation of a professional learning community. Examples of these resources will include sample meeting norm worksheets, lesson planning reflection guides, study group discussion templates, and schoolwide surveys.

### **Length and Schedule:**

The final book is anticipated to be between 150 and 200 double-spaced pages, not including a bibliography and appendices. We anticipate that it will take us between six and twelve months to complete the book after securing a publishing contract.

### Book Contents

### **Chapter Descriptions:**

The book will have four sections, arranged chronologically by season (Summer, Fall, Winter, Spring) and corresponding to the stages and challenges associated with creating a professional learning community. Each section will have two chapters dealing with a common theme for that season. In addition, the book will have a prologue and epilogue. The four themes are:

- Summer—Committing to a vision
- Fall—Building relationships
- Winter—Weathering controversies
- Spring—Looking forward

The following summary provides brief information about each chapter.

### *Prologue*

The prologue will introduce the intent and structure of the book. The intent is to provide a first-hand account of the process used in creating a professional learning community that supports ongoing, thoughtful, and purposeful conversations focused on issues of teaching and learning. The structure of the book is a chronological narrative and analysis of the creation of a professional learning community in a first-year school, using stories from different parts of the year to exemplify the stages of the PLC process.

### *Chapter 1, Summer: Starting with a vision*

The first chapter begins with a story of the principal of Central Middle interviewing a teacher applicant to Central Middle, in which the principal explains to the applicant how he developed the initial vision for the school. The chapter continues with a

description of the professional learning community model, emphasizing the importance that a clear vision plays in creating a true learning community. The chapter concludes with specific recommendations on the process of developing a school vision, and how a school leader can use the school vision to set the foundation for later success.

*Chapter 2, Summer: Empowering the core team*

The second chapter explores the importance of a core team, beginning with a story about the development of Central Middle's mission statement and the role played by Central's core team in the development of that mission. The chapter provides recommendations on the appropriate steps to identifying core team members and building a core team. After reviewing relevant research, the chapter concludes with a discussion of strategies to build a core team and how to use that team as a catalyst for schoolwide improvement.

*Chapter 3, Fall: Building trust*

Chapter three focuses on the role that trust plays in supporting the PLC process. While the chapter explores the trust between administrators and teachers, it goes into depth on the importance of building trust among teachers. Bringing in research around the importance of teacher working conditions and the relationship between organizational context and the trust dynamic, this chapter provides specific advice to principals and teacher leaders about practices and strategies that foster trust within a faculty.

*Chapter 4, Fall: Establishing team structures*

This chapter examines the nature of effective teams, focusing on the importance of team norms, guidelines, structures, and routines. Many teachers are new to the process and challenges of in-depth collaboration; by paying attention to the details of team structure, teachers can lay the practical groundwork to support ongoing conversations focused on teaching and learning. The fourth chapter concludes with sample worksheets, team agendas, and meeting norms.

*Chapter 5, Winter: Negotiating personalities and roles*

One of the common outcomes of in-depth collaboration is contention—as teachers discuss and debate the teaching and learning process, disagreements will inevitably arise. Chapter five explores the root causes of contention within a PLC structure and identifies practical ways to deal with disagreements. Using a model of the Organizational Zone of Proximal Development, this chapter provides practical recommendations to principals and teacher leaders on how to use contention to challenge individuals without undermining the PLC process.

*Chapter 6, Winter: Maintaining a balance of sanity*

Creating a professional learning community is a challenging and draining process that requires considerable time, effort, and patience. Chapter six focuses on the human cost of the PLC process, reminding principals and teacher leaders that taking on too much can lead to burnout and frustration. At the same time, the collaborative nature of a PLC can facilitate social and congenial connections that work as supports when frustration sets

in. This chapter includes specific recommendations on ways to ensure that teachers maintain their sanity despite PLC challenges.

*Chapter 7, Spring: Connecting collaboration and teacher improvement*

Chapter seven focuses on the most important product of a functioning PLC: improved teaching and learning. The central challenge for any school leader is to identify strategies to support continuous improvement on the part of the staff. This chapter will identify specific ways in which the PLC structure can support teacher improvement, looking at the research around professional development and positive deviancy. The chapter includes sample surveys and action research templates that leaders can use to identify and address professional development needs within the PLC structure.

*Chapter 8, Spring: From relationships to meaningful conversations*

At the heart of a functioning PLC are strong staff relationships that allow and support meaningful conversations about the teaching and learning process. Chapter eight identifies several team strategies that can be used to leverage the collaborative relationships formed within a PLC, including video lesson studies, ongoing data analysis, and action research teams.

*Epilogue*

The epilogue will summarize the main points from throughout the book, tying the eight chapters together and emphasizing the primary challenges and effective strategies associated with the creation of a professional learning community. In addition, the

epilogue will look forward, identifying the future issues that all successful PLCs must continue to address.

## Sample Chapter: Summer—Committing to a Vision

### Chapter 2: Empowering the core team

It is now mid-July, and the faculty of Central Middle is sitting in the media center writing the school's mission statement. As Michael listens to the thoughts and opinions of the other teachers in the small group at his table, he recalls his last experience with a school mission statement.

This other experience occurred many years earlier, when Michael was a third-year teacher working at a different school. The school had been going through a re-accreditation process, and a sub-committee had drafted a new mission statement and presented it to the faculty for review. Michael can't recall exactly what that mission statement said—something along the lines of “We will provide a high-quality education to all students”—but he remembers the ensuing discussion in detail. In particular, he remembers the comments made by an English teacher named John.

“I think the statement ‘provide a high-quality education to all students’ goes too far. In reality, the best that we can do is to provide the opportunity for a high-quality education. Then it is the students’ responsibility to take advantage of that opportunity. It is not our fault if the students don’t work hard, if we don’t have parental support, or if the town doesn’t give us a big enough budget. We can’t commit ourselves to something that’s out of our hands.”

At the time, Michael had felt like this argument sold the teachers and the students short. Weren't teachers professionals, hired to do more than just “provide the opportunity” for an education? If you hire an architect and a builder to build you a house,

don't you expect an actual house at the end of the process, not just the "opportunity" for a house? And what about the students: don't they deserve something more than just the opportunity for an education—isn't it ultimately the teacher's responsibility, as the adult and the professional, to see that each child is academically successful?

But Michael didn't say any of these things at the time. Instead, he listened to the other teachers and stayed silent. When the final version of the mission statement was approved, reading something along the lines of, "We will provide the *opportunity* for a high-quality education for all students," Michael knew that they had missed the boat. And he also knew that this memory would continue to frustrate him.

But now Michael has a second chance. A sheet of paper hangs at the front of the room at Central, and on it is the line: "We are a collaborative community that \_\_\_\_\_ high student achievement." The faculty has gotten this far, but now they have to make an important decision—what word should fill in the blank? As Michael listens to the conversation at his table, he hears echoes of the same arguments from his previous experience.

"I like the verb 'fosters'. It has a nice, active feel and it lets parents know that student achievement is important to us."

"But isn't that a little soft? I mean, what is really expected of us if all we have to do is 'foster' a good education? Shouldn't we be pushing for more?"

"Well, then, how about something stronger. 'Prioritizes'? 'Emphasizes'?"

Michael raises his hand to speak to the whole faculty. "You know, we're having a really interesting discussion over here at our table. It seems like the main issue is how far we're willing to go to commit ourselves. Basically, what level of accountability are we

willing to hold ourselves responsible for. At our table we have the words “foster”, ‘prioritizes’, and ‘emphasizes’ so far. But I’d like to propose a stronger word. I’d like to propose the word ‘ensures’.”

From across the room: “But aren’t we setting ourselves up when we say that we ‘ensure’ student learning? How can we ensure it, especially when we know that some students just aren’t going to be successful, and there’s nothing we can do about it? Are we willing to tell a parent, ‘I’m sorry, I failed in my responsibility to your child because I didn’t ensure that he was successful’?”

Sarah raises her hand. “You know, before Steve asked me to be a part of this school, I would definitely have agreed that using ‘ensure’ is just going too far. But now, I think I would be willing to look at a parent and admit that I failed their child if that child wasn’t successful in my classroom. When I look around this room, I see a group of incredible teachers, and I really believe that we can help any student be successful. Sure, I know that realistically some students aren’t going to achieve the way we want them to, even though we tried our best. But shouldn’t the goal be that every child is successful? Shouldn’t we commit ourselves to that? Sometimes we will fail, but does that mean we shouldn’t expect the best of ourselves? And shouldn’t we be willing to admit and learn from our failures?”

The conversation continues, and the faculty comes up with a final list of verbs to vote on. Among them are “focuses on”, “prioritizes,” “provides for”, and, finally, “ensures.” Prior to the vote, the principal raises his hand.

“This is your school as much as it is my school, and I’m willing to live with whatever mission statement we, as a group, approve. Before we vote, though, I want to

read you a quote from the DuFour article that I gave all of you earlier this month. DuFour says: ‘School mission statements that promise “learning for all” have become a cliché. But when a school staff takes that statement literally—when teachers view it as a pledge to ensure the success of each student rather than as politically correct hyperbole—profound changes begin to take place.’

The principal sits down and the faculty prepares for its vote. The choice is unanimous: “We are a collaborative community that *ensures* high student achievement.”

### **Lessons from Central Middle**

Michael’s experience at his previous school was a common one. Many teachers are uncomfortable with the idea of holding themselves accountable for ensuring student learning, and with good reason. When you tell a parent “I ensure that your child will be successful”, and then the child is not successful, you are in essence telling that parent that you failed. In addition, when we consider that schools and teachers only have limited control over the academic success of their students, teachers’ reluctance to ensure student learning is understandable. What happens when a child comes from a broken family, shows up to school hungry every day because there’s no food at home, or can’t see the board because her parents can’t afford to buy her glasses? How can you ensure anything when you can’t control all the variables?

But despite all this, despite all those variables and contingencies, the faculty of Central Middle was willing to commit itself to a mission of ensuring student learning. Not ‘providing the opportunity for’, not ‘emphasizing’, not ‘fostering’. *Ensuring*.

Why? Why would one faculty make a decision to hold itself truly accountable for a high level of student learning, while another faculty would not? Both of Michael's schools had talented and capable teachers. Both of the schools had smart and hard-working administrators who believed in the importance of a quality education. And both of the schools served similar student populations. So what made the difference? What tipped the balance at Central Middle?

We have already talked about how important it is that the principal (or department chair, or grade-level chair, or whoever is leading the process) have a clear picture of where she wants to go. The next step, however, is having a core group of people who share, develop, and promote that picture of success. This core group becomes the nucleus of the new organization (or team or innovation), and it sets the tone and character for what happens over time.

Just like a snowflake starts with a small crystal structure at its center and then repeats that structure over and over again until the flake is formed, the core group plays a significant role in determining the future shape of a team or organization. At Michael's previous school, that core group of teachers wasn't there. The right individuals might have been present, but for whatever reasons they were not formed as a core group with a central set of principles and values. But at Central, that core group did exist, and that made all the difference in the world.

What makes a core group of teacher leaders so important, how do you find them, and what exactly is their role in determining the character and direction of an organization? At Central, there were a number of important steps that the principal took in creating and supporting that core group. First, he had to identify the right personalities.

Next, he had to create early opportunities for dialogue within the core group. And finally, he had to be willing to let go at a certain point and trust that good people would make good things happen.

### *The right personalities*

How many times have you sat through “personality types” training over the course of your career? How many times have you planned or delivered such a session to your staff? More importantly, how many times have you considered those sessions to be valuable? How many times have they changed the way that you—or your school—operate in meaningful ways?

Despite the best of intentions, personality-typing activities have almost become cliché. While school leaders recognize that there are a variety of different personalities on their faculties, little has been done to make systematic decisions about leadership responsibilities with this information.

Steve, the principal of Central Middle, was different. He recognized early on that establishing a core group of teachers who demonstrated a variety of personality strengths was necessary to establishing and moving a strong vision for the school community. To be successful, Steve knew that he would need teacher leaders who:

1. ***Put a high value on relationships and other people’s feelings:*** Moving any vision within an organization requires individuals who can build and sustain supportive relationships with colleagues.

2. ***Put a high value on organization and clear rules and systems:*** Significant organizational change would not be possible without “detail oriented” individuals who can structure the change process in meaningful ways.
3. ***Put a high value on logically thinking problems through to conclusion:*** Individuals who can take concepts and translate them into actions to be taken at the local level are critical for any developing organization.
4. ***Put a high value on “thinking outside the box:”*** In today’s accountability culture, creative thinkers are essential to organizations interested in—and committed to—change.

Steve was a big picture thinker, an idea guy who was far more interested in describing the larger vision than he was in defining the details. To complement his strengths, he knew that he needed a wide range of personalities. Steve also recognized that no one individual would demonstrate strength in each of these four areas. Instead, he began looking for several teachers who would together form a cohesive, well-rounded leadership team.

When hiring, he identified some people who could see the big picture and carry that vision to other members of the faculty, he identified people who could translate the big picture into details at the curricular and instructional levels, he identified people who could serve as diplomats within the faculty to help manage team relationships, and he identified people who could collect and analyze data to see if his school was moving in the right direction.

Despite the different personalities, however, there were two things that *all* of the core team members had in common: a strong belief in the same central principles and the

ability to influence others. In the story above, Michael and Sarah, both members of the core team, were very different people. Michael was an innovator and maverick, constantly pushing and challenging himself and his colleagues to think about teaching and learning in deep ways. Sarah was a diplomat, quietly working within teams to create consensus and maintain strong interpersonal relationships. But both Michael and Sarah firmly believed in the central principles of Steve's vision: commitment to student learning, strong and purposeful collaboration, and ongoing reflection. For Steve, Michael, and Sarah, these principles were non-negotiables, and their different personalities and styles became complements in pursuit of those common principles.

Michael and Sarah also shared an ability to influence others. Michael's influence was driven largely by his deep knowledge of K-12 education, and his reputation within the district and the state as a master teacher. Sarah was also an excellent teacher, but her influence came from her ability to build strong relationships and to use those relationships to build consensus and gently nudge the thinking of others. Because of their complementary personalities and powers of influence, Michael and Sarah played prominent roles as core members both in the creation of the school's mission statement and in the later development of the character of the 6<sup>th</sup> grade Language Arts professional learning team.

### *Early dialogue*

The lifeblood of any successful professional learning community is conversation. Sometimes this conversation is structured, taking place in planning meetings designed to develop a shared sense of purpose between key staff members. Other times this

conversation is unstructured: stopping by another teacher's classroom after hours, or maintaining a discussion thread on the faculty website.

Either way, the "learning" aspect of a professional learning community is no accident—it is a direct result of the sharing of ideas, the collaborative exploration of new approaches, and the sometimes-contentious process of making communal decisions. All of these activities rely on regular, open, and meaningful conversations. To lay the proper groundwork, this dialogue should begin with the core members of the team.

At Central, we used a variety of means of communication early in the process. Long before the school opened, core staff members had access to a Blackboard website that supported threaded discussions. These online conversations allowed faculty members the opportunity to participate actively—starting and contributing to various discussions—and to participate passively, reading what their new colleagues had to say in a non-threatening electronic environment.

Digital conversations covered a wide range of school topics. Teachers discussed the benefits of block scheduling, developed a clear definition of a Professional Learning Community, and decided on essential components of working teams. The asynchronous nature of the conversations eliminated the traditional barriers to open communication in schools: time and place. Teachers were able to join in the conversation at times that fit with their own personal schedules, and they could log on from any site with an Internet connection.

The principal also scheduled several early strategy meetings with core group members, giving them opportunities to talk through many of the ideas and principles on which the school was being founded. These meetings were essential, helping core team

members to form strong working relationships based on a developing awareness of each other's personal and professional skills. Core team members quickly recognized individual strengths and weaknesses and began to accept leadership roles and responsibilities appropriate for their abilities. These strategy meetings led to a deep sense of mutual trust and shared purpose between core team members.

While some of this early dialogue focused around decision-making (for example, agreeing on a school-wide schedule appropriate for both core and elective classrooms), the majority of it did not. Instead, the dialogue was built around an organic and ongoing process that created connections and strengthened core principles. Schools are incredibly dynamic and complex organizations, and making decisions that are ultimately in the best interests of students is never a linear or simple process. Lines of dialogue create threads that connect individuals to each other in ways that support the spread of innovations and later decision-making, and that ensure that decisions are based on good information and input from a variety of people.

In the story above, therefore, it is no accident that Sarah has bought into a commitment to ensure student learning; she had already been talking and thinking about that commitment for months. Through formal and informal conversations, Sarah and other core group members had worked their way to a point where they both believed in that commitment and also understood what it entailed. So when the faculty needed to decide what verb to use in the mission statement, Sarah was able to lead.

*Trusting good people to do good things*

Trust is a common theme throughout this book, and at this stage in the process it was absolutely critical. From the teachers' perspective, they were always waiting to see if Steve was for real. He said he wanted to promote collaboration and distribute decision-making responsibility, but what would happen when the teachers wanted to do something that Steve didn't agree with? At every point in the process, teachers were watching Steve and the rest of the administrative team to see if they would really walk the walk. And this meant that, especially with core team members, Steve had to earn his teachers' trust.

It is almost impossible to underestimate the importance of developing trust between administration and the members of the core team. The core team members of your school are the most influential teachers in your building. They are the innovators and the collaborators—the teachers that are respected by their peers. Change to your organization will depend on the active leadership and support of your core team. To earn that support, you must develop trust.

Open conversations went a long way towards earning this trust, but Steve also made some early decisions that signaled his intentions. One decision was to let core team members control much of the interview process. These teachers did most of the interviewing of teacher candidates, and they had a big hand in making the final decisions around who should be hired. That core group was also given real responsibility at the organizational level. Working as a team, the core group helped to plan the school schedule, worked on a school wide discipline plan and academic intervention plan, and created the professional development activities for inservice training.

Implicit in Steve's attempt to earn the teachers' trust, however, was another level of trust: Steve had to be willing to trust that this core group of teachers would make good

decisions. Steve started with a picture in his head, a vision and a set of central principles. But once he found a group of people to work with him in instituting those principles, he had to be willing to let go, to trust that the core people would push the process in a way that was far more powerful than Steve could have done alone. In the story above, Steve participates in the discussion about the mission statement, but he does not control it. Instead, Steve trusts that people like Michael and Sarah will help to lead the rest of the faculty in a positive direction.

The final level of trust, and probably the most important, is the trust that teachers have to have in each other. When Sarah argues for using the word ‘ensure’, the basis of her argument is her belief in the expertise and abilities of her colleagues: “When I look around this room, I see a group of incredible teachers, and I really believe that we can help any student be successful.” This trust began in the formal and informal dialogues occurring within the core team, and it was strengthened by the knowledge that all of the core team members believed in the same central principles. The trust between teachers became the foundation of the conversations and collaboration that occurred over the rest of the year, and its genesis early on within the core team was critical, especially as the inevitable challenges and disagreements arose throughout the year.

### **What the research says**

An interesting thing about professional learning communities is that, at some deep level, there is a fundamental difference between a professional learning community and a “business as usual” school, a difference that is difficult to explain. The two types of schools simply “feel” different. This difference goes beyond a superficial comparison of

school practices and procedures, and enters the realm of school character and culture. In a successful PLC, the whole really is greater than the sum of its parts.

We have talked about the role that a core group of influential teachers played in developing a PLC at Central. What does research have to say about core individuals within an organization? Is there any evidence explaining how that core group becomes so influential, why some people are more influential than others, and how influential individuals work to cause an organization to “shift” in one direction or another? Some interesting answers to these questions come from research in a surprising place: physics.

One explanation for the unique character of professional learning communities, and the role of core individuals in their formation, can be found in Philip Ball’s book *Critical Mass*. Ball is a scientist and writer interested in the ways in which the laws of physics can provide insight into the social interactions of people. Two lessons from Ball’s book are particularly important concerning the formation of a PLC and the role of influential individuals. The first relates to phase transitions, such as the boiling-point transition of water from a liquid to a gas, and the second relates to social connectivity and something called “power laws”. What both of these lessons have in common is a clear message: the laws of the physical world can provide important insights into the behavior of people in the world of organizations.

### *Phase transitions*

A phase transition is a switch from one state to another, like the switch that water makes when it goes from a liquid to a solid or a liquid to a gas. One of the interesting things about phase transitions is that the individual particles don’t change during the

switch—the little molecules of H<sub>2</sub>O look the same whether they are in liquid form or gas form—but the collective state of the particles changes dramatically. Another interesting character of phase transitions is that, rather than happening gradually, they happen all at once, spreading quickly throughout a system. At 210 degrees, water is a liquid; but heat it just two degrees more, and suddenly it makes this dramatic transition to a gas. The collective nature goes through a substantial shift!

In order for a phase transition to occur, something called nucleation has to happen. When water freezes, the molecules don't all crystallize at once; instead, a few "seed" crystals appear and the crystallization process then spreads throughout the liquid. These seed crystals are formed by irregularities in the water, which could be a piece of dust or a scratch on the inside surface of the water's container. These irregularities are called nucleators. If no nucleators are present, it is actually possible for water to stay in liquid form below 32 degrees, or to stay in liquid form above 212 degrees.

Ball argues that phase transitions are also evident in social interactions. One example might be the spread of "the wave" at a sporting event. The spectators are already in a heightened state because of the excitement of the event. Different groups of people throughout the stands might then try to get the wave started (in other words, they're trying to be nucleators). Many attempts might fail, but one attempt finally catches on and suddenly the whole crowd is participating in a collective behavior.

Another example, and one which Ball explores in depth, is traffic congestion. Have you ever been driving on a busy highway, where there was a considerable amount of traffic but the traffic was moving quickly, when all of a sudden, seemingly out of nowhere, you see red brake lights in front of you and the quick-moving traffic slows to a

frustrating crawl? What caused the traffic to change? One minute you and all the other drivers were zipping along without a problem, and then all of a sudden the traffic switched to slow mode.

Ball would suggest that the traffic went through a phase transition. Even though there were lots of cars on the road, the traffic was moving quickly, just like water at 34 degrees still flows smoothly. But the whole system was near a critical state. All it would take in this situation is one car to change lanes too quickly, causing someone to hit their brakes, and suddenly the whole system would go through a transition. After that first car hit its brakes, the one behind it would follow, and so on. Just like that initial water crystal, the single braking driver works as a nucleator to start a chain reaction that pushes the whole system into a new collective state.

When the faculty of Central wrote their mission statement, we believe they went through a phase transition. They changed from a group of teachers, all excited and nervous about working in a new school, to a cohesive faculty that had committed itself to a specific vision. Without question, the principal had already laid much of the groundwork for that transition. He had recruited teachers interested in working in a collaborative school, and he had talked about his vision of a professional learning community at every opportunity. In fact, if the temperature of the faculty could have been taken at that meeting, it was probably a healthy 210 degrees!

But during that meeting, something happened that changed the nature of the organization. And, in order for that phase transition to occur—in order to change from a traditional structure to a professional learning community, just like changing from a

liquid to a gas—the faculty needed something, or someone, to start the chain reaction. In physics terms, the faculty needed nucleators.

We believe that members of that core group served as the nucleators, or catalysts for the phase transition. In the story above, both Michael and Sarah make comments that help to push the faculty past their metaphorical boiling point. But while the model of a phase transition sheds light on how an organization can shift from one form to another, it doesn't do much to explain how those core team members—those nucleators—got to be so influential. To answer that question, we turn to two other concepts from Philip Ball: social networks and power laws.

#### *Social networks and power laws*

A game you may have heard of, called 6 Degrees of Kevin Bacon, can help to illustrate the principles involved. If you've never played the game before, the object is to try to connect any random actor to Kevin Bacon by identifying other common actors with whom each person has worked.

For example, take Denzel Washington. Denzel was in the movie *Crimson Tide* with Gene Hackman. Gene Hackman was in the movie *The Royal Tennenbaums* with Gwynneth Paltrow, who in turn performed a brief cameo with Tom Cruise in the Austin Powers movie *Goldmember*. And, to conclude the connection, Tom Cruise starred with Kevin Bacon in *A Few Good Men*, meaning that Denzel Washington can be connected to Kevin Bacon in four steps (and real movie buffs might figure out how to make the connection in even fewer steps).

The premise of the game is that Kevin Bacon can be connected with any other actor in no more than six steps, suggesting that Hollywood is a pretty tightly connected little world. One of the interesting ideas that Ball explores in his book is that the tight social connectivity evidenced by 6 Degrees of Kevin Bacon is actually mirrored in other social networks; in other words, social connectivity in a variety of settings seems to operate according to certain set principles.

As it turns out, Kevin Bacon is not the best actor to use for the game. In fact, according to Ball, Kevin Bacon isn't even in the top 1000 actors most connected to other actors. And what's interesting is that some actors are significantly more connected than others. Ball describes an experiment in which researchers actually graphed the connectivity of Hollywood actors, and what they found was quite interesting.

The connectivity of actors in Hollywood follows something called a power law. In basic terms, a power law describes a relationship between two variables when one variable is exponentially related to the other one. In our Hollywood actors example, the power law means that some actors aren't just marginally more connected than others, they are *exponentially* more connected. Ball found that this power law relationship of connectivity can extend to many social networks, meaning that in larger social groups there are some people who have exponentially more connections within the group than average. And we would argue, it may even explain the special influence of core team members in our professional learning community.

*The Importance of Social Connections in a PLC*

We started with a simple question: why was it that some core team members were so influential? According to Ball, by their very nature some social networks have individuals who are exponentially more “connected” than others. At Central Middle, many of the core group members fell into that category. Take Michael, for instance. Michael was someone who sought out conversations with other teachers in the building, stopping by peoples’ rooms and frequently posting to faculty discussion boards. In addition, Michael was someone with a well-known reputation in the district, having worked at various schools and maintained contact with teachers at those different schools.

Michael had also created relationships with other educators at a national level, participating in online teacher forums and working on regional research initiatives. In other words, Michael was a well-connected guy. So when Michael raised his hand and spoke at the faculty meeting, the other teachers perked up; because of his connections and his recognized expertise, Michael’s opinion was ultimately exponentially more influential than the opinions of most other teachers in the room. That is not to say that other teachers’ opinions weren’t important or valued, but Michael’s opinion was *especially* valued.

In creating his core team, therefore, Steve went out and recruited nucleators, people who were influential and in a position to help “shift” the faculty in certain directions. Some of these nucleators were influential because of their expertise and connections outside of the school, while others were influential because of the network of connections that they formed within the school. But all of these core group members had

high connectivity, and—this was critical—all of these nucleators held the same central beliefs.

When the faculty needed to write a mission statement, all of these influential team members were already thinking in the same direction and felt empowered and trusted to push the school in that direction. In Michael's previous school, for whatever reason, those nucleators didn't act. Maybe the faculty wasn't close enough to the boiling point, maybe the nucleators all thought that they were alone in their convictions. But at Central, that core group tipped the balance and made the initial commitment to becoming a true professional learning community.

## **Recommendations**

We hope we have convinced you that, if you are interested in creating a learning community in your school, at your grade level, or even with a small team of other teachers, the formation of that core group is critical. Here are the three most important recommendations that we would make for anyone at this stage in the process:

Establish clear non-negotiables: Figure out early on exactly what are your central principles. For a true professional learning community, these are likely to include a commitment to ensuring student learning, a belief in the power of true collaboration, a model of distributed leadership and decision-making, and an ongoing process of reflection and inquiry. Create formal and informal opportunities for participants to discuss these principles, to debate them and translate them into practical ideas and statements.

As the leader of a group going through this process, make sure that you have created opportunities for doubting members to share their doubts. As a participant in this process, make sure that you feel comfortable with the central principles being discussed. Before a core team can move forward, these principles must be stated and agreed to explicitly—the foundation of trust underlying later organizational success begins with the knowledge that everyone on the team has those same deep beliefs.

Establish the core team and spend time together: The most important prerequisite for core team members is a belief in the central principles. After that, we would advise finding individuals with different personalities and strengths who all share a high level of connectivity and influence, both inside and outside the organization. Once the core team is established, spend some time together, and encourage conversations throughout the group.

It is important to develop professional and intellectual connections, but it is equally important to establish congenial relationships: once friendships have been formed, it is significantly easier to negotiate controversial topics or decisions. People need time to get to know each other, to feel comfortable working together, and to develop trust. It is important for the leader of the process to find that time.

After a certain point, it has to be a collective process: If you are the leader pushing a new vision, you have to accept an important fact—at a certain point, it's no longer your vision, but rather a collective vision.

As long as everyone on the team commits to a central set of principles, the details will work themselves out. The details can sometimes end up feeling like the most important thing in the world, and heated disagreements may result over simple

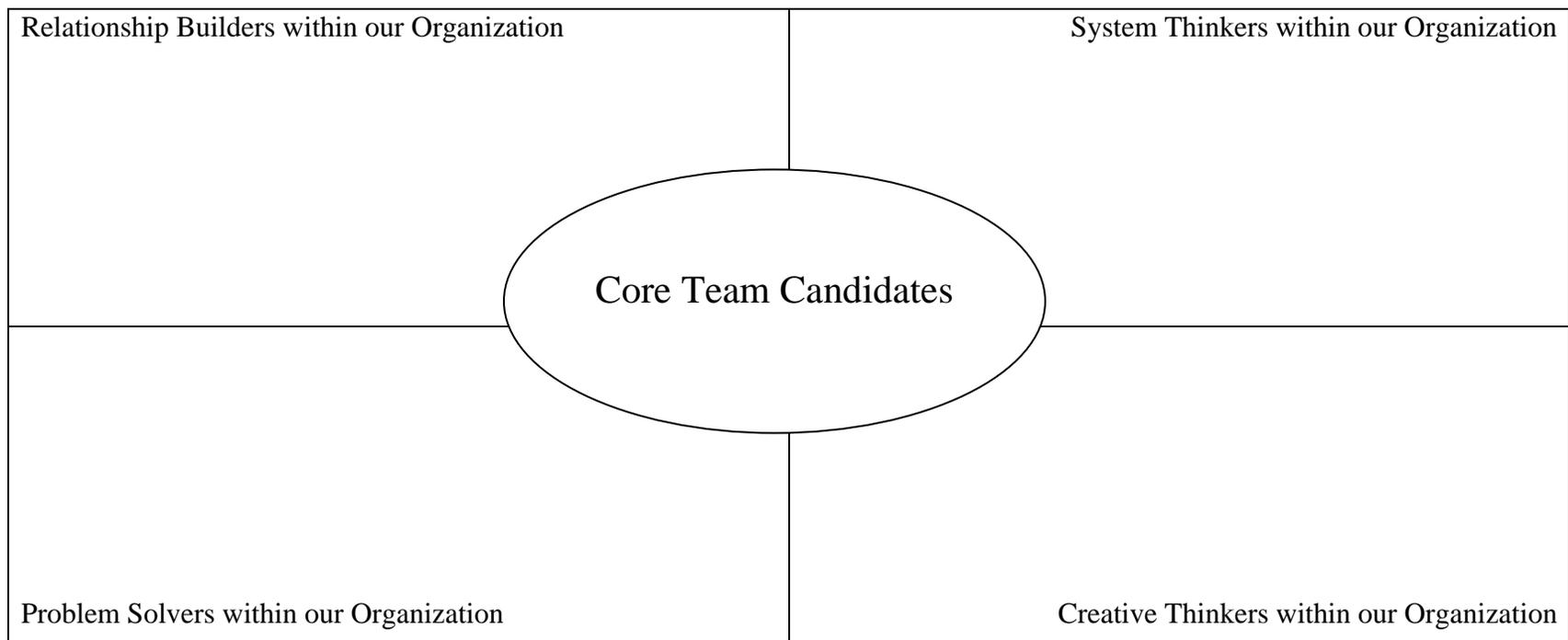
challenges. An early struggle for our team erupted because the 6<sup>th</sup> grade schedule conflicted with the special education support period. But if the principles underlying the decision-making process are pervasive throughout the school—if the best interests of students are the goal despite the conflict over details—then the organization can be successful and move forward.

For the leader, this means being willing to let go of the details at a certain point and reinforce the principles. And if you are a participant in the process, it means being willing to compromise at times, and recognizing that mistakes and frustrations are a natural part of the organizational learning process.

## WHO ARE THE PERSONALITIES IN YOUR ORGANIZATION?

Establishing a core team is an essential task for principals interested in creating a learning community. Members of a core team will greatly influence the direction and success of your efforts. Use this handout to brainstorm the strengths and weaknesses of existing faculty members or new candidates. Remember that the best core teams contain teacher leaders who:

1. *Put a high value on relationships and other people's feelings*
2. *Put a high value on organization and clear rules and systems*
3. *Put a high value on logically thinking problems through to conclusion*
4. *Put a high value on "thinking outside the box"*



## CREATING OPPORTUNITIES FOR DIALOGUE:

In order to share a collective vision, members of your core team must have opportunities to engage in meaningful dialogue with one another. These opportunities allow core team members to identify their own strengths and to begin to recognize their role in the development of the organization. They also allow core team members to develop a measure of trust in one another and a synergy as a group that is essential to continued success. Use this handout to consider different kinds of opportunities that you can provide for your core team to interact:

<b><i>Opportunity:</i></b>	<b><i>Ease of Implementation</i></b> <i>(easy, possible with effort, challenging but possible, impossible)</i>	<b><i>Possible ideas for or barriers to implementation:</i></b>	<b><i>People to contact to assist with implementation:</i></b>
Core Team Social Outing			
Core Team Goal Setting/Planning Meeting			
Creation of Electronic Discussion Forum for Ongoing Conversation			